

A California Oil Field Yields Another Prized Commodity

[nytimes.com /2014/07/08/us/california-drought-chevron-oil-field-water-irrigation.html](https://www.nytimes.com/2014/07/08/us/california-drought-chevron-oil-field-water-irrigation.html)

By NORIMITSU ONISHI

Photo



Chevron's oil field in Kern County, Calif., which produces more water than it does oil. Credit Jim Wilson/The New York Times

BAKERSFIELD, Calif. — The 115-year-old Kern River oil field unfolds into the horizon, thousands of bobbing pumpjacks seemingly occupying every corner of a desert landscape here in California's Central Valley. A contributor to the state's original oil boom, it is still going strong as the nation's fifth-largest oil field, yielding 70,000 barrels a day.

But the Kern River field also produces 10 times more of something that, at least during California's continuing drought, has become more valuable to many locals and has experienced the kind of price spike more familiar to oil: water. The field's owner, Chevron, sells millions of gallons every day to a local water district that distributes it to farmers growing almonds, pistachios, citrus fruits and other crops.

[Continue reading the main story](#)

Related Coverage

- **Severe Drought Has U.S. West Fearing Worst FEB. 1, 2014**

- **California's Thirsting Farmland APRIL 20, 2014**

It is one of the more unusual sources of water, one whose importance has increased in a year when the drought has forced farmers to fallow fields and bulldoze almond orchards. The water is pumped out of the same underground rock that contains oil; after the two are separated, the water flows through an eight-mile pipeline to Bakersfield's [Cawelo Water District](#), which this year will rely on Chevron's water for half of its supply, up from an average of a quarter. The district sells it exclusively to farmers for irrigation and reduces its salinity by blending it with water from other sources.



Photo



Water from the oil field is cleaned and released to a local water district, which sells it to agricultural buyers for irrigation. Credit Jim Wilson/The New York Times

“These are the years that it really shines, because that water is constant no matter what the hydrology is,” said David R. Ansolabehere, the district’s general manager. “In wet years, it almost becomes a problem because we don’t have so much use for it. But in dry years, boy, it really does come in handy.”

[Criticized for its use of water](#), especially in the process known as fracking, the oil industry is focusing on efforts to conserve and recycle water — or, in this case, to increase the available supply for irrigation. As drought has gripped California and Texas, the nation’s No. 3 and No. 1 oil-producing states, respectively, the industry has taken tentative steps to minimize its freshwater consumption. Some companies are recycling water produced in fracking, or hydraulic fracturing, while others have been fracking with brackish water and even without water.

[Continue reading the main story](#)

Critics dismiss the water conservation measures as political ploys. They point out that Chevron and the [Western States Petroleum Association](#), a trade group, are among the biggest lobbyists in Sacramento, and that they recently helped defeat a bill that would have declared a statewide moratorium on fracking.

What is more, critics say, California must rely on industry figures for the amount and kind of water used in oil production. According to the Western States Petroleum Association, 323 acre-feet of water were used in fracking 830 wells in California in 2013, compared with 2.7 million acre-feet for agriculture here in Kern County, the heart of California's oil industry. (An acre-foot is the volume of water that would cover an acre up to a foot high.) Figures and details on water use in conventional oil production were not available, according to the association.

[Continue reading the main story](#) Video



California's Extreme Drought, Explained

The state is experiencing the worst drought in its history. Find out just how bad the situation is getting and what it means for you.

Video Credit By Carrie Halperin and Sean Patrick Farrell on Publish Date July 5, 2014. Image Credit Stuart Palley/European Pressphoto Agency

[Continue reading the main story](#)

"It's almost impossible to get information," said Adam Scow, the California campaign director for [Food and Water Watch](#), an advocacy group. "How much water is the oil industry using every year, whether it's fracking, acidizing, cyclic steaming or other methods?"

Bob Poole, a spokesman for Santa Maria Energy, a small oil producer in Santa Barbara County, said that oil companies must navigate the politics of drought in California. Santa Maria is planning to build an eight-mile pipeline to bring treated wastewater to its oil fields, where it injects steam and gas into rock to push out the oil in a process known as cyclic steaming.

The company chose to use treated wastewater, which is cheaper than freshwater, Mr. Poole said, adding, "We also felt that it was very important politically."

In Kern County, oil producers and farmers have coexisted peacefully for decades, but that balance has changed in recent years. Advances in drilling technology have led oil companies to move into agricultural areas. In Shafter, just north of here, dozens of new oil fields are next to almond orchards and other crops. The possible eventual exploitation of a huge untapped oil reserve called the Monterey Shale, which lies under Kern County's prime farmland, could mean the kind of intense fracking carried out in Texas and North Dakota.

Photo



Mr. Smith and Carrie Goddard, the lead petroleum engineer at the field, with jars of, from left; the oil and water mixture as it is pumped from the wells; a sample that contains resin beads used to soften the water; a sample of the crude oil that has been separated from the water; crushed walnut shells used for filtering. Credit Jim Wilson/The New York Times

The drought is another potentially disruptive element in the relationship between the two industries, commonly known here as “oil and ag.”

A recent [study by the University of California, Davis](#), estimated that the drought could cost the Central Valley's agricultural industry \$1.7 billion, including 14,500 lost jobs.

Richard Howitt, an emeritus professor of agricultural and resource economics who was the lead author of the report, which was done for the State Department of Food and Agriculture, said it was not possible to measure the effect of the oil industry's water consumption on agriculture. But given the severity of the drought, Mr. Howitt cautioned against increasing fracking.

“If we do have the development of the Monterey Shale, we've got to do it on a different basis than they are in North Dakota,” Mr. Howitt said of fracking. “We have to do it with recycled water, and that adds to the cost.”

Photo



The water produced by the oil field eventually flows into a mixing pond, right, where it is blended with other sources to make it suitable for irrigation. Credit Jim Wilson/The New York Times

The Cawelo Water District struck an agreement to buy the Kern River oil field's excess water two decades ago, and the project was expanded in 2007 with Chevron's construction of the eight-mile pipeline. Because the oil field's water is much less salty than the water in other fields, it can be blended with water from other sources to make it suitable for irrigation.

Saltier water produced in other oil fields is currently too expensive to treat. But just as with oil, external conditions — a lingering drought, in the case of water — could change that.

"It's a hot topic right now," Abby Auffant, Chevron's lead land representative for the California division, said of the water project. "The longer the drought is sustained, I'm sure the more interest it will generate."

About 760,000 barrels of water a day are produced at the Kern River oil field — compared with 70,000 barrels of oil — and half of the water goes to the Cawelo Water District.

In a normal year, Chevron's water is a little bit cheaper than water bought from the state, which goes for \$30 to \$60 per acre-foot, said Mr. Ansolabehere, the water district manager. This year, while the price of Chevron's water is unchanged, water on the open market is being sold for up to \$1,300 per acre-foot as water districts receive only a tiny fraction of what they are supposed to get from the state, he added.

Tom Frantz, an almond farmer in Shafter and one of the most vocal opponents of fracking in Kern County, was not convinced of its value.

"Relative to all the water we're using in Kern County," Mr. Frantz said of Chevron's water, "it's a tiny, tiny fraction."