

**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.

**Project Leader:** Karen Rowe, Nongame Migratory Bird Coordinator,

**Affiliation:** Arkansas Game and Fish Commission (AGFC)

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

**Mailing Address:** AGFC 31 Halowell Lane, Humphrey, AR 72073

**Telephone and Fax Numbers:** 877-873-4651, fax 870-873-4303

**Project Partners:**

Nelson Childers, Biologist, USDA Natural Resource Conservation Service; (870) 972-4671, x140;

[Nelson.Childers@ar.usda.gov](mailto:Nelson.Childers@ar.usda.gov)

David Kremetz, Leader, USGS Cooperative Wildlife Research Unit, UA; 479-575-7560;

[kremetz@uark.edu](mailto:kremetz@uark.edu)

Dan Scheiman, Director of Bird Conservation, Audubon Arkansas, 501-244-2229

[dscheiman@audubon.org](mailto:dscheiman@audubon.org)

Garrick Dugger, Assistant Wildlife Supervisor, Region 2, AGFC; 877-734-4581;

[gsdugger@agfc.state.ar.us](mailto:gsdugger@agfc.state.ar.us)

David Long, Agricultural Liaison, AGFC; 877-972-5438; [dlong@agfc.state.ar.us](mailto:dlong@agfc.state.ar.us)

Rob Willey, Habitat Biologist, AGFC; 877-734-4581; [rcwilley@agfc.state.ar.us](mailto:rcwilley@agfc.state.ar.us)

**Total Project Cost:** \$118,450

**SWG Funding Requested:** \$59,000

**Amount and Source of Matching Funds or In-kind Services:** \$59,450 from AGFC, in-kind

**Funding priorities addressed:**

This project addresses 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 Species of Greatest Conservation Need: king rail, American bittern, common moorhen, least bittern, pied-billed grebe, and purple gallinule. This project also addresses a new priority habitat, emergent wetland, which was recently given its priority standing based on new data gathered by a previous SWG research project. This project is also an on-the-ground stewardship and restoration project that not only implements the priorities of the Arkansas Wildlife Action Plan but will also serve as demonstration project that can be replicated in other places and used to educate private landowners on habitat management techniques.

**Ecoregion targeted:** This project will be conducted in the Mississippi Alluvial Plain in the Cache and White River watersheds.

**The goals of this project are to:**

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.
2. Monitor breeding marsh bird use and plant response to water level management on restored emergent wetlands on state-owned lands.
3. Provide technical information and incentives to landowners on the restoration and management of emergent wetland habitat for marsh birds on private lands.

**Methods:**

Four moist soil units totaling 61.7 acres have been chosen for renovation and marsh bird habitat management. These impoundments are Hole 4, 21 and 30 on the Steve N. Wilson/ Raft Creek WMA and the Wiville East unit of the Dave Donaldson/Black Swamp WMA. These units are currently not under active management because of problems with levees and/or lack of water control. Upon approval of the grant, AGFC personnel will make levee, well, pump repairs and purchases, and assess the vegetation in each of the four impoundments. Based on the assessment, AGFC will contract spraying, bulldozing or disking work to set back succession and remove any noxious vegetation. The goal of initiating work as soon as possible is to flood the units for early fall marsh bird migration.

Throughout the year, AGFC will closely monitor water levels in the units, and maintain them at an average depth of 3-6 inches in an effort to provide marsh birds with nesting, foraging and roosting habitat and to encourage the growth of emergent wetland vegetation. According to the State Wildlife Grant study “Status and Distribution and Habitat Selection of Secretive Marsh Birds in the Delta of Arkansas” “king rails prefer fairly uniform stands of emergent vegetation e.g. sedges, rushes, and cattail.” The four units on the WMAs will be managed specifically for these emergent wetland plants, and the species composition and vegetation coverage will be assessed and documented quarterly.

Marsh bird monitoring on these four impoundments will follow the Standardized North American Marsh Bird Monitoring Protocols of the National Marsh bird Monitoring Project. The protocol calls for a series of three point-count surveys throughout the breeding season and uses broadcasts of marsh bird vocalizations to elicit responses and improve detection. The protocol’s procedures for measuring habitat

characteristics and water depth protocol will also be used. AGFC will contract with Audubon Arkansas for monitoring and data analysis.

Project partners will work with their respective agencies as well as the USDA and USFWS to promote the restoration and management of marsh bird habitat on private lands. Meetings will be held with the USDA State Technical Committee to develop a “Ditch Management for Marsh birds” Farm Bill practice. Once approved, the practice will be promoted to private landowners in rice-growing regions of the state (Mainly documented that ditches adjacent to rice fields were frequently used by nesting king rails and other marsh birds in Arkansas during the 1950s and 1960s). Project partners will also work to refine certain Farm Bill practices and Wetland Reserve Program practices and tailor them to create and manage the emergent vegetation and water levels required by king rails and other marsh birds.

Project partners will conduct training workshops for AGFC Private Lands and Regional biologists to demonstrate the habitat type preferred by marsh birds, and review the conservation and farm program practices beneficial to them. The Commission’s Private Lands Biologist with assistance from other project partners will actively seek private landowners interested in providing marsh bird habitat and enroll them in appropriate farm program practices. Commission biologists will provide technical assistance on emergent wetland habitat creation, restoration and management, and water level management.

