Fracking Fuels Water Fights

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In this Friday, June 7, 2013, photo farmer Kent Peppler inspects one of his irrigation ditches that provides water to irrigate his crops on his farm near Greeley, Colo. Peppler says he is fallowing some of his corn fields this year because he can't afford to irrigate the land, in part because deep-pocketed energy companies have driven up the price of water. **(AP Photo/Ed Andrieski)**

SAN FRANCISCO (AP) — The latest domestic energy boom is sweeping through some of the nation's driest pockets, drawing millions of gallons of water to unlock oil and gas reserves from beneath the Earth's surface.

Hydraulic fracturing, or the drilling technique commonly known as fracking been used for decades to blast huge volumes of water, fine sand and chemicals into the ground to crack open valuable shale formations.

But now, as energy companies vie to exploit vast reserves west of the Mississippi, fracking's new frontier is expanding to the same lands where crops have shriveled and waterways have dried up due to severe drought.

In Arkansas, Colorado, New Mexico, Oklahoma, Texas, Utah and Wyoming, the vast majority of the counties where fracking is occurring are also suffering from drought, according to an Associated Press analysis of industry-compiled fracking data and the U.S. Department of Agriculture's official drought designations.

While fracking typically consumes less water than farming or residential uses, the exploration method is increasing competition for the precious resource, driving up the price of water and burdening already depleted aquifers and rivers in certain

drought-stricken stretches.

Some farmers and city leaders worry that the fracking boom is consuming too much of a scarce resource, while others see the push for production as an opportunity to make money by selling water while furthering the nation's goal of energy independence.

Along Colorado's Front Range, fourth-generation farmer Kent Peppler said he is fallowing some of his corn fields this year because he can't afford to irrigate the land for the full growing season, in part because deep-pocketed energy companies have driven up the price of water.

"There is a new player for water, which is oil and gas," said Peppler, of Mead, Colo., who also serves as president of the Rocky Mountain Farmers Union. "And certainly they are in a position to pay a whole lot more than we are."

In a normal year, Peppler said he would pay anywhere from $9 to $100 for an acre-foot of water in auctions held by cities with excess supplies. But these days, energy companies are paying some cities $1,200 to $2,900 per acre-foot. The Denver suburb of Aurora made a $9.5 million, five-year deal last summer to provide the oil company Anadarko 2.4 billion gallons of excess treated sewer water.

In South Texas, where drought has forced cotton farmers to scale back, local water officials said drillers are contributing to a drop in the water table in several areas.

For example, as much as 15,000 acre-feet of water are drawn each year from the Carrizo-Wilcox Aquifer to frack wells in the southern half of the Eagle Ford Shale, one of the nation's most profitable oil and gas fields.

That's equal to about half of the water recharged annually into the southern portion of the aquifer, which spans five counties that are home to about 330,000 people, said Ron Green, a scientist with the nonprofit Southwest Research Institute in San Antonio.

The Eagle Ford, extending from the Mexican border into East Texas, began to boom in 2011, just as Texas struggled with the worst one-year drought in its history. While conditions have improved, most of the state is still dealing with some level of drought, and many reservoirs and aquifers have not been fully replenished.

"The oil industry is doing the big fracks and pumping a substantial amount of water around here," said Ed Walker, general manager of the Wintergarden Groundwater Conservation District, which manages an aquifer that serves as the main water source for farmers and about 29,000 people in three counties.

"When you have a big problem like the drought and you add other smaller problems to it like all the fracking, then it only makes things worse," Walker said.

West Texas cotton farmer Charlie Smith is trying to make the best of the situation. He plans to sell some of the groundwater coursing beneath his fields to drillers,

because it isn't enough to irrigate his lands in Glasscock County. Smith's fields, like the rest of the county, were declared to be in a drought disaster area this year by the USDA.

"I was going to bed every night and praying to the good Lord that we would get just one rain on the crop," said Smith, who hopes to earn several thousand dollars for each acre-foot of water he can sell. "I realized we're not making any money farming, so why not sell the water to the oil companies? Every little bit helps."

The amount of water needed to hydraulically fracture a well varies greatly, depending on how hard it is to extract oil and gas from each geological formation. In Texas, the average well requires up to 6 million gallons of water, while in California each well requires 80,000 to 300,000 gallons, according to estimates by government and trade associations.

Depending on state and local water laws, frackers may draw their water for free from underground aquifers or rivers, or may buy and lease supplies belonging to water districts, cities and farmers. Some of the industry's largest players are also investing in high-tech water recycling systems to frack with gray or brackish water.

Halliburton, for instance, recently started marketing a new technology that allows customers to use recycled wastewater, calling it an "investment to further the sustainable development of the oil and gas industry." The American Petroleum Institute, the principal lobbying group for the industry, said its members are working to become less dependent on fresh water, and instead draw on other sources.

"Recycling wastewater helps conserve water use and provide cost-saving opportunities," said Reid Porter, a spokesman for the group.

In some states, regulators have stepped in to limit the volume or type of water that energy companies can use during drought conditions.

In northwest Louisiana, as the production rush began in the Haynesville Shale in 2009, the state water agency ordered oil and gas companies to stop pulling groundwater from the local aquifer that also supplied homes and businesses, and use surface water instead. That order is still in effect and has helped groundwater levels to recover, said Patrick Courreges, a spokesman for the Louisiana Department of Natural Resources.

In Colorado's Weld County, home to Peppler's farm and more than 19,000 active oil and gas wells, some officials see selling unneeded portions of their allotments from the Colorado River as a way to shore up city budgets.

The county seat of Greeley sold 1,575 acre-feet of water last year to contractors that supply fracking companies, and made about $4.1 million. It sold farmers nearly 100 times more water but netted just $396,000.

"The oil and gas industry is a small but significant player," said Jon Monson, director of the city's water department, which has designated 35 fire hydrants where

haulers may fill up their tanks to truck to gas wells. "Just knowing that oil and gas is a boom-and-bust industry, we are trying to not get used to it as a source of revenue because we know it won't last."

Some environmental groups argue that local and regional planners should let the public weigh in on how much drilling can be supported in drought-stricken areas. Some states require oil and gas companies to disclose the chemicals and the amount of water they use in fracking operations on FracFocus.org, a website formed by industry and intergovernmental groups in 2011, but the statistics are not complete.

"We don't want to look up 20 years from now and say, 'Oops, we used up all our water,'" said Jason Bane of the Boulder, Colo.-based Western Resource Advocates.

In California, oil companies are pressing for further exploration of the massive Monterey Shale, a 1,750-square-mile area extending from the agricultural Central Valley to the Pacific Ocean that federal energy officials say could ultimately comprise two-thirds of the nation's shale oil reserves.

In Ventura County, at the southern tip of the Monterey Shale and an hour north of Los Angeles, drought-induced pressures on local water systems are already visible; one local water district predicts some groundwater wells will go dry by summer.

David Schwabauer, a fourth-generation farmer in the county, said overtures by companies that want to drill new wells amid his avocado and lemon groves are prompting difficult conversations about how to manage the family farm. One orchard relies on irrigation from an overdrawn aquifer, while the other is kept alive using expensive water piped in from the distant Sierra Nevada mountains.

"Some parts of the family have very strong feelings against it, given the challenges that we face environmentally," Schwabauer said. "But other parts of the family are very comfortable with it, because we still have to stay in business. We still haven't reached a decision."

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