

2009 Arkansas State Wildlife Grant Pre-proposal

RESTORING BLACKLAND PRAIRIE, BLACKLAND PRAIRIE SAVANNAS, AND OAK-HICKORY WOODLANDS AT RICK EVANS GRANDVEIW PRAIRIE WILDLIFE MANAGEMENT AREA TO BENEFIT SPECIES OF GREATEST CONSERVATION NEED

Project Summary

Shrub control in the Savannas, Eastern red cedar removal, and prescribed fire applied to restore blackland prairie communities and ecosystems to Rick Evans Grandview Prairie Wildlife Management Area (GVP). This will help create a quality blackland habitat and help improve already existing high-quality blackland prairie and communities at GVP. Surveys to monitor response of habitat and Arkansas Wildlife Action Plan species of greatest conservation need (SGCN) will be conducted. This project will address two conservation action-funding priorities and benefit several SGCN.

Project Leader

Brad Townsend, Habitat Biologist
Arkansas Game and Fish Commission
6740 Hwy. 67 East,
Perrytown, AR 71801
(870) 777-5580 FAX: 870-777-3032
batownsend@agfc.state.ar.us

Griffin Park, Regional Wildlife Supervisor
Arkansas Game and Fish Commission
6740 Hwy. 67 East
Perrytown, AR 71801
870-777-5580 FAX: 870-777-3032
gpark@agfc.state.ar.us



Prescribed burning on Rick Evans Grandview Prairie WMA.

Budget Summary: **Total Project Cost: \$5,000**
 Total SWG funding request: \$2,500
 Total matching funds: \$2,500

FUNDING PRIORITIES: This project will aid in the restoration of mesic savanna, blackland prairie, and associated oak-hickory woodlands at Rick Evans Grandview Prairie Wildlife Management Area by removal of eastern red cedar and shrub control in the savanna (use of a skid steer with cutting blade), and use of prescribed fire. This project addresses two funding priorities outlined in the 2009 State Wildlife Grant RFP. (1) Prairie and Native Grasslands, Habitat Management to maintain or increase habitat quality – including forest management for SGCN, and (2) Oak Woodlands, Habitat Management to maintain or increase habitat quality – including forest management for SGCN. The project will restore a habitat of high conservation significance, Prairies and Native Grasslands along with associated Oak woodlands including savannas. This area will serve as a demonstration area for managing the unique habitat in the Blackland Prairie and Savanna associated with this imperiled Ecosystem. Post-treatment monitoring will occur in the project area to evaluate the effectiveness of the management in achieving desired species composition diversity, structure, and bird monitoring to measure progress towards desired ecological conditions.

ECOREGION OF PROJECT: This project will assist in restoration efforts already in place to restore and enhance blackland prairie, “The Ponderosa” (only example of a mesic savanna known from the blackland ecosystem), and associated oak-woodlands of the West Gulf Coastal Plain Calcareous Prairie terrestrial habitat located within the Blackland Prairie subdivision of the South Central Plains Ecoregion, at Rick Evans Grandview Prairie Wildlife Management Area, Hempstead County, Arkansas. (Figure 1.)

