A Proposal for the 2015 Arkansas Wildlife Grant Program
February 12, 2015

Project Title:
Establishing Native Warm Season Grasses to Benefit Grassland Dependent Species at Holla Bend National Wildlife Refuge

Project Summary:
The Friends of Holla Bend National Wildlife Refuge in cooperation with the refuge and numerous partners will establish 120 acres of native warm season grasses on the refuge at the visitor observation tower. This will improve habitat conditions for numerous species that have been observed at the site including Le Conte's, Song, Savannah, and Field Sparrows, Short-eared Owls, Northern Harriers, Sedge Wrens, Northern Bobwhites, and transient grassland species such as Sora, Virginia Rail, Upland Sandpiper and American Golden-Plover.

Project Leader:
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Project Partners:
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Lowe's Home Improvement Store, Russellville, AR, Jesse Hayes, jessehays11@gmail.com
Ozark National Forest, Leif Anderson, 479-284-3150, leanderson@fs.fed.us
Arkansas Game and Fish Commission, AJ Riggs, ajriggs@state.ar.us,
Arkansas Natural Heritage Commission, Brent Baker, brent@arkansasheritage.org
The Nature Conservancy, McRee Anderson, wanderson@tnc.org
Bridgestone Americas Tube Business, Lorrie Chesser, chesserlorrie@bfusa.com
John and Ruth Andre, 479-747-3615, jandre@hughes.net

SWG Funding Requested: $11,846 (36%)
The following table summarizes how the SWG funding will be used:

Category	Description	Amount
Interpretive Materials	Design and procure durable interpretive sign describing the project to be placed at viewing tower	$4,000
Equipment Purchase	2, ATV wick bar mounting brackets $670	$4,818

	2, Speidel 6 foot wick bars $418 2, Fimco LG-3025 boomless ATV spray assembly $730 1, 30 gallon drum of Roundup herbicide $600 6, 20oz. bottles of Outrider herbicide $2,400	
Fuel for Seed Harvest, Planting and Herbicide Applications	266 gallons of fuel for ½ ton truck, 210 gallons of fuel for ATV. Fuel will be used over a 2 year period, estimated cost of $3.00/gallon	$1,428
Equipment Maintenance	Annual maintenance for 2 ATV's, $250 each for 2 years. Annual maintenance for seed harvester, $50 for 2 years	$1,100
Equipment Repair	Repairs to seed harvester, herbicide equipment, and /or ATV	$500
Grant Total		$11,846

Matching funds: $20,700 (64%). The following table shows the description and amount of match provided by non-federal partners

Partner	**Description**	**Amount**
Lowes Home Improvement Stores	Lowes Heroes Grant, provide seed harvest support supplies	$1,200
The Nature Conservancy	500 pounds of donated seed, from Presson-Oglesby Prairie @ $10.80/pound	$5,400
Bridgestone Americas Tube Business	500 pounds of donated seed, from Bridgestone property @ $10.80/pound	$5,400
John and Ruth Andre	500 pounds of donated seed, from Andre property @ $10.80/pound	$5,400
The Friends of Holla Bend NWR	300 person hours of donated labor at $10.00/hour, $300.00 in miscellaneous supplies to support seed harvest, cleaning, planting and herbicide treatments	$3,300
Match Total		$20,700

Total Project Cost: $32,546

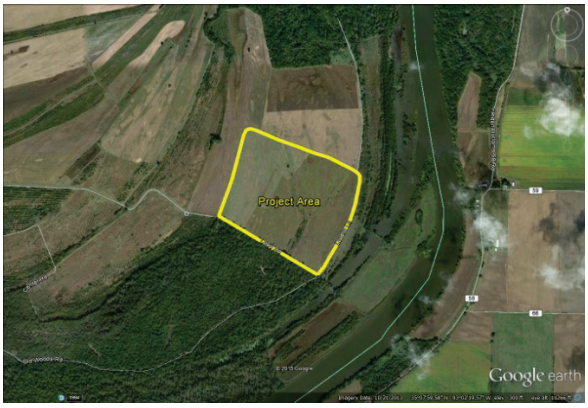
Project Statement

Need:
Our proposal specifically addresses the need for management of native grasslands which ranks as the highest priority for both habitat and avian concerns in the current Arkansas Wildlife Action Plan. Tallgrass prairie is one of Arkansas's rarest community types. Over 95 percent of the state's native grasslands have been lost to cultivation, urban development, or conversion to other land uses. Likewise, grassland birds and populations of other grassland-dependent species have declined dramatically across the United States. Restoration and management of high-priority grassland habitat are necessary to improve the status of grassland birds and other grassland-dependent species.

Our plan would add 120 acres of native grasslands to the state which would provide habitat for avian species that utilize native grasslands. In addition, it would add a seed source for other restoration/establishment projects throughout the state. Finally, equipment purchased through this grant could be shared with conservation partners for future restoration projects.

