

Title Marsh Bird Habitat Restoration and Management on Private and Public land in Arkansas' Mississippi Alluvial Valley

Project Summary:

Changes in habitat and hydrology have caused serious declines in populations of king rails and five other marsh birds species listed by the AWAP as Species of Greatest Conservation Need. Research funded by the AWAP showed that emergent wetlands comprised of rushes, sedges and cattails interspersed with areas of open shallow water are preferred by king rails and other marsh birds. This project will restore and manage 61.7 acres of emergent wetlands on 2 Wildlife Management Areas and will increase marsh bird habitat on private lands by tailoring USDA Conservation Programs to provide emergent wetland habitat.

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Total Project Cost: \$60,000

SWG Funding Requested: \$30,000

Amount and Source of Matching Funds or In-kind Services: \$30,000 from AGFC, in-kind

Marsh Bird Habitat Restoration and Management on Private and Public land in Arkansas' Mississippi Alluvial Valley

Funding and Conservation Priorities:

This project addresses conservation priorities outlined in the Arkansas Wildlife Action Plan (AWAP) regarding the conservation of declining species of secretive marshbirds and the priorities listed in the November 2008 Arkansas Wildlife Action Plan Steering Committee Funding Priority "Projects that address the need to protect, re-establish, and restore emergent wetlands". In addition, this project addresses the breeding, foraging, and migrating habitat needs of the following AWAP Species of Greatest Conservation Need (SGCN): king rail, American bittern, common moorhen, least bittern, pied-billed grebe, and purple gallinule. This project also addresses a new AWAP priority habitat, emergent wetland, which was recently given its priority standing based on new data gathered by a previous SWG research project that surveyed populations of breeding marshbirds in Arkansas' Delta region. This project is an on-the-ground stewardship and restoration project that not only implements the priorities of the AWAP but will also serve as demonstration project that can be replicated in other places and used to educate private landowners on habitat management techniques

Project Need:

Wetlands across the continental United States have declined at an estimated rate of 58,500 acres per year between 1986 and 1997 (Dahl 2000). Approximately 1.2 million acres of freshwater emergent wetlands have been lost due to agriculture and urban development (Dahl 2000).

In Arkansas, wetlands have experienced serious declines. The Delta Region of Arkansas was once part of a vast wetland area comprised of mostly bottomland hardwoods as well as emergent and submergent wetlands, savanna and prairie. Before European settlement, the Lower Mississippi Alluvial Valley (which includes all of the Arkansas Delta), was a forested wetland ecosystem totaling over 24.7 million acres. Between the 1950s and the 1970s, much of this land was cleared and converted to agriculture.

The decline in wetland acreage has been accompanied by a decline in populations of wetland-dependent bird species. Secretive marshbirds are one group of wetland dependent birds that have faced some of the greatest population declines as a result of wetland habitat loss. Secretive marsh birds include all species that primarily inhabit marshes (i.e., marsh-dependent species) or early successional emergent wetlands, and in Arkansas include the King Rail (*Rallus elegans*), Virginia Rail (*Rallus limicola*), Sora (*Porzana carolina*), Black Rail (*Laterallus jamaicensis*), Yellow Rail (*Coturnicops noveboracensis*), American Bittern (*Botaurus lentiginosus*), Least Bittern (*Ixobrychus exilis*), Pied-billed Grebe (*Podilymbus podiceps*), Purple Gallinule (*Porphyryula martinica*), and Common Moorhen (*Gallinula chloropus*). Almost all of these species received a rating of "high conservation concern" in the national Waterbird Conservation Plan, were ranked as Species of Conservation Concern" by the USFWS and received a high priority score in the Arkansas Wildlife Action Plan and are listed as Species of Greatest Conservation Need (SGCN). The AWAP Steering Committee has also ranked emergent wetlands as a priority habitat type in need of conservation.

Project Site:

This proposal involves 3 different sites. The first site encompasses the entire rice-growing region of the Arkansas Delta. On Site 1, we will meet our goal of providing technical information and incentives to landowners on emergent wetland restoration and management. The Arkansas Delta (site 1) contains over

2 million acres of rice and countless miles of ditches where King Rails and other marshbirds were once fairly common but have disappeared due to habitat loss, incompatible farming practices, and habitat degradation on existing wetlands adjoining rice fields.