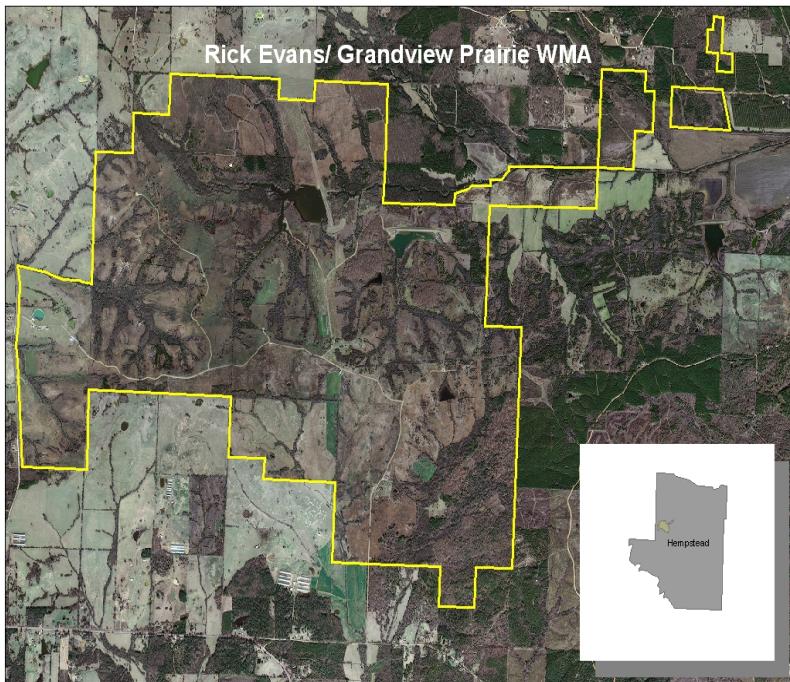


Figure 1. Proposed Grant Area

NEED FOR HABITAT MANAGEMENT: Blackland prairies and their associated woodlands occur primarily in northeast and east central Texas, with smaller tracts in southwest Arkansas, northwest Louisiana, Mississippi, and Alabama (Foti 1989, Riskind and Collins 1975). Originally, there were approximately 12 million acres of these blackland communities. In 1975, approximately 1% (~100,000 acres) of the original blackland acreage remained as remnant tracts and less than 5,000 acres of this is high quality, climax habitat. This amount has undoubtedly decreased further in the last 20 years. Remnant tracts consist of prairies that have been managed, some intensively and therefore highly degraded, for hay

meadows and pasturelands. Blackland prairies have been destroyed by conversion to agriculture lands, urbanization, and other land uses (Riskind and Collins 1975). The blackland region of Arkansas occurs in the West Gulf Coast Plain in Clark, Hempstead, Howard, Little River, Nevada, and Sevier Counties (Rick Evans/Grandview Prairie Ecological Assessment Report, AGFC, ANHC, TNC, 2006)

Rick Evans Grandview Prairie Wildlife Management Area and Conservation Education Center is a multi-use area purchased by the AGFC in 1997 with Amendment 75 funds for the citizens of Arkansas. This acquisition is the first major land acquisition utilizing Amendment 75 funds and fulfills several commitments made in the Plan for Conservation. These Commitments include: land acquisition and improvement, protection and restoration of habitat, and conservation education. The restoration, management, and protection of the blackland prairie and woodland communities at GVP are high priority for the AGFC. GVP represents the most significant example of blackland prairie in Arkansas and possibly the largest contiguous tract in public ownership across the United States. Although other isolated, high quality remnants exist, none provide the opportunities of large-scale ecological restoration, landscape level management, and educational opportunities that are possible at GVP.

The lack of fire in the blackland prairies and woodlands of southwestern Arkansas, combined with heavy grazing has resulted in an encroachment of eastern red cedar, fire tolerant shrubs and saplings, and the densification of open woodlands and the decline of herbaceous vegetation. (Roberts 1979) In blackland woodlands during periods of fire suppression, succession leads to an increase in stem density and a decrease in woodland floor light levels, the herbaceous layer becomes depauperate. The gradient between prairie and open woodland communities becomes more defined and the ecotone is lost (Rick Evans/Grandview Prairie Ecological Assessment Report, AGFC, ANHC, TNC, 2006)

MEASURABLE PRODUCTS/OUTCOME

Restoration of the savanna, blackland prairie, and associated Oak-hickory woodlands/ecosystems would increase habitat productivity of breeding and wintering habitat for migratory songbirds and wintering songbirds on GVP. GVP provides breeding and wintering habitats for eleven migratory songbirds that have shown range wide population declines and receive a Partners in Flight conservation score of 22 or higher. These birds are considered high or very high conservation priorities. Grandview provides habitat generally not found in large enough acreages to support viable populations of breeding migratory birds. Ecological management of these habitats would help promote and enhance the breeding and wintering grounds for these declining species and perhaps many others. All species listed are found on GVP, **Species listed in Bold are bird species of greatest conservation need:**

MIGRATORY AND RESIDENT BIRDS IDENTIFIED AT GVP.

