

SALT CONTROL PROGRAM AND P&O STUDY UPDATE

SALT ACCUMULATION: A LONG-TERM THREAT TO THE CENTRAL VALLEY

The Central Valley (Valley) is the epicenter of California's economy—encompassing 40% of the land in the state and providing water for people, agriculture, industry, and other businesses from San Francisco to San Diego, as well as food for California, the nation, and the world. Over the last 150 years, increased agricultural, industrial, and municipal activities, coupled with population growth, have resulted in significant increases in salts in soils, groundwater, and surface waters.

Normal activities in all homes, farms, businesses, cities, and towns contribute to salt accumulation by adding or concentrating salts. Irrigation, food processing, municipal wastewater treatment and water management practices are just some of the water uses that influence the salt challenge in the Valley. Salts are also added to or concentrated in parts of the Valley from importing and exporting water supplies.

The CV-SALTS Prioritization and Optimization (P&O) Study is a long-term effort to develop, plan and implement solutions for managing and controlling salt accumulation in the Valley. High levels of salt can impair water quality, reduce crop production, affect drinking water supplies, and alter ecological functions and habitats. Salt accumulations have resulted in approximately 250,000 acres being taken out of production and 1.5 million acres have been declared salinity impaired in the Valley. If not addressed, the future economic impacts of salts on the Valley could exceed \$3 billion per year.

SALT CONTROL PROGRAM

The Salt Control Program was developed through the collaborative CV-SALTS Program and adopted into the Central Valley Water Quality Control Plans (often referred to as Basin Plans) to address the long-term problem of salt accumulation in the Valley. The program recognizes that salt accumulation and water uses vary widely across the Valley. The program approach is intended to protect beneficial uses by maintaining water quality that meets applicable objectives, allow some salt accumulation in areas where salt can be stored without impairing beneficial uses of water, and through long-term management, restore water quality where reasonable, feasible, and practicable.

The Basin Plans establish the P&O Study planning process to identify potential requirements that will protect beneficial uses, improve salt management, and restore water quality where possible. Over the next ten years, the P&O Study will characterize the salt conditions and trends in the Valley, identify salt management needs and mechanisms, evaluate the feasibility of potential solutions, prepare an implementation plan, and review and recommend revising salinity regulations as necessary.



WHAT IS CV-SALTS?

In 2006, the Central Valley Regional Water Quality Control Board (Central Valley Water Board) initiated the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) as a cooperative effort among regulators, permittees, environmental interests, and other parties interested in Central Valley water quality.

The CV-SALTS mission is to work closely, in a collaborative manner, to create a comprehensive Central Valley Salinity Management Plan. The CV-SALTS vision is to successfully develop and implement a viable salinity and nutrient management plan for California's Central Valley that will:

- Sustain the Valley's lifestyle.
- Support regional economic growth.
- Retain a world-class agricultural economy.
- Maintain reliable, high-quality drinking water supplies.
- Protect & enhance our local environment.

CV-SALTS includes diverse representation from across the Central Valley, including:

