

**November 2015**

The Upper Saline River Watershed is located in Cleveland, Dallas, Garland, Grant, Hot Spring, Jefferson, Perry, Pulaski and Saline counties.

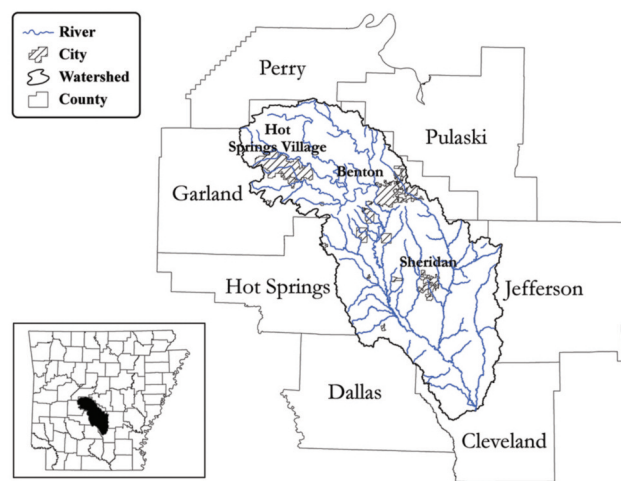
A “watershed” is an area of land where all of the water that drains from it goes to the same place, so rainwater or snowmelt in this watershed eventually drains to a common location.

This watershed is named for the major waterway in the area, the Saline River. The watershed spans 1,709 square miles, and is more than 75 percent forested.<sup>1</sup> The Middle Fork and other headwaters of the Saline River are designated as Ecologically Sensitive Waters, or waterways that provide habitat for threatened, endangered or endemic species. They are also designated Extraordinary Resource Waters by the state, or a water resource that is valued for characteristics such as beauty, recreation, and social use.<sup>2</sup>

### Nonpoint Source Pollution

Water pollution that comes from multiple sources spread over an area, such as runoff from parking lots, agricultural fields, residential lawns, home gardens, construction, mining, and logging, is known as nonpoint source pollution. As runoff moves across the landscape, it carries natural and manmade substances that can accumulate in waterways and make them uninhabitable for aquatic species or unusable by people. Potential pollutants include bacteria, nutrients, sediment, hazardous substances and trash.<sup>3</sup> Given the number of potential sources and variation in their potential contributions these pollutants are not easily traced back to their source.

# Nonpoint Source Pollution in the Upper Saline River Watershed



### Upper Saline River Watershed

Data source: GeoStor. Map created March 2011.

**Major streams:** Cedar Creek, Derriouseaux Creek, Francois Creek, Hurricane Creek, Huskey Creek, Lost Creek, Saline River, Saline River-Alum Fork, Saline River-Middle Fork, Saline River-North Fork, Saline River-South Fork, Simpson Creek

An estimated 140,000 people lived in the watershed as of 2010, but the population continues to grow as Saline County saw its population grow by 28 percent between 2000 and 2010.<sup>4</sup>

This fact sheet is intended to provide a better understanding of the Upper Saline River Watershed and its place on the state's priority list of 10 watersheds impacted by nonpoint source pollution.

### Upper Saline River Watershed Water Quality Issues

Through water quality monitoring, environmental officials in Arkansas have

<sup>1</sup>CAST, 2006. Land Use/Land Cover Data. Biological and Agricultural Engineering Department. University of Arkansas: Fayetteville, Arkansas. See the Nonpoint Source Pollution Management Plan available at <http://www.uaex.uada.edu/environment-nature/water/quality/NPSPollutionMgmt-Revised2015.pdf>.

<sup>2</sup>Learn more about extraordinary resource waters in the Arkansas Watershed Steward Handbook available at <http://www.uaex.edu/environment-nature/water/quality/ag1290.pdf>.

<sup>3</sup>Learn more about these categories in the Arkansas Watershed Steward Handbook available at <http://www.uaex.edu/environment-nature/water/quality/ag1290.pdf>.

