



California Agriculture Regulatory Update:

Water Supply, Nitrate and Salinity



January 2024

PREPARED BY:



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Introduction

California agriculture continues to face regulations on water quality and quantity, and potentially on water rights. Growers, collectively represented by third parties, respond to expanded monitoring, reporting, and management requirements. This update focuses on activities between September 2023 and January 2024 related to water supply and quality regulations, and also includes a summary of recent developments in new water rights legislation.

- **SGMA**
groundwater basin management
- **ILRP**
on-farm groundwater nitrate contamination prevention
- **CV-SALTS**
salt and nitrate control
- **Water Rights Legislation**
surface water quality management

Sustainable Groundwater Management Act - SGMA

Background

California passed legislation to formally regulate groundwater in 2014. To this end, the California Department of Water Resources (DWR) assigned a priority to each of California's 515 groundwater basins, based on factors such as groundwater pumping, population, and groundwater level history. Ninety-four groundwater basins were assigned high or medium priority. Together with adjudicated areas (where legal judgments negate the need for a GSP), the area represented by high and medium priority basins represents 98% of all pumping (20M ac-ft/year); 83% of the California's population (25M people) and 88% of irrigated land (6.7M ac).

Groundwater Sustainability Plans

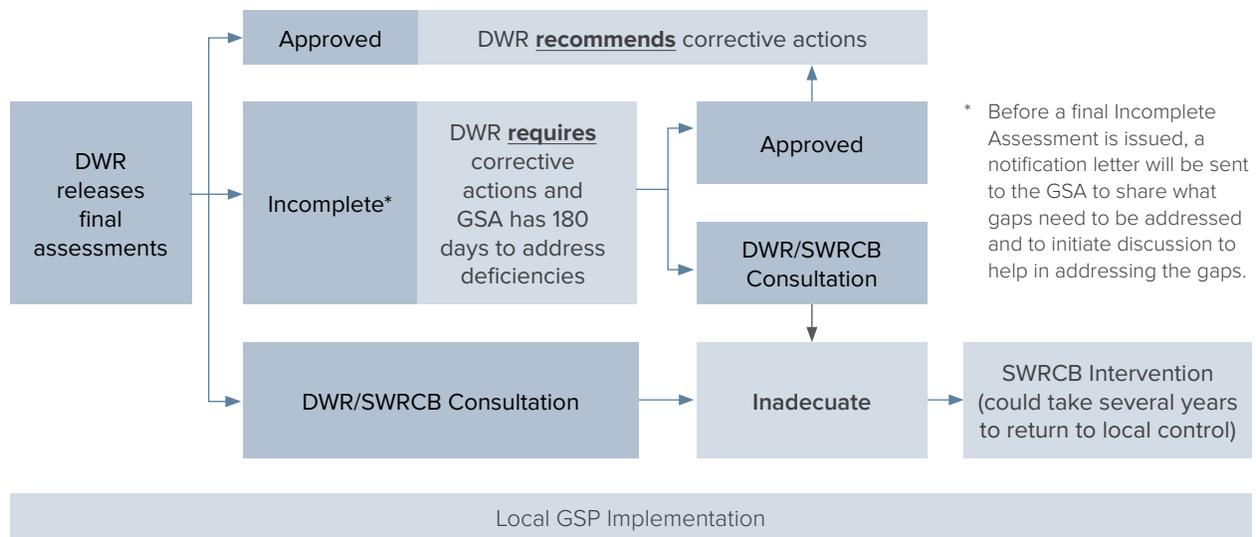
California DWR empowered local agencies, called **Groundwater Sustainability Agencies (GSAs)**, within the 94 high and medium priority basins to plan how to balance their overdrafted groundwater basins by 2040. These plans, called **Groundwater Sustainability Plans (GSPs)**, were submitted to DWR for approval, which can take up to two years.

In December 2023 DWR approved the Madera Subbasin resubmitted GSPs, which include four GSPs submitted by seven GSAs.

The State Water Resources Control Board is intervening in GSAs from six basins, whose GSPs were classified as inadequate. These include Chowchilla Subbasin, Delta-Mendota Subbasin, Kaweah Subbasin, Tule Subbasin, Tulare Lake Subbasin, and Kern Subbasin. The hearings for these basins are planned for April 2024 (Tulare Lake); November 2024 (Tule and Kaweah) and January 2025 (Kern). Hearings for Delta-Mendota and Chowchilla are planned for the first and second quarter of 2025, respectively.

