AMENDMENT LANGUAGE
FOR THE SACRAMENTO RIVER AND SAN JOAQUIN RIVER BASIN PLAN AND THE TULARE LAKE BASIN PLAN

The following sections identify proposed amendments to the Water Quality Control Plans for both the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin (Basin Plans). Where the proposed changes to the Basin Plan revise existing language, text additions to the existing Basin Plan language are <u>underlined</u> and *italicized*. Text deletions to the existing Basin Plan are in ~~strikethrough~~.

For proposed amendments that add new sections to the Basin Plans, the new section is noted but not presented in underlined italics to facilitate clarity.

The following summarizes components of the proposed amendments:

Chapter 3 Water Quality Objectives

- Application Water Quality Objectives—Fourth Point (revision)
- Secondary Maximum Contaminant Levels (revision)

Chapter 4 Implementation

- Salt and Nitrate Control Program (new)
  - Program to Control and Permit Salt Discharges to Surface and Groundwater
    - Conservative Permitting Approach
    - Alternative Permitting Approach
    - Schedule of Implementation
    - Required Deliverables
    - Edits specific to the Tulare Lake Basin Plan Salinity Limits (revision)
  - Program to Control and Permit Nitrate Discharges to Groundwater (new)
    - Priority Basins and Sub-basins
    - Permitting Approaches
      - Pathway A: Individual
      - Pathway B: Management Zone Approach
    - Schedule of Implementation
    - Required Deliverables by Pathway
      - Early Action Plans
      - Implementation Plans for Long-term Sustainability
  - Conditional Prohibition of Salt and Nitrate Discharges
  - Surveillance and Monitoring Program

  - Recommendations to Other Agencies
  - Definitions and Terminology Specific to the Salt and Nitrate Control Program
- Supporting Policies
  - Variance Policy (revised)
  - Exceptions Policy (revised)
  - Drought and Conservation Policy (new)
  - Offsets Policy (new)
- Application of Secondary Maximum Contaminant Levels to Protect Municipal and Domestic Supply (new)
- Estimated Costs to Agriculture

Appendix X-X

- Nitrate Control Program Non-Prioritized Groundwater Basins (new)

CHAPTER 3 WATER QUALITY OBJECTIVES

The following edits are proposed for the Sacramento River and San Joaquin River Basin Plan's *Chapter 3 Water Quality Objectives* in the sections indicated below.

Points That Apply to Water Quality Objectives

Modify the Basin Plan in Chapter 3 Water Quality Objectives under the heading, “Water Quality Objectives” as follows:

The **fourth point** is that the Central Valley Water Board recognizes that immediate compliance with water quality objectives adopted by the Central Valley Water Board or the State Water Board, or with water quality criteria adopted by the USEPA, may not be feasible in all circumstances. Where the Central Valley Water Board determines it is infeasible for a discharger to comply immediately with such objectives or criteria, compliance shall be achieved in the shortest practicable period of time (determined by the Central Valley Water Board), not to exceed ten years after the adoption of applicable objectives or criteria, or for some specific pollutants, the Central Valley Water Board may grant an Exception or Variance pursuant to the terms of those policies as set forth in Chapter IV, Implementation. The Central Valley Water Board will establish compliance schedules in NPDES permits consistent with the provisions of the State Water Board’s Compliance Schedule Policy (Resolution 2008-0025). Time schedules in waste discharge requirements are established consistent with Water Code Section 13263.

CHAPTER 3 WATER QUALITY OBJECTIVES

The following edits are proposed for the Sacramento River and San Joaquin River Basin Plan's *Chapter 3 Water Quality Objectives* in the sections indicated below. Note that these changes are also proposed for the Tulare Lake Basin Plan.

Secondary Maximum Contaminant Level Policy

Modify the Basin Plan in Chapter 3 Water Quality Objectives under the heading, “Water Quality Objectives for Inland Surface Waters, Chemical Constituents” as follows:

Water Quality Objectives for Surface Waters

Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses…

At a minimum, unless there is an approved site specific objective, surface water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations (Title 22), which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of section 64431, and Table 64444-A (Organic Chemicals) of section 64444, and Tables 64449-A (Secondary Maximum Contaminant levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) and of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of 0.015 mg/l. The Central Valley Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. Some MCLs may not be appropriate as an untreated surface water objective without filtration or consideration of site-specific factors. To protect all beneficial uses the Central Valley Water Board may apply limits more stringent than MCLs.

The annual average of sample results will be used to evaluate compliance with the Secondary Maximum Contaminant Levels identified in Tables 64449-A or 64449-B.

In addition, for surface waters designated MUN the concentration of chemical constituents shall not exceed the “secondary maximum contaminant level” specified in Title 22, Table 64449-A or the “Upper” level specified in Table 64449-B, unless otherwise authorized by the Central Valley Water Board in accordance with the provisions of Title 22, section 64449 et seq. Constituent concentrations ranging to the “Upper” level in Table 64449-B are acceptable if it is demonstrated that it is not reasonable or feasible to achieve lower levels; in addition,

constituents ranging to the “Short Term” level in Table 64449-B may be authorized on a temporary basis consistent with the provisions of section 64449(d)(3), pending construction of treatment facilities or development of new water sources. In cases where the surface water natural background concentration of a particular chemical constituent exceeds the maximum contaminant level specified in Table 64449-A or “Upper” level specified in Table 64449-B, the surface water shall not exceed that natural background concentration due to controllable anthropogenic sources, unless the Central Valley Water Board authorizes it consistent with State Antidegradation Policy.

