

2016 State Wildlife Grant Application Pre-Proposal

- Project Title:** Implementing Phase IV State Wildlife Action Plan Strategies in the West Gulf Coastal Plain Sandhill Oak -Shortleaf Pine Forests and Woodlands to Benefit AWAP Species of Greatest Conservation Need
- Project Summary:** The Nature Conservancy and partners will conduct ecological restoration including prescribed burns, forest thinning, erosion control and invasive species control on over 2,500 acres within the Central Sandhill Ecosystem in Nevada and Ouachita counties and Western Sandhill Ecosystem in Miller County. The restoration activities will enhance ecosystem function, increase the size and connectivity of woodland habitats, and serve to initiate an organized, ecosystem-based partnership in these areas.
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- Project Partners:** Ed Montgomery, Arkansas Forestry Commission, State Forest Manager, 870- 836-5882, ed.montgomery@arkansas.gov
- Bill Holliman, Arkansas Natural Heritage Commission, (501) 324-9761; Chief of Research, billh@arkansasheritage.org
- Robert Giles, Arkansas State Parks, Assistant Superintendent, Cell 501-270-0372 Office 870-685-2748, Robert.giles@arkansas.gov
- Budget Summary:** Total Amount of Project Cost: \$ 86,124 (w/match)
Total Amount of SWG Allocated: \$ 52,289
Matching Funds from TNC and Partners: \$ \$33,835 (39% match)



Conservation Need: The sandhills represent one of the most impressive centers of biological diversity in the Natural State. The most xeric condition in the Upper West Gulf Coastal Plain ecoregion contains over 400 plant taxa in just portions of Ouachita, Nevada, Miller counties; accounting for over 13% of the entire flora of Arkansas in a relatively small areas of the state. Conservation ownership is vested in the Arkansas Forestry Commission (AFC), Arkansas State Parks (ASP), Arkansas Natural Heritage Commission (ANHC) and The Nature Conservancy (TNC).

The sandhill woodlands are actually three, distinct plant communities (xeric sand barren, dry sandhill woodland, and dry mesic sandhill), but are grouped in the Arkansas Wildlife Action Plan (AWAP) under the Upper West Gulf Coastal Plain Sandhill Oak-Shortleaf Pine Forests and Woodlands habitat type on page 1539. The wetlands are also three distinct communities (wooded sandhill seep, saturated sandhill shrub seep, and herbaceous sandhill marsh), but grouped in the AWAP under Upper West Gulf Coastal Plain Seepage Swamp and Baygall on page 1548. Collectively, these communities additionally support at least twenty rare plant species as monitored by the ANHC.

Multiple wildlife/wildlife habitat priorities also exist in the sandhill region as identified by the State Wildlife Grants (SWG) Request for Proposals (RFP), and are targeted by this proposal: habitat improvement for grassland birds (specifically Northern Bobwhite (*Colinus virginianus*)), sandhill woodland restoration, wetland maintenance/restoration, and improving stream water quality by implementing road construction Best Management Practices (BMP's), and non-native invasive species control.

In 2014, a SWG was awarded to address the impacts of plantation conversion and prescribed fire exclusion in the sandhills. Thinning operations and prescribed fire was conducted on 3,730 acres (Phase 2) and 1,962 acres (Phase 3) of sandhill woodland habitat. Erosion control was conducted on ½ mile of highly degraded gravel road during Phase 2 with an additional mile of road and stream crossing restoration completed before the end of Phase 3. Four invasive plants were identified as major threats to these ecosystems with herbicide treatment planned by the end of Phase 3. However, much more work is needed across the ecosystem. This project will continue this process by prioritizing and implementing prescribed fire, ecological thinning of forests and overgrown barrens, reducing sedimentation from road erosion, and combating invasive plant species.

Funding Priorities:

1. Woodlands, Glades, and Upland Forests Grassland Birds – implementation of habitat restoration and management for woodlands and glades for the benefit of SGCN referenced as follows (northern bobwhite, p192; prairie warbler, p202; red-headed woodpecker, p252, Bachman's sparrow, p113; brown-headed nuthatch; p305; painted bunting, p271; chuck-will's-widow, p167; and yellow-billed cuckoo, p188.)
2. Sandhill Oak- Pine Habitat – habitat management to increase habitat quality (structure and composition) and increase patch size for SGCN (Diana fritillary p702).
3. Aquatic Habitat – restore, enhance and maintain the integrity of aquatic habitat for the benefit of SGCN (goldstripe darter p459).

