Date of Hearing: April 23, 2026

ASSEMBLY COMMITTEE ON WATER, PARKS, AND WILDLIFE
Diane Papan, Chair
AB 2521 (Papan) – As Amended April 15, 2026

SUBJECT: California Council on Science and Technology: water availability study: Central Valley

SUMMARY: Requests that the California Council on Science and Technology (CCST) undertake two watershed-wide water availability studies to help facilitate groundwater recharge permitting. Specifically, **this bill**:

1) Requires the Department of Water Resources (DWR), in consultation with the State Water Resources Control Board (State Water Board) and the Department of Fish and Wildlife, to select two watersheds that drain into the Central Valley for a watershed-wide water availability study.

2) Requests that CCST, upon appropriation of funding for this purpose by the Legislature, undertake and complete watershed-wide water availability studies in the watersheds selected by DWR.

3) Requires the watershed-wide water availability study to accomplish the following:

    a) Determine daily flow rates in rivers and streams over the past 30 years;

    b) Quantify maximum allowable diversion under existing permits, licenses, and claims in the watershed;

    c) Quantify water diverted under existing permits, licenses, and claims over the past 30 years, to the extent data is available;

    d) Identify and quantify any water quality or environmental flow requirements on rivers and streams in the watershed; and

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

4) States that it is the intent of the Legislature that the watershed-wide water availability analyses be used for future applications to divert water to underground storage.

5) Finds and declares that a special statute is necessary due to the need to increase groundwater recharge in the Central Valley to increase water supplies, protect communities from flooding, halt land subsidence that damages infrastructure, and prepare California for the next drought.

EXISTING LAW:

1) Establishes the State Water Board (Water Code § 175 *et seq*.) to administer California's water rights system (Water Code § 1050 *et seq*.). Authorizes the State Water Board to issue water rights (Water Code § 1250 *et seq*.), collect data on water use under water rights (Water

Code § 5100 *et seq*.), enforce water right violations (Water Code § 1845 *et seq*.), and enforce the water right priority system (Water Code § 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 (Water Code § 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 (Water Code § 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 (Water Code § 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).

FISCAL EFFECT: Unknown. This bill is keyed fiscal.

COMMENTS:

1) **Purpose of this bill**. 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.
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> 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.

2) **Background**. Groundwater is an important source of supply for California's communities, economy, and diverse natural resources. Groundwater recharge occurs when water on the Earth's surface percolates down through layers of soil and earth into aquifers. Recharge occurs naturally when it rains and when water moves through rivers, streams, and creeks. It can also occur 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.

   Interest in expanding groundwater recharge has increased since the passage of the Sustainable Groundwater Management Act (SGMA) in 2014. In a 2020 study reviewing groundwater sustainability plans (GSPs) developed under SGMA and submitted for critically overdrafted basins in the San Joaquin Valley, the Public Policy 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] Further analysis by PPIC 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]

   The importance of groundwater recharge has also been recognized in numerous state plans and strategies:

   - *The California Water Plan: Update 2023* – see Recommendations (and associated sub-actions) 2.1, 3.1, 3.3, 4.2, and 6.2.
   - Governor Newsom's *California's Water Supply Strategy: Adapting to a Hotter, Drier Future* (August 2022) – see Action 2.1 that calls for an increase in annual groundwater recharge of 500,000 AF.
   - *Water Resilience Portfolio* (2020) – see Actions 3, 5, 11, and 16.
   - *The California Water Action Plan* (2014) – see Actions 2, 4, and 6.

   A water right or permit is required to capture water during high-flow or flood events and store it for later use. A permanent right takes a great deal of time and resources to obtain; as a result, many entities interested in groundwater recharge have pursued a temporary (180-day) permit instead. Whether pursuing a permanent (a process that can take more than seven years) or temporary permit, stakeholders have expressed frustration with the permitting process for groundwater recharge. A 2023 survey on groundwater recharge in the San Joaquin Valley conducted by PPIC indicates that 32% of respondents report a "permitting or regulatory barrier" to implementing groundwater recharge projects (contrast with 49% of

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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), 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), 12 and 15.

respondents that report an "infrastructure" barrier and 23% that report a "cost or funding barrier").[4]

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 Committee held an outcomes review informational hearing on AB 658 (Arambula) on March 10, 2026 and heard testimony from several permittees about their experience obtaining and implementing the 5-year permit to recharge groundwater established by AB 658. Among other issues, the permittees testified that the cost of the water availability analysis was a barrier to obtaining a 5-year permit and some of the witnesses stated they would not have pursued a permit if they had not received financial support from DWR to complete the necessary water availability analysis. Witnesses indicated that a water availability analysis for a 5-year permit cost around $50,000. One of the goals of this bill is to relieve permittees of this cost by requiring a watershed-wide water availability analysis that can be used in the permitting process for a groundwater recharge project.

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 the past (see Existing Law) 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. This bill requests CCST undertake the development of watershed-wide water availability analyses, subject to an appropriation of funding for that purpose.

3) **Related legislation**. AB 2026 (Aguiar-Curry) of the current legislative session makes numerous changes to existing authority and permitting processes to expedite groundwater recharge projects. AB 2026 is pending in the Assembly Appropriations Committee.

AB 658 (Arambula), Chapter 678, Statutes of 2019, authorizes a groundwater sustainability agency or other local agency to apply for a five-year temporary permits to divert water to underground storage if certain requirements are met.

REGISTERED SUPPORT / OPPOSITION:

[4] Caitlin Peterson, Ellen Hanak, Zaire Joaquín Morales, *Replenishing Groundwater in the San Joaquin Valley: 2024 Update*, (San Francisco: PPIC, 2024), 21.

Support

None on file

Opposition

None on file

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