

Ozark Plateau Aquifer Management

Updated November 15, 2007

Introduction

The Ozark plateau aquifer system serves as an important water supply source in southeastern Kansas, southwestern Missouri and northeastern Oklahoma, an area known as the Tri-State Region. The demand for water in the region is growing rapidly, particularly in southwestern Missouri. Concerns about water level declines and potential water quality degradation have prompted long-term management actions. In 2003, this issue was identified as a *Kansas Water Plan* basin priority issue by the Neosho River Basin Advisory Committee and the Kansas Water Authority. Activities underway are described below. *Contact: Debra Baker, Kansas Water Office (785) 296-3185*

Water Rights Moratorium

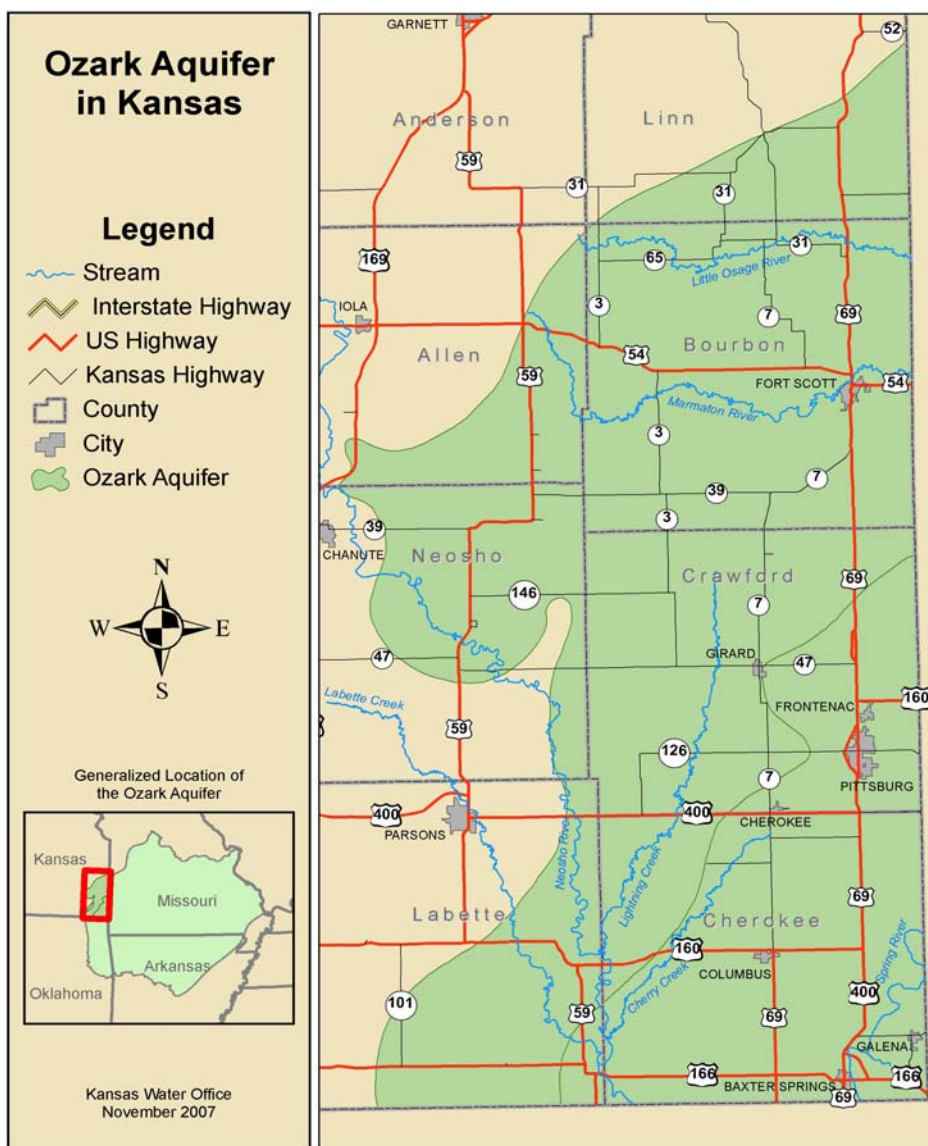
The moratorium on new appropriations from the Ozark plateau aquifer continues in effect per K.A.R. 5-3-29. The moratorium exempts domestic wells, appropriation requests for less than five acre-feet and allows both temporary and term permits on new appropriations from the Ozark plateau aquifer. The Kansas Department of Agriculture's Division of Water Resources (KDA-DWR) will review moratorium permits that have been issued once the ground water model is complete to identify whether the permits should be extended, converted to regular appropriations or dismissed.