<sup>4</sup>BAEG, 2011. County-Wise Population Data. Biological and Agricultural Engineering Department. University of Arkansas Division of Agriculture: Little Rock, Arkansas. See the Nonpoint Source Pollution Management Plan.

## Arkansas' Priority Watershed List for Nonpoint Source Pollution

Arkansas has used a watershed-based approach to nonpoint source pollution management, allowing the public to guide planning to address water quality concerns. The Arkansas Natural Resources Commission, or ANRC, administers the Nonpoint Source Pollution Management Program. The program exists to reduce water pollution through the funding of watershed planning and restoration activities, adoption of voluntary best management practices and the development of technologies that assist in water pollution reduction in Arkansas. Based on public input and the use of a qualitative risk assessment matrix, ANRC has designated 10 priority watersheds as needing the greatest attention. The current risk matrix<sup>5</sup> identified the following priority watersheds for 2011-2016: Bayou Bartholomew, Beaver Reservoir, Cache River, Illinois River, L'Angeuille River, Lake Conway-Point Remove, Lower Ouachita-Smackover, Poteau River, Strawberry River and Upper Saline.

determined that the watershed has problems with excessive minerals, dissolved oxygen, sedimentation and mercury.<sup>6</sup> There are various resource extraction activities within the watershed, including active and abandoned mine sites, that likely contribute to the excessive minerals (chlorides, sulfates and dissolved minerals).<sup>7</sup> Environmental officials have determined the maximum amounts of mercury the Saline River can receive and still meet water quality standards. This determination is a calculation called Total Maximum Daily Load or TMDL.<sup>8,9</sup> The state has also established a TMDL related to oxygen levels in Big Creek. Metals

can come from natural or manmade sources, with geologic formations and atmospheric depositions for industry being a concern in the Upper Saline River watershed. High concentrations of mercury can be hazardous to the environment because of how it accumulates in aquatic species and build up in soils.

Commercial forestland management, unpaved roads and a small number of cattle operations may also contribute to the concerns for nonpoint source pollution in the watershed according to the Arkansas Natural Resources Commission.<sup>10</sup>

## Stakeholder Priorities

To encourage continued public input, the University of Arkansas Division of Agriculture's Public Policy Center facilitated a water quality stakeholder forum for the Upper Saline Watershed in January 2015. Forum participants identified water quality issues such as sedimentation, wildlife diversity and drinking water as local priorities for addressing.

People who live, work or recreate in this watershed are encouraged to consider these community priorities when addressing water pollution. The public is also welcome to attend an annual stakeholder meeting where priority watersheds and nonpoint source pollution are discussed. For more information about nonpoint source pollution and its impact on the Cache River watershed, contact the Cooperative Extension Service, Arkansas Natural Resources Commission or the Arkansas Department of Environmental Quality. The Arkansas Watershed Steward Handbook is also a good source of information about basic water quality concerns and how the public can get engaged in addressing water pollution.<sup>11</sup>

<sup>5</sup> Learn more about the qualitative risk assessment tool at <http://www.uaex.edu/publications/pdf/FSPPC116.pdf>.

<sup>6</sup> Learn more about water quality at <http://www.uaex.uada.edu/publications/pdf/FSA-9528.pdf>.

<sup>7</sup> Learn more about the types of water quality issues in the Arkansas Watershed Steward Handbook available at <http://www.uaex.uada.edu/environment-nature/water/quality/ag1290.pdf>.

<sup>8</sup> See the Arkansas Watershed Steward Handbook.

<sup>9</sup> Learn more about the Total Maximum Daily Loads at <http://www2.adeq.state.ar.us/water/tmdls/>.

<sup>10</sup> Learn more about these water quality concerns in the Nonpoint Source Pollution Management Plan available at <http://www.uaex.uada.edu/environment-nature/water/quality/NPSPollutionMgmt-Revised2015.pdf>.

<sup>11</sup> See the Arkansas Watershed Steward Handbook.

This fact sheet is one in a series of 10 fact sheets on nonpoint source pollution in priority watersheds.

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