



April 2016 Update on Groundwater Management

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During periods of drought when surface water supplies from rivers, lakes, and streams run low, many communities and agricultural water users turn to groundwater to make up the difference. In simple terms, groundwater is water stored in underground aquifers. It rises to the surface through seeps and springs, or it is brought to the surface by use of pumps.

While dependence on groundwater varies by area, these statements provided by the state of California highlight the importance of groundwater:

- In years of normal precipitation, groundwater supplies about 40 percent of the water for municipal, industrial, and agricultural uses in California, while in dry years the use of groundwater increases to about 60 percent.
- An estimated 36 million Californians obtain at least a portion of their water from groundwater, while 2 million Californians rely solely on groundwater.

Overdrafting of groundwater supplies has occurred for many years in some parts of California and increased to an unprecedented rate during the drought that began in 2012. This resulted in serious consequences, including thousands of well failures; seawater intrusion; degraded water quality; land subsidence resulting in damage to important infrastructure including roadways and canals; and depletion of lakes, rivers, and streams that are connected to groundwater basins.

In response to rapidly declining groundwater levels, the legislature passed the Sustainable Groundwater Management Act (SGMA) in September 2014. With this legislation, California became the last state in the western U.S. to adopt comprehensive groundwater regulations.

In brief, here are some key features of this very complex legislation:

- The California Department of Water Resources (DWR) has identified 127 groundwater basins as high and medium priority. It is estimated that these basins represent 96 percent of the average annual groundwater supply in the state and 88 percent of the population overlying groundwater basins in the state.
- Local agencies in these 127 basins must form Groundwater Sustainability Agencies (GSAs) by June 30, 2017.
- GSAs are tasked with the development of Groundwater Sustainability Plans which must be designed and implemented to bring the groundwater basin to a state of sustainability within 20 years.
- Of these 127 basins, 21 have been identified as critically overdrafted and are required to adopt Groundwater Sustainability Plans (GSPs) by January 31, 2020 and achieve sustainability by 2040. The remaining high and medium priority basins must adopt GSPs by January 31, 2022 and reach sustainability by 2042.
- If GSAs are unable to sustainably manage their groundwater resources, the state of California can intervene.

- GSAs must consider the interests of a wide variety of water users including public water systems, municipal well operators, individual well users, agricultural users, cities, counties, disadvantaged communities, tribal organizations, and the environment/ecosystems.

SGMA Notes:

- 1) The California Department of Water Resources has identified a total of 515 alluvial groundwater basins in California. At this time, only the 127 high and medium priority basins are subject to the full requirements of SGMA. Currently, the remaining 388 alluvial groundwater basins are ranked as low or very low priority and are not affected by SGMA requirements. Groundwater in fractured rock found in many foothill and mountainous areas is not addressed in SGMA.
- 2) A variety of organizations and water users have voiced concerns that the twenty year timeframe for achieving sustainability is too long and may result in irreparable damage to groundwater supplies and ecosystems.

Recharging depleted groundwater basins during wet years is essential to sustainable groundwater management. Recharge can occur naturally when rain and surface water in lakes and streams seeps into the underlying aquifer. Groundwater recharge can also be facilitated by applying surface water to recharge basins constructed in areas with appropriate geologic and soil conditions, or by wells used specifically for injection of water into deeper aquifers. Another method that is being studied is winter flooding of farmlands in areas with favorable conditions for recharge. Construction of new and enlarged conveyance structures like canals will be required to capture and transport water to recharge basins and farmlands.

The California Department of Water Resources website (www.water.ca.gov) is a good source of information about SGMA and other water legislation and regulations. Sources of information about local and regional water matters include city and county government, water providers, and integrated regional water management (IRWM) groups. IRWM groups are involved in the integrated management of both surface and groundwater.

For more about water matters:

League of Women Voters of California Water Resources page: www.lwvc.org/issues/california-water-resources

California Department of Water Resources has an extensive list of groundwater-related links: <http://www.water.ca.gov/groundwater/sgm/links.cfm>