SENATE COMMITTEE ON NATURAL RESOURCES AND WATER
Senator Josh Becker, Chair
2025 - 2026 Regular

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Author:	Papan		
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Urgency:	No	**Fiscal:**	Yes
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Subject: California Council on Science and Technology: water availability study: Central Valley

SUMMARY
This bill would request that the California Council on Science and Technology undertake two watershed-wide water availability studies for watersheds that are within, or drain into, the Central Valley to help facilitate groundwater recharge permitting.

BACKGROUND AND EXISTING LAW
Groundwater, generally.
Groundwater makes up a significant portion of the state's water supply, and can serve as a buffer against the impacts of drought and climate change. During an average year, groundwater makes up approximately 40 percent of the State's total water supply, and 60 percent or more during dry years. It is a major source of the state's drinking water supply and, according to the State Water Resources Control Board (State Water Board), approximately 33 million Californians use groundwater for drinking or other household uses.

Groundwater recharge occurs when water seeps into the ground to replenish underground aquifers and can play an important role in water management in California. Many areas throughout California already participate in groundwater recharge activities. Although some recharge happens incidentally, with water flowing into the ground from rivers, unlined canals, or excess irrigation, intentional recharge can restore groundwater levels and store water for later use. This occurs through active management when individuals or agencies divert water from a waterway to farmland or a settling basin where the water can gradually percolate down into the aquifer. Rates of recharge vary by soil type and conditions, but it is generally not a rapid process. Active groundwater recharge requires advance planning and infrastructure to be successful.

Recharge can also help mitigate impacts from groundwater pumping, such as dry wells or subsidence, while providing wetland habitat for birds, reducing flood risk, and storing water for droughts.

Increased interest in groundwater recharge.
Interest in expanding groundwater recharge has increased since the passage of the Sustainable Groundwater Management Act (SGMA). In a 2020 study reviewing groundwater sustainability plans (GSPs) developed under SGMA and submitted for critically overdrafted basins in the San Joaquin Valley, Public Polic Institute of California (PPIC) shows that, collectively, the GSPs intend to recharge nearly 1 million acre-feet

(MAF) of water annually to address groundwater overdraft.[1] This is significant given that PPIC estimates that groundwater overdraft in the San Joaquin Valley for the 1987-2017 period was nearly 2 MAF annually.[2]

How Much Water Is Available for Recharge in the Central Valley?
Further analysis by PPIC in June 2025 found that in 2023 as much as 11.2 MAF from the Sacramento River and 3.4 MAF from the San Joaquin River may have been available for groundwater recharge.[3] It is important to note that 2023 was considered a "very wet year," whereas 2024 and 2025 have been drier. According to the PPIC report "over the past two decades, wet years occurred five times (2006, 2011 2017, 2019, and 2023). In such years, there is so much water in the system that some additional recharge could occur without causing environmental or downstream tradeoffs, and there are likely also periods where more recharge would be possible if tradeoffs were properly managed. *We do not explore the potential for available water from large storms during drier years, which might offer more limited opportunities for recharge … . These situations are ripe for further analysis*, given their potential for extending the active season for recharge and for enabling incremental progress even in years that are not classified as wet." (Emphasis added).

***Water availability analysis*.** A water availability analysis is a necessary part of any water right application and helps to determine whether there is actually water available to be diverted from the stream, river, or water body subject to the application. This information is required per Water Code §1260: An applicant for a permit to appropriate water shall set forth all of the following: … "(k) Sufficient information to demonstrate a reasonable likelihood that unappropriated water is available for the proposed appropriation." The water availability analysis can be a time-consuming and costly (oftentimes exceeding $50,000) part of the application process. The State Water Board currently allows for an expedited form of water availability analysis for temporary permits for groundwater recharge that is referred to as the "90/20 method." This is the method the State Water Board uses to determine whether there is enough water to divert. Generally, it states that water is available for diversion on a given day if the instream flow exceeds the flow that typically occurs in 90% of the years but only up to 20% of the total flow at that time.

California Council on Science and Technology (CCST). CCST was uniquely established at the request of the Legislature in 1988 for the specific purpose of offering expert advice to state government on public policy issues significantly related to science and technology. CCST's mission is to "serve as a trusted, nonpartisan source of expert science and technology advice for California policymakers, powered by a world-class partner network." CCST draws from a network of California's major research institutions including the University of California, the California State University system, the California Community Colleges, Stanford University, the University of Southern California, and the California Institute of Technology as well as the National Laboratories in California (e.g., Lawrence Berkeley and Lawrence Livermore). The Legislature has formally requested that CCST complete various studies and analyses in

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[1] Ellen Hanak, Jelena Jezdimirovic, Alvar Escriva-Bou, Andrew Ayres, *A Review of Groundwater Sustainability Plans in the San Joaquin Valley*, (San Francisco: PPIC, 2020),p. 6.
[2] Ibid, 1.
[3] Ellen Hanak, Spencer Cole, Greg Gartrell, Caitlin Peterson, *How Much Water Is Available for Recharge in the Central Valley?,* (San Francisco: PPIC, 2025), pp. 12 and 15.

the past (see Existing Law, below) and partners with CCST on the Science and Technology Policy Fellowship program to place a cohort of PhD scientists and engineers directly into policymaker offices in the Legislature and Executive Branch.

