



Overview of the Salt and Nitrate Management Plan

Over the last 150 years, increasing agricultural, municipal, and industrial activities, coupled with population growth, have resulted in dramatic increases in salts and nitrates in soils, groundwater, and surface water in parts of the Central Valley (Valley)—a situation that continues today. Communities rely on these water sources to support beneficial water uses, including agriculture, industry, drinking water supplies, and the environment. The elevated salt and nitrate concentrations impair, or threaten to impair, the region's water and soil quality, which in turn threaten drinking water supplies, agricultural and industrial productivity, and quality of life. For nitrates, the historic and, to a lesser extent, current accumulations impact water quality and, in some communities, have caused unsafe drinking water. To protect and/or maintain current water quality conditions and preserve the future of the Valley, new and improved agricultural, industrial, and municipal water system management practices have been implemented. However, more work is needed to first provide safe drinking water and then reduce salt and nitrate discharges to levels that will provide balance of such inputs into our surface and ground waters.

The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) completed the Central Valley *Salt and Nitrate Management Plan* (SNMP), publicly released in January 2017. The SNMP recommends that the Central Valley Water Quality Control Plans (Basin Plans) be amended to incorporate new provisions to help better manage salt and nitrate inputs in Central Valley waters. This process is underway and is expected to be completed in 2018.

CV-SALTS is a collaborative effort among agriculture, business, environmental interests, and State and Federal regulators to develop an SNMP for the entire jurisdictional area under the Central Valley Water Board.

Throughout its development, CV-SALTS relied on the following overall goals to guide its decision-making:

- Sustain the Valley's lifestyle.
- Support regional economic growth.
- Retain a world-class agricultural economy.
- Maintain reliable, high-quality water supplies for municipal, agricultural, and industrial uses.
- Protect and enhance water quality in Central Valley streams, rivers, and groundwater basins.

The SNMP is built on a strong regulatory, technical, and policy foundation. The SNMP establishes minimum or default expectations for managing salt and nitrate in discharges to surface and ground water and addresses historic and ongoing salt and nitrate accumulation issues. The SNMP provides the over-arching framework for managing salt and nitrate in the Valley by establishing three management goals to guide implementation:

1. Ensure a safe drinking water supply;
2. Achieve balanced salt and nitrate loadings; and
3. Implement managed aquifer restoration programs.

These goals are prioritized to recognize the need to focus limited resources on the most important water quality concerns: First, focus on health risks associated with nitrates from potentially unsafe drinking water; second, focus on balancing salt and nitrate loading to receiving waters; and finally, seek to manage restoration of affected groundwater, where reasonable and feasible.

Activities leading to salt and nitrate balance are already underway, including preparation and implementation of nutrient management plans, improved irrigation practices, real-time management of salinity discharges, as well as various pilot studies, monitoring programs, and research projects. The SNMP proposes a framework to support, continue, and expand current efforts.

Considering the hydrologic, geologic, and climatic diversity of the Central Valley, the SNMP prioritizes areas that have the most significant nitrate affected drinking water sources. The SNMP also encourages local and/or regional groups to come together and develop appropriate management plans to provide safe drinking water and implement cost-effective measures to balance salt and nitrate loading to surface and ground water. Once developed locally and based on the specific area needs, the Central Valley Water Board would review, approve, and oversee these local plans.

Restoring affected groundwater basins will be a long-term, resource-intensive effort. Thus, the SNMP recommends funding and management structures, with timelines and interim milestones, for undertaking restoration efforts.

The SNMP contains:

Assessment of Current Conditions and Trends: Current ambient water quality, estimated available assimilative capacity in upper, lower, and production zones of groundwater basins and sub-basins, and water quality trends.

Regulatory Analyses: Research to define reasonable protection of existing and probable future beneficial uses of water for Municipal and Domestic Supply (MUN) and Agricultural Supply (AGR).