Modify the Basin Plan in Chapter 3 Water Quality Objectives under the heading, “Water Quality Objectives for Ground Waters, Chemical Constituents” as follows:

Water Quality Objectives for Groundwaters

Chemical Constituents

Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses.

At a minimum, unless there is an approved site specific objective, ground waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations (Title 22), which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of section 64431, and Table 64444-A (Organic Chemicals) of section 64444, and Tables 64449-A (Secondary Maximum Contaminant levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated for use as domestic or municipal supply (MUN) shall not contain lead in excess of 0.015 mg/l. To protect all beneficial uses the Central Valley Water Board may apply limits more stringent than MCLs.

For Secondary MCLs identified in Tables 64449-A and 64449-B, appropriate long-term averaging periods shall be used to evaluate ambient groundwater quality and annual averages of sample results will be used to determine compliance with Secondary Maximum Contaminant Levels for discharge limitations prescribed in Waste Discharge Requirements.

In addition, for ground waters designated MUN, concentration of chemical constituents shall not exceed the “secondary maximum contaminant level” specified in Title 22, Table 64449-A or the “Upper” level specified in Table 64449-B unless otherwise authorized by the Central Valley Water Board in accordance with the provisions of Title 22, section 64449 et seq. Constituent concentrations

ranging to the “Upper” level in Table 64449-B are acceptable if it is demonstrated that it is not reasonable or feasible to achieve lower levels; in addition, constituents ranging to the “Short Term” level in Table 64449-B may be authorized on a temporary basis consistent with the provisions of section 64449(d)(3) and/or consistent with the Drought and Conservation Policy (Section XX). In cases where the natural background concentration of a particular chemical constituent exceeds the maximum contaminant level specified in Table 64449-A or “Upper” level specified in Table 64449-B, the ground water shall not exceed that natural background concentration due to controllable anthropogenic sources, unless the Board authorizes it consistent with State Antidegradation Policy.

CHAPTER 4 IMPLEMENTATION

Following is a summary of a proposed addition for the Sacramento River and San Joaquin River Basin Plan and the Tulare Lake Basin Plan. The text noted below will comprise a new section under *Chapter IV—Implementation* within each Basin Plan.

Salt and Nitrate Control Program

The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative 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.[1] The SNMP is the basis for many components of this Salt and Nitrate Control Program and serves as one of the reference documents for the control efforts. The SNMP documented elevated salt and nitrate concentrations in portions of the Central Valley that impair or threaten to impair the region's water and soil quality which, in turn, adversely affects agricultural productivity and/or drinking water supplies. Excessive nitrates are significant issues for public health and safety in some areas. Based on the findings, the Central Valley Salt and Nitrate Control Program is designed to address both legacy and ongoing salt and nitrate accumulation issues in surface and groundwater; however, the primary focus of early actions (first ten years) is on groundwater quality and in particular nitrate impacts to drinking water supplies. The over-arching management goals and priorities are:

1. Ensure Safe Drinking Water Supply (short and long term)
2. Achieve Balanced Salt and Nitrate Loading
3. Implement Long-Term, Managed Restoration of Impaired Water Bodies

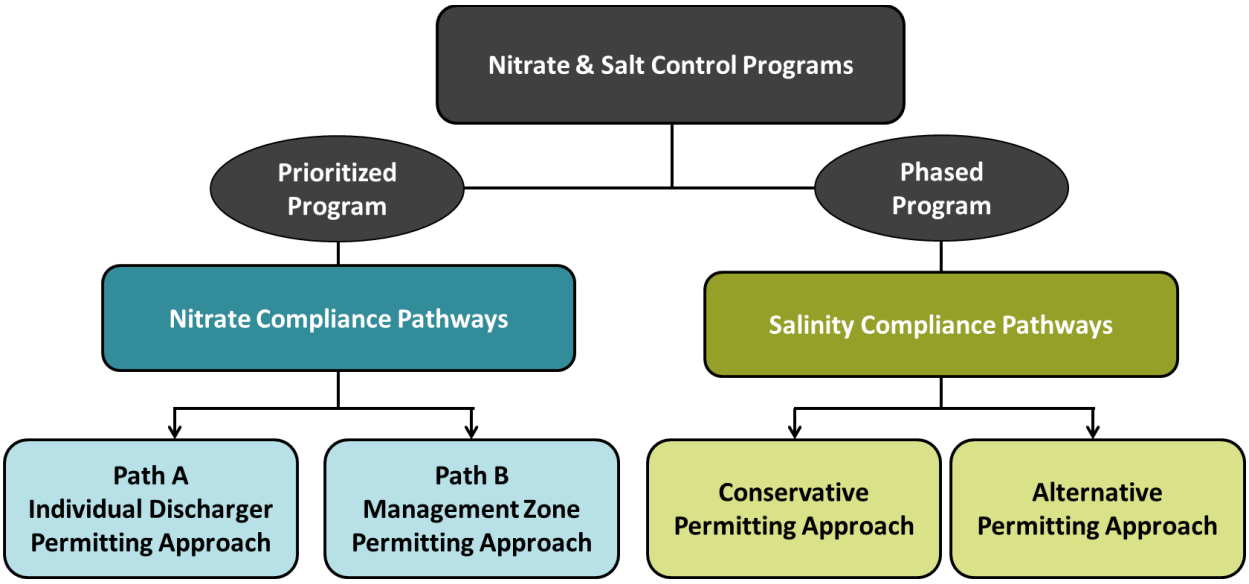
To meet these prioritized goals, the Salt and Nitrate Control Program has been phased with specific implementation activities required for salt and another set of implementation activities required for nitrate. Both implementation approaches provide permittees the option to select their means of compliance: either through a conservative permitting approach focused on individual source control or through an alternative coordinated, multi-discharger management approach (Figure I-1). For goals 2 and 3, the Salt and Nitrate Control Program recognizes that in some circumstances meeting these goals may not be reasonable, feasible or practicable.

