

# More California farmland could vanish as water shortages loom beyond drought

Dale Kasler, Sacramento Bee, 11-26-15

Firebaugh --His almond trees have turned a ghostly gray, and his grapevines are shriveling.

After two years without water, Garrett Rajkovich's farm in western Fresno County is dying. It might never be farmed again. Approximately 1,200 acres face the prospect of permanent retirement.

"This was a beautiful, thriving orchard five years ago," Rajkovich said during a recent stroll through his almond grove.

Rajkovich's troubles represent an extreme case, even by the standards of California's epic drought. Unlike many farmers, he didn't have groundwater as a backup when deliveries of surface water from the federal government dried up. But what he's going through represents a taste of things to come.

Land retirement is coming to California agriculture. The drought will end someday, maybe even this winter, but farmers will still face long-term shortages of water. The driving force: a new state law regulating the extraction of groundwater.

The relentless groundwater pumping that has kept hundreds of farms going the past four years is coming to an end. California's Sustainable Groundwater Management Act, set to take effect in 2020, will limit how much groundwater can be extracted over the long haul. While details of what constitutes "sustainable" pumping are still being fleshed out, water policy experts say many farmers will gradually have their water supplies curtailed – and the nation's leading agricultural state will farm fewer acres.

"It's not a question of if – it's a question of how much and where," said Chris Scheuring, a lawyer and water expert at the California Farm Bureau Federation.

Many of the state's farmers are already feeling long-term water problems. Westlands Water District, which serves farmers over a vast swath of land in Fresno and Kings counties, plans to retire tens of thousands of acres as part of a tentative deal with the U.S. government over issues related to drainage problems that have degraded the soil.

The new groundwater law is expected to further shrink agriculture's presence. As many as 300,000 acres could permanently disappear from agriculture, said farm economist Vernon Crowder, a senior vice president at agricultural lender Rabobank.

That's not a huge amount in a state with nearly 9 million irrigated acres of farmland. But it's not trivial, either. It's enough acres to grow the entire \$1.2 billion California tomato crop. The

concept is unsettling to people such as Don Cameron, a member of the state Board of Food and Agriculture and a champion of water-conservation efforts.

“It’s the topic people don’t want to talk about,” said Cameron, who raises tomatoes, pistachios and grapes in the Fresno County community of Helm.

The subject is particularly touchy in the San Joaquin Valley, the heart of California’s \$54 billion-a-year agricultural industry. Experts at UC Davis estimated that farmers have been draining the valley’s underground water reserves by as much as 5 million acre-feet per year during the drought to help compensate for staggering shortfalls in water deliveries from the State Water Project and the federal government’s Central Valley Project.

What’s more striking, perhaps: Even before the drought began four years ago, the valley’s aquifers were being depleted by 1 million to 2 million acre-feet per year, according to data compiled by the state Department of Water Resources. An acre-foot is 326,000 gallons.

Pumping has been so extensive that portions of the valley floor are literally sinking, a phenomenon known as subsidence. As land subsides, the aquifers gradually lose much of their ability to be replenished by rain.

In other words, this is a deep, systemic problem that will squeeze farmers long after the drought ends.

“When the drought is over, we’re going to be looking at places that don’t have much water in their wells,” said Ellen Hanak, an analyst at the Public Policy Institute of California. “People are doing the math and reading the writing on the wall.”

Farmers feel misunderstood

Some experts say the groundwater restrictions will be especially rough on small farms, which won’t have the financial cushion to keep going. Jim Verboon, who grows walnuts on 100 acres of land in Kings County, looks at his larger neighbors and wonders how he’ll make it.

“I don’t know if this groundwater law, the way it’s crafted, is in my best interest or in any small grower’s best interest,” said Verboon, a third-generation grower. “There’s a certain amount of land in the San Joaquin Valley that’s not going to be farmed, except in very wet years.”

Land retirement isn’t a new concept. Farmland has been disappearing in California for decades, usually giving way to urban development. An estimated 765,000 acres of irrigated farmland vanished between 2000 and 2012, about half of it in the San Joaquin Valley, according to the state Department of Conservation. That represented about 8 percent of the valley’s agricultural base.

Nonetheless, farmers get angry about land going idle, either permanently or temporarily, because of water problems.

They generally accept the idea that groundwater pumping needs to be reined in. But they argue the problem wouldn’t be nearly as bad if the Endangered Species Act were relaxed, less water

were set aside for fish, and more surface water were delivered to the valley from the Sacramento-San Joaquin Delta.

“We are not understood. We grow a lot of the nation’s food,” said Mark Sorensen, a raisin and blueberry grower in Caruthers and president of the Fresno County Farm Bureau. “I’m not sure those on the coast, in the Bay Area, Los Angeles understand that concept. The surface water is key.”

If the land-retirement process isn’t managed properly, Hanak said, the valley could be left with vast stretches of land simply going to dust. That would compound the region’s air pollution problem, already among the most severe in California, she said.

