2012 State Wildlife Grant Proposal

Project Title: Implementation of State Wildlife Action Plan Strategies on Sylamore Ranger District of the Ozark National Forest for CWCS Species of Concern in Limestone and Sandstone Glade Habitats and Oak-Pine Woodlands

Project Summary: This project will begin the restoration of large continuous oak woodland and calcareous glade habitats for suitable structure and species composition at the Sylamore Ranger District of the Ozark/St. Francis National Forest in the Interior Highlands of the Ozark Plateau Ecoregion by implementing mechanical treatments and frequent prescribed fire. This project will conduct ecological monitoring for Arkansas Wildlife Action Plan animal Species of Greatest Conservation Need (SGCN) in order to measure progress toward desired ecological conditions.

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Budget Summary: Total Amount of Project Cost: $81,693
Total Amount of SWG Requested: $53,100 (65%)
Matching Funds from TNC and partners: $28,593 (35%)
Alternate Budget
Total Amount of Project Cost: $81,692
Total Amount of SWG Requested: $40,846 (50%)
Matching Funds from TNC and partners: $40,846 (50%)

NEED - FUNDING PRIORITY ADDRESSED BY PREPROPOSAL

This project addresses a priority implementation action listed in Table 1 of the 2012 SWG Request for Proposals (RFP): 1) Habitats: Management to maintain or increase quality oak woodlands, savannas, glades and barrens located throughout the project area. This project will begin the restoration of large continuous oak woodlands and glade habitats for suitable structure and species composition at the Sylamore Ranger District of the Ozark/St. Francis National Forest in the Interior Highlands of the Ozark Plateau Ecoregion by implementing mechanical treatments and frequent prescribed fire. This project will continue reintroducing landscape-scale fire to fire-suppressed habitats to benefit Species of Greatest Conservation Need.

In addition, this project will have a partner education and outreach component to showcase current and ongoing prescribed fire and glade restoration activities on the Sylamore Ranger District. Project staff will develop a one day *Partner Field Day*. This partner meeting will be used to discuss oak woodland and glade restoration techniques and potential future partnership opportunities.

In 2010, project staff on the Sylamore Ranger District began to significantly increase the number of acres treated with prescribed fire from 5,000 in 2009 to 12,000 in 2011. In addition, project staff and key partners conducted a pilot study using a 'Masticator' to cut and mulch invading woody stems (primarily eastern red cedar) over 250 acres of oak woodlands and glades in a high profile location. This project completely opened the cedar encroached glade which had considerable positive public and partners support. A partner field trip to the site in summer 2011 found several eastern collard lizards that had colonized the restored glades and a diverse herbaceous response. However, continued work is needed for restoring oak woodlands and glades as well as generating a partner education and outreach campaign to share lessons learned.

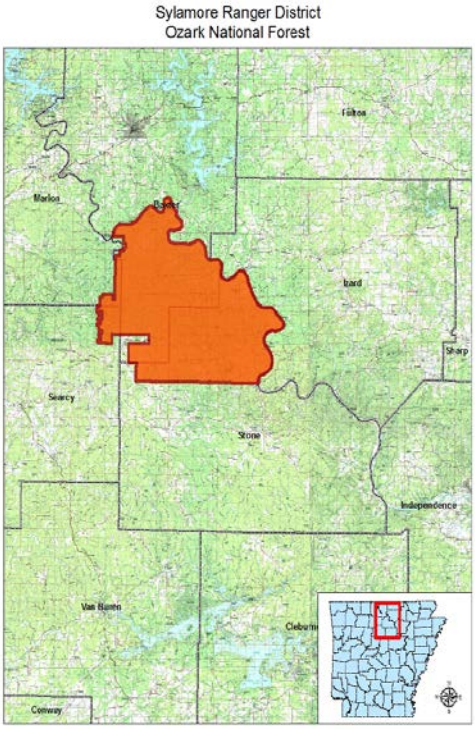

Figure 1. Sylamore Ranger District.

