

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

The Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River Basins and in the Tulare Lake Basin (Salinity Control Program) applies to all surface and ground waters that are designated with the Municipal and Domestic Water Supply (MUN) and Agricultural Supply (AGR) beneficial use.

This amendment was adopted by the Central Valley Water Board on __ April 2018, and approved by the State Water Resources Control Board on _____ 2018. The Effective Date of the Salinity Control Program shall be _____ 2018, the date of Office of Administrative Law approval.

Program Overview

The State Water Board *Recycled Water Policy* requires the development of salt and nutrient management plans protective of groundwater. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) stakeholder process developed a comprehensive salt and nitrate management plan (SNMP) for the Central Valley Region, which was submitted to the Central Valley Water Board in January of 2017. The SNMP is the basis for the Salinity Control Program.

The SNMP summarized existing salinity conditions in the Central Valley Region. The SNMP and its supporting studies demonstrate that salt concentrations in surface and ground waters will continue to increase over time even under existing water quality management programs and strategies to control salt. Given these findings, the SNMP identified the need for implementation of a salinity management strategy with the following goals, where reasonable, feasible, and practicable:

- Control the rate of degradation through a “managed degradation” program;
- Implement salinity management activities to achieve long-term sustainability and prevent continued impact to salt sensitive areas; and
- Protect beneficial uses by maintaining water quality that meets applicable water quality objectives and applying appropriate antidegradation requirements for high quality waters.

The SNMP and supporting studies identified currently available alternatives for salt management in the Central Valley Region, ranging from local or subregional solutions that may be implemented within the Central Valley to projects that will result in the export of salt out of the Central Valley. Additional studies are still needed to further define the range of solutions for surface and ground waters that may be deployed within in each Central Valley hydrologic region to prevent continued impacts to salt sensitive areas in the Central Valley Region.

Given the need for these studies, the Regional Water Board will implement a Salinity Control Program consistent with the goals of the salinity management strategy. All permitted discharges shall comply with the provisions of this program. Two pathways to compliance are available (Figure 1):

1. ***Default Salinity Permitting Approach***, which is the traditional permitting approach; and
2. ***Interim Salinity Permitting Approach***, which includes a three-phased implementation program each with a ten to fifteen-year duration.

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

Figure 1. Comparison Between Default and Interim Salinity Permitting Approaches

Default Salinity Permitting Approach	Interim Salinity Permitting Approach
<p><u>All Discharges</u></p> <ul style="list-style-type: none"> Apply conservative assumptions to narrative water quality objectives to protect AGR and MUN beneficial uses Limited availability of a compliance or time schedule to meet a salinity-related effluent limit or waste discharge requirement <p><u>Groundwater Discharge and Non-NPDES Discharge</u></p> <ul style="list-style-type: none"> No new or expanded allocation of assimilative capacity in groundwater Must demonstrate that the discharge does not cause or contribute to an exceedance of a groundwater salinity waste discharge requirement in shallow groundwater <p><u>NPDES Surface Water Discharge</u></p> <ul style="list-style-type: none"> A new allocation of assimilative capacity may be authorized only where a discharger can show that the impact of the discharge is temporary or <i>de minimus</i> Regional Water Board may not authorize a salinity variance 	<p><u>All Discharges</u></p> <ul style="list-style-type: none"> Participate in the Phase I Prioritization and Optimization Study throughout its duration Comply with Interim Permit Provisions applicable to all permitted discharges Continue implementing reasonable, feasible and practicable efforts to control salinity, including: <ul style="list-style-type: none"> Salinity management practices Pollution prevention, watershed, and/or salt reduction plans Monitoring Maintenance of existing discharge concentration or loading levels of salinity Compliance with interim permit limits, if appropriate to the discharge <p><u>Groundwater and Non-NPDES Discharges</u></p> <ul style="list-style-type: none"> TBD <p><u>NPDES Surface Water Discharges</u></p> <ul style="list-style-type: none"> Discharger may apply for a salinity variance

Default Salinity Permitting Approach

The Default Salinity Permitting Approach applies to all permitted dischargers, unless the discharger opts to participate in the Interim Salinity Permitting Approach. Under the default approach, the Regional Water Board shall develop permit conditions based on the requirements established below.

