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Illinois DNR



2009 SWG Grant Application System

Project Title: Project Administrator - Cache River Watershed Scale Restoration Project, Union, Johnson, Alexander and Pulaski Counties, Illinois

Applicant Information	
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Project Information	
Project Title:	Project Administrator - Cache River Watershed Scale Restoration Project, Union, Johnson, Alexander and Pulaski Counties, Illinois
Project Description	
<p>This application proposes to amend the existing State Wildlife Grant T-11-P-1, thereby allowing the project to meet five new objectives that are critical steps towards implementing partial reconnection of the upper and lower segments of the Cache River. The Wildlife Action Plan (IDNR 2005, p. 128) identifies reconnection as a key action item. It also is a common restoration goal of the Cache River Joint Venture Partnership (JVP), which consists of the Illinois Department of Natural Resources, U.S. Fish & Wildlife Service, The Nature Conservancy, U.S. Department of Agriculture-Natural Resources Conservation Service and Ducks Unlimited. Because of the scale and complexity of restoring the Cache, this formalized partnership brings together the most prominent conservation organizations in the state. The JVP leverages conservation goals, resources and collective expertise of each organization to preserve, restore and manage the natural resources of the Cache River Conservation Opportunity Area.</p> <p>The request for amending the existing grant comes at a critical phase during this project. Bolstered by previous positive research, the coordinator, with this amendment, would continue to advance this project by coordinating the activities of the JVP and achieve the objectives outlined below. These objectives are intended to assure the JVP meets the</p>	

regulatory requirements associated with partial reconnection, establish monitoring criteria and baseline data collection, coordinate ongoing science and research needs, and facilitate community outreach and public involvement.

Type of Project

Implementation Planning

(Match Rates Implementation: 50% Federal : 50% Non-Federal | 75% Federal : 25% Non-Federal)

Dollars Requested

Dollars Requested	Total Federal	Total Non-Federal	Total Cost of Project
1st Year Funding	\$47,150	\$47,150	\$ 94,300
2nd Year Funding	\$47,150	\$47,150	\$ 94,300
Totals:	\$94,300	\$94,300	\$188,600

Need: (3000 characters)

Although the Cache River basin makes up only 1.5% of the land area in Illinois, it contains 23% of the remaining high-quality barrens habitat remaining in the state, 11.5% of the high-quality floodplain forest habitat, 91% of the high-quality forested swamp and 42% of the high quality shrub swamp. However, changes in land-use practices and hydraulic modifications in the Cache River watershed during the last century have significantly threatened the ecological integrity of some of these valuable habitats and, therefore, on connected species (Demissie, 2008).

Because of previous alterations to the system and the influence of the Ohio and Mississippi rivers, the hydraulics of the Lower Cache River are very complex. Since the 1915 division of the Cache River basin into two watersheds, the Lower Cache River does not receive flow from the Upper Cache River to maintain a sustained flow in the downstream direction. Local tributaries are now the headwaters and the source of water for the upper portion of the Lower Cache River.

Equally complex are identifying and implementing the measures needed to restore the Cache’s natural hydrology. However, great progress has been made since the beginning of this grant. Previous modeling results have demonstrated that partial reconnection is possible and many of the regulatory requirements can be met. The five new project objectives listed below are essential action items needed to advance partial reconnection.

The JVP, many conservation groups and local stakeholders are united behind this common goal – restoring the Cache River system’s natural hydrology in order to create a healthier, more diverse river. This restoration vision includes creating a managed partial reconnection between the upper and lower segments of the Cache River and placing two structures in the river channel to sustain minimum water levels in the Lower Cache. An essential component of this restoration effort is detailed hydrologic and hydraulic modeling to determine water levels and water flow associated with these proposed measures. Hydrologic and hydraulic modeling also allows the JVP to satisfy regulatory requirements and assure no negative

impacts on natural, agricultural and social resources.

Objectives: (3000 characters)

1. Coordinate activities associated with the Upper Cache River/Main Ditch Study, data collection, needs assessment, and grant writing/administration.
2. Coordinate the completion of hydrologic modeling/flood analysis necessary for advancing the Cache River Basin Study, which will investigate the tail water impacts of Main Ditch. The report will include a written report and detailed maps illustrating water levels and affected lands (private and public).
3. Coordinate activities associated with the ecological research needed to support the findings of the Cache River Basin Studies (Phase I and II).
4. Coordinate all activities associated with implementing the Cache River Basin Study, including but not limited to additional survey work, structure design, continue grant writing and administration.
5. Implement communication plan

Approach: (3000 characters)

The required 50% match will be a combination of support from The Nature Conservancy, IDNR (NAAF), and IDNR in-kind service.