The Salt and Nitrate Control Program is implemented through a combination of Central Valley Water Board authorities. First, to ensure timely implementation, a Conditional Discharge Prohibition has been established in the Basin Plans that will require that certain permittees begin to implement provisions of the Control Program upon receiving a Notice to Comply issued by the Board's Executive Officer. The Conditional Discharge Prohibition will assist in establishing enforceable conditions until the Board revises

[1] CV-SALTS SNMP (2016)

permits to incorporate applicable requirements from the Control Program or determines that existing permit requirements are adequate. Second, for certain other permittees subject to General Orders, the Board will hold a hearing to consider amending such Orders within 18 months of the effective date of the Salt and Nitrate Control Program to incorporate timelines and milestones for complying with the Control Program. Long-term implementation of the Salt and Nitrate Control Program is achieved primarily through Board permitting actions (i.e., waste discharge requirements or conditional waivers); however, to be successful, coordination, funding and support will be required from multiple state, federal and local agencies as well as from local stakeholders and those benefitting from Central Valley waters. Additional implementation authorities, affected entities, and required actions related to salt and nitrate control will be determined during the first phase of the effort.

FIGURE I-1. SALT AND NITRATE MANAGEMENT STRATEGY



The following identifies the major components of the Salt and Nitrate Control Program and policies that support its implementation:

- Salt Control Program (Discharges to Surface and Groundwater)
- Nitrate Control Program (Discharges to Groundwater)
    - Prioritized Groundwater Basins
    - Management Zones
- Conditional Prohibition
- Surveillance and Monitoring
- Policies to Support Implementation
    - Variance Policy

- Exception Policy
- Drought and Conservation Policy
- Offsets Policy
- Application of Secondary Maximum Contaminant Levels to Protect MUN

This amendment was adopted by the Central Valley Water Board on 31 May 2018, and approved by the State Water Resources Control Board on <Day-Month-Year>. The Effective Date of the Salt and Nitrate Control Program shall be <Day-Month-Year>, the date of Office of Administrative Law approval. For those components subject to USEPA approval, the effective date shall be <Day-Month-Year>, the date of USEPA approval. The Salt and Nitrate Control Program will be reviewed in its entirety prior to initiation of Phase II of the Salt Control Program, but no later than 15 years after Office of Administrative Law approval.

Program to Control and Permit Salt Discharges to Surface and Groundwater

The Salt Control Program is a program for the control and permitting of salt discharges in the Sacramento-San Joaquin River Basins and in the Tulare Lake Basin and applies to all surface and ground waters. The Salt Control Program will be implemented in conjunction with and not replace the requirements of 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[2], site specific salinity objectives in the Bay-Delta Plan, or other site-specific salinity objectives adopted by the Central Valley Water Board or State Water Board.

Program Overview

Based on the CV-SALTS SNMP and its supporting studies, salt concentrations in surface and ground waters generally continue to increase over time under existing water quality management programs and strategies to control salt. Given these findings, the SNMP identified the need for the implementation of a salt management strategy with the following goals:

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

[2] In the LSJR Basin, management activities are addressing salinity impact to surface water but are not sufficient to address the long-term accumulation in the basin as a whole.

- Protect beneficial uses by maintaining water quality that meets applicable water quality objectives and pursuing long-term managed restoration where reasonable, feasible and practicable.

The supporting studies evaluated local salt management options in areas with significant salt concerns. These evaluations demonstrated that the volume and mass of unmanaged salt would remain high even under scenarios where existing salt management tools are widely adopted. A comprehensive solution to the salinity issues in the Central Valley will therefore need to rely on both local and sub-regional solutions as well as broad region-wide projects that will export 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 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 Central Valley Water Board will implement a phased Salt Control Program consistent with the goals of the salt management strategy. All permitted salt discharges shall comply with the provisions of this program. Two pathways to compliance are available for Phase I. Compliance pathways for subsequent phases will be identified prior to that phase. The Phase I Compliance pathways are:

1. ***Conservative Salinity Permitting Approach***, utilizes the existing regulatory structure and focuses on source control, use of conservative salinity limits and limited use of assimilative capacity and/or compliance time schedules.

2. ***Alternative Salinity Permitting Approach***, is an alternative approach to compliance through implementation of specific requirements, rather than application of conservative limits. Under Phase I, permittees must support facilitation and completion of the Salinity Prioritization and Optimization Study. Discharges of salt to waste management units subject to the containment requirements of Division 2 of Title 27 of the California Code of Regulations are not eligible to be permitted under the Alternative Salinity Permitting Approach.

