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As California's wells dry up, residents rely on bottled water to survive

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In drought-parched Central Valley, thousands rely on trucked and bottled water as they wait for new wells

FRESNO, Calif. — Wes Harmon's ringtone sounds like a steam whistle, and it goes off in the cab of his Ford Super Duty at such regularity and volume it practically shudders the rooster-in-a-hula-skirt affixed to his dash.

Braaaaaah!

"What's up, Matt?" Harmon answers on a typically busy Monday morning.

"You want to drill a well in Ivanhoe?" his old colleague asks.

Harmon does not want to drill a well in Ivanhoe, which he calls a "rock pile," because his two rigs are already tied up in more forgiving ground elsewhere in California's Central Valley, running 24 hours a day, seven days a week. A whiteboard in his office is crammed with future jobs, and people won't stop calling — a veteran with a bad heart whose faucet ran dry; a widow in a panic who can't hold back tears.

Wells are running dry in California at a record pace. Amid a hotter, drier climate and the third consecutive year of severe drought, the state has already tallied a record 1,351 dry wells this year — nearly 40 percent over last year's rate and the most since the state created its voluntary reporting system in 2014. The bulk of these outages slice through the center of the state, in the parched lowlands of the San Joaquin Valley, where residents compete with deep agricultural wells for the rapidly dwindling supply of groundwater.



A worker drives a tractor in a dusty field. (Matt McClain/The Washington Post)

Amid rows of almond and orange trees, entire communities are relying on deliveries of bottled water to survive. More than 2,400 homes in the region keep their taps running with emergency plastic water tanks installed in their yards by the nonprofit group Self-Help Enterprises. It sends around a fleet of trucks to fill the tanks, which hold 2,500 to 3,000 gallons, at least every two weeks. More than half of the tanks are new this year.

Tami McVay, Self-Help's director of emergency services, expected this year's spike in dry wells. But the sheer scope of the shortages this summer has been unsettling for her.

She has watched as groundwater in some places has fallen in one year by hundreds of feet. Last year, her organization made emergency bottled water deliveries after outages from dry or malfunctioning wells threatened the water supply in two communities. This year, that has happened in 20 communities.

"Mentally, I don't think we were prepared to really kind of absorb how fast it was happening," she said. "Overnight our phones just started ringing."

‘She’s going dry. I’m dry’

The first sign of a failing well tends to be a softening of the water pressure. Brown patches in the lawn where sprinklers no longer reach. Garden hoses that pulse and fizz with aeration. Showers that slow to a trickle.



Joe Echevarria of Self-Help Enterprises in a building used to store bottled water. (Matt McClain/The Washington Post)

Groundwater is both the main source of water for many communities and a buffer that California relies on during drought. Normally, these underground reserves account for about 40 percent of the state’s water supply; in dry years, that grows to 60 percent. Of the 3,700 wells on the state’s live groundwater website that track levels over the past decade, nearly half of them are much below normal or at an all-time low.

“What we’re facing is pretty unprecedented,” said Steven Springhorn, an engineering geologist with the Sustainable Groundwater Management Office of California’s Department of Water Resources. “It’s very dry out there.”

Sharon Ramirez knew this, and she tried to conserve. She let her grass yellow and the vegetable garden die. Tomatoes, potatoes, butternut squash — all gone. In her bathroom, she only flushed solids, despite the embarrassment. She watched with agony as the trees she nurtured for years — the Chinese elm, the pistachio, the mulberry — appeared to weaken under the unrelenting sun.

The motor for the pump in her 348-foot well usually ran for 20 minutes to refill her tank. It began to take hours.

Ramirez could only do so much. She had moved to Madera Ranchos, a rural community north of Fresno, to make room for her two horses, Coco and Fergus. It was her retirement dream after 25 years as an administrative assistant at Fresno State University. But horses need water.

On a Thursday in August when she finally went dry, she broke down and cried.

“I’ve been dribbling since the first of the month. I knew it was going to happen,” Ramirez said. “You live on a well. You know it’s going to happen.”

These emergencies are familiar to anyone who lives in this area, and Ramirez’s neighbors immediately jumped in to help. While she awaits her new 600-foot well — low bid of \$54,318, and a waiting list of nine months — she was able to run a 120-foot hose from the house next door to keep her faucets flowing. Across the street, Kimberly Davis, who runs a petting zoo out of her backyard, didn’t have enough pressure to shower while the sprinkler is on, but was allowing another neighbor to share her own well as long as her water held out.

“She’s going dry. I’m dry. Two houses down, they’re dry,” Ramirez said. “It’s what we do out here. We survive with each other.”

The city of Madera is one of this year’s hot spots for dry wells. It’s where Interior Secretary Deb Haaland visited in August, standing in a field left fallow for lack of water, warning that the worsening drought crisis is an “existential threat to our communities and our livelihoods,” and announcing more funding for resilience projects in the years ahead.

Those who live here point in many directions to explain their predicament. Up and down the roads of these dusty suburbs, billboards call out for politicians to build “#moreDAMstorage” and for California Gov. Gavin Newsom (D) to “stop dumping our farm water in the ocean.” Neighbors stand in their barren yards and worry that the local rock quarry, or the high school with its green sports fields, or the subdivisions still sprouting new houses by the thousands, or the irrigated groves and orchards all around them, are sucking all the water out from underneath their wells.

“Everyone’s relying on groundwater. So all of us have a straw. And some of us have deeper straws than others,” said Susana De Anda, executive director of the Community Water Center, which advocates for access to clean water in California. “The reality is the drought only exasperates the current conditions that we have already, it worsens the stress. For many, people are losing water.”