Groundwater and Non-NPDES Surface Water Discharges

1. ***Interpreting Narrative Water Quality Objectives*** – When interpreting narrative water quality objectives for the purpose of establishing waste discharge requirements, the Regional Water Board shall apply salinity water quality objectives using conservative assumptions.
 - (a) **AGR Beneficial Use Protection** - The Regional Water Board shall apply a conservative, protective agricultural goal for electrical conductivity. In the absence of verifiable information regarding crop usage in the area impacted by the discharge, the Regional Water Board will select a value protective of the most sensitive crop in that area. For discharges where a site-specific agricultural goal has been developed and/or previously applied to the discharge, the Regional Water Board shall continue to apply that value, as appropriate.
 - (b) **MUN Beneficial Use** – The Regional Water Board shall interpret water quality objectives in a manner consistent with the Guidance to Implement Secondary Maximum Contaminant Levels established by the SNMP.

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

2. *Allocation of Assimilative Capacity* – The Regional Water Board shall not grant a new or expanded allocation of assimilative capacity. A discharger must demonstrate that the discharge does not cause or contribute to exceedances of groundwater limitations for salinity constituents in shallow groundwater within the zone of influence of the discharge. If a discharger has previously received an allocation of assimilative capacity, and the allocation was granted with the support of an antidegradation study or analysis, then the Regional Water Board shall continue to allocate the previously approved assimilative capacity, as appropriate.
3. *Issuance of Time Schedules* – The Regional Water Board will use its discretion to issue a time schedule for achieving compliance with salinity limitations sparingly, for minimal time periods, and only where appropriate. In general, a discharger shall be allowed no more than five years to meet a restrictive salinity limitation.

NPDES Surface Water Discharges

The following requirements shall apply to individual, general or watershed-based NPDES permits:

1. *Reasonable Potential Analysis* – The Regional Water Board will determine the reasonable potential for the discharge to cause an exceedance of an applicable receiving water salinity water quality objective in a manner consistent with this Basin Plan and federal regulations at 40 CFR § 122.44(d)(1)(ii). Dischargers will need to demonstrate that the discharge does not have reasonable potential to exceed the applicable criteria.
2. *Interpreting Narrative Water Quality Objective* - When the Regional Water Board interprets narrative water quality objectives for the purpose of conducting a reasonable potential analysis and establishing a permit effluent limit (if reasonable potential is found), the Regional Water Board shall select applicable salinity water quality objectives using conservative assumptions.
 - (a) *AGR Beneficial Use Protection* - The Regional Water Board shall apply a conservative, protective agricultural goal for electrical conductivity. In the absence of verifiable information regarding crop usage in the area impacted by the discharge, the Regional Water Board will select a value protective of the most sensitive crop in that area. For discharges where a site specific agricultural goal has been developed and/or previously applied to the discharge, the Regional Water Board shall continue to apply that value, as appropriate.
 - (b) *MUN Beneficial Use* – For the protection of this beneficial use, the Regional Water Board shall interpret water quality objectives in a manner consistent with the Guidance to Implement Secondary Maximum Contaminant Levels established by the SNMP.
3. *Allocation of Assimilative Capacity (i.e., mixing zone/dilution credit)* – The Regional Water Board may authorize a new allocation of assimilative capacity in surface water (i.e., mixing zone/dilution credit) only where a discharger can show that the impact of the discharge is temporary or *de minimus*, such that reduction of water quality will be spatially localized or temporally limited with respect to the waterbody (Administrative Procedures Update 90-004); e.g., the impact to water quality is confined to the mixing zone. The Regional Water Board may consider maintaining any previously approved mixing zone/dilution credits, if there have been no material changes to the discharge.

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

4. *Salinity Variance* – A salinity variance shall not be authorized for a discharge that is permitted under the Default Salinity Permitting Approach.
5. *Compliance Schedule* – Where a reasonable potential finding has been made and the discharger is unable to comply with a water quality-based effluent limit, the Regional Water Board may determine if a compliance schedule is appropriate consistent with the State Water Board’s Compliance Schedule Policy (Resolution 2008-0025) and federal laws and regulations including 40 CFR 122.47. The Regional Water Board shall issue compliance schedules for meeting salinity effluent limitations sparingly, for minimal time periods, and only where appropriate and consistent with the goals of this program.

