

**PRAIRIE AND SAVANNAH HABITAT RESTORATION  
AT MIKE FREEZE WATTENSAW WILDLIFE MANAGEMENT AREA  
IN ARKANSAS' GRAND PRAIRIE REGION OF THE  
MISSISSIPPI ALLUVIAL VALLEY**

**The Arkansas Game & Fish Commission is committed to restoring prairie habitats in the Arkansas' Grand Prairie Region, specifically on Mike Freeze Wattensaw Wildlife Management Area (WMA). Currently 102 acres are in various stages of prairie restoration on this WMA. This grant will fund the conversion of agriculture fields that have succeeded to sweetgum thickets into 117 additional acres of native prairie and will further reduce isolation of existing prairies and savannah communities within a two mile radius.**

**Project Leader: Rob Willey, Wildlife Habitat Biologist  
Arkansas Game and Fish Commission**

**Email: [rcwilley@agfc.state.ar.us](mailto:rcwilley@agfc.state.ar.us)**

**Steve N. Wilson/Raft Creek Field Office  
120 Cypert Road  
Georgetown, AR 72143  
Phone: 877-734-4581  
Fax: 870-734-4585  
Cell: 870-734-7217**

**Partners:**

**Michael Warriner, Arkansas Natural Heritage Commission  
[MichaelW@arkansasheritage.org](mailto:MichaelW@arkansasheritage.org) (501) 324-9150**

**Karen Rowe, Nongame Migratory Bird Coordinator, AGFC  
[krowe@agfc.state.ar.us](mailto:krowe@agfc.state.ar.us) (877) 873-4651**

**Mike Coker, Region 2 Supervisor, Wildlife Management Division, AGFC  
[mecoker@agfc.state.ar.us](mailto:mecoker@agfc.state.ar.us) (877) 734-4581**

**Total Project Cost: \$68,769.00**

**SWG Funds Requested: \$29, 016.00**

**Matching Funds:**

**AGFC In-kind service: \$39,753.00**

**A. Funding Priorities: This proposal addresses funding priority #15 for 2009. “Habitat Management to maintain or increase habitat quality of Prairies and Native Grasslands”.**

This project will increase native prairie habitat in the Grand Prairie Region in east central Arkansas. This has been a major focus of many state agencies/organizations (Nature Conservancy, ANHC, AGFC, and USFWS) during the past decade due to the extensive loss of habitat in this ecoregion. By increasing this habitat type, thus reducing isolation between the small remnant tracts that remain in the area, this project will benefit six species of greatest conservation need already observed on neighboring prairies.

In addition, this project is an on-the-ground restoration and stewardship project that implements priorities in the Arkansas Wildlife Action Plan (habitat restoration and improvement) and serves as a demonstration project that may be replicated on other state, federal, and private lands.

**B. Ecoregion:** This native prairie/savannah restoration project occurs in the Mississippi Alluvial Plain (MAP) ecoregion. This restoration project is on the 900,000 acre Grand Prairie portion of the MAP. Prairie grasslands, seasonal herbaceous wetlands, slash, and savanna habitats have declined by more than 99 % or more, and the cumulative loss of native vegetation in the Grand Prairie is among the highest loss for any ecosystem region in North America. Approximately, 324,000 acres of the Grand Prairie complex was originally prairie grasslands. Today, only about 500 acres of prairie remnant patches remain.

The Government Land Office (GLO) Survey Notes from 1816, GLO survey of the Louisiana Purchase, described this particular area as “this mile broken woodland, growth oak and hickory, soil poor”. This statement describes open savannah or woodland with small prairie openings, which would have a prairie-like ground flora (Pers. Comm. Theo Witsell). On a recent visit to these sites, Tom Foti and Theo Witsell observed a few botanical clues, native prairie grasses, compass plant, and rattlesnake master, which suggested that the site was more open historically (Pers. Comm. Theo Witsell).

This project is located in southern Prairie County. Specifically, the prairie grassland restoration will occur on Mike Freeze\Wattensaw WMA (figure 1) north of highway 70 along Bethel Cemetery Road and north of Hazen along Hwy 11 (figure 2). The proposed additional prairie restoration tracts (117 acres) are depicted in green and the current prairie restoration tracts (102 acres) are depicted in red.



Figure 1.