The second site is a 14.5 acre moist soil unit on Steve N. Wilson/Raft Creek WMA . This 4,063 acre WMA includes 1,500 acres of moist-soil wetlands and 2,700 ac of reforested bottomland hardwoods with about 11 miles of restored channels, i.e. Raft Creek and its tributaries.

The third site is an 11.5 acre moist soil unit on the Wiville Unit of the Rex Hancock/Black Swamp WMA. This 6,394 acre state-owned management area is mostly bottomlands and swamps with 4,000 acres of overflow bottomland in the Cache River floodplain.

Because the Arkansas Game and Fish Commission (AGFC) has no water management capabilities on sites 2 and 3, natural succession and invasive vegetation, in addition to lack of water, make these areas unattractive to breeding, migrating and wintering marshbirds. Management actions outlined in this proposal are intended to reverse this problem.

Both the Steve N. Wilson /Raft Creek WMA and the Rex Hancock / Black Swamp WMA are in Arkansas' Delta Region and are within the Cache/Lower White River Ecosystem, which is comprised of 2,832,640 acres of the Cache River and lower White River watersheds. Within these watersheds, 201,178 acres of state and federal lands are designated as a Wetland of International Importance under the Ramsar Convention.

Project Goals

The overall goals of this project are to use water management to restore hydrology in order to create and provide emergent wetland habitat for king rails and other SGCN marshbirds on public land, to monitor avian response to habitat restoration, monitor the response of plant communities to water level management, and to provide landowners with information necessary to manage emergent wetlands for marshbirds on private lands.

1.) Manage impoundments on state-owned lands to provide the emergent wetland plant communities and appropriate water levels preferred by breeding and migrating marsh birds.

The proposed project will restore and manage approximately 26 acres of high quality emergent wetlands to the Cache/Lower White River Ecosystem and watershed. Currently, Site 2 (Hole 4) on Steve N. Wilson/Raft Creek WMA is comprised of smartweed, wild millet, and toothcup. Site 3 on Rex Hancock/Black Swamp WMA is comprised of cattail, and sedges and rushes. Neither unit has water management capabilities which means water levels may be too high in the spring for breeding king rails and other marshbirds and too low in summer for foraging rail family groups. This lack of water control can also result in lack of adequate water levels for migrating marshbirds in the early fall. The repair of a well pump at the Wiville unit and installation of a pump at Hole 4 will enable the AGFC personnel to manage water levels to benefit king rails and other secretive marshbirds and the emergent wetland plants they prefer. Without appropriate vegetation management, succession will cause woody vegetation and other undesirable to invade these units, Vegetation control including the use of herbicides to control invasives and disking will be implemented to keep these units in the early successional emergent wetland vegetation condition preferred by king rails and other priority marshbird species.

2.) Monitor breeding marsh bird use and plant response to water level management on restored emergent wetlands on state-owned lands.

Monitoring of both the avian response to habitat and water management, and the plant response to water level management, is necessary in order to employ adaptive management. This will enable us to use results to evaluate the success of management efforts and improve techniques to provide emergent wetland habitat for marshbirds. Monitoring the plant response to water management as well as the bird response to habitat and water conditions will enable us to evaluate the responses to conservation actions and create a “feedback loop” where the results of our monitoring will drive changes that can improve the conservation actions we implement.

3.) Provide technical information and incentives to landowners on the restoration and management of emergent wetland habitat for marsh birds on private lands.

Working with partners, including the Natural Resource Conservation Service and USDA, we plan to develop and promote both voluntary and incentives-based programs for the voluntary protection, restoration, and management of emergent wetland habitat for marshbird SGCN on private lands in the Delta’s rice growing region. (Meanly 1956 documented that ditches adjacent to rice fields were frequently used by nesting king rails and other marsh birds in Arkansas during the 1950s). Project partners will also work to refine certain Farm Bill practices and Wetland Reserve Program practices and tailor them so they will create, restore and manage the emergent marshes and water levels required by king rails and other marshbirds

Materials and Methods:

Habitat Restoration and Management:

Because the king rail is a habitat specialist, an indicator of habitat quality, and an umbrella species for rails and other marshbirds dependent upon emergent wetlands, habitat restoration and management will be geared towards this species. Note, however, that there is no standardized prescription for rail habitat. We will follow guidelines for moist-soil management typically aimed at waterfowl (e.g. USFWS 1988, Lane and Jensen 1999, Strader and Stinson 2005), but adjust protocols to develop desired habitat conditions for marshbirds. We will evaluate the results and further refine to develop a successful prescription for emergent marsh.