ECOREGION WHERE PROJECT WILL BE CONDUCTED

Restoration activities will be conducted in the Interior Highlands of the Ozark Plataea Ecoregion, within the Sylamore Ranger District of the Ozark/St. Francis National Forest in Stone, Izzard and Baxter Counties in Arkansas (Figure 1). The Sylamore Ranger District of the Ozark/St. Francis National Forest covers 170,000 acres. This large tract of Ozark landscape consists of plateaus, ridges, valleys, and streams with upland forests of pine, oak and hickory. Numerous caves, springs, and karst features occur within the Sylamore Ranger District.

OBJECTIVES

The overall goal of this oak woodland and glade restoration project is to *significantly* increase the number of acres of 'open' glades in focused accessible locations which provides the most amount of restoration acreage potential for mechanical mastication and prescribed fire. The overall objectives of this project are to identify appropriate, accessible cedar encroached glades at a significant continuous scale, reintroduce multiple prescribed fires, educe woody encroachment, and to create a partner outreach campaign for greater awareness of the state of glade restoration in Arkansas. The primary activities will be mastication,

ongoing collaborative prescribed fire operations, and partner education and outreach events. Specifically, this project will remove eastern red cedar with a masticator on **over 250 acres** of high quality glades, prescribed burn all sites within two years, conduct Post Burn Evaluations for each burn, and conduct photo point monitoring pre/post burn at permanent macroplot locations within the priority glades identified.

The project and partnership understands the public visibility these activities will receive and recognizes the need to be proactive with existing partner organization throughout Arkansas currently managing glade habitats. This project will conduct a *Partner Field Day* for land managers in the state working on glade restoration. This will be hosted the Sylamore Ranger District during the spring (post fire and post mastication). The objectives of this meeting will be to educate state and federal partners (Arkansas Nature Heritage, Arkansas Game and Fish Commission, United States Forest Service, and Army Corp of Engineers, etc.) on mastication benefits, provide a forum for discussion and provide an activity for the partners to interact with project staff to showcase current and ongoing glade restoration activities. The workshop will have leading botanists and fire ecology experts' present information in a learning environment.

Expected Results and Measureable Outcomes

Expected results from this collaborative glade restoration partnership will be to rapidly increase 'open' glades through mastication and prescribed fire which will promote suitable habitat for species-at-risk. The species-at-risk affected by this proposal occur in open and dry vegetation types typical of Arkansas woodland, savannas, prairies, and glades on the Sylamore Ranger District in Interior Highlands of the Ozark Plateau Ecoregion. These species are dependent on open woodland structure and herbaceous understory habitat maintained by periodic fire during their life cycles. As a result of fire suppression, most of this type of habitat has become increasingly limited due to densification of vegetation. In addition, most of the glade habitat has been encroached by surrounding vegetation including eastern red cedar. This current condition plays a large part in the loss or degradation of habitat suitable for oak woodland and calcareous glade dependent species-at-risk in this area (Table 1).

Table 1. *Targeted Species of Concern in the Sylamore Area. (CWCS Database).*

Class	*Genus*	*Scientific_Name*	Common Name	Habitat
Insecta	*Speyeria*	*diana*	Diana fritillary	Suitable
Insecta	*Cicindela*	*obsoleta*	Scrubland Tiger Beattle	Optimal
Reptilia	*Ophisaurus*	*attenuatus*	Western slender glass lizard	Suitable
Reptilia	*Sonora*	*semiannulata*	Ground snake	Obligate
Reptilia	*Terrapene*	*ornata*	Ornate box turtle	Suitable
Reptilia	*Crotaphytus*	*collaris*	Eastern collared lizard	Obligate
Aves	*Aimophila*	*aestivalis*	Bachman's Sparrow	Suitable
Aves	*Caprimulgus*	*carolinensis*	Chuck-Wills-Widow	Suitable
Aves	*Passerina*	*ciris*	Painted Bunting	Opitmal
Aves	*Colinus*	*virginianus*	Northern Bobwhite	Suitable
Aves	*Vermivora*	*pinus*	Blue-winged Warbler	Optimal
Aves	*Caprimulgus*	*vociferus*	Whip-poor-will	Suitable