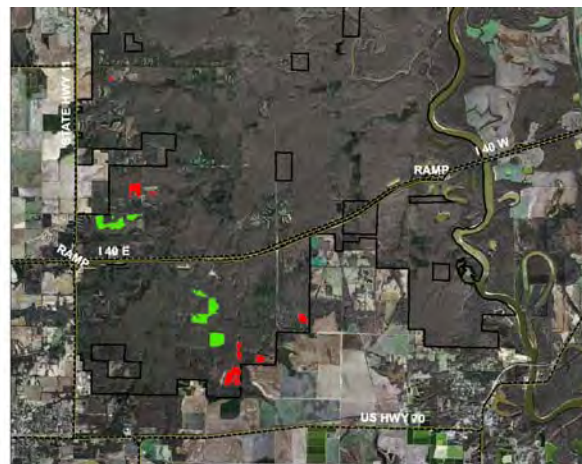


Figure 2.

**C. Methods:** The 117 acres of old agriculture fields that have succeeded to sweetgum thickets have been managed during the past five years by roller chopping and prescribed burning on a two year rotation. This management tool has proven to be inadequate for controlling the woody invasive species. In order to restore the three sites back to native prairie/savannah habitat, Arkansas Game and Fish Commission will use a contractor to conduct aerial spraying, heavy disking, and finish disking to control small woody invasive species. Aerial spraying is a common practice when ground application methods are not feasible. Helicopter aerial herbicide has been implemented on other sites to control hardwoods without adversely affecting adjacent residual hardwood stands (Pers. Comm. Arkansas Forestry Commission). Bulldozing will be contracted to remove larger saplings. The Arkansas Game and Fish Commission will collect, clean, dry and store native prairie grassland seeds from native genotype sources and plant the seed to restore the 117 acres back to native prairie. Once the prairie has been established, the AGFC will allow limited natural oak and hickory regeneration to occur to provide a prairie woodland mosaic that historically existed in this area (GLO 1816 Land Survey Notes). The Arkansas Natural Heritage Commission (ANHC) will conduct pre-treatment and post treatment insect surveys on these sites to monitor for insect diversity and response to the habitat changes that occur throughout the life of the grant. Breeding and wintering migratory bird area searches will be conducted once the native prairie grasses are well-established, which will not occur until after the expiration of this grant period. Results from both of these surveys will be entered into the Comprehensive Wildlife Conservation Strategy.

The Arkansas Game and Fish Commission have played a significant role in two State Wildlife Grants funded through the Arkansas Wildlife Action Plan to establish/restore native prairies. The Arkansas Game and Fish Commission has demonstrated their ability to be a team player in multi-agency efforts and effectively restoring native prairie, utilizing native genotype, by reclaiming approximately 300 acres in Southern White County to include Steve N. Wilson/Raft Creek WMA and approximately 200 acres in southern Prairie County to include Mike Freeze/Wattensaw WMA, Downs Prairie Natural Area, and Stuttgart Airport Prairie Restoration Project. Acreage planted in this project will increase the amount of seed available for harvest and planting other state, federal and local prairie seeding efforts.

**D. Expected Benefits:** The release of native prairie species by planting and removing invasive woody species will enhance habitat quality/diversity and add value to wildlife, which will provide beneficial habitat to a variety of species of conservation concern (Table 1).

Table 1. Arkansas Wildlife Action Plan Species of Greatest Conservation Need that are known from adjacent prairies (7) which could benefit from this project.			
Common Name	Scientific Name	S Rank	G Rank
Red Milkweed Beetle	<i>Tetraopes quinquemaculatus</i>	S1, S2	G?
Sedge Wren	<i>Cistothorus platensis</i>	S1B, S4N	G5
LeConte's Sparrow	<i>Ammodramus leconteii</i>	S3, S4N	G4
Henslow's Sparrow	<i>Ammodramus henslowii</i>	S1B, S2N	G4
Short-eared Owl	<i>Asio flammeus</i>	S3N	G5
Northern Bobwhite	<i>Colinus virginianus</i>	S5	G5
Northern Harrier	<i>Circus cyaneus</i>	S1B, S4N	G5