An ideal habitat complex for king rails consists of dense, emergent vegetation interspersed with openings. A gradient of vegetation height and density, and water depth will provide habitat for the full suite of marshbird SGCN as well as waterfowl. Our sites should include a large amount of edge created by interspersion of open water areas and perennial emergents. A mix of 30-50% open water, and 50-70% emergent vegetation is recommended. Preferred emergent plants include both tall, dense cover and shorter seed-producing plants such as sedges, bulrushes, rushes, smartweeds, cattails, and grasses. Vegetation height and density depend in part on water depth, with taller, more robust plants growing in deeper water. Ideally, we will create a wetland with a range of water depths that will provide suitable habitat for a variety of species, but most importantly will create the emergent wetland marsh preferred by marshbird SGCN.

Desired habitat conditions will be maintained through the proper timing of flooding and drawdown. Units will be flooded up to a 10 inch depth by late winter and held through summer with a gradual drawdown beginning in mid-summer to a depth in fall that varies from 3 to 6 inches. Units should be flooded back to 6 to 10 inches in late fall to and provide foraging habitat for migrating marshbirds and waterfowl. Proper conditions also need to be maintained through other management techniques. Unfavorably high stem density, woody vegetation encroachment, and large amounts of residual vegetation become common in older marshes. Invasive and woody vegetation will be controlled with fire, herbicide, or by mechanical means (Strader and Stinson 2005). Marshes will be disked

approximately once every three to five years to set back plant succession or as necessary to maintain the desired emergent marsh conditions.

In order to accomplish the water level manipulation necessary to maintain desired habitat conditions, a water delivery system is required. Steps include site preparation, construction or repair of levees, installation of water control structures, and installation of wells or pumps. Operational costs associated with moist-soil management are primarily related to general impoundment maintenance and sustaining plant communities in early successional stages (Lane and Jensen 1999).

On Steve N. Wilson/Raft Creek WMA Hole 4, the water control structure and levees are in place and a camel back pump will be purchased and installed to pump water on and off the unit as necessary for habitat and marshbird SGCN management. On Rex Hancock/Black Swamp WMA Wiville East Unit, a broken well pump and water control structure will be repaired in order to restore water level management. On both sites, disking and herbicide applications to control invasives and woody vegetation will be accomplished by a contractor working under the supervision of AGFC regional personnel.

Conservation Programs for the Creation and Restoration of Emergent Wetlands on Private Lands
Federal and state agencies offer financial incentive programs that encourage the restoration of wildlife habitat and the installation of conservation practices on private lands. Among these are U.S. Department of Agriculture (USDA) and Natural Resource Conservation Service (NRCS) programs such as the Wetland Reserve Program (WRP), Conservation Reserve Program (CRP), Environmental Quality Incentive Program (EQIP), Wildlife Habitat Incentive Program (WHIP), and Conservation Stewardship Program (CSP). These programs provide financial incentives for interested landowners to take marginal agricultural land out of production and create or restore wildlife habitat, or integrate wildlife beneficial practices into existing crop practices. Unfortunately, many of these programs currently do not provide incentives or the technical assistance needed to create the specific habitat conditions needed for king rails and other marshbird species.

We will work with the USDA State Technical Committee, USFWS NRCS District Conservationists and AGFC Private Lands Biologists to target enrollment of private lands that surround our public restoration sites into farm incentive programs which restore early successional wetlands. We will also work with landowners to implement the cost-share programs will restore and enhance emergent marsh habitat for king rails and other marshbird SGCN. We will work with the State Technical Committee and the USFWS and AGFC Ag Liaisons, and recommend practices that enhance the value of existing cost-share programs by integrating marshbird habitat needs into technical guidelines and ranking systems. There is also the potential to create new wildlife enhancement practices such as ditch management for marshbirds. Ditches with shallow water and dense emergent vegetation are thought to be an important habitat component for King Rails when adjacent to emergent marshes and rice fields (S. King, Louisiana Cooperative Fish and Wildlife Research Unit, pers. comm.)