The KDA-DWR has identified the Ozark plateau aquifer as a priority area and has opened a satellite Field Office in Parsons, which is staffed with an environmental scientist under the enhanced water management program. The scientist in Parsons will specifically focus on the Ozark plateau aquifer moratorium area, along with adjacent areas, and will perform traditional field work and monitoring in this area, as well as addressing water management aspects. *Contact: Morgan Pearman, KDA-DWR, Parson Field Office, (620) 421 – 2697; Katie Tietsort, KDA-DWR, Topeka, (785) 368-8251*

Regional Ground Water Model and Water Quality Assessment Study

To address water supply and quality issues, the state initiated a study supported by the three states' water agencies that is being conducted by the U.S. Geological Survey (USGS).

Using MODFLOW computer software, a model of the Ozark and Springfield plateau aquifers is being developed. The model will simulate ground water flow within both aquifers and include interaction between ground and surface water. The model also will allow water resource managers to simulate the effect of withdrawal (diversion) of additional water from the aquifer. The study also will define and assess the current water quality conditions in the Ozark and Springfield plateau aquifers.



In the spring of 2006, the depth to water was measured in more than 200 wells throughout the three-state region. The Ozark Aquifer Technical Advisory Committee, made up of representatives from the three states' water agencies, the USGS, U.S. Environmental Protection Agency, the City of Monett, Mo. and the Kansas Rural Water Association, meets quarterly to discuss the study's progress. Annual public meetings beginning in the fall of 2006 will provide area residents with information about the study.

The 3-year study is co-funded by the State of Kansas and the USGS. The ground water model and water-quality study reports are scheduled for publication by September 2008. *Contact: Walt Aucott, USGS, (785) 842-9909*

[Well Monitoring Network](#)

The State of Kansas has reestablished a ground water monitoring network of 26 ground water wells in southeastern Kansas to monitor water levels in Ozark plateau aquifer on a quarterly basis. The 26 wells, which are not part of an earlier monitoring network that existed, are pumping wells. The State has also installed 3 dedicated observation wells, a deep (Ozark aquifer) well and a shallow (Springfield plateau aquifer) well in Pittsburg and a deep (Ozark aquifer) well in McCune for monitoring purposes. Additionally, the KDA-DWR has established a water quality network consisting of 13 wells that are monitored quarterly for water quality changes. The KDA-DWR is currently installing transducers in the three dedicated monitoring wells and the data will be collected remotely via a satellite transmission system and transmitted to a website. *Contact: Katie Tietsort, KDA-DWR, (785) 368-8251 or Morgan Pearman, KDA-DWR, (620) 421-2697.*

[Tri-State Water Resource Coalition](#)

The Tri-State Water Resource Coalition, a group of municipalities and rural water districts in the region, was formed to determine the region's water needs, better un-

derstand available water resources, and provide a long-term supply of good quality, affordable water. The Coalition retained Black and Veatch Engineering and the U.S. Army Corps of Engineers to evaluate the area's water supply needs to the year 2045 and long-term water supply options to meet that need. The study was completed in the fall of 2006 and cited water supplies from Grand Lake, Table Rock Lake or the construction of a new reservoir in Southeast Missouri as the best alternatives.

Currently, the coalition is beginning to raise money to match a grant of \$50,000 from the Missouri Department of Natural Resources to conduct a study to determine sites that are suitable for a new reservoir and the costs associated with construction. Members from Kansas include: Baxter Springs, Cherokee Rural Water District No. 3, the City of Pittsburg and the Kansas Rural Water Association. *Contact: David Stutt, Kansas Department of Health and Environment, Southeast District Office, Chanute (620) 431-2390*

[Assessment of Water Quality Changes](#)

The Kansas Geological Survey is in the second year of a study to assess the influence of pumping over time on the chemical quality of ground water produced by single and multi-aquifer wells within the Ozark aquifer water-quality transition zone in Kansas. This transition zone extends across most of Cherokee County and all of Crawford County; the depth to its top is variable. During the project's first year, monthly water sample collection for chemical analysis, water-level surveys, and reports of ground water pumpage were used to assess seasonal changes in water quality. The project also compared water quality results from the recent sampling to results from samplings conducted 25 years ago. In its second year the project is focusing on water quality changes during periods of pumping. *Contact: Allen Macfarlane, KGS, (785) 864-3965*

Ozark Aquifer Project Partners				
State				Federal
Kansas Department of Agriculture's Division of Water Resources (785) 368-8251 www.ksda.gov	Kansas Department of Health and Environment Southeast District Office (620) 431-2390 www.kdheks.gov	Kansas Geological Survey (785) 864-3965 www.kgs.ku.edu	Kansas Water Office (785) 296-3185 www.kwo.org	U.S. Geological Survey (785) 842-9909 www.ks.water.usgs.gov