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Study revealing California's 'water windfall' overhyped

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A Stanford study recently concluded that the Central Valley has almost three times more fresh water underground than the state estimates. Most of that fresh water is between 1,000 and 3,000 feet underground and would need to undergo expensive treatment before it could be used. **Randy PENCH** Sacramento Bee file

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BY DAVID GUTIERREZ

Special to The Bee

California's drought has grabbed headlines across the country and world for several years. So when [Stanford University researchers recently proclaimed](#) they

had found in California a “water windfall” – three times the “freshwater and useable water” than previously known – it was no surprise the media went into overdrive.

You’d be hard-pressed to find someone who hasn’t at least heard about the groundwater “miracle” that implies California water woes are over. Unfortunately, that is not true.

The “[discovery](#)” of new deep groundwater heralded by the study’s authors is not a discovery. We have known for years of the deep aquifers underlying the state, including in the Central Valley. But it would be a poor use of resources and energy to attempt to tap this water, given the expense of deep drilling, the impact on an area already experiencing alarming subsidence and the questionable quality of the water itself.

Most importantly, the authors miss the point that California must be able to depend on groundwater by using and recharging it in responsible, sustainable ways.

Characterizing this deep-aquifer water as freshwater is also misleading. The claim that there is three times more “fresh water” than previously identified hinges on the study defining fresh water as being three times saltier than what the California Department of Water Resources, the U.S. Geological Survey and other experts define as fresh water. This salty or brackish water would need to undergo expensive treatment before it could be used, and therefore its use is possible, but not practical.

The Department of Water Resources is heavily invested in the success of the Sustainable Groundwater Management Act of 2014, a landmark law that puts California on the path to sustainable groundwater management and a much brighter water future for us all. Under the groundwater regulation law, we must balance our water use and return to aquifers the volume of water we withdraw.

Using this deeper water “discovered” by the Stanford researchers would not be a sustainable enterprise. Drilling thousands of feet down to get at water that is thousands of years old would be a one-time mining of groundwater. Many generations would pass before the deep aquifers could recharge.

A more sustainable evaluation of available groundwater takes into consideration how much of the aquifer truly can be withdrawn before we create significant and

unreasonable impacts to the surrounding agricultural, urban, industrial and environmental groundwater uses, to public infrastructure, to the environment and to the aquifers' ability to recharge in a reasonable time frame.

If we tapped deeper sources of lower-quality groundwater, we could see dewatering of wells; subsidence or sinking ground and associated damage to bridges, roads and buildings; poor quality water; increased pumping and treatment costs; and diminished or depleted streams.

The study authors did note the negative aspects of accessing the deep groundwater in question, but the authors' comments and resulting headlines gave an impression of unlimited water flowing over a parched California. Many of the finer points and details of the Stanford study were missed or ignored.

We're still in drought, our water needs are many, and no miracle supply discovery has saved us. We are already on the best path forward: Communities are working together to create groundwater sustainability agencies and plans to bring California's reasonably accessible groundwater basins into balance, providing a future supply of high-quality water for many generations to come.

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