Project partners will educate the AGFC Private Lands and Regional biologists on marshbird habitat needs and management, demonstrate the habitat type preferred by marsh birds, and provide an overview of the conservation and farm program practices beneficial to them. AGFC Private Lands Biologists with assistance from other project partners will actively seek private landowners interested in providing marshbird habitat and enroll them in appropriate farm program practices. AGFC biologists will provide technical assistance on emergent wetland habitat creation, restoration and management, and water level management. In an effort to increase the number of private lands acreage actively managed for king rails and other declining species of marshbirds, we will attempt to use the media, both television and print (with a focus on farming publications), in order to inform the public about our marshbird habitat conservation efforts and solicit their participation in emergent wetland habitat restoration.

Monitoring

Marshbird monitoring will be done under contract with Audubon Arkansas and will follow the national standardized protocol (Conway 2004). In brief, this protocol calls for point count surveys using broadcasts of marshbird vocalizations to elicit responses and improve detection. Survey points will be spaced at least 400 m apart along the upland-emergent marsh interface. Points will be surveyed during either morning (30 min before sunrise to 1000 hours) or evening (4 hours before sunset to dark) periods, and visited three times during a season. Each of the three visits will be conducted during a 10-day window, and each 10-day window will be separated by seven days. Each survey will begin with five min of passive surveying followed by a series of one-min vocalization broadcasts for each target species. This protocol also describes procedures for measuring habitat characteristics and water depth. Parameters to be estimated are densities, abundance indices, trends in bird populations, and habitat availability. Results will be summarized seasonally and shared among project partners and with the national marshbird survey coordinator.

Records for restoration sites will be kept throughout the year and include management actions, natural events, water level, plant responses, and plant composition (Strader and Stinson 2005). At the end of each year, a brief narrative will be written summarizing these variables, responses, and recommended management actions including alternatives that might improve management in the future.

Results from on-the-ground activities will be shared among project partners and, with our partners input; we will evaluate the success of our efforts and improve our techniques as needed. Results will also be used to update the database associated with the Comprehensive Wildlife Conservation Strategy at the conclusion of the project. We will also enter our monitoring methodology into the Natural Resources Monitoring Partnership if the National Marshbird Monitoring Protocol is not entered into their database by the close of our project. We commit, along with our partners, to present the findings from our project to the scientific community in order to facilitate updates and/or revision to the Arkansas Wildlife Action Plan. We will strive to have our project and its findings published in popular publications, especially those aimed at the private landowners, in order to encourage landowners to restore and manage emergent marsh habitat on their lands.

Study Results and Benefits

Our activities will result in the restoration of emergent marsh habitat maintained at appropriate water levels required by king rails and other nesting and migrating secretive marsh birds on 26 acres of public lands. This public land restoration effort will increase the Arkansas Game and Fish Commission's knowledge and ability to manage plant communities and water levels to create and maintain emergent wetlands for the benefit of secretive marsh birds and it will allow us to develop a management prescription for conducting similar work at other sites. Once marshbird habitat is restored at these two sites, they can serve as demonstration areas to promote the creation of additional habitat on public and private lands.

Through our work with the USDA, NRCS and other partners, our activities will result in an increase in the number of acres of emergent wetlands on private lands created or restored and managed to enhance populations of king rails and other marshbirds. It should also result in an increase in participation in Farm Bill and other USDA conservation programs aimed at creating and/or restoring emergent wetlands. If we are successful, it will also result in a new Farm Bill conservation practice specifically designed to benefit king rails and other secretive marsh birds and the "fine tuning" of other Farm Bill and WRP practices to

create and maintain emergent wetland habitat for marshbirds. It will also bring to these agencies and to the private landowner an awareness of the declines of marshbird populations, the values of emergent wetland habitat, such as their ability to improve water quality, and an understanding of the management of emergent wetlands for the benefit of secretive marsh birds.

Calendar

Late Summer 2009

- Purchase and install water control equipment.
- Make levee and equipment repairs.
- Control undesirable vegetation.
- Survey vegetation and marshbirds pre-water level management.
- Apply water to desired level.
- Begin working with NRCS Technical Committee to create new CSP practice Ditch Management for marshbirds.
- Contract with Audubon Arkansas to do bird surveys.

Fall 2009

- Begin slight drawdown.
- Monitor marshbirds and habitats.
- Continue maintaining water levels for marshbirds.
- Continue working with USDA and NRCS on refining wetland creation/restoration practices for emergent wetlands to benefit marshbirds.