Common Name	Scientific Name	Associated Habitats
Henslow's sparrow	<i>Ammodramus henslowii</i>	Blackland Prairie
Kentucky Warbler	<i>Oporornis formosus</i>	Riparian Woodlands
Prothonotary warbler	<i>Protonotaria citrea</i>	Swamps
Chuck-will's-widow	<i>Caprimulgus carolinensis</i>	Blackland Woodland
Whip-poor-will	<i>Caprimulgus vociferous</i>	Blackland Woodland
White-eyed vireo	<i>Vireo griseus</i>	Wet prairie with shrubs
LeConte's sparrow	<i>Ammodramus leconteii</i>	Blackland Prairie
Scissor-tailed flycatcher	<i>Tyrannus forficatus</i>	Blackland Savanna
Prairie warbler	<i>Denroica discolor</i>	Dry prairie with shrubs
Orchard oriole	<i>Icterus galbula</i>	Blackland Savanna
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Blackland Woodland
Eastern wood-peewee	<i>Contopus virens</i>	Blackland Savanna
Yellow Warbler	<i>Dendroica petechia</i>	Wet woodland edges
Little blue heron	<i>Egretta caerulea</i>	Swamps/shallow water edge
Bell's Vireo	<i>Vireo bellii</i>	Brush/shrub near water
Anhinga	<i>Anhinga anhinga</i>	Lakes/swamps
Chimney Swift	<i>Chaetura pelasgica</i>	Blackland woodlands/lakes

Snowy Egret	<i>Egretta thula</i>	Lakes/Swamps
Wood Thrush	<i>Hylocichla mustelina</i>	Blackland woodlands
American White Pelican	<i>Pelecanus erythrorhynchos</i>	Lake
Pied-billed Grebe	<i>Podilymbus podiceps</i>	Lake/Pond
Mississippi Kite	<i>Ictinia mississippiensis</i>	Blackland Prairie
Painted bunting	<i>Passerina ciris</i>	Blackland Prairie-some shrub
Semipalmated Sandpiper	<i>Calidris pusilla</i>	Waters edge
Northern Bobwhite	<i>Colinus virginianus</i>	Blackland Prairie/Savanna
Lesser Yellowlegs	<i>Tringa flavipes</i>	Shallow Water

WINTERING BIRDS IDENTIFIED AT GVP.

Common Name	Scientific Name	Associated Habitat
Eastern towhee	<i>Pipilo erythrorththalmus</i>	Blackland Prairie/Savanna
Spotted towhee	<i>Pipilo maculatus</i>	Blackland Prairie/savanna
Chipping sparrow	<i>Spizella passerine</i>	Blackland Savanna-short grass
Field sparrow	<i>Spizella pusilla</i>	Blackland Prairie-some shrubs
Lark sparrow	<i>Chondestes grammacus</i>	Blackland Savanna-short grass
Vesper sparrow	<i>Pooecetes gramineus</i>	Blackland Prairie-short grass
Savannah sparrow	<i>Passerculus sandwichensis</i>	Blackland Prairie
Henslow's sparrow	<i>Ammodramus henslowii</i>	Blackland Prairie
LeConte's Sparrow	<i>Ammodramus leconteii</i>	Blackland Prairie
Swamp sparrow	<i>Melospiza Georgiana</i>	Blackland Prairie-wet
Song sparrow	<i>Melospiza melodia</i>	Blackland Prairie
White-throated sparrow	<i>Zonotrichia albicollis</i>	Blackland Savanna
White-crowned sparrow	<i>Zonotrichia leucophrys</i>	Blackland Prairie-some shrubs
Dark-eyed junco	<i>Junco hyemalis</i>	Blackland Savanna-short grass
Northern Harrier	<i>Circus cyaneus</i>	Blackland Prairie/Savanna
Sedge Wren	<i>Cistothorus platensis</i>	Blackland Prairie
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Lake
Osprey	<i>Pandion Haliaetus</i>	Lake