Technical Analyses: Studies to provide the basis for recommendations for the short and long-term management of salt and nitrate throughout the Valley, including nitrate drinking water treatment and local and regional salinity management needs, such as a regulated brine line for salt export.

Archetype/Prototype Studies (“Proofs of Concept”): To better explain potential policy changes (and how they might work in practice), the SNMP includes Proofs of Concept studies that provide examples and/or guidelines for consideration when implementing various elements of the SNMP.

Recommended Policies: The SNMP identifies 11 proposed policy changes or clarifications for addition to the Basin Plans to facilitate SNMP implementation by providing new authorities for the Central Valley Water Board to supplement its existing authorities. These proposed changes are described in additional supporting fact sheets available on the CV-SALTS website (see last page).

- **Nitrate Permitting Strategy** – Establishing pathways for dischargers to comply with the SNMP’s groundwater nitrate management requirements either as an individual discharger or as a participant in a management zone.
- **Salinity Management Strategy** - Recommending a phased, long-term salinity management program that considers innovative salt management strategies for both the short and long-term and establishes an Interim Salinity Permitting Approach to support the phased strategy.
- **Groundwater Management Zone Policy** – Amending the Basin Plans to establish a programmatic approach to nitrate management through formation of groundwater management zones. Groundwater management zones would be defined geographic areas, such as a portion of a larger groundwater basin/subbasin, that serve as discrete regulatory compliance units for compliance with the SNMP’s nitrate management requirements.

- **Revision of the Exceptions Policy for Waste Discharges to Groundwater (Exceptions Policy)** – Recommending revisions to the existing Salinity Exceptions Program to allow exceptions for nitrate, revise the potential term for an exception, and modify the conditions for authorization of an exception to reflect the goals of the SNMP.
- **Offsets Policy** – Amending the Basin Plans to allow the use of offsets as an alternative compliance tool for the management of salt and nitrate in the Central Valley.
- **Salinity Management to Provide Reasonable Protection of AGR Beneficial Uses in Groundwater (AGR Policy)** – Establishing a long-term approach for salt management to protect the AGR beneficial use will be further developed during the Implementation of the salinity-based Prioritization and Optimization Study, which will assist local and private entities in determining the most effective and economical salinity management options.
- **Salinity Variance Policy** – Extending the Central Valley Board’s existing authority and flexibility to permit salinity discharges consistent with the SNMP and its Salinity Management Strategy.
- **Drought and Water Conservation Policy** – Amending the Basin Plans to specifically address salinity-related concerns in discharges that may arise from the impacts of drought or increased implementation of water conservation practices when establishing discharge permit requirements.
- **Guidelines to Implement Secondary Maximum Contaminant Level Policy** – Amending the Basin Plans to clarify how secondary maximum contaminant levels (SMCLs) for certain specified constituents are implemented in discharge permits.
- **Guidance for Developing Alternative Compliance Projects for Nitrate Discharges** – Amending the Basin Plans to incorporate guidelines for submitting an Alternative Compliance Project, which would authorize the Central Valley Board flexibility in allowing more effective treatment or management of nitrate than could be required by existing regulation.
- **Factors to Support a Maximum Benefit Finding** - Providing guidance for making a finding that approving and implementing a proposed project to manage salt or nitrate would be consistent with the maximum benefit to the people of California, as identified in the State Antidegradation Policy.

The SNMP will be supported through three Central Valley Water Board Basin Plan amendments planned for adoption in 2017:

- **Municipal Supply in Agricultural Areas** – Incorporating a process into the Basin Plans for determining appropriate designation and level of protection of MUN in agriculturally dominated water bodies.
- **Salt and Boron in the Lower San Joaquin River** – Setting salt/boron water quality objectives and adding/modifying an implementation program for the Lower San Joaquin River.
- **Beneficial Uses in the Tulare Lake Basin** – Evaluating the appropriateness of and necessary level of protection of MUN and AGR beneficial uses in a portion of the Tulare Lake Bed .

More information on this policy and other SNMP recommendations may be found at:

www.cvsalinity.org