Phased Control Program

The Salt Control Program will be implemented in three phases, with each of the three phases having a duration of ten to fifteen years (Figure S-1). Some portions of a subsequent phase may occur or be initiated prior to the end of an existing phase. At the discretion of the Central Valley Water Board's Executive Officer, the completion date and interim milestones 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.

The phases of the Salt Control Program are linked to activities occurring under each the Alternative Salinity Permitting Approach, as follows:

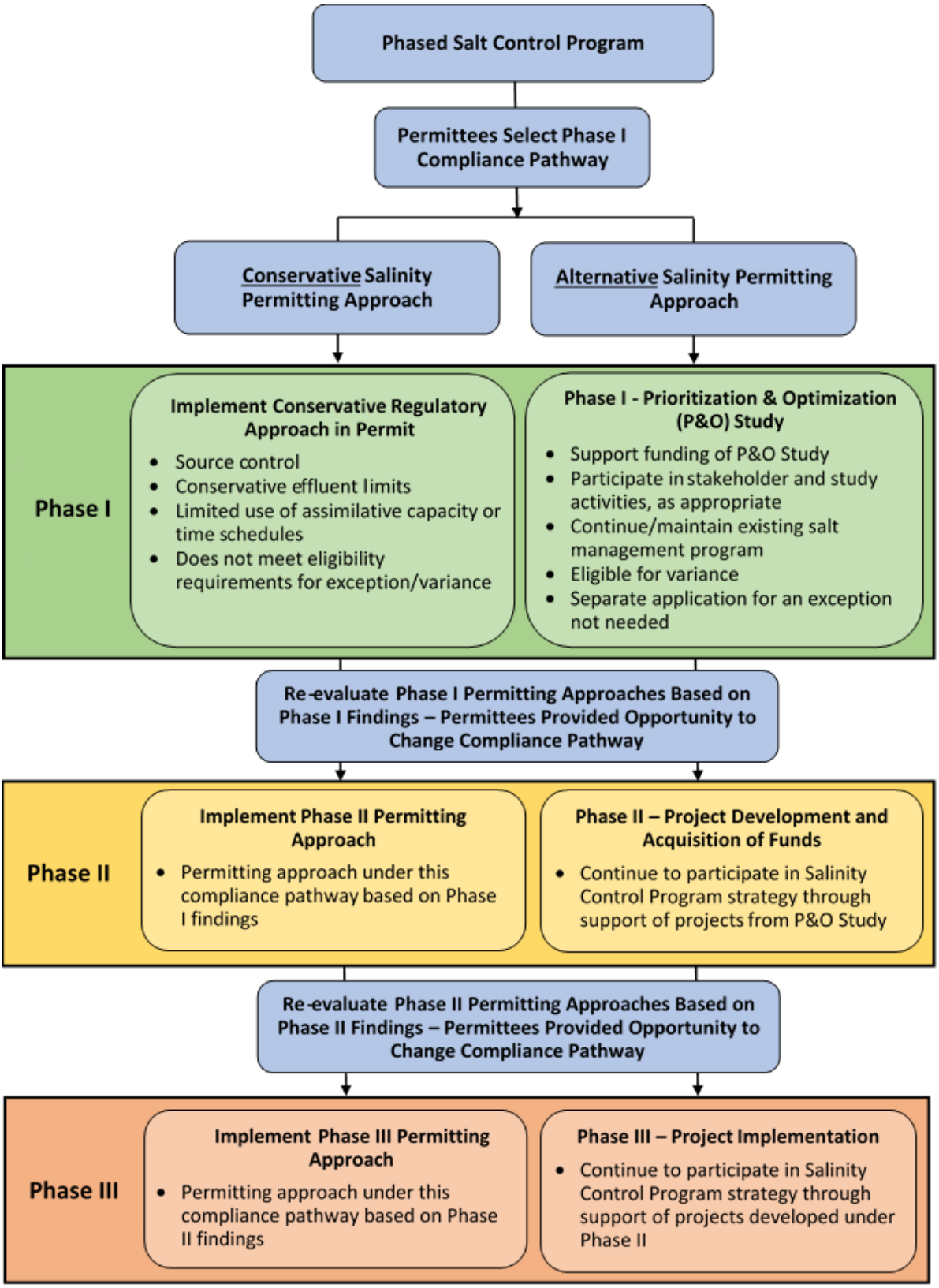
<u>Phase I – Prioritization and Optimization Study (P&O Study)</u> - The P&O Study will facilitate the development of a long-term Salt Control Program to achieve the goals of

the salinity management strategy by coordinating and completing tasks and securing funding. 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, including guidelines to protect salt-sensitive crops;
- Identify sources of salinity and actions that impact salinity in surface and ground waters;
- Evaluate impacts of state and federal policies and programs;
- Identify and prioritize preferred physical projects for long-term salt management (e.g. regulated brine line(s), salt sinks, regional/sub-regional de-salters, recharge areas, deep well injection, etc.);
- Develop the conceptual design of preferred physical projects and assess the environmental permitting requirements and costs associated with each of these projects;
- Identify non-physical projects and plan for implementation;
- Develop a governance structure and funding plan;
- Identify funding programs, including federal and state funds, and opportunities for future phase implementation; and
- Identify recommendations for Phase II of the Salt Control Program.

The P&O Study will inform Phases II and III of this Salt Control Program. Based on the findings of the P&O Study, the Central Valley Water Board must review the Basin Plan and consider whether modifications to the Basin Plan are required to facilitate implementation of Phases II or III.