When Genoveva Sanchez lost her water, she wasn’t alone. The roughly 600 other people who live in East Orosi, a predominantly Hispanic farming community in Tulare County, collectively went dry on the same day in July, when a public well malfunctioned amid declining groundwater levels.

Having company didn’t make it easier.

Like many of her neighbors, Sanchez, a 40-year-old Mexican immigrant who works at a hamburger chain, Wimpy’s, does not have air conditioning, and relies on a “swamp cooler” — a window-mounted device that cools air by evaporating water — to survive the punishing heat of summer. On the day of the water failure, the temperature in her home rose to an unbearable point, she said, and she kept her four children outside in a park. She saw other neighbors hauling water from a nearby canal to cool off. One house down the street caught on fire.

“They couldn’t do anything because there wasn’t any water,” Sanchez said.

Self-Help Enterprises delivered five cases of bottled water to every house in East Orosi as an emergency measure that day — and now distributes 25 gallons every second Thursday to each

family. To supplement failing wells, the rural communities of Tooleville, East Seville, and Tillie Creek together receive some 40,000 gallons of hauled water every week.

“We’ve seen more communities go dry this year than we have any other year before,” said McVay, Self-Help’s emergency director.

When the ground water drops far enough, homeowners on private wells have few options. They can pay, indefinitely, for water delivery services or try to drill deeper wells. Self-Help, which relies on state funding, will reimburse homeowners who qualify for the cost of a new well. The fierce demand, coupled with inflation, has almost doubled prices in a year; it now costs about \$55,000 for a 600-foot well.

But so many people need them that Self-Help has a backlog of 545 households who have been approved for drilling. The wait time is up to one year.



Ivan Rubio of Self-Help Enterprises checks the water level of a well at a home. (Matt McClain/The Washington Post)

This hauled water safety-net is something California hopes to reduce over time, by connecting vulnerable communities to larger water networks when possible.

“It’s a substandard living,” said Eric Zuniga, drought response program manager with the California State Water Resources Control Board. “Hauled water is buckets in a First World country. So getting them off of that is a priority.”

But projections for the future remain grim. Self-Help estimates the Central Valley could see about 8,000 dry wells — more than five times the current level — in the next few years. McVay expects the cost to service this shortage will exceed \$1 billion over the next two decades.

“I have some pretty interesting nightmares,” she said.

‘Still got water?’

When nightmares happen, people call Wes Harmon. His company, Big River Drilling, is one of more than a dozen contractors Self-Help hires to drill water wells.



Salvador Ruiz, left, talks to Rubio of Self-Help Enterprises. Ruiz qualified for water deliveries because his family's well was dry. (Matt McClain/The Washington Post)

Harmon is a big man with a booming voice and little patience for rules, regulations, bureaucrats, Democrats, or any other obstacle he believes to be blocking the path to his next hole. He's 59 now and has been drilling in the ground since his roughneck days on oil rigs in New Mexico and Texas. He practically lives in his truck, logging 15-hour days, crisscrossing the valley at high speeds.

It's a boom time but also a scary, hand-wringing time. Harmon has a unique vantage into the quiet panic at the heart of this drought and how it is clawing away at the ability of his friends and neighbors to live here and prosper.

Braaaaah!

“I'm really busy today, Gil,” Harmon answers another call on his way to check on one of his drill rigs that's rattling away in the backyard of walnut farmer with a dry well.

"I just wanted to see if you remembered or forgot," said Gil, a vegetable farmer Harmon was helping repair a burned-out pump that needed another part.

"No, I didn't forget. I'll get 'er going. Still got water?"

Braaaaaah!

"What's up AJ?" Harmon said.

"Hey, uh, what's going on with that permit?" asked a landlord whose tenants had run dry.

"They're putting the permit in. It's in. As soon as it comes back I'll drill that hole."

"You don't know when, huh?"

Harmon pulled to a stop at a ranch called Living Waters. It was named by Ernie and Arthur Morris's mom, who got it from the Bible. They are brothers and next door neighbors, part of the third generation to subsist off this farm. They had raised dairy cows until they had to sell off the animals, and now they grow walnut trees on 55 acres. One of their backyard wells ran dry this summer.

"I didn't wash my clothes very often," said Arthur Morris, 67. "I was starting to get a little rank there for a little bit. I let it go for two weeks before I did the wash."

Harmon's drilling rig was shaking and shuddering, boring 500 feet down into the soil. He'd been using it for 25 years but had recently replaced the diesel motor — at a cost of \$50,000 — to make it compliant with the latest air quality standards.

Harmon feels aggrieved by the pace of permitting for new wells. His crews work in 12 hour shifts, drilling all night to keep up with demand, but waiting for authorization can prevent him from moving from one job to the next.

Harmon chafes at the drag on his business but it also pains him to see the unmet need.

The backyard well he drilled for the Morris brothers solved their immediate problem, but the trends in the valley worry Harmon as much as anyone. The deeper agriculture wells have also been failing or producing less water.

"Without farming around here, California's done," Harmon said.

"Plus all the food that we feed to the world. I mean raisins, where else do raisins come from? Where else do walnuts come from?" Arthur Morris asked.

"All these guys, man, this is their livelihood, if they don't have water, they're going to lose everything," Harmon said. "And when you're his age and you lose everything. Where are you at?"

"Living waters," Ernie Morris added. "You got to have it."