PLANT SPECIES OF CONSERVATION CONCERN (TRACKED BY ANHC) AT GVP

Common Name	Scientific Name	Rank
Drummond's wild onion	<i>Allium drummondii</i>	G5 S1
Ground Plum	<i>Astragalus crassicarpus</i>	G5 T5 S2
Little-toothed caric sedge	<i>Carex microdonta</i>	G4 S2 S3
Tall larkspur	<i>Delphinium carolinianum</i> ssp. <i>vimineum</i>	G5 T5 S2
Tall larkspur	<i>Delphinium carolinianum</i> ssp. <i>virescens</i>	G5 T5 S2
Big-headed pygmy cudweed	<i>Diaperia prolifera</i>	G5 S1 S3
Showy beardtongue	<i>Penstemon cobaea</i>	G4 S3
Great coneflower	<i>Rudbeckia maxima</i>	G4 S1
Laurel oak	<i>Quercus laurifolia</i>	G5 S2 S3
Durand's white oak	<i>Quercus sinuata</i> var. <i>sinuata</i>	G5 S2
Yaupon black-senna	<i>Seymeria cassioides</i>	G5 S1
False gaura	<i>Stenosiphon linifolius</i>	G5 S1
Hairy cornsalad	<i>Valerianella amarella</i>	GNRS1

(Rick Evans/Grandview Prairie Ecological Assessment Report, AGFC, ANHC, TNC, 2006)

PROJECT GOAL/OBJECTIVES/METHODS: To facilitate restoration of the blackland prairie communities, dense stands of fire-intolerant woody vegetation should be removed. Invading trees too large to mow should be cut with the use of a skid steer and Hav-roc tree saw. Fire will also be used to maintain and enhance these imperiled habitats.

Objective/Methods:

1. Promote native vegetation (grasses and forbs) by removing Eastern red cedar from once productive Blackland Prairie Habitat on approximately 20 acres. This objective will be fulfilled with the use of a Hav-Roc trees saw. This is an attachment utility made for a Skid-steer. Cedars will be cut and piled, and burned during the next burning cycle for this area. Abundant cedars lower ground wind speeds and increase shading, which reduces fuel loads and fire intensity during prescribed burns. Reduced fire intensity and behavior leads to lower cedar kills during prescribed burns. Removing the cedar will promote fire intensity and behavior while promoting growth of native grasses and forbs hidden underneath the cedar overstory.
2. Complete removal of shrub/sapling understory within the Ponderosa Prairie (savanna) 40 acres, to restore fire dependant grasses and forbs in to the savanna ecosystem. This objective will be fulfilled with the use of a Hav-Roc tree saw. This is an attachment utility made for a Skid-steer. Removal of understory saplings in the savannas will allow for Blackland Prairie communities to establish, by opening up the understory for a more productive burning regime, and allowing sunlight to reach the prairie floor promoting native grasses and forbs. Follow up treatments of herbicide may be necessary to get complete control of the woody vegetation. Follow up monitoring past the grant timeline will be necessary to ensure habitat productivity is maintained.
3. Monitor progress of habitat enhancement in these areas by observing habitat response to treatment and fire, while also monitoring bird species to show species richness and species abundance. Habitat response will be monitored during post burn assessments and following green-up of the Blackland Prairie. Bird monitoring will be conducted monthly in the treatment areas to show species abundance and richness in the form of Area searches.

THIS PROJECT AND EXISTING RESOURCES:

BUDGET: The estimated total cost of this project is \$5,000. The federal share is \$2,500 (50%) and the total match is \$2,500 (50%). Arkansas Game and Fish Commission will provide non-federal match for restoration activities. There are no capital expenses or Salary/benefits involved in this proposal.

Category	AGFC/Ross Foundation	Grant	Total
Operating Expenses	\$2,500	\$2,500	\$5,000
Grand Total			\$ 5,000

STAFF AND QUALIFICATIONS

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.

Griffin Park has worked for the Arkansas Game and Fish Commission for 20 years. He worked as the Habitat Biologist, Assistant Supervisor, and now the Regional Wildlife Supervisor. He graduated from University of Arkansas at Monticello with a B.S. in Wildlife and Fisheries Biology. He is also an Arkansas Registered Forester.