Winter 2010

- Instruct AGFC Private Lands Biologists on marshbird habitat needs and USDA and NRCS practice to restore emergent wetlands for king rails and other marshbirds .
- AGFC Private Lands Biologists begin working with landowners in an effort to sign up acreage into various USDA incentives-based practices that provide marshbird habitat.

Spring 2010

- Adjust water levels to create desired vegetation.
- Monitor marshbirds and habitats.
- Continue working with private landowners on USDA program sign up and technical assistance.

Summer 2010

- Begin slight drawdown.
- Control undesirable vegetation in late summer.
- Monitor marshbirds and habitats.
- Consult with UA Coop Unit on vegetation response to water management and weed control.
- Private Lands Biologists and partners continue to advise landowners in USDA programs.

Fall 2010

- Continue maintaining water levels for marshbirds.
- Summarize year 1 monitoring results and share with partners and the public.

Winter 2011

- Review and adjust on-the-ground project plans in light of monitoring data and technical advice.

- Continue working with landowners in an effort to sign up acreage into various USDA incentives-based practices that provide marshbird habitat.
- Seek funding for 20011-2013 marsh bird and vegetation monitoring and funding for expansion of habitat management on additional sites.

Spring 2011

- Monitor marshbirds and habitats.
- Provide landowners and agencies involved in private lands management with BMPs.
- Maintain and monitor wetland restoration hydrology and plant community .
- Seek funding for 20011-2013 marsh bird and vegetation monitoring and funding for expansion of habitat management on additional sites.

Summer 2011

- Late summer, control invasive and woody vegetation.
- Monitor marshbirds and habitats
- Maintain and monitor wetland restoration hydrology and soils.
- Collect data on landowner participation in USDA and NRCS marsh bird habitat programs.
- Receive data summary from bird monitoring contractor
- Request extension on grant period to extend past end of late summer field season

Fall 2011

- Receive data summary and analysis from Audubon Arkansas.
- Continue work with landowners promoting USDA and NRCS programs that create or restore emergent wetlands for king rails and other marshbirds.
- Summarize plant monitoring results.
- Continue water and habitat management.
- Draft final report.

Winter 2011-2012

- Produce final report.
- Continue to manage water levels for marsh birds.
- Issue news release on habitat and rail use findings in final report.

Species of Greatest Conservation Need	Conservation Status ^a	USFWS		AWAP Priority Score
		Birds of Conservation Concern ^b	Population Trend ^c	
Pied-billed Grebe	High		d	14
American Bittern	High	√	d	15
Least Bittern	High	√	d	19
Snowy Egret	High		d	14
Little Blue Heron	High		d	19
Black-crowned Night-Heron	Moderate		d	19
Yellow-crowned Night-Heron	Moderate		u	15
Wood Stork	High		d	9
Northern Pintail		*	D	10
Purple Gallinule	High	*	d	23
Common Moorhen	Moderate	*	u	23
King Rail	High	*	D	33
Sora	High	*	d	-
Yellow Rail	High	√	d	-
Black Rail	High	√	D	-
Sedge Wren		√	i	-

a - Waterbird Conservation For The Americas 2006

b √= listed as species of conservation concern for Mississippi Alluvial Valley Bird Conservation Region.

Species with a "*" were not considered for this list because they are game birds in some states. Source: U.S. Fish and Wildlife Service. 2008. Birds of Conservation Concern 2008. United States Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management. 2009.

c - I = significant increase, i = nonsignificant increase, u = unknown, d = nonsignificant decrease, D = significant decrease. Sources: North American Waterfowl Management Plan 2004, Partners In Flight 2005, Waterbird Conservation For The Americas 2006.

Total budget requested \$60,000

	State Match	SWG
1. Habitat Restoration and Management:		\$6,000
2. Water Level Management: pumps, wells, and well repair		\$21,500
3. Fuel and electricity for pumps	\$5,250	
4. Site prep by AGFC personnel	\$4,000	
5. Site management	\$6,000	
6. Marshbird monitoring and data analysis contract		\$2500
7. AGFC personnel time to negotiate and implement new CSP Ditch Management practice and assistance to landowners	\$9,000	
8. Program implementation and oversight by AGFC	\$3,250	
9. AGFC indirect costs \$27.500 x 10%	\$2750	
	30,000	30,000

State Wildlife Grant Input: \$30,000

Matching Funds: \$30,000 from AGFC in the form of personnel time, and budget items for fuel, electricity for pumps, custom agricultural service for disking and/or chemical application.