Using results from the work with private landowners and the management of the four impoundments on AGFC lands, project partners will develop a draft of “Best Management Practices” (BMPs) for king rails and other marsh birds. These BMPs will not only consider the creation, restoration and management of marsh bird habitat and water management on both private and public lands but also the integration of “emergent wetland friendly” practices into current rice farming practices and techniques. Because marsh bird management is a new and emerging field, the BMPs will exist only in a draft form as the partners await the results of other research monitoring and management efforts.

### **Products anticipated:**

1. 61.7 new acres of emergent wetlands maintained at appropriate water levels required by nesting king rails and other nesting and migrating secretive marsh birds.
2. Increased knowledge and ability by AGFC to manage water levels to create and maintain emergent wetlands for the benefit of secretive marsh birds.
3. 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.
4. Increased participation in Farm Bill and other USDA conservation programs aimed at creating or restoring emergent wetlands for secretive marsh birds.
5. Increase in the number of acres of emergent wetlands on private lands created or restored and managed to enhance secretive rail populations.
6. Increased awareness and knowledge by private landowners about the need to create restore and manage emergent wetlands for secretive marsh birds.
7. Development of a draft “best management practices” which will assist landowners in the conservation of marsh birds and emergent wetlands on private lands in Arkansas.
8. Development of a draft “best management practices” to assist rice farmers in the integration of habitat management for marsh birds into current rice farming techniques.

**Existing resources used:** In this project, AGFC will utilize the currently existing four impoundments on Steve N. Wilson/Raft Creek WMA and Dave Donaldson/Black Swamp WMA and utilize the expertise of the AGFC personnel in Region 2 and their time, fuel, vehicles and equipment used to manage those areas. This project will utilize existing AGFC private lands biologists and WMD regional personnel and Wildlife Diversity Section personnel to carry out the goals and objectives of this project, not only on the state-owned Wildlife Management Areas but in promoting emergent wetland and marsh bird conservation on private lands. The activities contained in this proposal are priority management actions listed in the USFWS King Rail Focal Species Conservation Action Plan.

**Total budget requested** \$118,450

Salary/benefits - \$45,450 (includes 10% indirect costs for AGFC personnel time)  
Operating expenses – \$33,000  
Capital Expenses \$36,000

**State Wildlife Grant Input:** \$59,000

**Matching Funds:** \$59,450 from AGFC in the form of personnel time, and fuel/ electricity for pumps

## Qualifications

**Nelson Childers** will assist with wetland plant identification and with the promotion of marsh bird management on private lands. He is a biologist with the Natural Resources Conservation Service and his focus is wetland restoration, wildlife habitat requirements, and habitat assessments. He received his BS in Wildlife Management and 1978 and his MS in Biology in 1981 from the Arkansas State University.

**David Krementz**, Unit Leader USGS Cooperative Wildlife Research Unit will provide technical expertise on marsh bird habitat requirements. Dr. Krementz has worked on bird population biology and habitat use for 20 years. Over the past 5 years he has focused on marsh bird survey methodology, population biology and habitat management. These efforts included a survey of marsh birds in the Arkansas Delta under the SWG program. This recent focus on marsh birds was in part a consequence of his being the Chairman of the Webless Bird Committee of the Mississippi Flyway Technical Section.

**Karen Rowe**, Nongame Migratory Bird Program Coordinator for the Arkansas Game and Fish Commission, will coordinate the activities in the proposal, and assist in providing technical expertise on marsh bird habitat requirements. She will also work with USDA, NRCS, AGFC private lands biologists and private landowners on restoring and managing emergent wetlands for marsh birds on private lands and integrating marsh bird management into current farm management practices. For the past two decades, Ms. Rowe, a certified wildlife biologist, has been responsible for developing and implementing conservation programs for priority non-game birds in Arkansas.

**Daniel Scheiman, Ph.D.**, Director of Bird Conservation will monitor marsh birds on the WMAs and assist with the development of marsh bird BMPs. Dr. Scheiman received his B.S. from Cornell University, M.S. from Eastern Illinois University, and Ph.D. from Purdue University, all in wildlife ecology. He has over ten years of bird research experience and six research publications on topics such as bird-habitat relationships, and population dynamics.

**Garrick Dugger** will assist with emergent wetland management on the 2 WMAs. He is the Region 2 Assistant Regional Wildlife Supervisor for the Arkansas Game and Fish Commission. He was also an AGFC Private Lands Biologist for 4 years. He is currently responsible for all daily activities conducted on 10 state-owned areas. As a Private Lands Biologist, he assisted private landowners in creating native grass stands, riparian buffers, moist soil units, and timber stand improvements through various Farm Bill Programs and written management plans. He received a BS in Wildlife Management from Arkansas State University and is a Certified Wildlife Biologist.

**David Long** will assist with the development of Farm Bill program practices focusing on marsh bird habitat restoration and promotion of these practices to private landowners. He has served as the Private Lands Coordinator and the Acres for Wildlife Coordinator at the AGFC for the past 4 years and prior to that he served as the Agricultural Liaison for the past 15 years. He received a BS in Wildlife Management from Arkansas State University. He is certified as a Wildlife Biologist with The Wildlife Society and is a member of the Arkansas Chapter of the Wildlife Society, Arkansas Wildlife Federation, and serves on the Arkansas Quail Committee.

**Rob Willey** will direct emergent wetland habitat restoration and management on Black Swamp/Dave Donaldson and Steve N. Wilson/Raft Creek WMAs. He is the Region 2 Habitat Biologist for AGFC and has held that position since 1999. He received his BS in Wildlife Management from Arkansas State University and is a Certified Wildlife Biologist. As an agency 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. His work focuses on restoration and management of native prairie, moist soil and bottomland hardwoods habitats.