Interim Salinity Permitting Approach

The Interim Salinity Permitting Approach, which includes participation in a phased implementation program, will be implemented in NPDES permits and WDRs/Conditional Waivers for a period not to exceed fifteen years after effective date of this Salinity Control Program. The Interim Salinity Permitting Approach may be modified or extended at the discretion of the Regional Water Board based on the findings of studies completed as part of Phase I of the phased implementation program.

While the Interim Salinity Permitting Approach is in effect, the following shall apply to all surface water and groundwater permitted discharges:

- Unless otherwise required by federal requirements, most permittees will not be subject to stringent salinity-related receiving water limits and/or effluent limits; instead permittees shall be deemed to be in compliance with salinity water quality objectives during Phase I, as long as the permittee complies with the Interim Permit Provisions of this Interim Salinity Permitting Approach, as applicable to its discharge.
- Permitted salinity discharges shall be implemented in a manner consistent with state and federal antidegradation policies (State Water Board Resolution No. 68-16 and 40 CFR §131.12), as applicable.
- The Regional Water Board retains authority to identify high priority saline discharges and/or areas where more stringent control programs must be implemented.
- NPDES permits/WDRs/Conditional Waivers shall include the following requirement to participate in the Phased Implementation Program: The permittee shall participate in efforts related to conducting the Phase I Prioritization & Optimization (P&O Study), and subsequent Phases II and III, as determined by the permittee to be applicable or appropriate following completion of the P&O Study. Participation in Phase I means that the permitted discharger is providing the minimum required level of financial support to the P&O Study.

The Interim Permit Provisions require permittees to continue current reasonable, feasible and practicable efforts to control levels of salinity in their discharges, which may include the following requirements, as applicable and appropriate:

- Implement salinity management practices;
- Implement pollution prevention plans, watershed plans, and/or salt reduction plans;

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

- Monitor for salinity in surface water or groundwater as part of existing local, watershed-based or regional monitoring programs, as appropriate;
- Maintain current discharge concentration or mass loading levels of salinity to the extent feasible, reasonable, and practicable, while accounting for conservation, salinity levels in the water supply source, and some appropriate increment of growth; and/or,
- Comply with interim permit limits, to the extent that the Regional Water Board finds it appropriate and necessary to authorize the discharge.

WDR/Conditional Waiver and Non-NPDES-specific Program Requirements

Placeholder for requirements specific to these permit types, if needed

NPDES Permit-specific Program Requirements

This Salinity Control Program does not replace the *Control Program for Salt and Boron Discharges into the Lower San Joaquin River (LSJR)* adopted by Central Valley Water Board Resolution R5-2017-0062.

Placeholder – Note: Need to determine to what degree we are able to use components/findings from the LSJR Case Study in the Central Valley Region as a whole.

Dischargers that are unable to comply with applicable surface water quality objectives for salinity may apply for a variance under the Variance Program for Salinity Water Quality Standards by meeting the criteria in section III.A of the Variance Policy for Surface Waters

Phased Implementation Program

Each of the Salinity Control Program's three phases will have a duration of ten to fifteen years. Some portions of a subsequent phase may occur or be initiated prior to the end of an existing phase. At the discretion of the Regional Water Board Executive Officer, the completion date for any phase may be modified or extended. The findings from each phase will inform the next phase, allowing for implementation of an adaptive management approach to salt management in the Central Valley Region.