Figure 1. Moist soil unit to be restored at Steve Wilson/Raft Creek Wildlife Management Area. N 35 05' 43.1" W 091 31' 58.3"



Figure 2. Moist soil unit to be restored at Rex Hancock/Black Swamp Wildlife Management Area. N 35 09' 18.8" W 091 13' 54.4"

Literature Cited

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- Dahl, T.E. 2000. Status and trends of wetlands in the conterminous United States 1986 to 1997. U.S. Fish and Wildlife Service, Washington, D.C. 82 pp.
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- Meanley, B. 1956. Food habits of the king rail in the Arkansas rice fields. *Auk* 73:252-258.
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- U.S. Fish and Wildlife Service. 1988. Waterfowl management handbook. U.S. Fish and Wildlife Service, Washington, D.C. <http://www.nwrc.usgs.gov/wdb/pub/wmh/wmh.pdf>

**STATE WILDLIFE GRANT PROGRAM
SUBGRANT PROJECT BUDGET**

1. Budget summary

Complete the project budget summary form below.

Budget Category	State Wildlife Grant Funds (Federal)	Cash Match (Non-Federal)	In-Kind Match (Non-Federal)	Total Project Cost
Salaries	-	-	16,250	16,250
Contract Services	8,500	6,000	-	14,500
Supplies and Materials	11,500	5,250	-	16,750
Travel	-	-	-	0
Equipment	10,000	-	-	10,000
Indirect Costs	-	-	2750	2,750
TOTAL	30,000	11,250	19,000	60,250

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 See attached

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 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 Fish Commission and the subgrantee.

BUDGET NARRATIVE:

Total budget requested \$60,250

DETAILED BUDGET	State Match	SWG
1. Habitat Restoration and Management:		\$6,000
2. Water Level Management: pumps, wells, and well repair		\$21,500
3. Fuel and electricity for pumps	\$5,250	
4. Site prep by AGFC personnel	\$4,000	
5. Site management	\$6,000	
6. Marshbird monitoring and data analysis contract		\$2500
7. AGFC personnel time to negotiate and implement new CSP Ditch Management practice and assistance to landowners	\$9,000	
8. Program implementation and oversight by AGFC	\$3,250	
9. AGFC indirect costs \$27,500 x 10%	\$2750	
	30,250	30,000

1. Habitat Restoration and Management: SWG dollars.

a. Initial disking to remove invasive vegetation and set back succession on 26 acres is estimated to cost \$1,284 and will be done by a contractor as neither Steve Wilson/Raft Creek WMA nor Rex Hancock/Black Swamp WMA have tractors. Disking cost is based on Farm Service agency cost share rates and payments for disking in Arkansas Delta Region and equipment transportation costs.

b. Tractor rental and herbicide application is estimated to cost \$1,144 annually for a three-year total of \$3,432.

c. Additional tractor rental for spot disking over 3 years to control succession and invasives is estimated at \$1,284 (\$428 per year).

2. Water Level Management: pumps, wells, and well repair: SWG dollars

a. At Raft Creek Hole 4, the water control structures and levee in place require a \$10,000 camelback pump to provide water for emergent wetland vegetation and marshbird habitat.

b. The marshbird unit on Rex Hancock/Black Swamp WMA needs extensive well repair at a cost of \$9,000 to provide the vegetation and open water required by marshbirds.

c. The water control structure at this marshbird unit also needs to be replaced at a cost of \$2,000. Cost figures were obtained by verbal phone bids and by consulting the Farm Service Agency for cost share rates.

3. Fuel and electricity for pumps: State Match: direct payment of bills by AGFC.

It is estimated the over 3 years, the pumps and wells will cost AGFC \$5,250 to operate based on current rates in east central Arkansas for fuel and electricity.

4. Site prep by AGFC personnel: State Match: in-kind salary.

It is estimated that the man-hours (salary and fringe benefits) expended by AGFC personnel in the preparation of the 26 acres for habitat restoration, ditch renovation and flooding will cost \$4,000 over the three-year period. This includes inspecting levees for any needed repairs, initial invasive vegetation surveys, site preparation for pump and well installation, writing bids and hiring contractors and for AGFC supervision of contracted activities.

