

California's groundwater needs better protection

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Mother Nature's last-ditch effort to make a dent in the drought with last week's rain and snow won't make any real difference for California's water supply in 2014. The state will conduct its final measurement of snowpack in the Sierra Nevada today - an indicator of how much snow will melt and flow into our rivers, ultimately making its way to cities and farms throughout California. We don't need that measurement to know that the drought persists and water supplies remain scarce.

What's more, we need to recognize that this drought may not be over any time soon. Geological records show that California has had droughts lasting not just years but decades. We would be foolish to assume that modern-day California is sheltered from the same fate - and we are far from prepared to deal with decadelong droughts. This drought serves to reveal fundamental weaknesses in our water management system. It highlights our collective failure to adequately invest and adapt to our 21st century reality of higher demand and greater volatility of annual water supply. Approaches that worked in the 1950s are not sufficient for a reliable water future in California.

California faces a new set of challenges, including aging water infrastructure, more extreme droughts and floods, declining ecosystems and increasing demand. In addition, many groundwater basins throughout California are contaminated and overdrawn. Eighty-five percent of Californians rely on groundwater, but water levels are dropping at alarming rates. These groundwater supplies, the equivalent of water savings accounts, are essential for drought protection but today are in jeopardy.

Whether this drought continues or we start preparing for the next one, there's no option but to reinvent and refocus our state's approach to water management and respond to a new, more volatile reality. We can't limp from drought to drought making incremental changes with the assumption that things will get better.

As we are looking for every extra gallon of water to soften the effects of drought this summer, we still annually discharge 1.7 million acre-feet - more than 500 billion gallons - of wastewater into the ocean. This is water that could be reclaimed, stored and reused. Every storm results in urban runoff that must be captured and used, rather than polluting our coastal waters.

While California has done well in conserving water, so much more can be done in both agricultural and urban use.

Groundwater, when properly managed, can provide the most effective buffer against drought. In wet years, as we had in 2006 and 2011, water could be stored in groundwater banks for use

during dry times. To make this work, we must empower local water managers with the authority necessary to sustainably manage groundwater basins and protect stored water. No one wants to invest in groundwater storage if rules aren't in place to keep someone from taking more than their fair share.

In order to adequately meet California's water supply needs for decades to come, we must invest in more diverse water supplies, state-of-the-art conservation and effective storage in our groundwater basins to offset times of drought.

Whether it flows from a faucet, irrigates farmland or supports a migrating salmon, we only have one, finite water supply. We need to work together to protect that water supply, our economy and unique environment.

To learn more, go to www.sfgate.com/drought.

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