

2012 State Wildlife Grant Application Pre-Proposal

PROJECT TITLE:

Restoring West Gulf Coastal Plain Calcareous Prairie and Woodlands by Reducing Woody Competition to Benefit Species of Greatest Conservation Need

PROJECT SUMMARY:

Calcareous prairies and woodlands will be restored through the use of fire, mechanical removal of hardwoods and chemical treatments in Hempstead County, Arkansas. This project will apply mechanical and chemical treatments to 150 acres and additionally apply 1,080 acres of prescribed fire across the restoration sites. These restoration actions will improve patch size and quality of the calcareous prairies and woodlands and benefit a suite of grassland birds including many of the SGCN designated by the AWAP technical committee.

PROJECT LEAD:

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PROJECT BUDGET

Total Project Cost: \$87,550.00

Request: \$56,640.00

Matching funds from The Nature Conservancy and The Arkansas Game and Fish Commission
\$30,910.00.

Funding Priority Addressed by Pre-proposal

This project addresses four funding priorities identified by the Arkansas Wildlife Action Plan (AWAP).

- Restoration of prairies and native grasslands, by removing hardwood encroachment and shrub islands with the goal of increasing patch size and quality of native grasslands.
- Woodlands and savannas, by selecting against weedy trees species, with management methods such as prescribed fire, mechanical midstory reduction, and thinning in ecotone areas with the objective of increasing the quality of existing woodlands and savannas.
- Grassland birds, by improving quality and patch size of grassland bird habitat to benefit a suite of grassland birds, including Species of Greatest Conservation Need (SGCN).
- Phase II Conservation Action, by building on knowledge of blackland prairie and woodland habitat restoration following a 2006 State Wildlife Grant ‘Habitat Restoration of the Arkansas Blackland Ecosystem to Benefit Multiple Species of Greatest Concern’ and a 2008 State Wildlife Grant ‘Blackland Prairie and Woodland Restoration at Nacatoch Ravines Natural Area’. In our previous SWGs, results showed the greatest habitat improvements occurred on sites that were treated with a combination of mulching/mowing and chemical herbicides. This knowledge will be applied to the restoration areas.

Ecoregion Where Project Will Be Conducted

The project will be conducted in the South Central Plains Ecoregion on West Gulf Coastal Plain Calcareous Prairies and Woodlands. Specifically, work will be conducted on Rick Evans Grandview Prairie Wildlife Management Area, Columbus Prairie Preserve and Nacatoch Ravines Natural Area. All project sites are located in Hempstead County, Arkansas (Figure 1).

Objectives:

The primary objective of this project is to restore and improve habitat quality on 150 acres of blackland prairie and woodland habitat by reduction of hardwood stems by mechanical and chemical methods. Prairie health will also be maintained / improved with prescribed fire on 1,080 acres. The outcome of this objective will improve suitable habitat for a variety of species of conservation concern, as identified by the State Wildlife Action Plan Steering Committee.

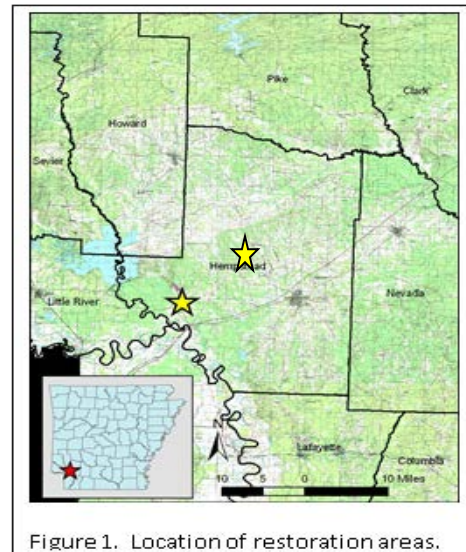


Figure 1. Location of restoration areas.