To restore the open habitats that species' identified by the Comprehensive Wildlife Conservation Strategies (CWCS) utilize requires establishing a suitable fire regime that promotes 'open' oak woodlands by reducing native and non-native vegetation encroachment in oak woodlands and glade habitat types. This project has selected over 250 acres for cedar removal, prescribed fire and monitoring. Measurable outcomes include:

- Complete survey of low quality cedar encroached glade habitat.
- Install photo points at selected sites throughout identified glades.
- Implement mastication to 'open' over 250 acres of high quality glades
- Implement prescribed burns on all restored glades every 3 years.
- Complete post-fire effects monitoring and After Action Reviews (AARs).
- Conduct photopoint monitoring before/after mastication and burns.
- Conduct partner outreach Workshop titled: "Glade Restoration" at Sylamore Ranger District.

Approach - Existing Resources and Partnerships

Prior to 2009, project partners were limited in the scale and scope of their glade restoration efforts. However, in 2009 a new management team formed on the District with a strong focus on increasing acres treated with prescribed fire and as well as increasing the number of acres of glade restoration at a large-scale. This effort began in early 2009 with a glade restoration project using mechanical mastication to handle the rough topography. This project was a huge success. From 2009-2010 project staff restored over 400 acres of glade habitat with a private contractor using a mastication machine. This work was conducted in a high profile area along HWY. 9 and has received lots of public and partner support. To capitalize on this glade restoration momentum project partners are currently conducting a glade analysis for a landscape-scale glade restoration effort. Preliminary results estimate several thousand acres of continuous glade habitat with high potential for successful restoration. This project will complete this assessment, identify key glades for restoration, hire a contractor to restore over 250 acres of oak woodland and glade habitats. This project will capitalize on the current momentum with the new team on the District and if funded, this project will be a model for existing and future partners for glade restoration at a landscape-scale.

Proposed Budget

The estimated budget for this project is outlined in Table 2, and includes all divisions as requested by the RFP. All sources have been compiled for all partners. Salary/Benefits include all staff time. Operating expenses includes masticator contractor labor, travel reimbursements and needed supplies.

Table 2. Proposed budget allocation as outlined in the 2012 SWG RFP.

Category	SWG	Partnership (Match) 35%	Total
Salary / Benefits	0	$19,000	$19,000
Operating Expenses	$45,000	$5,231	$50,231
Capital Expenses	0	0	0
Subtotal	$45,000	$24,231	$69,231
Indirect Costs (18%)*	$8,100	$4,362	$12,462
Totals	*$53,100*	*$28,593*	*$81,693*

***Indirect Costs**: The Nature Conservancy anticipates a FY13 federal negotiated indirect cost rate (NICRA) of 18%.

Category	SWG	Partnership (Match) 50%	Total
Salary / Benefits	0	$19,000	$19,000
Operating Expenses	$34,615	$15,615	$50,230
Capital Expenses	0	0	0
Subtotal	$34,615	$34,615	$69,230
Indirect Costs (18%)*	$6,231	$6,231	$12,462
Totals	*$40,846*	*$40,846*	*$81,692*

Qualifications of Partnership

Jim McCoy is the District Ranger on the Sylamore Ranger District of the Ozark National Forest. Jim has over 10 years of resource management experience and was formerly the Fire Management Officer at Land-Between the Lakes.

Scott Osborne is the Fire Management Officer on the Sylamore Ranger District of the Ozark National Forest. Scott has over 10 years of fire management experience and currently oversees implementation of over 12,000 acres a year of prescribed fire on the district.

McRee Anderson is the Interior Highlands Fire Restoration Project Manager for the Arkansas Chapter of The Nature Conservancy. McRee is currently a National Wildfire Coordinating Group (NWCG) certified RXB2 Burn Boss. McRee co-leads The Nature Conservancy's Prescribed Fire Program in the state and has been involved in fire management for 8 years.

Jessica Wakefield is the District Biologist on the Sylamore Ranger District of the Ozark National forest. Jessica has over 5 years experience in fire management and currently oversees restoration of glade habitats on the district.