Water decline very serious—playas might help

By Janet Lagler
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The massive underground water source feeds the middle third of the country but is disappearing fast. Can it be conserved?

Water–or the lack of it–is of primary concern for many people living in the western Great Plains, especially as drought conditions continue. The effects of the drought can be seen across the landscape, but what isn't visible is the steep decline in the Ogallala Aquifer–which underlies about 225,000 square miles throughout parts of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming–and the efforts to counteract it through irrigation system improvements as well as playa conservation.

Approximately 30 percent of all groundwater used for irrigation in America is drawn from the Ogallala Aquifer.

"The water decline in the aquifer is extreme in some portions, especially down south in Texas and New Mexico," says Craig Derickson, state conservationist for the Natural Resources Conservation Service (NRCS) in Nebraska. Last year, with little or no precipitation, coupled with increased pumping of the aquifer to sustain crops, water levels in the Texas Panhandle were reduced by an average of two-and-a-half feet.

That may not seem like much, but the problem is that water is being withdrawn from the aquifer at a much greater rate than the recharge.

A 2007 study by the Environmental Protection Agency found that the recharge rate is approximately one inch per year, with a net overdraft of two and a half inches per year.

When compared against a two-and-a-half foot decline, the loss of water is enormous. In large areas of Texas, Oklahoma and Kansas, the water level in the aquifer has declined by 50 to 175 feet since pumping began in the late 40s.

To counter these issues, in 2010, the Natural Resources Conservation Service instituted the Ogallala Aquifer Initiative, which offers more than $49 million annually in financial assistance to landowners through 2015.

The primary objectives of the initiative are to reduce the quantity of water removed from the aquifer by increasing delivery efficiency, enhance water quality by mitigating water quality impacts from agricultural production practices, and promote recharge to the Ogallala Aquifer through playa wetland conservation.

"Since the Ogallala Aquifer Initiative was announced, we've saved more than 17 billion gallons of water, that's over 53,000 acre-feet, in those eight states," said Derickson in a recent interview for Playa Country radio. "In the last year, NRCS wrote about 450 individual contracts with producers and utilized about $15 million to fund practices mostly directed at reducing the consumption of water from the aquifer and improving water quality–specifically irrigation system improvements and new subsurface drip irrigation, as well as nutrient and pest management."

“The water conservation measures that are encouraged and supported by the NRCS Ogallala Aquifer Initiative are necessary if we want this water source to be available for future generations,” says Playa Lake Joint Venture Coordinator Mike Carter. “When coupled with playa restoration and protection, which allows more recharge to the aquifer, both sides of the equation are addressed.”

The NRCS initiative includes funds to restore a minimum of 250,000 acres of playa wetlands and associated upland watersheds. Playas, temporary wetlands formed from rainwater and runoff, are the primary source of recharge for the Ogallala, contributing up to 95 percent of the overall return of water to the aquifer.

Because they lack any outlets, the water either seeps into the underlying aquifer or evaporates. During dry periods, a playa develops deep cracks and fissures in the clay bottom, which are channels for recharge. But many of the approximately 80,000 playas throughout the region are not able to recharge the aquifer at all.

To function properly, playas need excess sediment removed, a filtering grass buffer around the edges, and a watershed that allows water to reach the playa.

Currently, there are only a few practices for playa conservation allowed under the Environmental Quality Incentives Program, the funding source for the Ogallala Aquifer Initiative, but they are not attracting landowner interest or enrollments.

NRCS is now considering how other US Department of Agriculture (USDA) conservation programs could help reach the initiative’s playa restoration goals.

In addition, Playa Lakes Joint Venture is talking with various USDA staff–from NRCS Chief Dave White on down through state and local personnel–about how to involve conservation programs that are jointly administered by the Farm Service Agency and Natural Resources Conservation Service, such as the Conservation Reserve Program and Wetlands Reserve Program.

“With all parties involved and working to find a way to attract landowners to playa conservation, I believe we can meet the goals of this initiative,” says PLJV Conservation Policy Director Barth Crouch. “We must succeed if we want to keep the Ogallala from going the way of the American bison.”

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