5. Site management: State Match: In-kind salary

It is estimated that the man-hour (salary and fringe benefits) for site management will be \$2,000 per year for 3 years for a total of \$6,000. Man-hours will be expended to maintain water levels appropriate for marshbirds and emergent marsh vegetation, and to monitor and assess vegetation response to water level management. Personnel must inspect water levels every 2 weeks and adjust pumping or drainage accordingly, and survey for invasive vegetation and determine when control measures must be taken and determine best methods to use to control undesirables.

6. Marshbird monitoring and data analysis: SWG dollars

AGFC will contract with Audubon Arkansas to conduct marshbird surveys to assess marshbird and other bird species' response to habitat and water level management on the project sites on Steve Wilson/Raft Creek WMA and Rex Hancock/Black Swamp WMA. Cost for the contract was provided by Audubon Arkansas and was lower than the estimate provided by the University of Arkansas Cooperative Wildlife Research Unit.

7. AGFC personnel time to negotiate and implement new CSP Ditch Management practice and assistance to landowners: State Match: In-kind salary.

AGFC personnel, including the project leader and AGFC's Agricultural Liaison will work with the NRCS State Technical Committee to if possible develop and implement a new CSP practice "Ditch Management for Marshbirds" and develop modifications to existing practices to make them more "marshbird friendly". Once approved, 6 of AGFC's Private Lands Biologists will work with federal, state and NGO partners to promote marshbird-friendly practices to landowners. AGFC's Private Lands Biologists will also work directly with landowners by providing them technical assistance on implementation of marshbird friendly farm and wildlife conservation practices. A minimum of \$9,000 worth of AGFC employee man-hours (salary and fringe benefits) will be spent on this effort.

8. Program implementation and oversight by AGFC: State Match: In-kind salary.

AGFC's Non-game Migratory Bird Program Coordinator will spend in excess of \$3,250 of man-hours (salary and fringe benefits) over three years on oversight of this cooperative habitat restoration project and direct involvement in the development of a CSP Ditch Management Practice and the modification of other farm.

9. AGFC indirect costs: State Match: In-kind.

AGFC's indirect costs for this project are charged at an approved rate of 10% according to the AGFC' Chief Fiscal Officer.



United States Department of the Interior
National Business Center
Indirect Cost Services
2180 Harvard Street, Suite 430
Sacramento, CA 95815



May 18, 2009

Mr. Ray Sebren, Chief Fiscal Officer
Arkansas Game and Fish Commission
2 Natural Resources Drive
Little Rock, Arkansas 72205

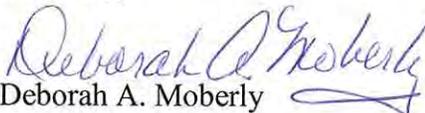
Dear Mr. Sebren:

Enclosed is an original copy of the Indirect Cost Negotiation Agreement for the 12-month period ending June 30, 2009, between the Federal Government and the Arkansas Game and Fish Commission.

Please visit our Web site at <http://www.aqd.nbc.gov/ics> for guidance and updates on submitting indirect cost proposals. In addition, you will find helpful tools such as a completeness checklist, indirect cost and lobbying certificates, sample proposals, Excel worksheet templates, and important links to other Web sites.

If you have any questions regarding this agreement, please write or call Ms. Maria Nua, Program Analyst, at (916) 566-7111.

Sincerely,


Deborah A. Moberly
Indirect Cost Coordinator

Enclosure

Ref: J:Arkansas/ARGFc201/Issue.ltr

We want to hear from you! Please let us know how we are doing in meeting your needs by taking a short survey at: <http://www.aqd.nbc.gov/survey>.

**State And Local Department/Agency
Indirect Cost Negotiation Agreement**

EIN: 71-6006567

Organization:

Arkansas Game and Fish Commission
2 Natural Resources Drive
Little Rock, Arkansas 77205

Date: May 18, 2009

Report No(s) .: 09-A-546

Filing Ref.:

Last Negotiation Agreement
dated June 30, 2008

The indirect cost rates contained herein are for use on grants, contracts, and other agreements with the Federal Government to which 2 CFR 225 (OMB Circular A-87) applies, subject to the limitations in Section II.A. of this agreement. The rates were negotiated by the U.S. Department of the Interior, National Business Center, and the subject organization in accordance with the authority contained in 2 CFR 225.

