

Nonpoint Source Pollution in the Poteau River Watershed

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The Poteau River Watershed is located on the Arkansas-Oklahoma border and includes communities in Polk, Scott and Sebastian counties.

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

This watershed is named for the Poteau River, whose headwaters begin in Arkansas but wind into Oklahoma. Arkansas has a smaller portion of the overall watershed, but its 1,889 square miles of land and water are no less important when it comes to preventing or reducing pollutants that enter streams and rivers in runoff water after it rains or snow melts.

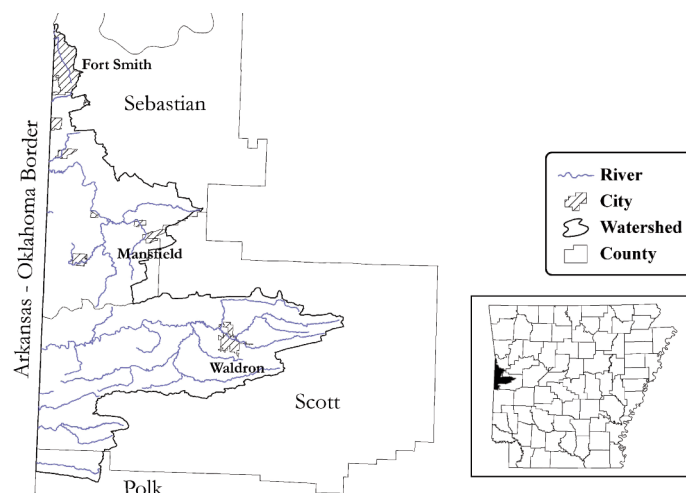
This fact sheet is intended to provide a better understanding of the Poteau River Watershed and its role on the state's priority list of 10 watersheds impacted by nonpoint source pollution.

Nonpoint Source Pollution

Water pollution that comes from diffused points of discharge, such as runoff from parking lots, agricultural fields, lawns, home gardens, construction, mining and logging, is known as nonpoint source pollution. As runoff water moves across the landscape, it carries natural and manmade substances that can build up in waterways. Potential pollutants include bacteria, nutrients, sediment, toxic or hazardous substances and trash.¹ These pollutants are not easily traced back to their source.

¹Learn more about these categories in the *Arkansas Watershed Steward Handbook*, which can be found at <http://www.uaex.uada.edu/environment-nature/water/docs/ag1290.pdf>.

²More information in the Glossary of Water-Related Terms at <http://uaex.uada.edu/publications/PDF/FSPPC109.pdf>.



Poteau River Watershed

Data source: GeoStor. Map created March 2011.

Major streams: Hawes Creek, Jones Creek, Poteau River (Black Fork and James Fork), Riddle Creek and Ross Creek.

Poteau River Watershed Water Quality Issues

In 2006, environmental officials in Arkansas determined the maximum amount of phosphorus, copper, zinc and suspended sediments the Poteau River can receive and still meet water quality standards. This determination is a calculation called a Total Maximum Daily Load, or TMDL.²

Past water testing has shown that a short section of the Poteau River below the city of Waldron has not been able to support aquatic life because of excessive levels of various metals and nutrients such as phosphorus, according to the state's Nonpoint Source 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 plans for addressing water quality issues. 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 matrix³ identifies the following priority watersheds: Bayou Bartholomew, Beaver Reservoir, Cache River, Illinois River, L'Anguille River, Lake Conway-Point Remove, Lower Ouachita-Smackover, Poteau River, Strawberry River and Upper Saline.

Metals and phosphorus come from natural and manmade sources. Metals present in the water can be naturally occurring from geologic formations, deposited from the atmosphere or discharged from industrial or city water treatment plants.

Phosphorus can threaten water quality when people don't follow best management practices, such as applying the right amount of phosphorus as a fertilizer or using grassy buffers to prevent it from

entering runoff water or nearby waterways.

Phosphorus can also enter waterways as part of discharge from water treatment plants, which are regulated by the state and have permits that allow specific amounts of nutrients to be discharged. According to the state's Nonpoint Source Management Plan, there are municipal and industrial discharges near this section of the Poteau River.

Another section of the Poteau River just before it meets the Arkansas River was also found to not support aquatic life because of excessive turbidity, which means the water is murky from a variety of materials such as soil particles, algae, microbes and other substances. Turbidity is a measure of the clarity of water.

These issues and its border state status led to the watershed being designated as a priority by the Arkansas Natural Resources Commission in the state's 2006-2011 Nonpoint Source Pollution Management Plan. The watershed remains a priority in the 2011-2016 Plan.⁴

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 Poteau Watershed in Waldron in September 2014. Participants identified unpaved roads and flooding as concerns that needed to be addressed in their watershed. Other identified concerns included erosion, excessive nutrients and sediment. All of these concerns can have an impact on water quality.

³Learn more about the qualitative risk assessment tool at <http://www.uaex.edu/publications/pdf/FSPPC116.pdf>.

⁴The NPS Management Plan can be found at <http://www.uaex.edu/environment-nature/water/quality/NPSPollutionMgmt-Revised2015.pdf>.

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

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