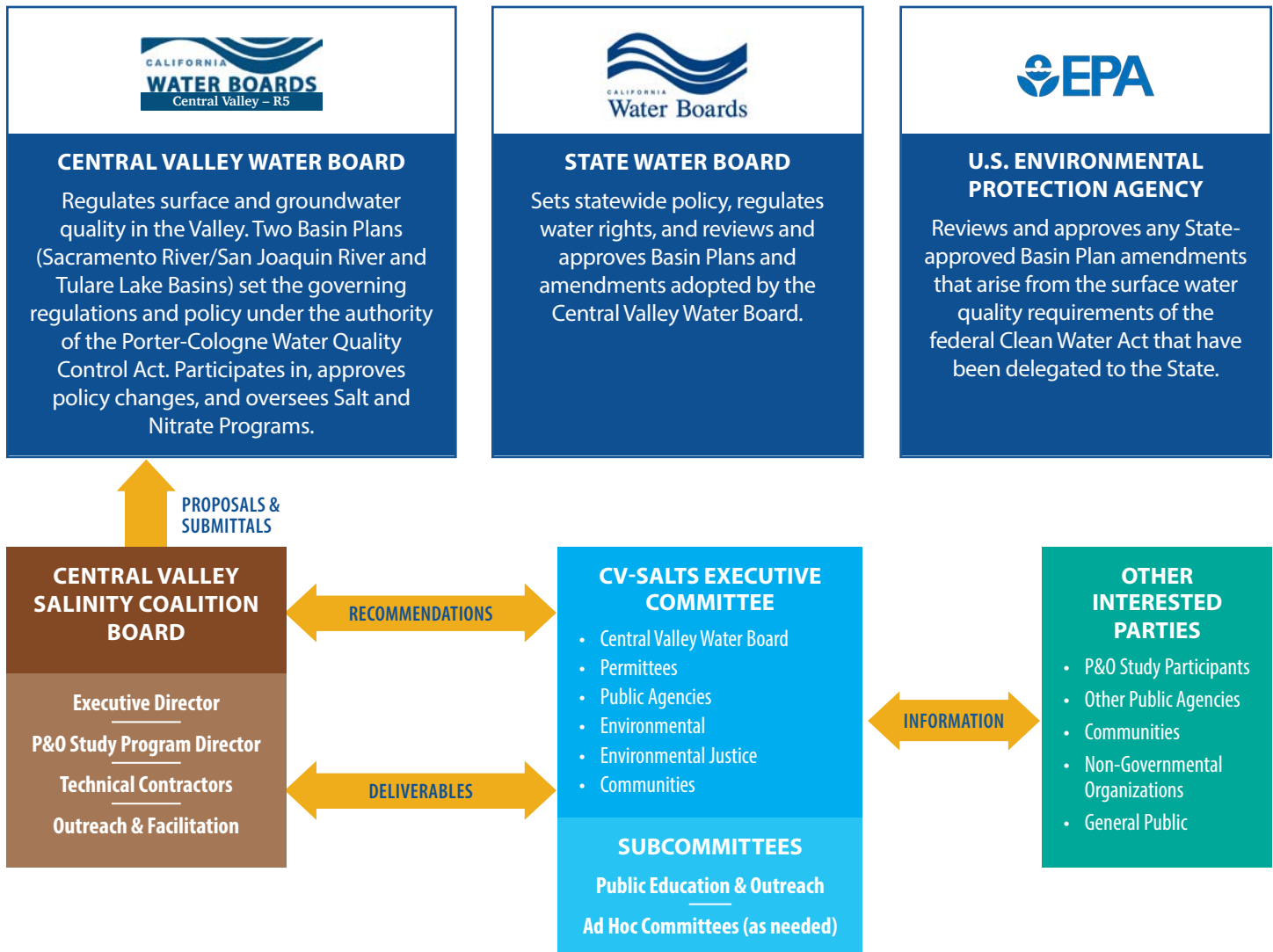
- State and Federal Agencies, such as the State Water Resources Control Board (State Water Board), Central Valley Water Board, and Federal Bureau of Reclamation.
- Regulated dischargers from agriculture, dairy, food processing, municipal wastewater treatment, oil and gas, and others.
- Environmental and environmental justice organizations.

CV-SALTS applies a collaborative approach to establish shared understanding of water quality challenges based on scientific studies and develop flexible, practical solutions that can be implemented collectively and cost-effectively.

CV-SALTS has two primary program areas: long-term salinity management (described here) and nitrate management, which focuses on providing safe drinking water and improving nitrate management in high priority areas of the Valley.

Learn more at www.cvsalinity.org.

REGULATORS AND STUDY GOVERNANCE



Central Valley Salinity Coalition (CVSC) Board

Formed in 2008 as a nonprofit to support development of a Central Valley Salinity Management Plan. The CVSC Board of Directors supervises the studies and business aspects of CV-SALTS. Together CVSC and the Executive Committee make decisions about the program and recommend policy changes to the Central Valley Water Board and State Water Board. Information on CVSC membership is available [here](#).

