

Managing Salts in the Central Valley

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.¹ 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 remain in the soil and groundwater after the harvest every year. Left unchecked, salinity accumulation will bring ongoing harm to 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.

The Basin Plan amendments give every salt discharger in the Valley a choice of permitting pathways: (1) eliminate the salt accumulation problem individually or (2) work collaboratively towards a basin-wide salinity solution. The Regional Board set a high bar for Pathway 1, the Conservative Approach—individual dischargers must prove that they have solved the salt accumulation problem by demonstrating that salt discharges will consistently remain below a 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 to the accumulation of salt in soils and groundwater.

Pathway 2, the Alternative Approach, entails a Valley-wide study of salt management actions that will lay the foundation for managing salinity accumulation long-term. Known as the Prioritization and Optimization Study (P&O Study), this process will update information on salt sources and conditions and identify management strategies and projects to reduce and remove salts. The P&O 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, additional studies and management actions would be required to avoid salt accumulation. 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.

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. The P&O Study will include identifying locations 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:

¹ Implementation of the Basin Plan amendments is pending approval by the State Water Resources Control Board, Office of Administrative Law, and U.S. Environmental Protection Agency (surface water elements only). Approvals are expected in 2019.

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.*

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.