FIGURE S-1: SALT CONTROL PROGRAM PATHWAYS TO COMPLIANCE



Phase II – Project Development and Acquisition of Funds - Phase II of this Salt Control Program will begin no later than at the end of Phase I, but some activities may be initiated during Phase I. Phase II includes the following key elements:

- Using available funding sources, complete the engineering design and environmental permitting of preferred physical projects identified in Phase I;
- Initiating or continuing implementation of preferred non-physical projects identified during Phase I and, if appropriate, identifying new preferred non-physical projects and the process or milestones for implementation; and
- Identifying sources and securing the funding to implement the preferred physical projects.

Phase III – Project Implementation - During Phase III, construction of 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 to complete full build-out of the project.

Salt Control Program Implementation

Permittees will be subject to Phase I of the Salt Control Program from the issuance of the Notice to Comply until <Day-Month-Year> (ten years from the effective date of the Basin Plan Amendments). Phase I may be extended up to five years at the discretion of the Central Valley Water Board's Executive Officer based on the need to develop Basin Plan Amendments to support implementation of Phase II, reduction in anticipated staff resources, or other factors. Table S-1 depicts the key components of the two pathways to regulatory compliance under the Phase I Salt Control Program. The Board retains its discretion to adjust the established requirements on a case-by-case basis. However, because the Board finds that implementation of the Salt Control Program is best achieved through implementation of the Alternative Salinity Permitting Approach, application of such discretion will be limited under the Conservative Salinity Permitting Approach.

Under Phase I of the Salt Control Program, permitted dischargers of salinity (permittees) will be subject to the Conservative Salinity Permitting Approach unless the permittee elects to be permitted under the Alternative Salinity Permitting Approach.

Permittees may switch from one approach to another by submitting a written request to the Executive Officer of the Central Valley Water Board to change its selected compliance pathway. This request must include documentation regarding how the permittee will comply with the requirements applicable to the compliance pathway it is now requesting to be permitted under and the basis for the change. If the permittee requests to change from the Alternative to the Conservative Permitting Approach, the permittee must demonstrate to the Board that it has complied with all provisions associated with the Alternative Compliance Permitting Approach, including financial

support to the P&O study, up through the time of permit revision to incorporate requirements for the Conservative Permitting Approach. If the permittee requests to change from the Conservative Permitting Approach to the Alternative Approach, the permittee shall meet the financial commitment requirements of the Alternative Approach as required by the entity conducting the P&O Study.

Prior to implementation of Phase II, the Central Valley Water Board must review the Salt Control Program and adopt compliance pathways for Phase II. The compliance pathways for Phase II may be similar or different from those in Phase I. Permittees will have an opportunity to review and select Phase II compliance pathways upon implementation of Phase II. The process shall repeat itself prior to implementation of Phase III.

TABLE S-1: COMPARISON BETWEEN THE CONSERVATIVE AND ALTERNATIVE SALINITY PERMITTING APPROACHES DURING PHASE I

Conservative Salinity Permitting Approach	**Alternative Salinity Permitting Approach**
<u>All Permittees</u> • Apply conservative assumptions for interpretation of the narrative objectives and application of numeric 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 (subject to the discretion of the Central Valley Water Board).	<u>All Permittees</u> • Participate in the Phase I Prioritization and Optimization Study throughout its duration; • Continue implementing reasonable, feasible and practicable efforts to control salinity through performance-based measures as determined by the Central Valley Water Board, including: – Salinity management practices; – Pollution prevention, watershed, and/or salt reduction plans; – Monitoring; – Maintenance of existing discharge concentration or loading levels of salinity.
<u>Groundwater Discharge and Non-NPDES Discharge Permittees</u> • Limited new or expanded allocation of assimilative capacity subject to the discretion of the Central Valley Water Board • Does not meet eligibility requirements for an exception	<u>Groundwater and Non-NPDES Discharges</u> • Salinity limits not used as a compliance metric except to ensure implementation of performance-based measures; • Permittees that meet requirements of the alternative salinity permitting approach are considered in compliance with their salinity limits

Conservative Salinity Permitting Approach	Alternative Salinity Permitting Approach
NPDES Surface Water Discharge Permittees • A new or expanded allocation of assimilative capacity may be authorized only where a permittee can demonstrate that the impact of the new discharge or the increased discharge will be spatially localized or temporally limited, a determination subject to the discretion of the Central Valley Water Board Does not meet eligibility requirements for a variance	NPDES Surface Water Discharges • Eligible for a salinity variance

Phase I Conservative Salinity Permitting Approach

The Conservative Salinity Permitting Approach applies to all permitted dischargers, unless the permittee elects to participate in the Phase I Alternative Salinity Permitting Approach. Under the Conservative Salinity Permitting Approach, the Central Valley Water Board shall develop permit conditions based on the requirements established below.

Groundwater and Non-NPDES Surface Water Discharges

The Central Valley Water Board shall apply the following principles to permits being issued to regulate discharges of salt to groundwater or discharges of salt to surface waters that are not subject to NPDES permits (Chapter 5.5 of the Porter-Cologne Water Quality Control Act which contains state statutory requirements for issuing NPDES permits consistent with the federal Clean Water Act).