CV-SALTS Executive Committee

A representative forum for CV-SALTS policy dialogue and stakeholder input on the CV-SALTS Program. Regulated dischargers, discharger coalitions and associations, State and Federal agencies, environmental and environmental justice interests, and other interested parties work together on the studies and policy recommendations. Information on the membership and meetings can be found [here](#).

FUNDING MECHANISMS

From its inception through 2021, CVSC members (permittees) have contributed more than \$5.6 million to the development of the CV-SALTS program. The CVSC will raise \$1.5 million or more per year for ten or more years to develop and manage the P&O Study. All permittees that discharge salt in the Central Valley and select the alternative salinity permitting approach pay a fee to support completion of study activities. CVSC receives payments and administers the study under a Memorandum of Agreement with the Central Valley Water Board and State Water Board. As of November 2021, more than 850 permittees and coalitions have joined the P&O Study and paid fees to support it. Learn more about joining the study and study participants [here](#) or contact [CVSC](#).

PRIORITIZATION & OPTIMIZATION STUDY

The P&O Study is developing the technical information and roadmap to describe and address the long-term problem of salt accumulation in the Valley. The study is intended to answer key questions: What and where are the beneficial uses, and how should such beneficial uses be protected? When and in what order will projects be implemented to protect identified beneficial uses? What will the solutions cost, and how will they be funded? How will the program be organized and governed?



Activities

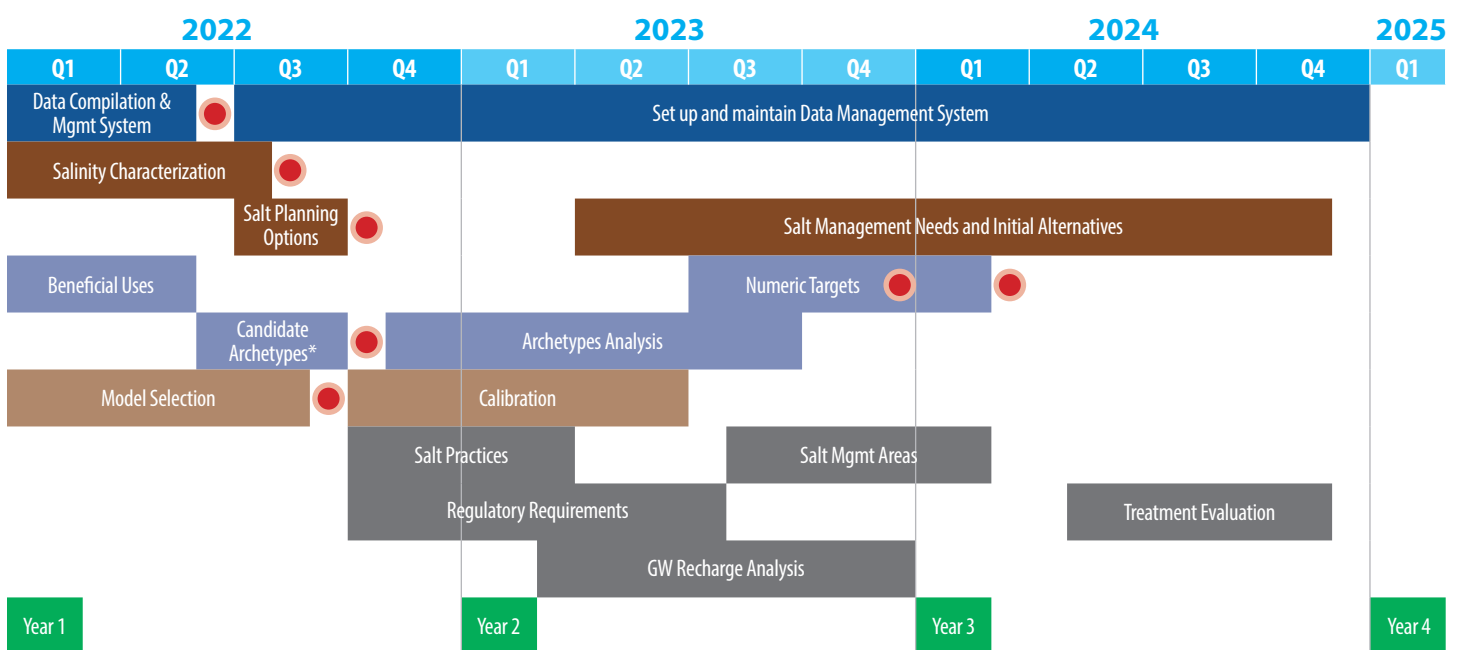
Over the next four years, CV-SALTS will guide studies to update the understanding of salt conditions across the Valley, identify salt management regions and salinity targets, and develop initial alternatives for managing salt to close the gap between current conditions and the salinity targets. From these studies, CV-SALTS will formulate recommendations for review and consideration by the Central Valley Water Board. Figure 1 shows the near-term activities and milestones.