Phase I – Prioritization and Implementation Study - In Phase I, the Regional Water Board will implement the P&O Study. The P&O Study will develop groundwater and surface water-related salinity data and information for sensitive and non-sensitive areas for hydrologic regions within the entire Central Valley Region. The P&O Study, which will inform Phases II and III of this Salinity Control Program, will include elements directed toward:

- Evaluating the impact of state policies and programs (e.g., Bay-Delta Plan, Recycled Water Policy, Sustainable Groundwater Management Act) that impact the management of salinity in surface and ground waters in the Central Valley Region;
- Identifying and prioritizing preferred physical projects and proposed locations for long-term management of salt (e.g., regulated brine line, salt-sinks, regional/subregional de-salters, recharge areas, deep well injection, etc.);
- Developing the conceptual designs for preferred physical salt management projects;

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

- Identifying the various environmental permits and the schedule for obtaining the permits needed to implement physical projects;
- Identifying and prioritizing preferred non-physical projects (e.g., best management practice and technical document development; regulation, policy and memoranda development, etc.) that support salt management goals for the Central Valley Region;
- Developing a governance structure for implementation of physical projects;
- Identifying funding sources, including state and federal funding, necessary for implementation of large-scale capital physical projects and subsequent operation and maintenance;
- Identifying and proposing any necessary Basin Plan changes that may be necessary to facilitate implementation of Phases II or III of this Salinity Control Program;
- Identifying additional tasks and activities for completion during Phases II and III; and
- Completing other related activities that support the purpose of the P&O Study or this program.

Table 1 identifies the milestones to be completed during Phase I based on the Salinity Control Program's effective date. Based on the findings of the P&O Study, the Regional Water Board may modify the Basin Plan to facilitate implementation of Phases II or III.

The P&O Study will facilitate the development of a long-term Salinity Control Program to achieve the goals of the salinity management strategy by coordinating tasks and funding. It is the intent of the Regional Water Board to encourage participation by permitted surface water and groundwater dischargers in the Phase I P&O Study as part of the Interim Salinity Permitting Approach. Permitted dischargers that do not participate in the Interim Salinity Permitting Approach will be subject to meeting the requirements of the Default Salinity Permitting Approach.

Phase II – Project Development and Acquisition of Funds - It is anticipated that Phase II of this Salinity Control Program will begin no later than at the end of Phase I. Permittees that participate in Phase I are not required to participate in Phases II or III. Permittees that opt out of participation in Phase II of the Phased Implementation Program will be subject to the requirements of the Default Salinity Permitting Approach. Permittees that participate in Phase II will continue to be subject to the requirements of the Interim Salinity Permitting Approach.

Phase II includes the following key elements:

- Completion of the engineering and design and environmental permitting of preferred physical projects identified in Phase I;
- Initiation or continuation of implementation of preferred non-physical projects identified during Phase I and, if appropriate, identification of new preferred non-physical projects and the process or milestones for implementation; and
- Securing the funding to implement the preferred physical projects.

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

Table 1. Key Phase I Prioritization and Optimization Study Milestones

Implementation Schedule	Milestone/Deliverable	Minimum Requirements
____ months from effective date	Phase I Workplan	<p><i>Workplan to include:</i></p> <ul style="list-style-type: none"> • Detailed P&O Study task descriptions • Cost estimate for each task • Task completion schedule • Stakeholder participation elements
Within 18 months from effective date	Phase I Funding Plan	Establish plan to secure sufficient funding to complete the P&O Study
Annually upon anniversary of effective date	Annual Progress Report	<p><i>Annual Report to summarize:</i></p> <ul style="list-style-type: none"> • Progress on Workplan execution • Status of Phase I funding and expenditures • Stakeholder participation
5 years from effective date	Interim Project Report	<p><i>By Central Valley Hydrologic Region, identify:</i></p> <ul style="list-style-type: none"> • Recommended preferred physical projects with recommended next steps for development • Recommended non-physical projects and a schedule for implementation
9 years from effective date	Governance Plan	<p><i>Governance Plan that establishes:</i></p> <ul style="list-style-type: none"> • How Phase II & III will be implemented • Governance structure including: <ul style="list-style-type: none"> – Stakeholder roles and responsibilities – Committees responsible for development of policies, technical documents, BMPs and funding
9 years from effective date	Long-term Funding Plan for Phases II and III	<p><i>Funding Plan that establishes:</i></p> <ul style="list-style-type: none"> • Financial approach for long-term funding including sources and funding types (grants, bonds, loans, etc.) • Approach for the equitable management and funding of long-term, large-scale salinity management projects
9 years from effective date	Basin Plan Amendment Recommendations	<p><i>As needed, recommended amendments to Basin Plans to:</i></p> <ul style="list-style-type: none"> • Facilitate implementation of Phase II of the Salinity Control Program • Modify the Interim Salinity Permitting Approach, as appropriate
10 years from effective date	Final Project Report	<ul style="list-style-type: none"> • <i>For preferred physical projects:</i> <ul style="list-style-type: none"> – Conceptual designs – Assessment of environmental permitting requirements • Status of implementation of non-physical projects per Interim Project Report with recommendations for modifications, as needed

