

Project #: 04-700

Project Name: Developing Resource Management Systems for Golf Courses in  
Washington County, Arkansas: Phase I

Watersheds: Illinois River, HUC #11110103 and Upper White/Beaver Reservoir,  
HUC# 11010001

County: Washington

Project Type: Technical Assistance, Education, BMP Implementation

Pollutant(s): Nutrients

### **Project Summary**

The state of Arkansas has identified both the Illinois and White Rivers for nonpoint source pollution abatement. The Illinois River, Arkansas is impaired due to nonpoint source phosphorus pollution. The Arkansas Soil Nutrient Application and Poultry Litter Utilization Act identified most of Washington County (including parts of the Illinois, White, and Arkansas River Watersheds) as “Nutrient Surplus Areas” for nitrogen and phosphorus NPS pollution reductions. Experience has shown that the reduction of phosphorus loading can be achieved by controlling the inputs of nutrients within the watershed. All geographical areas including urban residential land and golf courses must receive BMPs to reduce NPS pollution in the several watersheds of the county.

Golf courses are a potential NPS pollution problem, and some researchers have addressed NPS reduction by implementing BMPs. The location of golf courses near populated areas raises concern about NPS pollution from herbicides, fungicides, and fertilizers. Golf courses, being intensive production systems, require special management to avoid damage to the surrounding environment. Nitrogen, phosphorus, and pesticides are potential pollutants, and a complete inventory must be made of golf courses and their current management to determine their problems and to identify corrective measures that reduce their contribution of pollution within the watershed. There are thirteen golf courses and five driving ranges in Washington County that are in need of Resource Management System level planning -- the identification of all problems and potential problems as they relate to natural resources conservation.

Phase I of this project plans conservation practices (BMPs) that result in an overall reduction of nonpoint source nutrient (phosphorus and nitrogen) pollution generated by golf courses throughout Washington County. In this project, the District conducts a thorough inventory of golf course design, construction, plant protection and nutrition, water usage, waste management and facility operations to develop or utilize specific BMPs on a site by site basis. The best management practices used on site are determined, including integrated pest management, irrigation management, maintenance area management, and storm water management. Pollution prevention measures include storm drain stenciling and pollution reduction through educational workshops targeted to government officials, landscape contractors, landscape architects, and businesses and industries related to golf course development. Nutrient management BMPs include agricultural and residential fertilizer management and improved vegetative buffers along streams and waterways. The information gathered from the inventory is used to plan needed BMPs and to design future monitoring regimes.