Purpose and Objectives:
This project will improve and increase the amount of the native warm season grass community in central Arkansas. This will benefit the entire range of plants and animals dependent on this decreasing community type. Our objective is to establish 120 acres of native warm season grasses on the Refuge at their visitor observation tower.

Location: Project Area



Project Area Coordinates: N35.133398, W-93.038995

Approach:
This tract was once under cultivation, but more recently has been a fallowed field of primarily herbaceous cover maintained with occasional mowing. Some woody species, primarily eastern red cedar (*Juniperus virginiana*), invaded in the drainages but were narrowly confined. Much of this tract is dominated by non-native grasses (especially Johnson grass [*Sorghum halepense*] and Bermuda grass [*Cynodon dactylon*]).

SITE PREPARTION

The Friends of Holla Bend National Wildlife Refuge have already cut most of the cedar that was growing at the site. In the summer and fall of 2014 the Refuge applied two herbicide treatments to begin the process of eliminating non-native grasses and weeds. This was followed by plowing the entire site in November 2014 to expose the roots to winter freezing and thawing. Additional plowing and disking will be done in the spring of 2015 before planting.

SEED COLLECTING

The Friends group decided that success was most likely if local genome seed was used. This required harvesting seed from local sources, rather than purchasing commercial seed. Native warm season grass is no longer widespread in the area, being restricted to sites previously restored, maintained as nature areas, or patches that have not been converted to other uses. Several state and federal agencies and private organizations and individuals allowed us to harvest seed from their lands. The Arkansas Game and Fish Commission loaned us their seed harvesting machine, which was pulled by ATV's, to collect seeds in September and October from seven sites. We collected over 2,000 pounds of seeds in the fall of 2014. We will repeat the harvest and cleaning process in 2015.

After harvest, the seeds were dried and cleaned to remove non-seed material. While a wide variety of seeds were collected, the majority of the grasses were Indian grass (*Sorghastrum nutans*), little bluestem (*Schizachyrium scoparium*), big bluestem (*Andropogon gerardi*), and switch grass (*Panicum virgatum*), with lesser amounts of prairie cord grass (*Spartina pectinata*) and split-beard bluestem (*Andropogon ternarius*).

PLANTING

We will use a farm tractor and PTO driven seed distributor to plant native warm season grasses and forbs on the site. Seeding will be done in the spring of 2015 and 2016 using seed collected as described above.

FOLLOW UP HERBICIDE TREATMENTS

We will use two strategies to control invasive species. Seedling Johnson grass will be controlled following plantings with wick bar "wiping" using Roundup herbicide. This herbicide application will be selective in that it will treat seedling Johnson and Bermuda grass over the top of the young native warm season grasses. In following growing seasons residual invasive grasses will be treated with Outrider herbicide applied as a foliar spray. This native warm season grasses are tolerant of this herbicide.

Expected Results and Benefits:

This project will improve habitat conditions for numerous wintering sparrow species (Le Conte's, Song, Savannah, Field), Short-eared Owls, Northern Harriers, Sedge Wrens, Northern Bobwhites, and transient species such as Sora, Virginia Rail, Upland Sandpiper and American Golden-Plover. The location of the restoration site adjacent to the Refuge's elevated tower will enhance visitor's wildlife observation opportunities and provide a venue for describing the value and history of native warm season grasses and prairies in this part of Arkansas. An educational sign will be placed at the tower to explain the management of the 120 acre site and the ecological benefits of this management.

Budget:

Category	Total	Match	Grant
Interpretive Materials	$4,000		$4,000
Labor	$3,000	$3,000	
Equipment Purchase	$3,400		$4,818
Fuel for Seed Harvest and Herbicide Treatments			$1,428
Equipment Maintenance and Repair			
Supplies	$5,900	$1,500	$4,818
Donated Seed	$16,200	$16,200	
Grand Total	$32,500	$20,700	$11,846

Qualifications

Project Leader:

Steve Osborne is a retired wildlife biologist. After receiving a B.S. in wildlife management from Northwestern State University, Steve went on to work for the U.S. Forest Service. He served as district wildlife biologist on three National Forests in Arkansas and Louisiana. Restoration of fire maintained ecosystems became a focal area for Steve's Forest Service work. At the time the National Forests in Arkansas and Oklahoma were undergoing Land Management Plan revision Steve went to work for the U.S Fish and Wildlife Service as a liaison between the agencies. Land management planning duties afforded opportunities for networking and partnering with many of the regions natural resource managers. In retirement, Steve continues to be involved in natural resource management. He remains connected with many of his work colleagues and enjoys working on projects that restore or enhance rare community types.

Partners:
Our partners include agencies and organizations with long and proven experience in natural resource management and grassland restoration/establishment – Arkansas Game and Fish Commission, U.S. Fish and Wildlife Service, Arkansas Natural Heritage Commission, The Nature Conservancy, and U. S. Forest Service.