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

Phase III – Project Implementation - During Phase III, construction of all preferred physical projects will be completed, unless already completed during Phase II. For large-scale capital projects, such as construction of a regulated brine line, construction may occur over multiple phases and additional time may be required for complete full build-out of the project.

Recommendations to Other Agencies

The implementation of long-term salinity management solutions to achieve a salt balance and prevent continued impacts to salt sensitive areas in the Central Valley is a statewide issue. Efforts to achieve salt sustainability will require significant participation and potentially specific actions by local, state and federal entities. It is recommended that these entities participate in the Phase I P&O Study by providing financial, technical and policy support to the P&O Study. This participation is essential as findings from the P&O Study will direct the implementation of physical and non-physical projects in the phased Salinity Control Program.

The Regional Water Board will pursue mechanisms to ensure participation in the funding and implementation of the P&O Study by entities that directly or indirectly (a) impact salt concentrations in or loadings to surface and ground waters in the Central Valley; (b) adversely affect the amount of assimilative capacity available in surface or ground waters in the Central Valley; or (c) benefit from the implementation of projects that support the salinity management goals of this Salinity Control Program. The Regional Water Board will pursue participation by local, state and federal entities in the P&O Study through the following actions or recommendations:

- The Regional Water Board will require dischargers who are not permitted under a WDR/Conditional Waiver or NPDES permit and that have the potential to contribute to a water quality impairment or to lower water quality because of salinity to participate in the P&O Study.
- Before granting new or modified permits for water storage or diversion which involve the interbasin transfer of water, the State Water Board should require the applicant to participate in the P&O Study.
- The State Water Board should use its water rights authority, as appropriate, to maximize participation in the P&O Study, especially where granting water rights separates water from its watershed resulting in the accumulation of salt in inland areas.
- Through their existing authorities established in Section 13225(c) or Section 13257 of the California Water Code, the State Water Board should encourage participation in the P&O Study by:
 - Water management entities in the Central Valley Region, regardless of size, including, but not limited to, entities responsible for the management of the Delta and implementation of the Sustainable Groundwater Management Act.
 - Federal, state or local agencies responsible for management of existing or development of new water resources facilities that have the potential to modify flows in surface waters and groundwater levels in groundwater basins.
 - Federal and state water and land management agencies, e.g., that manage aquatic and wildlife resources that will benefit from the control of salt in the Central Valley Region, e.g., U.S. Fish and Wildlife Service and California Department of Fish and Wildlife.

Program for Control and Permitting of Salinity Discharges in the Sacramento-San Joaquin River and Tulare Lake Basins

- In addition to direct participation in the funding and implementation of the P&O Study, the Regional Water Board recommends that entities that oversee the issuance of grants to support water resource programs that are relevant to salinity management prioritize grant funding to support implementation of the Salinity Control Program.
- The California Department of Food and Agriculture should participate in the P&O Study to ensure that the implementation of its programs and policies are consistent with the requirements of the Salinity Control Program.
- Federal water related agencies should:
 - Participate in the P&O Study to ensure that actions they plan, permit or implement are consistent with the requirements of the Salinity Control Program.
 - Allocate funding to participate in the execution of the P&O Study Workplan and support implementation of the Salinity Control Program.

Coordination with Other Salt and Nitrate-Related Management Policies

PLACEHOLDER for nexus with other SNMP policies related to salinity management (As needed, references/links to related sections in the new *Program for the Control of Salt and Nitrate Management in the Central Valley* or other Basin Plan Implementation Chapter sections, e.g., Salinity Variance Program, Exceptions Policy for Discharges to Groundwater, Offsets Policy, Drought & Water Conservation Policy, SMCL Guidance)