



WATER RESOURCES RESEARCH GRANT PROPOSAL

Project ID: 2002MS1B

Title: Functional Assessment of Moist-Soil Management Impact on Wetland Impoundments Created as Part of an Agricultural Lands Reclamation Plan

Project Type: Research

Focus Categories: Wetlands, Management and Planning, Water Quality

Keywords: wetlands, wetland function, land use, water quality

Start Date: 03/01/2002

End Date: 02/28/2003

Federal Funds: \$19,712

Non-Federal Matching Funds: \$42,212

Congressional District: Third

Principal Investigators:

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Abstract

Few studies have measured the impacts of habitat management practices on the functional quality of wetland ecosystems, relative to the function of nearby natural wetlands. Research proposed here will evaluate potential impacts of moist-soil habitat management on water quality and biological communities in impoundments on the Strawberry Plains Audubon Center in Holly Springs, MS (a conservation reserve managed by the National Audubon Society). Parameters to be evaluated in this three-year study are: transport and retention of nutrients and sediment, water quality improvement, and maintenance of wetland plant and animal communities. Baseline characteristics of the natural and man-made wetlands will be assessed during year one of the study, initial moist-soil cultural manipulations will be implemented in year two, and recovery of the artificial impoundments will be monitored during year three. Water quality and vegetation analyses will be carried out by Drs. Ervin and Schmitz of Mississippi State University, and National Audubon Society personnel will monitor bird and amphibian communities under the supervision of Center Director Jim Nolan.

This interdisciplinary, multi-organization project is designed to carry out a number of components of wetland creation and management that are encouraged but infrequently conducted: comprehensive baseline assessment and monitoring, qualitative evaluation of multiple wetland functional processes, and consideration of functional capabilities of nearby reference wetlands. As such, this project will demonstrate the effectiveness with which other wetland creation, restoration, or management practices, such as mitigation banking sites or lands incorporated into the NRCS Wetlands Reserve Program, may be fully evaluated. The project certainly will provide meaningful data on the potential alterations of moist-soil management practices to wetland function and the utility of wetland buffers in protecting aquatic systems from detrimental effects of those practices. Information provided by these studies will then be disseminated

through on-site Audubon educational programs, cooperative exchange with interested landowner-stewards, and conventional peer-reviewed scientific literature.