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Ellen Hanak, Public Policy Institute of California

And unless some other uses are found for the land, there could be economic impacts throughout rural California. Although farm employment has held up surprisingly well in the drought, UC Davis economists say the temporary idling of 540,000 acres this year erased 10,000 farm jobs that would have been created if water were plentiful.

Take land out of production for good, and the job losses likely will mount.

“When we’re out of business, guess what? They’re not getting a paycheck here,” said Rajkovich, who employed two dozen full-time employees when his Firebaugh farm was fully active.

UC Davis farm economist Richard Howitt said the farm economy won’t collapse, however. Most growers have survived the drought and kept revenue strong by concentrating their water supplies on high-dollar crops such as almonds and pistachios.

That trend will intensify in the coming years, Howitt said. Between groundwater restrictions and climate change – which is expected to shrink the Sierra snowpack – farmers will be pressed into progressively harder choices about what to plant and how many acres to leave idle.

“We’re going to have to live within a smaller water footprint, which means we’ll have to learn to live with a smaller farming footprint,” Howitt said.

Solar energy farms starting to bloom

What will that look like?

Farmers hope they can keep as many acres in agriculture as possible. They’re working on projects to capture winter stormwater more effectively, and to recycle the water they put on their crops. Some believe they can cope with the groundwater legislation by fallowing more fields in dry years and minimizing the amount of land that gets permanently retired.

Not far from Rajkovich's dying orchards, the Panoche Water and Drainage District is working on pilot projects to desalinate and reuse the water drained off its fields. The goal is to reduce dependence on groundwater.

District general manager Dennis Falaschi envisions a string of desalination plants up and down the valley. The plants might not generate enough water to produce a crop, but they could prevent someone's almond orchards from dying of thirst.

"That can keep 300,000 acres of trees alive," Falaschi said.

But land retirement is already a reality in some parts of the valley, where farming has given way to new uses. On West California Avenue outside Mendota, on land that used to produce tomatoes and cotton, sit a pair of solar energy farms and a medium-security federal prison.

The newest of the facilities, a 626-acre solar farm built by First Solar Inc. of Tempe, Ariz., opened in June. Made up of 750,000 photovoltaic cells, the plant has a 61-megawatt capacity and generates enough juice to light up 10,000 homes.

"You're going to see more," said Jose Gutierrez, a deputy general manager at Westlands Water District.

Westlands retired these lands more than a decade ago, although not because of water shortages. Rather, the land had been rendered increasingly useless for agriculture because of an incessant buildup in the soil of salt and other minerals linked to drainage problems in the clay soil.

For decades, irrigation water delivered by the U.S. government's Central Valley Project hasn't drained properly on much of the land served by Westlands. After a group of farmers sued, claiming the federal government reneged on a pledge to fix the problem, a settlement was reached in 2002. Part of the deal called for Westlands to buy 70,000 damaged acres and retire the land, including the parcels in Mendota.

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It's taken a while, but some of the land is sprouting new uses. More than 2,400 acres of land within Westlands' territory has been converted to solar farms in recent years. Gutierrez said another 2,600 acres will go solar in the next year or two.

Beyond that, a company called Westside Holdings wants to build a 20,000-acre solar energy park, billed as the largest in the country, on retired farmland near the Lemoore Naval Air Station in Kings County. Its financial backers include CIM Group, a glitzy real estate developer from Los Angeles whose credits include the Hollywood theater that hosts the Oscars.

Solar's surge has the approval of community leaders such as Mendota Mayor Robert Silva. Although most of the jobs are temporary, the installation of solar farms has boosted employment in a depressed part of the state.

“Farming is good, farming is great, but we need other jobs for this community,” Silva said. “There’s a lot of sun here and we’ve got to take advantage of it.”

Tens of thousands of additional acres of farmland would be retired by Westlands under yet another settlement the district signed with the federal government in August over persistent drainage issues. The agreement doesn’t take effect until it’s ratified by Congress, and approval isn’t a sure thing.

Rajkovich’s farm near Firebaugh is among those due to be retired. The district would buy him out at a price to be determined, and the 1,200 acres wouldn’t get any more Central Valley Project water. “It would be capped off and that water supply would be redistributed to the rest of the district,” said Westlands spokeswoman Gayle Holman.

Neither side is thrilled at the prospect. Rajkovich isn’t sure whether he’ll recoup the millions he spent planting almond trees, installing irrigation lines and making other improvements to the land. While his family maintains a smaller farm near Stockton, he called the situation in Firebaugh “financially and emotionally draining.”

As far as Westlands is concerned, shutting off the tap to a piece of farmland violates every principle the district holds dear.

“We are in the business of agriculture, farming, delivering water to farmers to produce,” said Johnny Amaral, a Westlands deputy general manager. “This whole area is getting strangled.”