On January 18, 2024, DWR completed their assessments of all GSPs that were required for high and medium priority groundwater basins. Of the 17 technical reviews that were released, 10 GSPs were approved and 7 were assigned a status of “incomplete”. The GSAs with incomplete GSPs have 180 days to revise their plans to correct deficiencies and resubmit them to DWR.

SGMA GSP Pathways



Source: DWR GSP Evaluation fact sheet.

New Data Resources for GSAs

An important data collection effort for SGMA was completed in fall 2023. DWR collected almost 16,000 miles of airborne electromagnetic (AEM) data encompassing 95 groundwater basins. AEM measures the electromagnetic response of the subsurface to depths of up to 1,000 ft. AEM data are collected using geophysical instruments on a hoop that are towed beneath a helicopter. AEM electrical resistivity data shows, through associated interpretations, the distribution of sands and gravels compared to fine grained materials, giving insight into aquifer extent. This data will be very important to GSAs in mapping and managing groundwater basins. AEM information is here: <https://data.cnra.ca.gov/dataset/aem>.

DWR also released the provisional land use dataset for the 2022 water year, publicly available (free of charge) here: <https://data.cnra.ca.gov/dataset/statewide-crop-mapping>.

Learn More



California Department of Water Resources

<https://water.ca.gov/programs/groundwater-management/sgma-groundwater-management>



Irrigated Lands Regulatory Program - ILRP

Background

The ILRP is a complex regulatory program with many components. Initially, its focus was on developing and implementing **Irrigation and Nitrogen Management Plan (INMP) Summary Reports**. Farmers report on how much irrigation and nitrogen they are applying and submit this information to their water quality coalitions, who then summarize this information in a report to the Regional Water Quality Control Board. This information informs the overall strategy to manage nitrogen inputs to groundwater, which is an overarching program that everything else fits into called the **Management Practices Evaluation Program (MPEP)**.

A 3-phase process is required by the State Water Board in areas that are considered highly vulnerable to nitrate concentration:

- **Phase 1** - Groundwater Protection Formula – method for estimating current nitrogen loading to groundwater from commercial irrigated agricultural lands.
- **Phase 2** - Groundwater Protection Values – estimated nitrogen loading rate for each township calculated with Groundwater Protection Formula.
- **Phase 3** - Groundwater Protection Targets – estimated nitrogen loading for Receiving Water Limits to be met.

Agricultural coalitions used a groundwater flow and transport model to simulate groundwater nitrate loading (including non-ILRP sources) under different scenarios and management practices to develop the GWP draft targets. The GWP targets were approved in June 2023, on the condition that a workplan be developed to evaluate model uncertainties and describe future validation efforts. The agricultural coalitions are required to submit the workplan by April 2024 and recommend improvements to modeling and N load estimating to be used in the 5-year update of the targets due by June 2028. On-farm N application data from INMP reporting (anonymized) is also being used in modeling efforts for CV-SALTS.

[Learn More](#)



California Department of Water Resources

www.waterboards.ca.gov/centralvalley/water_issues/irrigated_lands/ilrp_decision_tree.pdf



Central Valley Salinity Alternatives for Long-term Sustainability - CV-SALTS

Background

CV-SALTS is a collaborative initiative between industry, government, agriculture, and communities to address and control nitrate and salt accumulation in California water supplies. While the CV-SALTS salt control program is implemented at the Central Valley wide scale, the nitrate control program is administered by local organizations called Management Zones. Both programs apply to all industries and local governments, but the nitrate program is implemented by prioritizing areas according to nitrate exceedances (above the drinking water standard) in groundwater. Currently, the initial phase of the salt control program is under way, Priority 1 Management Zones are implementing their plans, and Priority 2 Management Zones are beginning to form.