Approach

Blackland Prairie Restoration

Restoration work will be performed in the following sequence:

1. Restoration areas delineated and monitored prior to work.
2. Mechanical reduction of hardwood stems will be conducted on 75 acres.
3. Chemical treatments will be applied to cut stems, resprouts and regeneration on 75 acres.
4. Four prescribed fires (1,080 acres) will be applied to the restoration area.
5. Restoration areas will be re-monitored

Intensive habitat restoration efforts will be applied to 150 acres and 1,080 acres will be prescribed burned. Acres for treatment types may overlap. Habitat restoration efforts will be guided by knowledge gained from efforts funded by a 2008 SWG. Mechanical treatments (hydraulic grinder, chainsaws, etc.) will be used to clear degraded prairie openings of hardwood trees and shrubs. This improves access for mechanical equipment to continue the restoration process. Chemical treatments will follow, and will include treatment of resprouts and hardwood regeneration with selective herbicides. Selective herbicides can promote grass reestablishment, and increase efficiency and acreage treated. All areas treated will be monitored with photo points. Photo points will be taken before, during, and after treatment.

Expected Results and Benefits

Mechanical removal of woody species will improve the quality of blackland prairie and woodland communities by increasing the abundance/frequency of native grass and forb species within the prairie and woodland communities. Combined with prescribed fire, mechanical treatments maintain healthy structure in blackland prairies and woodland habitats, thus directly benefiting several SGCN (Table 1). The use of appropriate chemical treatments will reduce abundance of resprouts, hardwood regeneration and some invasive exotic plant species in restoration areas. Prescribed fire will help maintain previously treated prairies and woodlands and will help restore degraded prairie.

Preliminary Budget

The total cost for this project will be \$87,550.00 over two years. The Nature Conservancy respectfully requests \$56,640.00 (65%) from the Arkansas Game and Fish Commission through the State Wildlife Grant and will provide \$30,910.00 (35%) as match.

	SWG Grant	TNC Match	AGFC Match	Total Cost
Salary/Benefits	\$7,000.00	\$20,750.00	\$0.00	\$27,750.00
Operating Expenses	\$20,000.00	\$3,750.00	\$0.00	\$23,750.00
Contractual (Grinding)	\$21,000.00	\$0.00	\$0.00	\$21,000.00
In-Kind Match	\$0.00	\$0.00	\$2,000.00	\$2,000.00
Subtotal	\$48,000.00	\$24,500.00	\$2,000.00	\$74,500.00
Indirect Costs (18%)	\$8,640.00	\$4,410.00	Not Applicable	\$13,050.00*
Total	\$56,640.00	\$28,910.00	\$2,000.00	\$87,550.00

* Excludes AGFC match that is not subject to indirect cost.

Accessory Budget for 50% Match

The following budget table provides the budget under a 50% match scenario. Acres treated by mechanical mulching will be reduced to 35 acres and chemical treatments will be reduced to 35 acres.

	SWG Grant	TNC Match	AGFC Match	Total Cost
Salary/Benefits	\$4,525.00	\$20,750.00	\$0.00	\$25,275.00
Operating Expenses	\$10,650.00	\$3,750.00	\$0.00	\$14,400.00
Contractual	\$10,500.00 (Grinding)	\$0.00	\$0.00	\$10,500.00
In-Kind Match	\$0.00	\$0.00	\$2,000.00	\$2,000.00
Subtotal	\$25,675.00	\$24,500.00	\$2,000.00	\$52,175.00
Indirect Costs (18%)	\$4,622.00	\$4,410.00	Not Applicable	\$9,032.00*
Total	\$30,297.00	\$28,910.00	\$2,000.00	\$61,207.00

* Excludes AGFC match that is not subject to indirect cost.

Table 1. Selected terrestrial species of the West Gulf Coastal Plain Calcareous Prairie as identified as Species of Concern under the State Wildlife Grant Program (AGFC CWCS Database).

