Well problems force Sierra residents to take conservation seriously

By Marc Benjamin

SHAVER SPRINGS — • *Shaver Springs residents employ many means to conserve water*.

- *New water supplies are costly to develop because of naturally occurring radiation contamination.*
- *Conservation includes limiting toilet flushing, and collecting shower and roof water*.

Residents in this small community bordering the Sierra National Forest, six miles west of Shaver Lake, could probably teach people living in water-short communities a few lessons.

On a whiteboard next to the community mailbox, a Fresno County water operator posts the percentage of water remaining in the tanks that serve the community. It's done so residents can pay heed and conserve more on days when percentages are low.

"They are a pretty independent district," said John Thompson, resource director for the county public works and planning department. "They do self-impose restrictions to make sure they don't run out of water ... they understand they have a major issue."

Shaver Springs' water supply is tainted by naturally occurring radiation , forcing the community to search for expensive new sources, all of which are dependent on rainfall .

So some residents have gone to conservation extremes. One woman pays to have water trucked in for a water tank to maintain her landscaping, and few wash their vehicles unless they use collected rain or bath water, he said. As for toilets, said resident Larry Paquette, most folks only flush when necessary.

Next Tuesday, county supervisors are expected to impose stage three water restrictions on the 70 homes in Shaver Springs. It would mean significant restrictions to landscape watering, prohibitions on vehicle washing and limits on building permits. Other areas — Cantua Creek, El Porvenir and the O'Neill Farming Community — are going to stage four, which prohibits outdoor watering and building permits altogether.

"I think we are all doing more than what stage three would require us to do anyway," said Paquette, a member of the Shaver Springs citizens advisory committee for the water works district.

The district has one well that is contaminated with radiation-type elements from the granite that underlies many Sierra Nevada communities. A second well is not producing because of the lack of precipitation, said Alan Weaver, the county's public works and planning director. The wells, he said, are in granite rock formations. These formations have fissures where water is stored and can be drawn up by a well, but the fissures offer no long-term guarantees and the underground rock formations need replenishing from precipitation.

Unlike in the Valley, drilling deeper into rock formations is much more costly than well drilling on the Valley floor. The Shaver Springs homes were built in the early 1970s and water problems surfaced in the 1980s when uranium was detected in the subdivision's best-producing wells.

A study is under way to learn if there are potential well sites in the area that produce more water than the district's wells produce now, county officials said.

The district has paid to drill additional wells, but the results were more tainted water, dry holes or minimal flow, Paquette said.

“We either didn’t have enough volume, enough quality or came up dry,” he said.

To fix the problem, district residents will pay a parcel fee. It’s expected that the cost to find a water source may eventually reach $2 million to $3 million. Residents last year supported an annual parcel fee — based on county figures, about $970 per parcel — to find solutions. Eventually, the fee could pay back a 20-year loan to locate a well and treat the water if it’s contaminated.

Homegrown solutions

In the meantime, the community has acquired water from a neighboring property owner who sends Shaver Springs the excess beyond 8 gallons per minute he needs for his property. In exchange, the water works district paid for improvements to his well, Paquette said.

As residents enter the tiny mountain community, they can’t miss the whiteboard next to the community mailboxes. Water flow will fluctuate from day to day and residents know to conserve if the water level drops too low, Paquette said.

“People aren’t watering their lawns, they’re not washing their cars or washing down their driveways,” he said. “People for the most part are trying to do the right thing.”

Paquette keeps a bucket in his shower that collects cold water that flows before turning hot. He also collects excess shower water after the water gets warm and then uses the excess for his garden.

In September, Paquette’s neighbor, Tom Boswell, started collecting rain water from his roof during storms. The system employs 60-gallon barrels attached to piping from the drain spouts running down the side and rear of his home.

“We’ve had two minuscule rain storms, but the barrels filled up,” he said.

Boswell has a small garden behind his home and some plants in the front yard. When he suggested a system of barrels to collect water, he said, his wife thought it was an outlandish idea. But with some online searches he found a system he thought would work. It used a bladder that funneled water from the drain spout to the barrels. The barrels have hose attachments at the bottom to release the water.

In his rear yard, gravity brings water to plants that sit at a lower elevation. Boswell has resorted to installing decking where a lawn used to be in the front. To water the remaining front yard plants, he employs an electric pump to push water uphill from the barrels.

He was surprised how little it cost. It was $50 for the pump — he only needs one — $10 per barrel and $10 per kit that comes with the spigots and drain spout bladders.

“It’s not brilliance,” Boswell said. “It’s just going on the Internet and playing around.”

Jonathan Meier, a co-owner of Rain Brothers, the Columbus, Ohio, company that sells the drain spout/rain barrel system, said interest in California has “easily tripled” in the past two years. He said his family descends from long-time well drillers, but the business developed because people in his community either couldn’t drill wells because of water quality problems or low water supply.

“People are trying to implement something small scale to start and a rain barrel is a perfect place,” Meier said.

The kit can attach to a barrel in a few minutes for about $30 per barrel, even less if barrels are being linked together

with hoses, he said.

From a 1,000-square-foot roof, he said, 600 gallons of water can be collected in a moderate rain storm.

“It literally pays for itself in the first season,” Meier said.

Boswell also has a “recirculating” pump on his hot water heater that keeps warm water in bathroom pipes to move hot water to the shower faster to conserve.

“A manifold goes under the (bathroom) sink and it brings hot water instantly,” he said.

The cost is about $300, Boswell said.

Paquette said he’s made arrangements with his plumber to install a pump and wants the water works district board to make information available to others residents, because many of his neighbors complain about waiting for hot shower water. Plus, it helps conserve.

“If we don’t fix our water problem,” he said, “we basically have campsites.”

Contact Marc Benjamin: mbenjamin@fresnobee.com, (559) 441-6166 or @beebenjamin on Twitter.