Section I: Rates

Type	Effective Period		Rate*	Locations	Applicable To
	From	To			
Fixed Carryforward	07/01/08	06/30/09	68.13%	All	1/
Fixed Carryforward	07/01/08	06/30/09	65.79%	All	2/
Fixed Carryforward	07/01/08	06/30/09	82.71%	All	3/
Fixed Carryforward	07/01/08	06/30/09	72.66%	All	4/
Fixed Carryforward	07/01/08	06/30/09	98.26%	All	5/

- 1/ Information & Education
- 2/ Enforcement
- 3/ Wildlife
- 4/ Fisheries
- 5/ Operational Services

***Base:** Total direct salaries and wages, including fringe benefits.

Treatment of fringe benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs; fringe benefits applicable to indirect salaries and wages are treated as indirect costs.

Section II: General

Page 1 of 2

A. Limitations: Use of the rates contained in this agreement is subject to any applicable statutory limitations. Acceptance of the rates agreed to herein is predicated upon these conditions: (1) no costs other than those incurred by the subject organization were included in its indirect cost rate proposal, (2) all such costs are the legal obligations of the grantee/contractor, (3) similar types of costs have been accorded consistent treatment, and (4) the same costs that have been treated as indirect costs have not been claimed as direct costs (for example, supplies can be charged directly to a program or activity as long as these costs are not part of the supply costs included in the indirect cost pool for central administration).

B. Audit: All costs (direct and indirect, federal and non-federal) are subject to audit. Adjustments to amounts resulting from audit of the cost allocation plan or indirect cost rate proposal upon which the negotiation of this agreement was based will be compensated for in a subsequent negotiation.

C. Changes: The rates contained in this agreement are based on the organizational structure and the accounting system in effect at the time the proposal was submitted. Changes in organizational structure, or changes in the method of accounting for costs which affect the amount of reimbursement resulting from use of the rates in this agreement, require the prior approval of the responsible negotiation agency. Failure to obtain such approval may result in subsequent audit disallowance.

D. Fixed Carryforward Rate: The fixed carryforward rate is based on an estimate of the costs that will be incurred during the period for which the rate applies. When the actual costs for such period have been determined, an adjustment will be made to the rate for a future period, if necessary, to compensate for the difference between the costs used to establish the fixed rate and the actual costs.

E. Agency Notification: Copies of this document may be provided to other federal offices as a means of notifying them of the agreement contained herein.

F. Record Keeping: Organizations must maintain accounting records that demonstrate that each type of cost has been treated consistently either as a direct cost or an indirect cost. Records pertaining to the costs of program administration, such as salaries, travel, and related costs, should be kept on an annual basis.

G. Reimbursement Ceilings: Grantee/contractor program agreements providing for ceilings on indirect cost rates or reimbursement amounts are subject to the ceilings stipulated in the contract or grant agreements. If the ceiling rate is higher than the negotiated rate in Section I of this agreement, the negotiated rate will be used to determine the maximum allowable indirect cost.

H. Use of Other Rates: If any federal programs are reimbursing indirect costs to this grantee/contractor by a measure other than the approved rates in this agreement, the grantee/contractor should credit such costs to the affected programs and the approved rates should be used to identify the maximum amount of indirect cost allocable to these programs.

I. Central Service Costs: Where central service costs are estimated for the calculation of indirect cost rates, adjustments will be made to reflect the difference between provisional and final amounts.

J. Other:

1. The purpose of an indirect cost rate is to facilitate the allocation and billing of indirect costs. Approval of the indirect cost rates does not mean that an organization can recover more than the actual costs of a particular program or activity.

2. Programs received or initiated by the organization subsequent to the negotiation of this agreement are subject to the approved indirect cost rate if the programs receive administrative support from the indirect cost pool. It should be noted that this could result in an adjustment to a future rate.

3. New indirect cost proposals are necessary to obtain approved indirect cost rates for future fiscal or calendar years. The proposals are due in our office 6 months prior to the beginning of the year to which the proposed rates will apply.

Section III: Acceptance

Listed below are the signatures of acceptance for this agreement:

By the State Department/Agency:

Ray Sebren /s/
Signature

Ray Sebren
Name (Type or Print)

CFO
Title

5-13-09
Date

By the Cognizant Federal Government Agency:

Deborah A. Moberly /s/
Signature

Deborah A. Moberly
Name

Indirect Cost Coordinator
Indirect Cost Services
Title

U.S. Department of the Interior
National Business Center
Agency

Date **May 18, 2009**

Negotiated by Marilyn P. Elgar
Telephone (916) 566-7111