

regional challenges

We share a water future with specific regional challenges

Within the borders of Arkansas, our shared water future requires comprehensive, collaborative planning. Some issues threaten every corner of the state, like litter and pollution. In addition, regions of the state face urgent challenges unique to land forms and local activities.

Mississippi Delta streams and rivers are impacted by the intensive agriculture that drives the region's economy. Siltation of streams, nutrient runoff, herbicides, pesticides and aquifer depletion top the list of concerns. Wide adoption of best practices for agriculture can mitigate the problems of water quality. A long-term plan for recharging aquifers could address the decreasing quantity of water.

The **Grand Prairie's** water-intensive crops are draining the shallow alluvial aquifer at rates so fast that by 2015 there will not be enough water remaining in the aquifer to sustain the area's farms. One plan under consideration would divert water from the White River for farm use but could alter wildlife habitats and endanger fishing and the area's lucrative duck hunting.

The **Ozark Plateau** is rich in "karst" areas (caves, sinkholes, underground rivers), the foundation of the area's natural beauty. These permeable limestone structures allow surface water to quickly reach water bodies, making them particularly vulnerable to environmental impact. Fecal coliform bacteria and nitrates from intensively grazed areas and confined poultry and hog operations may contaminate downstream waters. Careless development can strip riparian zones, water's natural filters.

The economic boon of natural gas extraction in the **Fayetteville shale** region can impact streams and ground water. Large quantities of water are needed to support the drilling. "Fracture fluids," which travel through shale formations to water bodies, can contain lubricants, sand and chemicals. Current Arkansas laws do not require companies to disclose the chemicals that they use; the rapid growth of the industry needs additional oversight.

Arkansas River Valley streams often have reduced dissolved oxygen levels, threatening aquatic life and promoting "sick stream symptoms" like algae blooms. Measurements like turbidity, total suspended solids, total organic carbon, total

phosphorus and biochemical oxygen demand values indicate the severity of the problem.



Arkansas is at a critical juncture in water management.

Decisions we make now can move the state toward or away from crisis. Citizens and institutions have the opportunity to participate in those decisions now and in the next few years, or risk being left high and dry after decisions are made by others.

Arkansas' Water Future Coalition maintains that well-managed water, both now and in the future, must start with the protection of water quality, water quantity, healthy natural habitats and the recharge of groundwater aquifers.

The **Winthrop Rockefeller Foundation** commissioned the following efforts to promote policy options that achieve sustainable water resources in Arkansas.

Water Issues in Arkansas: An Unfinished Story, 2008

A summary report and a larger companion report include references, literature review and multiple perspectives on Arkansas water use.

Troubled Water (2008 AETN)

This documentary film summarizes water issues and aired in April 2008.

Arkansas' Water Future Coalition (2008)

The Coalition includes Audubon Arkansas, Arkansas Public Policy Panel, and The Nature Conservancy. The Coalition will assist the Foundation with strategies that engage Arkansans in efforts that focus on improving water policy.

Thirsty for more?

Water Issues in Arkansas:

An Unfinished Story can be found at www.wrfoundation.org

Other websites of interest:

www.anrc.arkansas.gov
www.adeq.state.ar.us
www.arkansaswater.org
www.awag.org
www.watersheds.cast.uark.edu

Arkansas' Water Future Coalition Members:

www.ar.audubon.org
www.arpanel.org
www.nature.org/wherewework/northamerica/states/arkansas



A Coalition of Audubon Arkansas, Arkansas Public Policy Panel & The Nature Conservancy, Arkansas Field Office. Funded by the Winthrop Rockefeller Foundation.

Water Glossary

Watershed

A watershed is an area of land that drains rain and snow into a particular lake or river. Arkansas has 57 "coded" watersheds, sometimes called hydrologic units, and seven regional watersheds. Decisions made by stakeholders in a watershed will affect others.

Aquifer

Groundwater is contained in aquifers, underground beds of saturated soil or rock. Arkansas is the fourth largest user of groundwater in the U.S. Water level declines and other measures indicate that aquifer withdrawals in the state are occurring at an unsustainable rate.

Riparian Zones

A general term for land areas directly influenced by a body of water. Stream banks, lake borders and marshes are typical riparian zones. A healthy riparian zone contains native plants that filter sediment and other contaminants from water and provide wildlife habitat. Loss of healthy native riparian zones reduces water quality.

Runoff

Runoff, as the term suggests, is any amount of water that runs off a surface, either into a waterway or absorbed by the soil. Runoff can transport sediment, nutrients and contaminants into surface and groundwater, and is a major culprit in loss of water quality.

Sedimentation

Sediment is the largest pollutant of water worldwide. It's the deposit and accumulation of eroded soil into waterways. Erosion from deforestation, urbanization, roads and agriculture can contribute.

Point and Nonpoint Pollution

In order to manage pollution's impact on a body of water, we must determine its starting point. If a pollutant can be traced back to a particular source, it's referred to as "point" pollution. If not, the pollution is referred to as "nonpoint."