**E. Products and Outcomes:**

- Reduce isolation of high quality prairies/savannahs within a two mile radius thus increasing the functionality of these ecosystems
- Provide greater habitat diversity within the 19,184 acre WMA complex, specifically the 850 acres of open lands which consist of early successional fields, prairies, and planted openings.
- Provide additional native seed sources for future prairie restoration sites.
- Provide 117 acres of prairie-woodlands to an ecosystem region that has sustained a loss of more than 99% of its original native vegetation which is considered among the highest loss for any ecosystem region in North America (Months 8-24);
- Conduct entomology surveys pre and post treatment (Months 1 & 24);
- Enter methodology in the Natural Resources Monitoring Partnership database (Months 1-3);
- Conduct aerial herbicide application (Month 1);
- Implement conservation open-land treatments (prescribed burning, seed bed preparation, and planting) on 117 acres (Months 2-10);
- Inform public concerning treatment and establishment of high quality prairies via through the Arkansas Game and Fish Wildlife Magazine and newspaper media (Months 23-24);
- ANHC update Comprehensive Wildlife Conservation Strategy database (Month 24);
- Update scientific community on conservation action outcomes (Fall of 2011);
- Conduct breeding and wintering migratory area searches ( Summer and Winter of 2014);

**G. Existing Resources and Long-term Project Maintenance:** This proposal takes full use of existing resources and partnerships. Equipment purchased with the use of SWG funding (Stuttgart Airport Prairie Restoration Project) will be utilized by AGFC personnel to complete this prairie restoration project. This project will build on the longstanding partnership between the Arkansas Natural Heritage Commission (ANHC) and Arkansas Game and Fish Commission. Future maintenance of the restoration project will include continued monitoring for new invasions of undesirable woody species, provide limited protection for oak and hickory seedlings and frequent prescribed fire

**H. Budget:**

	<b><u>Deliverable</u></b>	<b>Timeframe</b>	<b>AGFC Match</b>	<b>SWG Cost</b>	<b>Total Cost</b>
<b>1</b>	Baseline insect inventory	Months 1/24	\$0	\$0	\$0
<b>2</b>	Aerial Herbicide Spray	Month 1	\$0	\$12,870	\$12,870
<b>3</b>	Prescribed Burning	Month 2	\$0	\$0	\$0
<b>4</b>	Heavy Disking	Months 2-4	\$0	\$4,095	\$4,095
<b>5</b>	Bulldozing	Months 2-4	\$0	\$7,956	\$7,956
<b>6</b>	Finish Disking	Months 2-4	\$0	\$4,095	\$4,095
<b>7</b>	Seed Bed Preparation	Months 2-4	\$4,095	\$0	\$4,095