Salt Control Program Prioritization and Optimization Study

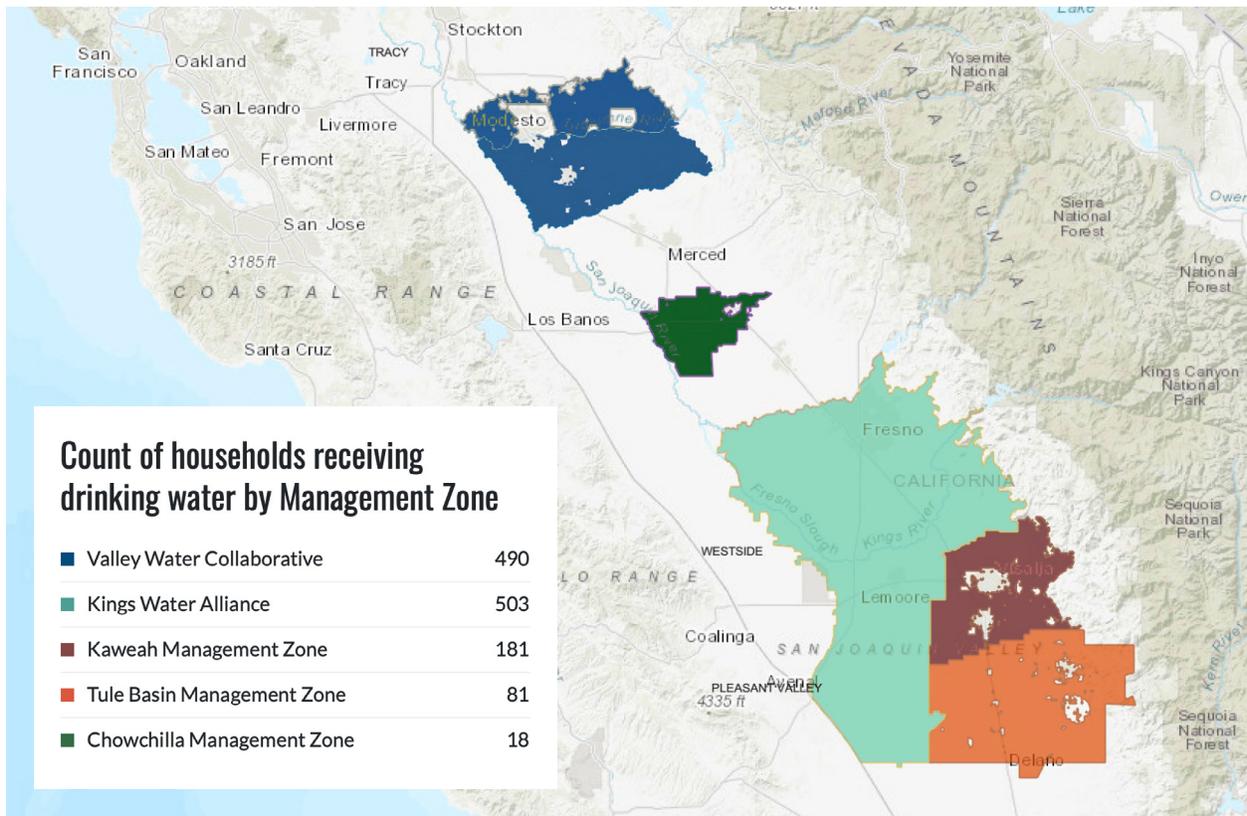
The Prioritization and Optimization (P&O) Study began in December 2021 and is expected to take 10 to 15 years. The first task of this study was to complete a Baseline Characterization Report, which compiled data including land use, water quality, salt sources, and other information relevant to both science and policy of salt management. The information in the Baseline Characterization Report will be used as foundational information for the remainder of the study, which aims to predict how different management approaches will affect salt accumulation in different parts of the Central Valley under various scenarios, such as drought, and natural factors such as soil type and climate.

Currently, work is focused on finalizing results from a modeling effort to estimate salt loading across the Central Valley. The modeling effort included estimating salt discharges from all industries, including agriculture, oil and gas, food processing and municipal. To help validate model inputs and provide context for modeling scenarios, the P&O Study is beginning a large effort to collect pertinent data from all GSPs in the Central Valley, expected to be complete in summer 2024.

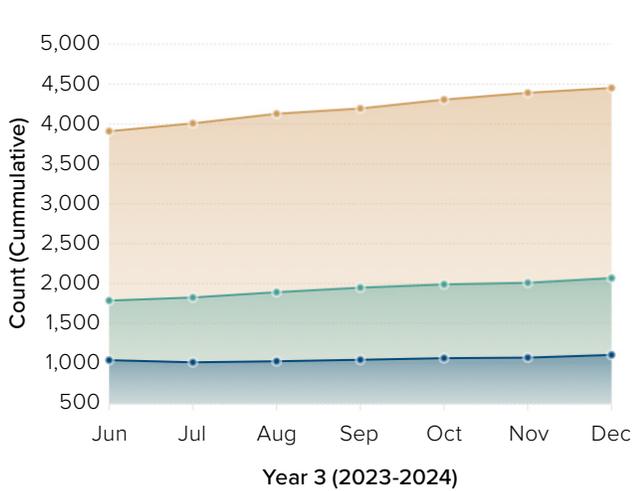
Nitrate Control Program

Priority 1 Management Zones completed their Management Zone Implementation Plans, required by September 5, 2023, and continue to implement these plans and deliver outreach and safe drinking water to communities throughout the Central Valley. These Management Zones are also coordinating execution of their Implementation Plans to learn from each other and realize efficiencies. Priority 2 Management Zones received their notices to comply in December 2023, and there will be a public webinar on February 29 on Nitrate Control Program requirements.