Purpose and Objectives: TNC and its partners maintain an on-going presence in the sandhill ecosystem of Ouachita, Nevada, and Miller counties, but funding is rarely adequate to maintain progress on all our conservation goals. Our goal for this project is to utilize our varied expertise and matching capabilities to complement each other's programs in areas that will provide increased benefits to the ecosystem's SGCN, and provide a wide range of educational opportunities for the general public. Specific objectives have been determined based on each partner's needs and capabilities:

1) Fire Management Objectives:

- Restore fire to 2,000 acres once within two years, with average 80% unit coverage.
- Attain moderate overall burn intensity for 70% of the burns.
- Conduct post fire summary reports to confirm completed objectives.

2) Thinning Treatments Objectives:

- Thin 1,500 acres of loblolly pine.
- Conduct prior and post-treatment photo points.

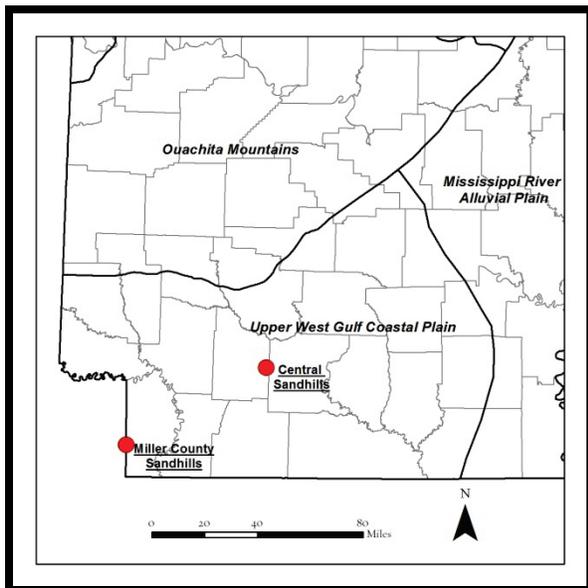
3) Erosion Control Objectives:

- Reconstruct county roads to reduce erosion on one mile within the Poison Springs State Forest.
- Conduct prior and post-treatment photo points.

4) Invasive Species Control Objectives:

- Conduct invasive species treatment on 100 acres.
- Conduct prior and post-treatment photo points.

Location of Work: Project activities will restore Sandhill habitats at MCSH (Miller County) and Central Sandhills (Nevada and Ouachita Counties) located within the Upper West Gulf Coastal Plain ecoregion.



Approach: Our approach is to integrate the AWAP with other natural resource efforts at federal, state, and local levels to form an organized Sandhill Restoration Partnership. This project will not only address habitat needs of SGCN, but also improve habitat used by other wildlife. The benefits of this project will be accessible to the public and will raise the profile of the AWAP and the SWG project. On-the-ground implementation of AWAP priority actions will occur in a visible arena, as a formalized commitment to sandhill restoration objectives among partners, and will provide an opportunity for public exploration that may allow this project to serve as a demonstration for other similar projects and further profile the AWAP, SWG, and project partners. Many of these objectives have conceptual plans already in place; matching funds will be tracked after the SWG contract has been executed. After that, each partner will be providing assistance to the project through a variety of skills.

Objective One will be addressed as weather and fuels permit throughout the life of the project. Prescribed burns will be conducted on AFC, ASP, TNC, and ANHC lands by TNC and AFC burn crews.

Objective Two will be addressed in the first year of the project so that management activities have the least impact on conducting prescribed burns. Thinning treatments will occur on AFC, ANHC, and TNC lands.

Objective Three will be addressed in the second year of the project. TNC and AFC will select a priority road/stream crossing restoration area. TNC will design the restoration and AFC will implement the restoration on the selected site.

Objective Four will be addressed throughout the life of the project. Priority species and sites have been mapped under a previous SWG project. The treatments are like to occur on all of the partners lands and be implemented by TNC.