Existing law:

1) Establishes the State Water Board (Water Code (WAT) §§175 *et seq*.) to administer California's water rights system (WAT §§1050 *et seq*.). Authorizes the State Water Board to issue water rights (WAT §§1250 *et seq*.), collect data on water use under water rights (WAT §§5100 *et seq*.), enforce water right violations (WAT §§1845 *et seq*.), and enforce the water right priority system (WAT §§1450 *et seq*.), among other powers.

2) Exempts the temporary diversion of floodflows for groundwater recharge from requirements to obtain a water right if specified conditions are met (WAT §1242.1).

3) Authorizes the State Water Board to issue a temporary urgency permit (water right) so long as the diversion does not harm other lawful users of water and meets other conditions. Temporary urgency permits shall automatically expire after 180 days, unless renewed (WAT §§ 1425 *et seq*.).

4) Authorizes the State Water Board to issue a temporary permit (water right) to divert water for groundwater recharge so long as the diversion does not harm other lawful users of water and meets other conditions. Temporary permits for groundwater recharge shall automatically expire after five years, unless renewed (WAT §§ 1433 *et seq*.).

5) Requests that CCST undertake and complete a study on gas pipeline specifications and prescribes criteria for the study (Public Utilities Code §784.1).

6) Authorizes the Department of Food and Agriculture to contract with CCST to review the work of the Food Biotechnology Task Force (Food and Agriculture Code §492).

7) Requests that CCST assess, in its discretion, the infrastructure project types, scale, and pace necessary to achieve the state's energy, climate change, and air quality goals (Health and Safety Code §38592.1).

PROPOSED LAW
This bill would:

1) Require the Department of Water Resources (DWR), in consultation with the State Water Board and the California Department of Fish and Wildlife, to select, on or before January 1, 2028, two watersheds that are within, or drain into, the Central Valley to conduct a watershed-wide water availability study.

2) Request that CCST, in consultation with DWR and the State Water Board, and subject to appropriation, undertake and complete a comprehensive study of water availability in the selected watersheds.

3) Require the study to accomplish, but not be limited to, all of the following:

   a) Determine daily flow rates in rivers, streams, and creeks in the watersheds over the past 30 years to the extent data is available.

   b) Quantify the maximum allowable diversions under existing permits, licenses, and claims in the watersheds.

   c) Quantify water actually diverted under existing permits, licenses, claims in the watersheds over the past 30 years to the extent data is available.

   d) Identify and quantify any water quality or environmental flow requirements, including water quality requirements under licenses from the Federal Energy Regulatory Commission, in rivers, streams, and creeks in the watersheds.

   e) Determine when and under what conditions water is available in excess of existing claims and regulatory requirements.

4) Declare that it is the intent of the Legislature that the above-described study will serve as a water availability analysis for future applications to the State Water Board for standard or temporary permits for diversion of water to underground storage in the selected watersheds.

ARGUMENTS IN SUPPORT

According to the author, "California's hydrology is altering before our eyes as a result of the changing climate. This shift is causing not only extreme swings between the wet and dry periods that have always been a characteristic of California's climate, but is also leading to a diminished snowpack, our largest, natural water reservoir. California's system of reservoirs and conveyance was designed to capture runoff from a gradually melting snowpack to ensure sufficient water supplies for the dry summer months; however, as the runoff comes earlier or not at all due to warming temperatures, we need to adapt and change our water management approach."

"One key strategy in making this shift is to significantly increase the amount of water we recharge into our aquifers during wet periods so that we have water during the dry summer months and inevitable droughts. While progress is being made to expedite permitting processes for groundwater recharge, we are not getting the job done. One key hang-up is determining when there is water in excess of what is necessary to satisfy existing water rights and regulatory requirements that can be diverted for recharge. This bill will alleviate this choke point by calling for the completion of a watershed-wide water availability analysis that water right applicants can use to determine how much and when water is available for recharge. This programmatic approach to groundwater recharge will help us meet our ambitious goals and make us more climate resilient."

ARGUMENTS IN OPPOSITION

Writing in opposition, Valley Ag Water Coalition list three main concerns. First, that "the legislation would not require the State Water Board to accept the results of the CCST study in support of an application or even require the [State Water Board] to consider the results" and "therefore, there might not be any benefit conferred on an applicant." Second, that "the results of a CCST study could differ from prior water supply assessments conducted by applicants in the same watershed, or differ from recent work conducted by [DWR]." Third, the coalition points out that a funding source has not been

identified and is concerned that the Water Rights Fees that are imposed on all permitees and licensees would be relied upon to pay for the costs of the study.

COMMENTS

This bill. There is broad consensus around the need to do more groundwater recharge, but disputes about when excess water or "floodflows" are available for recharge and will not injure other water right holders or the environment are proving very difficult. This bill attempts to create an objective study to settle this question of when there is excess water available for recharge in the selected watersheds.

Tick, tock. The effectiveness of a report or study is largely dependent on its timeliness. As such, given the recent increased interest in recharging groundwater basins, it may be a good idea to make sure that the report proposed by this bill is produced in a timely manner.

The Committee may wish to consider requiring the water availability study proposed by the bill to be completed within 2 years of receiving an appropriation. *See Amendment 1.*

SUGGESTED AMENDMENTS

AMENDMENT 1

Amend Water Code Section 1259.7 to add a new subdivision (c) as follows:

(c) The comprehensive study of water availability described in subdivision (b) shall be completed within 2 years the Legislature appropriating money for the purpose of undertaking the study.

~~***(c)***~~***(d)*** It is the intent of the Legislature … .

SUPPORT

None received

OPPOSITION

Valley Ag Water Coalition

-- END --