

We need more urgency on sinking Valley

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Some parts of the Central Valley are sinking, and time is running out to make the hard choices to slow the overpumping of groundwater causing it.

During the 1920s, '30s and '40s, subsidence, which occurs when underground aquifers are emptied, was a huge problem. Farmers pumped with abandon, and parts of the San Joaquin Valley sank 30 feet. When the federal Central Valley Project started delivering water from the Sierra, subsidence ended.

The epic drought has brought it back, with a vengeance. Farmers have fired up their pumps, including those who have planted almonds and other thirsty tree crops.

Now, some areas in the southern part of the San Joaquin Valley are sinking an inch a month, says the U.S. Geological Survey. A NASA study, based on satellite photos, also found significant subsidence.

Roads can crack and become uneven. Bridges, anchored to either side, can twist. Cement canals can leak. Damage could reach hundreds of millions of dollars, even billions.

In the Central California Irrigation District, which serves customers in the western sides of Fresno, Merced and Stanislaus counties, one canal has suffered a significant crack and a bridge will have to be raised. The district has spent \$4.5 million so far on fixes.

There are ways to stop subsidence, but none will appeal to everyone.

And they will be politically difficult, especially if fears of drought subside in El Niño's rains, though the recent storms have had little impact.

First, the state knows the aquifers most at risk and the location of wells drawing from them. It could impose per-acre fees to pay for infrastructure repairs where the dangers are greatest, such as the Tulare Basin. Some have suggested that counties and water districts ban new wells, or at least require permits to pump in areas most prone to subsidence – an idea well worth considering.

Second, farmers could pump only from aquifers above the clay, which would not compact the soil as water is pulled out. But those aquifers have already been exhausted and refilling them would require injection wells and capture basins. While those projects could be financed through the \$7.5 billion water bond passed in 2014, the California Water Commission says it won't make any allocations until 2017 at the earliest. That should be expedited.

Third, the state could beef up its monitoring. In the 1940s, at the height of the previous subsidence crisis, well-like structures measured sinking. The state could require real-time monitoring for pumps drawing from aquifers below important infrastructure and could limit pumping if subsidence is detected. Starting early could save hundreds of millions in repairs.

Another, perhaps more effective, solution might be the most difficult to achieve – more logical water delivery.

Consider last year's fiasco. In late spring, San Joaquin Valley farmers were told to expect a certain amount from Lake Shasta and planted accordingly.

Two months later, officials became convinced there wouldn't be enough cold water to allow salmon to migrate in the winter. So they slashed deliveries, leaving farmers with a choice – pump groundwater or lose an entire season's investment.

As more demands are made on water supplies and if the drought persists, farmers will again be faced with hard choices.

If they pump, the ground will subside. If they don't, an entire region's agriculture-based economy could sink.