1. *Permit Provisions* – Permit limitations shall be set as follows:

   (a) Surface Water – Limitations shall be set based on the applicable water quality objective that protects the most sensitive beneficial use and based on the application of the Antidegradation Policy. The Central Valley Water Board may use its discretion to continue to authorize a previously approved mixing zone for salinity subject to the provisions in paragraph (4).

   (b) Groundwater – Limitations will be set based on the applicable water quality objective that protects the most sensitive beneficial use and based on the application of the Antidegradation Policy. The Central Valley Water Board may use its discretion to continue to authorize previously allocated

use of assimilative capacity in groundwater subject to the provisions in paragraph (4).

2. *Application of Applicable Water Quality Objectives* – When the most salinity sensitive beneficial use is AGR or MUN, the Central Valley Water Board will apply the associated narrative and range in numeric objectives as indicated below. When the applicable water quality objective for setting Permit Limitations is a site-specific numeric water quality objective, the Board shall apply that numeric objective. The values recommended below apply only for the conservative approach and are limited to use under Phase 1.

   (a) AGR Beneficial Use Protection – When it applies the narrative water quality objective, the Central Valley Water Board shall use a conservative, numeric value for electrical conductivity (EC) to protect the AGR beneficial use. During Phase I of the Salt Control Program, the numeric value of 700 µS/cm EC (as a monthly average) shall be considered to be a conservative value that is protective of the AGR beneficial use. This value is for use only as indicated here for the Conservative Permitting Approach and shall not be considered a water quality objective. For discharges where a site-specific numeric value has been developed and/or previously applied to the discharge for the protection of the AGR beneficial use, the Board shall continue to apply that value, as appropriate.

   (b) MUN Beneficial Use – When it applies a Secondary Maximum Contaminant Level (SMCL) for protection of a MUN beneficial use, the Central Valley Water Board shall use the recommended SMCL of 900 µS/cm EC (as an annual average).

3. *Consideration of Degradation to High Quality Waters* – Before authorizing degradation to high quality waters, and consistent with the state and federal antidegradation policies as applicable, the Central Valley Water Board must consider, among other things, if allowing the degradation is to the maximum benefit to the people of the state. Under the Phase I Conservative Permitting Approach, the Board must specifically find that allowing this permittee to degrade a high-quality water better serves the people of the state rather than their participation in the P&O study for Phase I of the Salt Control Program.

4. *Allocation of Assimilative Capacity* – For both surface and groundwater discharges, the Central Valley Water Board will limit new or expanded allocations of salinity related assimilative capacity. If a permittee has previously received an allocation of assimilative capacity, and the allocation was granted with the support of an antidegradation study or analysis, then the Board may consider continuing the previously approved allocation of assimilative capacity.

5. *Salinity Exception* - Permittees operating under the Phase I Conservative Salinity Permitting Approach do not meet eligibility requirements for a salinity exception.

6. *Issuance of Time Schedules* – The Central Valley Water Board will limit use of time schedules for achieving compliance with salinity permit limitations and will use its discretion to limit the time allowed in the event that a time schedule is deemed necessary under the particular circumstances associated with that discharge.

NPDES Surface Water Discharges

The Central Valley Water Board shall apply the following principles to permits being issued to regulate discharges of salinity to surface waters that are subject to NPDES permit provisions as required by the federal Clean Water Act.

1. *Permit Provisions* – Permit limitations, if required, shall be set as follows:

   Limitations shall be set based on the applicable water quality objective that protects the most sensitive beneficial use and based on the application of the Antidegradation Policy. The Central Valley Water Board may use its discretion to continue to authorize a previously approved mixing zone for salinity subject to the provisions in paragraph (4).

2. *Application of Applicable Water Quality Objectives* – When the most salinity sensitive beneficial use is AGR or MUN, the Central Valley Water Board will apply the associated narrative and range in numeric objectives as indicated below. When the applicable water quality objective for setting Permit Limitations is a site-specific numeric water quality objective, the Board shall apply that numeric objective. The values recommended below apply only for the conservative approach and are limited to use under Phase 1.

   (a) AGR Beneficial Use Protection – When it applies the narrative water quality objective, the Central Valley Water Board shall use a conservative, numeric value for electrical conductivity (EC) to protect the AGR beneficial use. During Phase I of the Salt Control Program, the numeric value of 700 µS/cm EC (as a monthly average) shall be considered to be a conservative value that is protective of the AGR beneficial use. This value is for use only as indicated here for the Conservative Permitting Approach and shall not be considered a water quality objective. For discharges where a site-specific numeric value has been developed and/or previously applied to the discharge for the protection of the AGR beneficial use, the Board shall continue to apply that value, as appropriate.

   (b) MUN Beneficial Use – When it applies a Secondary Maximum Contaminant Level (SMCL) for protection of a MUN beneficial use, the Central Valley Water Board shall use the recommended SMCL of 900 µS/cm EC (as an annual average).

3. *Consideration of Degradation to High Quality Waters* – Before authorizing degradation to high quality waters, and consistent with the state and federal antidegradation policies as applicable, the Central Valley Water Board must

consider, among other things, if allowing the degradation is to the maximum benefit to the people of the state. Under the Phase I Conservative Permitting Approach, the Board must specifically find that allowing this permittee to degrade a high-quality water better serves the people of the state rather than their participation in the P&O study for Phase I of the Salt Control Program.