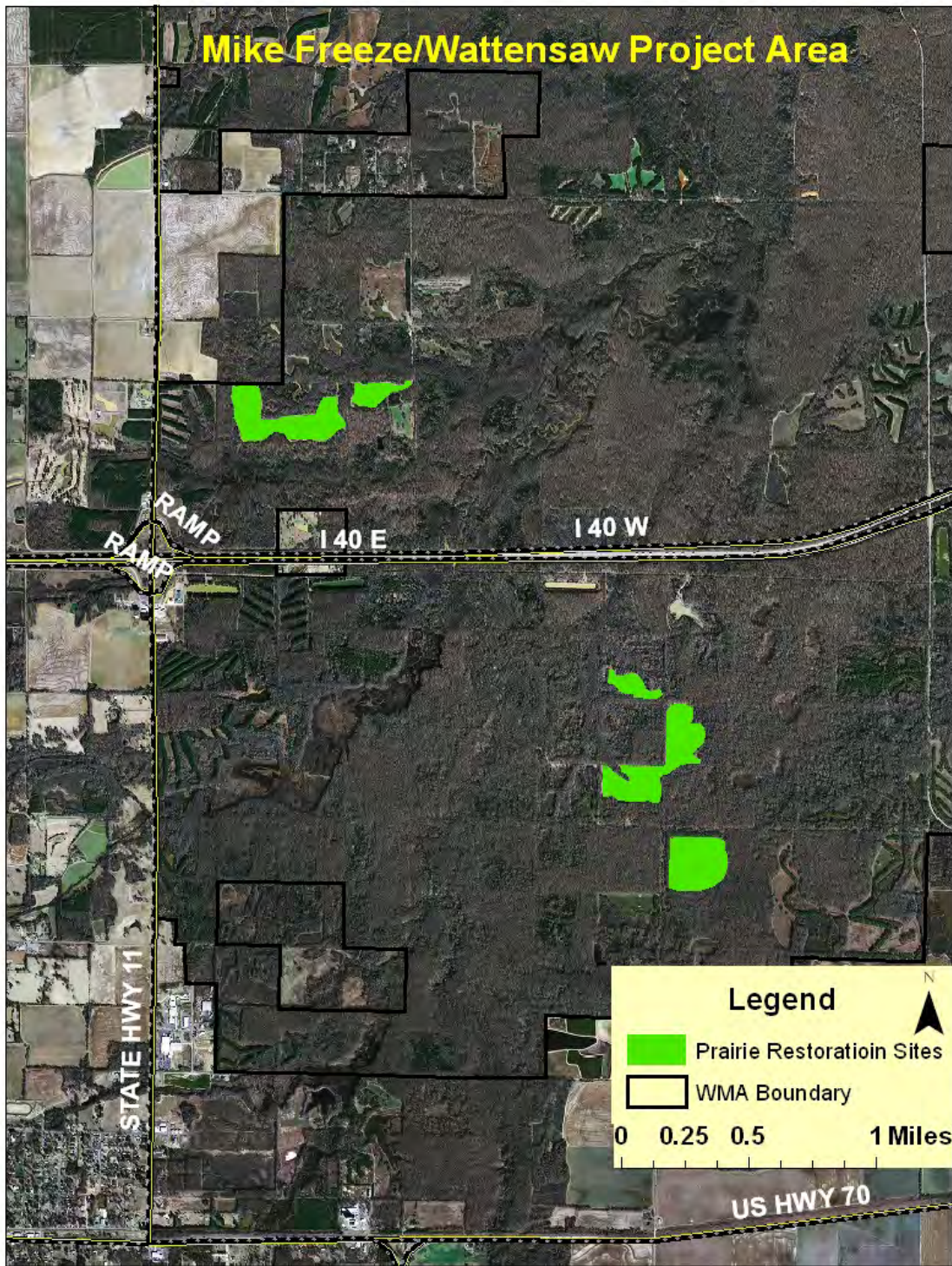
<b>8</b>	NWSG Seed Collection/Cleaning/Storage	Months 3-4	\$31,563	\$0	\$31,563
<b>9</b>	NWSG Planting	Months 8-10	\$4,095	\$0	\$4,095
<b>10</b>	Prescribed Burning	Month 20-22	\$0	\$0	\$0
<b>11</b>	Enter methodology in NRMP database	Month 24	\$0	\$0	\$0
<b>12</b>	Update CWCS database	Month 24	\$0	\$0	\$0
<b>13</b>	Update public/scientific community (Fall 2011)	Month 1-24	\$0	\$0	\$0
		<b>TOTAL</b>	<b>\$39,753</b>	<b>\$29,016</b>	<b>\$68,769</b>

**I. Qualifications To Carry Out The Project:** The Arkansas Game and Fish Commission has worked in the Mississippi Alluvial Plain with our partners for approximately 7 years and currently maintains an excellent relationship with ANHC. The AGFC has also collaborated with our partners (NRCS, ANHC, and TNC) to establish prairies on public land utilizing SWG grants and 1996 Farm Bill programs on the Stuttgart Airport, Downs Prairie, and Steve N. Wilson/Raft Creek WMA. These relationships increase our capacity to organize teams made up of experts in the field of restoration of at-risk habitats. The agency is also dedicated in maintaining a trained staff that is science and conservation minded. The AGFC, specifically Rob Willey, has refined prairie restoration techniques to include; seed collection, seed cleaning, and planting methods. The AGFC has taken the lead in teaching and promoting these techniques by participating in private and public land field workshops (i.e. U of A Pine Tree Field Day, Statewide Private Lands Meeting, Northern Bobwhite Workshop, and Stuttgart Airport Demonstration Day). Finally, through completion of these restoration activities, the AGFC has demonstrated the ability to successfully complete this project.

**Rob Willey** has served as Arkansas Game and Fish Commission Habitat Biologist since 1999. He received his Bachelor of Science in Wildlife Management from Arkansas State University. He received his Certification as a Wildlife Biologist from The Wildlife Society in 2004. As Habitat Biologist, he manages approximately 70,000 acres of bottomland hardwoods and associated habitat types on 10 Wildlife Management Areas within the Cache River and White River basins of east-central Arkansas. Habitat manipulation, enhancement, and restoration are his primary duties.

