

## **WTE Column of August 19, 2014. Editor's Headline: Is it too late for California?**

Climate change is upon us, though some Wyoming politicians contend they have yet to see evidence of human influence on the process. I can only conclude they prefer not to read pertinent studies, or the books explaining these in accessible language.

By contrast, California's legislators acted back in 2006 with a Global Warming Solutions Act that requires sharp reductions of greenhouse gas (GHG) emissions. AB 32 was the first program in the country to address climate change long-term. Then, in 2013, with passage of Senate Bill 4, California began regulating hydraulic fracturing and other oil- and gas-well stimulation practices.

Sadly, it may be too late for my one-time home state, where I recently visited for a reunion. Today California is a poster child for environmental destruction, though the same could be said of many other states, including Wyoming.

Not long ago California's San Joaquin Valley was the country's "bread basket." Then it succumbed to climate chaos. Its cattle industry went belly-up; its row-crop fields are blowing away. Nearly 60 percent of the state is in exceptional drought, the most severe category there is. Wildfires break out north and south. Nevertheless, Big Ag makes big money in the Valley. Buying up acreage for pennies from impoverished farmers, the industry drills wells and plants pistachio and almond trees to sell the nuts to a lucrative Asian market.

California uses more groundwater than any other state, yet it's the only state in the West without rules to ensure it doesn't run out. While landowners who want to divert water from reservoirs and rivers have been required to get permits from the state since 1914, farmers and cities who tap underground aquifers (California's largest water source) can pump as much as they want, when they want. As a result, decades of intense pumping have dropped water tables dangerously low in the SJ Valley and on the Central Coast. Scientific studies show the ground is sinking in many hard-hit areas. Aquifers are at risk of running dry.

Nestle owns and operates Arrowhead Mountain Spring Water, which has been bottling water from a spring in Millard Canyon, 80 miles east of Los Angeles. Its Pure Life brand comes from the same source, which is located on the Morongo Indian Reservation. Nestle pays the tribe for the water. Because the reservation is considered a sovereign nation, it's not under any obligation to comply with state laws concerning the drought.

At a winery on the Central Coast, where I inquired how the drought was affecting its grapes, I was told, "We're in good shape. We own our own aquifer."

Groundwater in California is depleted so rapidly, experts warn, all of it will be used up in sixty to a hundred years. "We're leaving our grandchildren high and dry," said a friend, while a family member claimed that "Mother Nature" has cards up her sleeve that will fix things.

Groundwater withdrawal in the SJ Valley was accelerating even before 2011, when the drought began. As much as 20 cubic kilometers of Valley groundwater may have been pumped out in just

the last three years, a staggering 12 percent of the last 150 years' total depletion. With less water in the aquifer beneath it to hold it up, the soil throughout the SJ Valley is sinking, dropping in some places by as much as a foot a year, damaging roads and exposing communities to flood risks. From Redding to Bakersfield, the Valley consumes twice as much groundwater as nature is returning through rain and snow, studies from University of California and the U.S. Geological Survey have found. Overall, California pumps out about 2 million acre-feet a year more than is replenished. The cumulative overdraft over the past 70 years is enough to fill Lake Tahoe.

“It’s like a shared bank account where nobody ever balances the checkbook,” said Lester Snow, former director of the state Department of Water Resources. “We [are] on deficit spending of groundwater.”

The missing water wasn’t just holding up the soil; it may have been holding the earth down as well. A study published earlier this year in the journal *Nature* suggests, the more groundwater is pumped out in the Valley, the greater the chances of an earthquake on the nearby San Andreas Fault. A May 2011 quake in Lorca, Spain, which killed nine people and caused extensive damage, seems to have been engendered by overdrafting the local aquifer.

At long last, lawmakers in Sacramento are working with Gov. Jerry Brown on a measure to regulate groundwater pumping. Hence, drillers currently work seven days a week, and Big Ag spends hundreds of thousands of dollars across the Valley to drill ever-deeper wells. One deep well can draw water away from other, shallower, wells, causing them to go dry. Observers worry that the proposed legislature will be weakened in backroom deals.

“It’s not only burning your furniture for firewood, it’s burning your neighbor’s furniture as well,” said Jennifer Clary, Program Manager of Clean Water Action. “If you overpump your property, you’re overpumping from your neighbor’s property, too.”