In subsequent years of the Salt Control Program, CV-SALTS will coordinate and guide studies of projects and management actions to achieve the Salt Control Program goals. These studies will identify the location, feasibility, and cost for regional and subregional projects such as de-salters, a regulated brine line, salt storage/management areas, and other groundwater recharge and management actions. The long-term decisions and milestones include:

- Initial alternatives to address salt accumulation in each salt management region.
- Feasibility evaluation of alternatives and management actions.
- Selection of an optimized suite of salt management projects and actions.
- Development of management and governance structures to oversee implementation.
- Recommendations for revised salt control regulations.

These studies will lead to development of proposed changes in salinity regulations to incorporate into future basin plan amendments and Phase II and III efforts.

FIGURE 1. NEAR-TERM ACTIVITIES & MILESTONES



* Archetypes are representative areas of the Central Valley that will be studied to identify salinity targets and management approaches.

- Data Development & Management
- Baseline Characterization & Evaluation
- Salt Management Targets
- Models & Tools
- Other Technical/Regulatory Tasks
- Annual Reports
- Milestones

Study Challenges

Addressing salt accumulation in the Central Valley will face inherent challenges:

- The salt accumulation problem in the Valley is broad and far-reaching—touching on virtually all human activities.
- The Valley is highly diverse, with varied water supply and salt conditions, so water quality targets and solutions will need to be tailored to regional conditions.
- The salt problem is a long-term, slow-moving impact that unchecked will have substantial impacts on the economic sustainability of the Valley. Steady, persistent funding and solutions will be required to avoid these impacts.

The P&O Study must also consider important external factors, such as:

- Related resource planning initiatives, including surface water use changes and groundwater management under the Sustainable Groundwater Management Act, land use planning efforts, and environmental factors and restoration efforts.
- Changing climatic conditions affecting long-term salt accumulation, rainfall patterns, and temperature.
- Competing regulation and funding priorities for federal, state, and local governments.
- Coordination and collaboration.

Valley-wide efforts to address salt accumulation touch on all aspects of water quality and water management. As the Salt Control Program proceeds, additional local and Valley-wide coordination will be important to continue to gather information, solicit input, and develop additional partnerships.

Coordination with related programs and organizations is a core function of CV-SALTS activities. The Program will continue and expand coordination throughout the P&O Study.

WATER QUALITY REGULATORY PROGRAMS

The Central Valley Water Board regulates thousands of businesses, municipalities, and special districts to protect water quality. Most of these entities participate in CV-SALTS individually or through coalitions and associations.

GROUNDWATER MANAGEMENT

The Sustainable Groundwater Management Act established local Groundwater Sustainability Agencies (GSAs) to plan and manage groundwater use to avoid undesirable impacts on groundwater supplies and quality. There are approximately 200 GSAs in the Central Valley.

WATER MANAGEMENT

Hundreds of federal, state, and local organizations manage and regulate the flow, use, and quality of water within the Valley or use its waters throughout the state. These organizations are important partners in the success of CV-SALTS and in meeting the long-term sustainability and water quality needs of their customers and the environment.



For More Information

Learn more about the Salt Control Program and the P&O Study at the project website, www.cvsalinity.org. To sign up and pay your salt control program fees or see a list of P&O Study participants, visit [For Permittees](#). Contact the program at info@cvsalinity.org.