Total households receiving water (1,273) from Priority 1 Management Zones



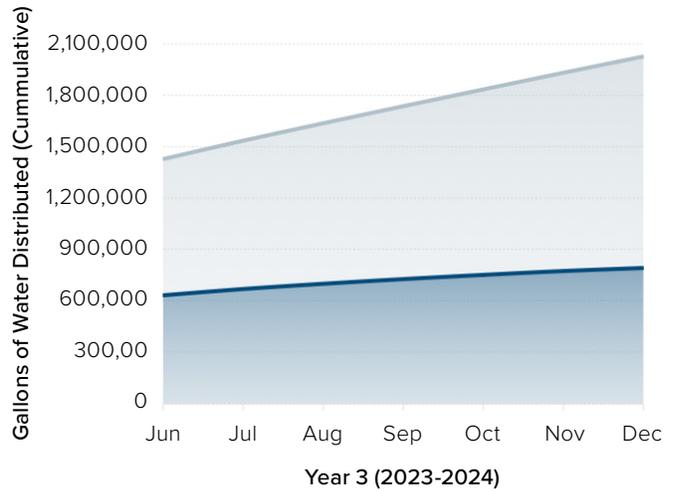
Accessed January 10, 2024. Source: <https://cvsalts.mljenv.com>



■ Applications Submitted
 ■ Eligible Wells Tested
 ■ Wells Above Nitrate Standard

2,068

Wells tested since 2021



■ via filling stations
 ■ via bottles

2,027,444

Gallons of water distributed since 2021

Accessed January 10, 2024. Source: <https://cvsalts.mjenv.com>

Learn More

CV-SALTS

www.cvsalinity.org

Valley Water Collaborative (Modesto and Turlock subbasins)

<https://valleywaterc.org>

Chowchilla Management Zone

<https://www.maderacountywater.com/cv-salts>

Kings Water Alliance

<http://kingswateralliance.org>

Kaweah Water Foundation

<http://www.kaweahwater.org>

Tule Basin Management Zone

<https://www.tulemz.com>



Bay-Delta Plan

The State Water Board conducted a 10-year analysis comparing the alternatives known as “voluntary agreements” (or Healthy Rivers) with unimpaired flows for Phase 2 (Sacramento River) of the Bay-Delta Plan update. Though the report does not include a specific proposal for implementing the updates in the Plan, it evaluates potential economic and environmental impacts and mitigation measures of all alternatives. The Board has held public workshops and are receiving comments on the report until January 19, 2024. Public input on the draft Staff Report will help inform the Board’s planning process and eventual adoption of Sacramento/Delta updates to the Bay-Delta Plan, since the Board is still considering all possible alternatives for updating the Plan components. The draft Staff Report also includes the final draft Scientific Basis Report Supplement in support of the VAs that will be submitted for independent peer review.

Water Rights Legislation

To give the State Water Board the authority advised in a UC Berkeley study, three bills were introduced in the California Legislature to give the State broader authority to review senior water rights, more power to curtail water diversions, and more clout in penalizing illegal diversions. Senate Bill 389, approved by Gov. Newsom on October 8, 2023, authorizes the State Water Board to investigate the legitimacy of senior water rights (riparian and appropriative) and if they are unauthorized, enforced as trespasses. The other two bills introduced earlier this year, AB 1337 and AB 460, were both held in Senate committee last year and have not had any further activity.

Learn More

Bay-Delta Watershed

www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/

Bay-Delta Plan Update and Implementation

https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/bay_delta_plan/water_quality_control_planning/



Source: <https://sacriver.org/explore-watersheds/american-river-subregion/#!>



Land IQ provides these regulatory updates to help our clients stay informed about regulatory programs related to agriculture and water in California. To learn more about the regulatory and technical support that Land IQ provides to irrigation and water supply districts, GSAs, commodity groups, and private and public agencies, please visit our website at www.landiq.com or contact:

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January 2024



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