Expected Results/Benefits

TNC and its partners expect to improve ecosystem conditions for SGCN in priority areas located within the Central Sandhills and Miller County Sandhills. The most important activity for the sandhill ecosystem is restoration and maintenance of an ecological fire regime. Prescribed fire, especially when coupled with mechanical thinning, will increase native species abundance and diversity, reduce the abundance of non-native species, increase the size and connectivity of woodland and barren habitats, restore structure diversity, and improve wetland ecotone structure and diversity. Installing erosion control BMP’s on highly impacted Poison Springs State Forest roads will reduce sediment pollution inputs into stream and seep habitats for SGCN, reduce recruitment opportunities for terrestrial invasive species, reduce maintenance activities that impact SGCN, and improve project visibility to citizens within the area. Invasive species mapping and control will further reduce the spread of invasive species and improve future efforts to further reduce invasive species across the ecosystem.

Each of the SWG priorities are either further detailed in the AWAP, or are defined as an emerging issue that justifies special attention. The AWAP database contains 20 wildlife Species of Greatest Conservation Need (SGCN) that would benefit from this project (**Table 1**).

Table 1. SGCN that will benefit from this project (20). Species known from the managed areas are in bold.

Kings hairstreak	Red-headed woodpecker
Goldstripe darter	Chuck-wills-widow
Eastern spadefoot	Eastern towhee
Crawfoot frog	Northern bobwhite
Dwarf salamander	Yellow-billed cuckoo
Spotted dusky salamander	Bachman’s sparrow
Texas coral snake	Prairie warbler
Western chicken turtle	Mississippi kite
Rafineque’s big-eared bat	Chimney swift
Least weasel	Prothonotary warbler

Proposed Budget

The budget for this project with 39% match is outlined in Table 2. Partnership in-kind match is included in the Salary/Benefits category and was calculated by the respective partnership leads. Partnership monetary match is listed in the Contractual Expenses category and determined by the amount needed to complete services conducted by TNC and/or sub-contractors.

Table 2. Proposed budget allocation as outlined in the 2016 SWG Budget Summary.

Category	SWG Funds	Match (AFC)	Total
Salary /Benefits	23,800	23,335	47,135
Travel	2,130		2,130
Supplies/Equipment	1,000		1,000
Contract for services	16,000	10,500	26,500
Total Direct Costs	42,930	33,835	76,765
Total Indirect	9,359		9,359
<i>Totals</i>	52,289	33,835	86,124

TNC's indirect cost rate in its FY16 NICRA is 21.8%. TNC's indirect rate is negotiated annually, and TNC will charge indirect at the federally approved rate each year.

Qualifications of Partnership

As a prescribed fire project manager and land steward for TNC, **Clint Harris** has established a working track record with partners in this proposal while conducting prescribed fire activities, participating as a team member in partner-developed workshops, and as a peer in conservation planning. Clint is trained in planning and implementing ecological restoration activities including prescribed fire, forest management, and invasive species control.

As State Forest Manager for the Arkansas Forestry Commission, **Ed Montgomery** works with partners including The Nature Conservancy, Arkansas Game and Fish Commission, Arkansas Natural Heritage Commission, and Arkansas Department of Parks and Tourism in the management of Poison Springs State Forest. Ed's duties as State Forest Manager include making silvicultural decisions for over 22,000 acres of timberland, supervising timber inventory, timber marking, road, boundary, campsite, vehicle, and building maintenance, contract administration, assisting with land purchases, and bidding and awarding timber sales.

Bill Holimon is an Ornithologist and is Chief of Research for the Arkansas Natural Heritage Commission. Bill received a B.S. in biology from the University of Arkansas at Little Rock and an M.S. in biology from New Mexico State University. His current projects include oversight of restoration of open loblolly (*Pinus taeda*)-shortleaf (*P. echinata*) pine ecosystems in southern Arkansas and repatriation of a population of red-cockaded woodpeckers (*Picoides borealis*).

As a prescribed fire project manager and Park Superintendent for Arkansas State Parks, **Robert Giles** has established a working track record with partners such as Arkansas Forestry Commission, USDA Forest Service, and The Nature Conservancy conducting prescribed fire activities. Duties included: planning and writing burn plans, assisting other parks with planning, prep work, burns, and post burn assessments and records.