Common Name	Scientific Name	S-Rank	G-Rank
Northern bobwhite*	<i>Colinus virginianus</i>	S5	G5
Prairie warbler	<i>Dendroica discolor</i>	S4B	G5
Painted bunting	<i>Passerina ciris</i>	S4B	G5
Migrant loggerhead shrike*	<i>Lanius ludovicianus migrans</i>	S3B, S3N	G4T3
Northern harrier*	<i>Circus cyaneus</i>	S1B, S4N	G5
American woodcock	<i>Scolopax minor</i>	S2B, S4N	G5
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	S4B	G5
Le Conte's sparrow*	<i>Ammodramus leconteii</i>	S3S4N	G4
Henslow's sparrow*	<i>Ammodramus henslowii</i>	S1B, S2N	G4
Grasshopper sparrow*	<i>Ammodramus savannarum</i>	S3B, SZN	G5
Lark sparrow*	<i>Chondestes grammacus</i>	S3S4B, SZN	G5
Anthophorid bee	<i>Tetraloniella albata</i>	S1	G?
Red milkweed beetle	<i>Tetraopes quinquemaculatus</i>	S1S2	G?
Texas milkweed beetle	<i>Tetraopes texanus</i>	S1S2	G?
Robberfly	<i>Microstylum morosum</i>	SU	G3G4
Long-tailed weasel	<i>Mustela frenata</i>	S2	G5
Desert shrew	<i>Notiosorex crawfordi</i>	S1?	G5
Southern prairie skink	<i>Eumeces obtusirostris</i>	S2	G5
Western slender glass lizard	<i>Ophisaurus attenuates</i>	S3	G5T5

* Indicates a 2012 AWAP funding priority species.

Bold indicates species known to occur on one or more of the restoration sites.

Qualifications

The Nature Conservancy (TNC) has worked in the blackland ecosystem of Arkansas with our partners for approximately 20 years. TNC has developed a broad understanding of this at-risk ecosystem through years of scientific observation and use of adaptive management in implementation of restoration techniques. Through work with public and private landowners, TNC has become acutely aware of the socio-political attributes of the area. TNC maintains an excellent working relationship with conservation organizations such as the Arkansas Natural Heritage Commission. This relationship increases our capacity to organize teams made up of experts in the field of restoration of at-risk habitats. TNC also maintains science and conservation staffs that are trained in implementation of strategic actions and monitoring. Finally, through completion of other restoration activities, TNC has demonstrated the ability to successfully complete this project.

Seth Pearson: Seth Pearson has been an employee of The Nature Conservancy for over seven years and serves as the Land Steward for the Arkansas Field Office. Seth is responsible for planning and implementing stewardship and restoration work on preserves throughout the state. He is also active in prescribed fire implementation throughout the state. Seth graduated from Purdue University with a Bachelors of Science Degree in Biology with a specialization in Ecology, Evolution, and Population Biology.

Qualifications of Partners

Griffin Park: Griffin Park has worked for the Arkansas Game and Fish Commission for 22 years. He has worked as the Habitat Biologist, Assistant Supervisor, and now the Regional Supervisor in Region 5. He graduated from University of Arkansas at Monticello with a B.S. in Wildlife and Fisheries Biology. He is also an Arkansas Registered Forester.

Brad Townsend: Brad Townsend has worked as the Habitat Biologist 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, including Rick Evans Grandview Prairie WMA, the largest contiguous tract of Blackland Prairie in Public Ownership in the nation. He is a member of the Society of American Foresters and an Arkansas Registered Forester.

Doug Fletcher: Doug Fletcher is the Chief of Stewardship for the Arkansas Natural Heritage Commission. Doug received a B.S. in Wildlife Management and a M.S. in Biology from Arkansas State University at Jonesboro, Arkansas. Doug has been responsible for managing the stewardship of Arkansas' System of Natural Areas for over a decade.