**Karen Rowe** is the Nongame Migratory Bird Program Coordinator for the Arkansas Game and Fish Commission. For the past two decades, Ms. Rowe has been responsible for developing and implementing conservation programs for priority non-game birds in Arkansas. These programs range from monitoring and research projects to implementing on-the ground management actions. Ms. Rowe, a Certified Wildlife Biologist, also serves as the agency representative on the Mississippi Flyway Nongame Bird Technical Section,

**Michael D. Warriner** serves as a field ecologist with the Arkansas Natural Heritage Commission. In that role, Warriner conducts surveys on animal species of conservation concern, particularly invertebrates. He also coordinates citizen-science activities for the agency, including forming partnerships with volunteer groups. Warriner holds B.S. and M.S. degrees in biology.



**STATE WILDLIFE GRANT PROGRAM  
SUBGRANT PROJECT BUDGET**

**1. Budget summary**

Complete the project budget summary form below.

<b>Budget Category</b>	<b>State Wildlife Grant Funds (Federal)</b>	<b>Cash Match (Non-Federal)</b>	<b>In-Kind Match (Non-Federal)</b>	<b>Total Project Cost</b>
Salaries		8,190.00		8,190.00
Contract Services	29,016.00	-	-	29,016.00
Supplies and Materials	-	-	31,563.00	31,563.00
Travel	-	-	-	-
Equipment	-	-	-	-
Indirect Costs	-	-		-
<b>TOTAL</b>	29,016.00	8,190.00	31,563.00	68,769.00

**2. Non-Federal Match (cash and/or in-kind)**

Matching funds included in the grant budget are subject to the same requirements and conditions that apply to federal funds. These requirements include the certifications and assurances submitted with the grant application and any conditions attached to the grant award.

Additional details about match can be found here:

<http://wsfprograms.fws.gov/subpages/toolkitfiles/43cfr12.pdf>

**3. Budget Narrative**

In addition to completing the subgrant project budget summary above, a detailed, itemized budget justification must also be completed on a separate sheet. It must contain the reason for each requested budget item and provide the basis and rationale for its cost. All requested (federal and non-federal) items must be thoroughly justified and clearly tied to project tasks, schedule and deliverables.

**4. Indirect Costs**

Indirect costs will only be approved if the applicant has an existing, approved rate from a cognizant federal agency. A copy of the current federal approval must be submitted with the grant proposal. Indirect cost rates greater than 10 percent must be must be justified in the budget narrative.

**5. Grant period**

Project costs and cash and/or in-kind matching can only be incurred after a formal grant award is made by the U.S. Fish and Wildlife Service and a grant agreement is executed by and between the Arkansas Game and

Budget and match questions may be addressed to

[Matthew Warriner](#)  
Federal Aid Coordinator

**DETAILED, ITEMIZED BUDGET JUSTIFICATION**

<b>Budget Items</b>	<b>Budget Detail</b>	<b>SWG Request</b>	<b>Match Funds</b>	<b>Non-Eligible Match</b>	<b>Total</b>
<b>Staff (salary &amp; benefits)</b>		<b>\$0</b>	<b>\$8,190</b>	<b>\$0</b>	<b>\$8,190</b>
AGFC Biologist	Planting 6lb/acre of NWSG seed. 117 acres @ \$35/acre		\$4,095		\$4,095
AGFC Biologist	Rolling seed bed after planting NWSG seed. 117 acres @ \$35/acre		\$4,095		\$4,095
<b>Supplies &amp; Materials</b>		<b>\$0</b>	<b>\$31,563</b>	<b>\$0</b>	<b>\$31,563</b>
NWSG Seed	Collection/Cleaning/Storage of 702lbs local genotype NWSG seed. 702lbs NWSG seed @ \$45/lb		\$31,563		\$31,563
<b>Contractors</b>		<b>\$29,016</b>	<b>\$0</b>	<b>\$0</b>	<b>\$29,016</b>
Helicopter Aerial Herbicide	Contractor bids approx. \$110/acre for applying herbicide with helicopter. Acres to be treated=117 acres	\$12,870			\$12,870
Heavy Disking Contractor	Contractor bids approx. \$35/acre for applying heavy disking to remove woody debris. Acres to be treated=117 acres	\$4,095			\$4,095
Finish Disking Contractor	Contractor bids approx. \$35/acre for applying finish disking to prepare seed bed. Acres to be treated=117 acres	\$4,095			\$4,095
Bulldozer Contractor	Contractor bids approx. \$68/acre for removing larger diameter trees from site. Acres to be treated=117 acres	\$7,956			\$7,956