



Managing Salts Collaboratively in the Central Valley

Salinity Regulations

In May 2018, the Central Valley Regional Water Quality Control Board (Regional Board) adopted Basin Plan amendments to address the long-term accumulation of salts in the Central Valley (Valley). The goal is to protect and preserve the beneficial uses of water for people, the environment, and the economy. These new salinity requirements apply to all permitted dischargers in the Valley, including dischargers in areas where groundwater has been or will be de-designated for agricultural or municipal beneficial use.

With the anticipated approval of the Basin Plan amendments by the State Water Resources Control Board, a Prioritization and Optimization Study (P&O Study) over the next 10 years will identify strategies and projects for reducing and removing salts that otherwise would hinder crop production, impair water quality, harm ecological functions, and reduce water supply. During this time, water dischargers would operate under one of two permitting pathways: more stringent site-specific salinity control requirements or participation in the Valley-wide P&O Study.

Rationale

The Regional Board recognized that salinity accumulation is a Valley-wide problem and that all water users contribute to it. Even when a grower irrigates with high-quality water, salts from that water may remain in the soil or leach to groundwater. Left unchecked, salinity accumulation will bring ongoing harm to agriculture, the environment, and the economy. As the Regional Board explained:

The salt accumulations have resulted in 250,000 acres taken out of production and about 1.5 million acres being salinity impaired. If not addressed, the economic impacts could be staggering. For example, if salt accumulations are not managed, the resulting direct economic costs to the Valley could exceed \$1.5 billion per year by 2030. The Valley's economic future depends on addressing these impacts.

Tulare Lakebed De-Designation

In 2017, the Regional Board approved a Basin Plan amendment to remove municipal and agricultural beneficial use designations from a delineated portion of the groundwater in the historic Tulare Lakebed.

This area became the first area in the Central Valley to be de-designated, meaning the Regional Board relieved dischargers of requirements to ensure groundwater in this area was of high enough quality to meet municipal and agricultural water needs. This decision was made because the shallow groundwater within the Tulare Lakebed historically has contained high levels of salt and thus was deemed unsuitable for municipal use.

The de-designation process proceeded in coordination with the CV-SALTS program. CV-SALTS brought together a broad group of agricultural, municipal, industrial and regulatory interests to develop an overall vision and plan for addressing salinity and nitrate concerns in a comprehensive and sustainable manner.

Key Elements of the Basin Plan Amendments

The Basin Plan amendments give every salt discharger in the Valley a choice of permitting pathways: (1) eliminate the salt accumulation problem individually and meet stringent numeric water quality permit limitations or (2) work collaboratively toward a basin-wide salinity solution. The Regional Board set a high bar for Pathway 1, the Conservative Approach—individual dischargers must prove they have solved the salt accumulation problem by demonstrating that salt discharges will consistently remain below a stringent salinity threshold (700 $\mu\text{mhos/cm}$). For growers, that means that irrigation water leaching below the root zone must consistently remain below this threshold. Meeting this threshold means that dischargers are not adding salt at a concentration that is potentially harmful to agriculture.



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Pathway 2, the Alternative Approach, entails a Valley-wide study (the P&O Study) of salt management actions that will lay the foundation for managing salinity accumulation long-term. This process will update information on salt sources and conditions and identify management strategies and projects to reduce and remove salts. The study is expected to take 10 years at a cost of \$10 million to \$15 million.

Under both pathways, existing salt management and monitoring requirements will continue. Dischargers will continue to conduct monitoring and implement actions to meet those requirements. If a discharger chooses Pathway 1, supplemental characterization studies would be required, and additional management actions may be needed to demonstrate compliance with the permitting strategy. If a discharger chooses Pathway 2, compliance includes paying a minor annual fee to support the P&O Study. However, additional salt management actions would be deferred for permittees on Pathway 2 until after the P&O Study is complete.

De-Designated Areas

In adopting the Basin Plan amendments, the Regional Board acknowledged that some areas of the Valley have been or will be de-designated for certain beneficial uses (e.g., Municipal and Domestic Supply and Agriculture) due to high salinity levels in underlying groundwater. The P&O Study will include identifying locations—such as these de-designated areas—that may serve as salt management areas that

can be used to consolidate salts for desalinization or transport. In the course of adopting the amendments, the Regional Board expressed its intent that all permittees should financially support the P&O Study, including those with de-designated locations. The Board explained:

For example, a groundwater basin that has had one or more beneficial uses de-designated due to salinity may be considered a potential location for establishing a salt management area. Accordingly, under the Phase I Salt Control Program:

- *Permittee(s) that selects either the Conservative [Pathway 1] or Alternative [Pathway 2] Permitting Approach and then requests the de-designation of one or more beneficial uses from a surface water body or all or part of a groundwater basin based on salinity shall participate in the P&O Study even after the beneficial use de-designation is approved by providing at least the minimum level of required financial support throughout the Phase I program. The P&O Study shall evaluate all areas de-designated based on salinity for suitability as salt management areas.*
- *Permittee(s) that discharges to a surface water body or a groundwater basin where one or more beneficial uses were de-designated due to salinity prior to the beginning of Phase I of the Salt Control Program shall participate in the P&O Study by providing at least the minimum level of required financial support.*

Long-Term Goal for Salinity Management

The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) developed the Basin Plan amendments and the Salt Control Program as a rational way for the Regional Board and dischargers to collectively and efficiently tackle a salinity problem that threatens the Valley's agricultural productivity. In carefully designing these efforts with extensive stakeholder input, the Regional Board and the Central Valley Salinity Coalition provided a reasonable means for all dischargers not only to participate in the P&O Study, which will be the roadmap toward salt sustainability, but to benefit on a long-term basis. The more conservative Pathway 1 is available to permittees on an individual permitting basis but would be more costly and is less likely to be a viable, achievable approach for many areas of the Valley.

Learn More About CV-SALTS, Help Shape Your Future

You are encouraged to participate and get involved now. To learn more, visit CV-SALTS at www.cvsalinity.org. CV-SALTS is working to ensure safe, reliable water supplies for everyone in the Central Valley.