The Cache River Restoration Coordinator will continue to oversee both technical and administrative aspects of the large restoration projects defined in objectives 1-5 above. Coordinator would continue to be a liaison between the multi-agency/multi-disciplinary participants responsible for analysis and permitting. Coordinator will continue to seek and process funding opportunities with focus on USACOE, Illinois Capital Development, Illinois Department of Natural Resources and The Nature Conservancy.

The coordinator will oversee the completion of hydrologic modeling/flood analysis necessary for advancing the Cache River Basin Study, which will investigate the tail water impacts of Main Ditch. The report will include a written report and detailed maps illustrating water levels and affected lands (private and public).

The coordinator will work with the JVP to develop and implement monitoring program to establish baseline data before water flow is restored to the Cache River and to determine the effectiveness of flow restoration for adaptive management purposes. Additionally, the coordinator will oversee research needs and challenges associated with reconnection; this will include working with scientists on research, agency personnel on design and implementation, etc.

As the partners and stakeholders move towards consensus on a restoration plan for the Cache River Wetlands, the coordinator will be able to provide technical assistance for the proposed structures, including the east outlet, reconnection and west swamp structures. The coordinator will oversee structures design, as outlined in research by the U.S. Army Corps of Engineers and the Illinois State Water Survey. These structures would manage riverine habitat through managed water levels and increased water flow. The coordinator will also oversee required surveys for possible impacts.

To support the overall project goals and objectives stated above, the restoration coordinator is reaching out to stakeholders, strengthening alliances/communication with community and conservation groups and ensuring that project is well-grounded scientifically and technically. The coordinator will implement a communications plan which includes, but is not limited to, building capacity within the Friends of the Cache River Watershed, meeting with elected

officials throughout the region and collecting additional scientific data for the project. Past and current outreach efforts are creating an environment where the partners, other conservation concerned groups and governmental entities can work together to develop a plan that ensures flood protection and benefits to natural areas, which are important in the community for many reasons including economic ones. Specific activities will include a newsletter, web site, brochure re-print, picture library, brochure development with TNC, outreach to community organizations.

Relationship to the Plan (3000 characters)

This project will contribute to attaining many of the goals of the state wildlife plan including (i) Partial Reconnection of the Upper and Lower Segments of the Cache River which is a key action item identified in the Wildlife Action Plan (IDNR 2005 p. 128). (ii) restores forested wetland habitat which is ranked the highest in terms of importance for Illinois' Species in greatest need of Conservation (IDNR 2005 p. 290), (iii) promotes connectivity among wetland complexes with habitat corridors (IDNR 2005 p. 78), (iv) creates lateral connection between existing streams and wetlands (IDNR 2005 p. 78), (v) manages high-quality examples of Grade A wetland communities (IDNR 2005 p. 78), and (vi) reduces extreme water level variation in the river and associated swamp (IDNR 2005 p. 80). The Cache River watershed is home to 17 state listed species, including "species in greatest need of conservation". The stream reaches included in this study have populations of the state endangered Cypress minnow, *Hybognathus hayi*, and the rare dragonfly, *Arigomphus maxwelli* (IDNR 1997).

This project also addresses many of the stream-specific goals of the plan, including actions 7a and 7b, *increasing our understanding of baseline conditions and the effects of altered hydrology and water quality* (IDNR 2005).

Anticipated Outcomes and Benefits:
(3000 characters)

The ultimate purpose of this project is to ensure the JVP meets the regulatory requirements associated with partial reconnection, establish monitoring criteria and baseline data collection for partial re-connection coordinate ongoing science and research needs related to partial reconnection, and facilitate community outreach and public involvement.

The project will also result in the completion of hydrologic modeling/flood analysis necessary for advancing the Cache River Basin Study, which will investigate the tail water impacts of Main Ditch. The report will include a written report and detailed maps illustrating water levels and affected lands (private and public).

Signature of Applicant:

Melissa Bramlet Wilson Date: 2/5/2010

Signature of department or unit head (if required):

Date:



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