

Ruinous Drought Tests Kansas Model for Supplying Water to Farms

WEDNESDAY, 26 SEPTEMBER 2012 13:32

As the 2012 drought smothers the Great Plains, Kansas water laws — written to steady the economy, ecology, and use — are actually working.



Image courtesy of U.S. Department of Agriculture

A grain elevator looms over a railroad crossing in Prescott, Kansas. The U.S. Department of Agriculture forecasts that corn yields in Kansas this year will be the lowest since 1975. The drought prompted the state to cut off the water rights for 530 permit holders to protect river flows.

By Brett Walton
Circle of Blue

With nearly nine of every 10 hectares wrung so dry that rivers stopped flowing, Kansas is the epicenter of the country's worst period of drought since the 1950s.

One measure of the state's moisture emergency is that the Kansas Department of Agriculture cut off water withdrawals for 530 permit holders in 16 river basins, primarily in the eastern half of the state.

Meanwhile, in the prairies of western Kansas, where irrigated circles dot the rectangular fields, farmers are embracing a risky strategy of adjusting their annual water rights to salvage what is left of their crops. They are converting annual water rights into a five-year allotment, which allows them to use more water now. The trade-off is that they must reduce their water use in subsequent seasons during the next five years and pray that it rains.

Hydrogeography and Legal History

<="" p="">

In effect, this cartographer's mark separates those areas of the country where rainfall is sufficient to support agriculture and those where irrigation — the diversion of water from a stream, reservoir, or aquifer — is necessary to coax a plant from the ground. As such, different legal codes have developed in these two distinct hydrologic regions:

- In the West, prior appropriation is the law of the land. This is a system of water rights based on seniority, or "First in time, first in right," as the

model for allocating resources to avoid conflict — a trick that will be ever more valuable for regions where climate change will reduce supplies of fresh water.

The water rights system that enables this swap grew out of mining customs that were introduced during the California Gold Rush in the 1850s. Since then, the system has been legally recognized by the federal government and adopted in much of the Western United States as the primary tool for allocating water. In other words, rights holders accept the risk of being shut off during a time of shortage in exchange for the system's clear rules for determining who is allowed to use scarce water supplies.

Kansas is a key agricultural state — it is among the top 10 states to produce corn, soybeans, hay, summer potatoes, and cattle; it ranks second in the nation for wheat production; it is number one for sorghum grain — in a nation that is a major food exporter. Thus, because the state also draws water from a shrinking aquifer that is shared with seven other dry states, water management in Kansas has both national and global implications.

Lawmakers in Topeka have set up a flexible and resilient system, but they are reaching the limits of what they can do in the face of months, or years, of cloudless summer days. The current drought is a reminder of both the promise and the limitations of policy, as well as the bonds

Producers are not penalized for not using water.”

Another of the six water bills that Brownback signed eliminates the requirement to use a water right or risk losing it. In the past, this principle of “beneficial use” (also known as “use it or lose it”) was used to discourage speculators from snapping up water rights and sitting on them.

Now, however, more states are recognizing that leaving water in the rivers is a useful act.

Surface Water On Hold

The 530 permit holders in Kansas who are now facing restrictions represent a cross-section of water uses. Towns, industries, and recreation have all been affected — however, more than half of the restricted permits are held by irrigators.

The state’s Department of Agriculture will enforce the ban on diversions until water levels in the streams and rivers stay above minimum standards for two consecutive weeks. Some bans have been in place since early June. The state opted for the flow standards in order to preserve aquatic life and recreation on the rivers and to protect the rights of senior holders who draw from wells that are replenished by stream flows.

late enough in the growing season — at the end of July — that his crops were not badly harmed.

“If it had happened in June, it would have been a disaster,” he told Circle of Blue, noting that the water rights system in Kansas works well. “It is the fairest way to do it. There’s only so much water to go around. The older permits ought to be protected.”

Drying Ogallala

Whereas eastern Kansas has streams but little groundwater, the other half of the state relies on aquifers. For a time, groundwater was a natural insurance policy — if the rains failed or the rivers ran dry, plenty of water is located under foot. Not so anymore in Kansas, where groundwater and surface water are managed jointly.

“If this drought persists, it’s going to get seriously ugly in a hurry.”

—Wayne Bossert

**NW Kansas Groundwater Management
District**

All told, the state has quite a bounty that it is trying to manage. Western Kansas sits atop the Ogallala Aquifer, which is part of the High Plains system, one of the world’s great stores of groundwater. The aquifer is also fabulously productive,

pumping a full allocation of groundwater, taxing an already-stressed system.

"If this drought persists, it's going to get seriously ugly in a hurry," said Wayne Bossert, talking about the effect on both agriculture and groundwater.

Bossert would know. Since 1977 he has led the Northwest Kansas Groundwater Management District, and this summer, he told Circle of Blue, is drier than any in his memory. A monitoring well in his district has dropped to its lowest level since it was installed four years ago, he said. A complete picture of the Ogallala Aquifer's decline will not be available until the annual report is released in January 2013, but Bossert predicts that it will be "an eye-opener."

Groundwater measurements from the Texas Panhandle in the aftermath of last year's drought foreshadow what might be in store for Kansas. Average water levels in a portion of the Ogallala Aquifer registered the third-steepest decline in 61 years of record-keeping, according to the High Plains Underground Water Conservation District.

“When they don’t get it, they have these difficult decisions. Virtually no one makes cropping decisions assuming they’ll get no help from Mother Nature — hence our predicament in 2012.”

Solutions: Nothing In The Bank

Kansas lawmakers have tried to help producers through the rough patch. Thanks to new laws, farmers can convert a single-year water right into a five-year account and vary their use according to the whims of weather and markets. That allows farmers to take advantage of rising crop prices.

“The authority to pump water to finish out this year’s crop can increase the yield at a time when the market really demands the product,” said Mark Rude, executive director of the Southwest Kansas Groundwater Management District.

“If a guy can use a little more water one year, then rotate a crop that uses less water the next year, then that’s helpful.”

—Mark Rude, executive director
SW Kansas Groundwater Management
District

The multi-year accounts, however, are still quite new — the ink had barely dried on the legislation before farmers had begun to sign up — and no one is certain whether the accounts will conserve water, maintain the status quo, or