



University of Arkansas | Division of Agriculture

The UA Division of Agriculture Arkansas Water Resources Center (AWRC) is one of 54 institutes established through the Water Resources Research Act of 1964. The overall program has focused on providing information to local, state, and federal agencies to assist in management and protection of Arkansas' water resources. Each year, the AWRC administers several projects focused on regional water quality issues, with the majority of the projects focused on the impacts on non-point and point sources on water quality, stream and other aquatic system processes, and factors impacting the quality of water supply reservoirs. The Center hosts an annual research conference each spring, and its training and information dissemination programs are intricately involved with the research projects. Typically about 50 students are trained through participation in research projects administered by the AWRC and also at the AWRC Water Quality Laboratory.

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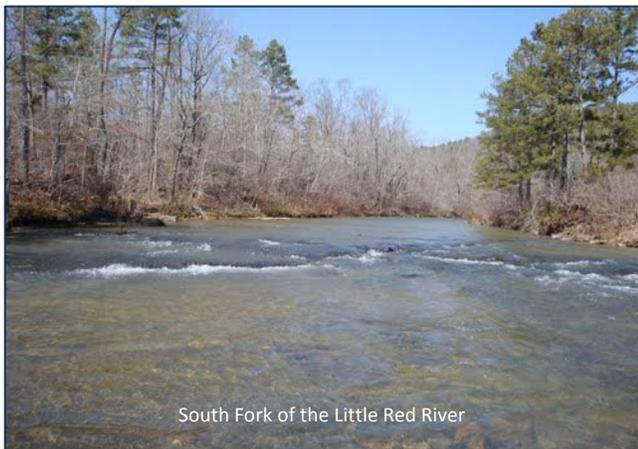
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Natural Gas Development Activities at the Gulf Mountain Wildlife Management Area

The Arkansas Game and Fish Commission recently released the rights in the Gulf Mountain Wildlife Management Area for natural gas exploration. With water-resource conservation in mind and a focused desire to maintain sustainability of water resources, Arkansas Game and Fish Commission as well as other state and federal agencies and the general public want to be certain that sufficient data are available to understand water-resource conditions before the gas exploration begins and to monitor any changes in those conditions during and after the gas exploration process. The Arkansas Water Resources Center together with Arkansas Game and Fish Commission, University of Arkansas, University of Central Arkansas and the USGS Arkansas Water Science Center will provide continuous water quality and discharge monitoring at two sites on the South Fork of the Little Red River, and collect and analyze water quality, macroinvertebrate, fish and benthic sediment samples at four sites on the River to access the potential impacts of natural gas exploration on the water resources and aquatic life of Gulf Mountain Wildlife Management Area. The project will provide critical baseline conditions of the water quality chemistry and biology of the South Fork of the Little Red River within the Boston Mountains Ecoregion to allow future comparisons.



2011 USGS 104B Program

The Arkansas Water Resources Center funded the following projects through the USGS 104B program in 2011:

- Continued Investigation of Land Use and Best Management Practices on the Strawberry River Watershed, NE Arkansas
- Evaluation of Septic System Absorption Field Products with Differing Architectures in a Profile-Limited Soil
- Increasing Awareness for Water Quality Protection: Stream Restoration through Animal Access Restrictions
- Assessment of the Microbial Population in Beaver Lake Swim Beach Regions to determine Origin of Fecal Pollution

Water Quality Trends in Our Transboundary Watersheds

The Illinois River Watershed is a transboundary watershed in northwest Arkansas and northeast Oklahoma. Elevated water column concentrations of phosphorus and the promulgation of the Oklahoma Scenic River phosphorus criteria set things rolling in northwest Arkansas to reduce phosphorus contribution to streams. The Statement of Joint Principles and Actions between Arkansas and Oklahoma required Arkansas to manage poultry litter and reduce effluent limits on phosphorus. By evaluation changes in phosphorus concentrations and loads we can identify the effects of these management actions and new sources. The Arkansas Water Resources Center is currently conducting a comprehensive evaluation of water quality data in the Illinois River Watershed to determine if concentrations and loads are consistently increasing, decreasing or not changing over time.