4. *Allocation of Assimilative Capacity (i.e., mixing zone/dilution credit)* – The Central Valley Water Board will limit new or expanded allocations of assimilative capacity in surface water (i.e., mixing zone/dilution credit) and will consider whether a permittee can demonstrate that the reduction of water quality will be spatially localized or temporally limited with respect to the waterbody. The Board may consider maintaining any previously approved allocations of assimilative capacity, if the previously approved allocation was granted with the support of an antidegradation study or analysis.

5. *Salinity Variance* – Permittees operating under the Phase I Conservative Salinity Permitting Approach do not meet eligibility requirements for a salinity variance.

6. *Compliance Schedule* – Where a reasonable potential finding has been made and the permittee is unable to comply with the applicable salinity effluent limit, the Central Valley Water Board will use its discretion to limit the use of compliance schedules authorized by the State Water Board Compliance Schedule Policy for achieving compliance with salinity-based effluent limits, and will use its discretion to limit the time allowed in the event that a compliance schedule is deemed necessary under the particular circumstances associated with the discharge.

Phase I Alternative Salinity Permitting Approach

In lieu of being subject to the Conservative Permitting Approach, permittees may elect to be permitted for discharges of salinity by participating in the Phase I Alternative Salinity Permitting Approach. Permittees electing to participate in the Phase I Alternative Salinity Permitting Approach are given the opportunity to participate collectively in the P&O Study with other permittees, the Central Valley Water Board, and other stakeholders, including those importing and benefitting from water supplies from the Central Valley, to work toward full implementation of the Salt Control Program. Key milestones for the P&O Study are identified in Table S-2 and outlined in Figure S-2.

If the P&O Study does not meet the milestones established in Table S-2 or where the Central Valley Water Board finds reasonable progress is not being made towards achieving the milestones, the Board will notify the permittees that selected the Alternative Salinity Permitting Approach of its findings through public notice that includes a required schedule for completion of the P&O Study milestones. Failure to comply with the requirements in the notice will result in all permittees that elected to be permitted under the Phase I Alternative Salinity Permitting Approach to become subject to the requirements of the Conservative Salinity Permitting Approach.

The Central Valley Water Board shall develop salinity-related permit conditions based on the requirements established below. 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. Discharges of salt to waste management units subject to the containment requirements of Division 2 of Title 27 of the California Code of Regulations are not eligible to be permitted under the Alternative Salinity Permitting Approach.

TABLE S-2: KEY PHASE I PRIORITIZATION AND OPTIMIZATION STUDY MILESTONES

Implementation Schedule	Milestone/ Deliverable	Implementation Schedule
6 months from Notice to Comply	Phase I Workplan	*Workplan to include*: • Detailed P&O Study task descriptions • Cost estimate for each task • Task completion schedule • Stakeholder participation elements
Within 12 months from Notice to Comply	Phase I Funding & Governance Plan	*Complete Phase I implementation planning:* • Establish the entity and procedures for governance of the P&O Study • Develop funding plan to complete the P&O Study
Per Workplan	Special Studies	*Special Studies to include*: • Groundwater Quality Trace Constituent Study • Recycled Water Imports Study • Stormwater Recharge Master Plan Study • Emerging Technical Updates (every 5 years)
12 months from Workplan approval and annually there after	Annual Progress Report	*Annual Report to summarize*: • Progress on Workplan execution • Status of Phase I funding and expenditures • Stakeholder participation
5 years from Notice to Comply	Interim Project Report	*By Central Valley Hydrologic Region, identify*: • Recommended preferred physical projects with recommended next steps for development

Implementation Schedule	Milestone/ Deliverable	Implementation Schedule
		• Recommended non-physical projects and a schedule for implementation
9 years from Notice to Comply	Long-term Governance Plan for Phases II and III	*Governance Plan that establishes*: • Describes planned implementation approach for Phases II & III • Governance structure including: – Stakeholder roles and responsibilities – Committees responsible for development of policies, technical documents, BMPs and funding
	Long-term Funding Plan for Phases II and III	*Funding Plan that establishes*: • 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
	Basin Plan Amendment Recommendations	*As needed, recommended amendments to Basin Plans to:* • Facilitate implementation of Phase II of the Salt Control Program • Consider extension of salinity variance and revision of salinity exception policies • As appropriate, modify the Salinity Permitting Approaches;
10 years from Notice to Comply	Final Phase I Project Report	*For preferred physical projects*: • Conceptual designs • Assessment of environmental permitting requirements • Status of implementation of non-physical projects per Interim Project Report with recommendations for modifications, as needed

Groundwater and Non-NPDES Surface Water Discharges

The Central Valley Water Board shall apply the following principles to permits being issued for regulating discharges of salt to groundwater or discharges of salt to surface waters that are not subject to NPDES permits (Chapter 5.5 of the Porter-Cologne Water Quality Control Act which contains state statutory requirements for issuing NPDES permits consistent with the federal Clean Water Act).

1. *Participation in P&O Study* - Permittees electing the Alternative Salinity Permitting Approach shall be required to participate in efforts related to conducting the P&O Study, including providing the minimum required level of financial support. The level of participation may vary based on salinity in the discharge, local conditions or other factors. The needed level of participation would be established by the lead entity (i.e., Central Valley Salinity Coalition [CVSC]) that is overseeing the P&O Study. The lead entity shall document and confirm full participation by the permittee(s) until the P&O Study is completed or until such time that the Central Valley Water Board otherwise revises the applicable waste discharge requirements and/or conditional waiver or determines permittee is in compliance with the requirements of the Phase 1 Conservative Salinity Permitting Approach. The timeframe for completion of the P&O Study is expected to be ten years from the effective date of this Salt Control Program but may be extended by the Central Valley Water Board's Executive Officer for a period of up to five years.

2. *Implementation of Reasonable, Feasible and Practicable Efforts to Control Salt* - The Central Valley Water Board will require dischargers to continue to implement reasonable, feasible and practicable efforts to control levels of salt in discharges. Such efforts may include, but are not limited to, implementation of management practices that are designed to reduce salt in discharges; implementation of pollution prevention plans, watershed plans, and/or salt reduction plans that help to reduce salt loads in discharges to groundwater or surface water; and, monitoring for salt in surface water or groundwater as part of existing local, watershed-based or regional monitoring programs, in coordination with monitoring under the SNMP.

3. *Maintain Current Discharge Concentrations for Salt or Mass Loading Levels* - To the extent reasonable, feasible and practicable (and while accounting for conservation and drought, salinity levels in the water supply source, and some appropriate increment of growth), the Central Valley Water Board may use its discretion to adopt performance-based limits or action levels to the extent the Board finds it appropriate and necessary for salinity for permittees electing the Alternative Salinity Permitting Approach.

4. *Setting Permit Requirements* - In regulating discharges of salt in waste discharge requirements and conditional waivers, the Board shall require dischargers to fully participate in the P&O study (as documented by the lead entity overseeing the

study), implement reasonable, feasible and practicable efforts to control salt, and meet any performance-based limits or action levels deemed appropriate and necessary by the Central Valley Water Board. Compliance with these requirements shall constitute compliance with the water quality control plan and shall be deemed adequately protective of beneficial uses and the water quality objectives reasonably required for that purpose consistent with this salt control program.

NPDES Surface Water Discharges

The Central Valley Water Board shall apply the following principles to permits being issued for authorizing discharges of salt to surface waters subject to NPDES permits under the federal Clean Water Act.

1. *Participation in P&O Study* - Permittees electing the Alternative Salinity Permitting Approach shall be required to fully participate in efforts related to conducting the P&O Study including providing at least the minimum required level of financial support determined by the lead entity. The level of participation may vary based on salinity in the discharge, local conditions or other factors. The needed level of participation would be established by the lead entity (i.e., CVSC) that is overseeing the P&O Study. The lead entity shall document and confirm adequate participation by the permittee(s) until the P&O Study is completed or until such time that the Central Valley Water Board otherwise revises the applicable NPDES permit consistent with this Control Program. The timeframe for completion of the P&O Study is expected to be ten years from the effective date of this Salt Control Program but may be extended by the Board's Executive Officer for a period of up to five years.

2. *Requirements for Ensuring Reasonable Protection of Beneficial Uses* - Full participation in the P&O study as documented and confirmed by the lead entity overseeing the P&O Study shall be found by the Central Valley Water Board to provide for in lieu or alternative compliance to receiving water limits or effluent limits based on salinity. To determine reasonable potential, the Board maintains its discretion to conduct such analysis by using the approach set forth in U.S. EPA's Technical Support Document, by using the approach set forth in the SIP, or by using another approach that is consistent with applicable federal regulations. To the extent that the discharge in question is found to have reasonable potential for causing or contributing to a violation of an applicable salinity water quality objective pursuant to applicable federal regulations, the Board may consider granting use of assimilative capacity by allowing for a mixing zone and dilution credits. The permittee is also eligible for consideration of receiving a salinity variance pursuant to the Salinity Variance Policy.

3. *Implementation of Reasonable, Feasible, and Practicable Efforts to Control Salt* - The Central Valley Water Board will continue to require implementation of reasonable, feasible and practicable efforts to control levels of salt in discharges.

Such efforts may include, but are not limited to, implementation of management practices that are designed to reduce salt in discharges; implementation of pollution prevention plans, watershed plans, and/or salt reduction plans that help to reduce salt loads in discharges to surface waters; and, continued monitoring for salt in surface water as part of existing local, watershed-based or regional monitoring programs, in coordination with monitoring under the Salt and Nitrate Control Program.

4. *Maintain Current Discharge Concentrations for Salt or Mass Loading Levels* - To the extent reasonable, feasible and practicable (and while accounting for conservation and drought, salt levels in the water supply source, and some appropriate increment of growth), the Central Valley Water Board may use its discretion to prescribe performance-based limits or triggers to the extent the Board finds such additional actions appropriate and necessary for salinity for permittees electing the Alternative Salinity Permitting Approach.

Permitted Discharge to a Water Body Subject to De-designation of a Beneficial Use

The P&O Study will establish a program for the long-term management of salts in the Central Valley, including identifying locations that may serve as salt management area. For example, a groundwater basin that has had one or more beneficial uses de-designated due to salinity may be a considered a potential location for establishment of a salt management area. Accordingly, under the Phase I Salt Control Program:

- Permittee(s) that selects either the Conservative or Alternative 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.

Process to Initiate Phase I of the Salt Control Program

This section establishes the process and schedule for initiation of Phase I of the Salt Control Program and for selection of a compliance pathway during Phase I. For permittees that select the Alternative Salinity Permitting Approach, nothing here prevents, or should be interpreted to prevent, permittees from implementing elements of the Phase I P&O Study prior to receiving a Notice to Comply.

Existing Discharges of Salt

The Central Valley Water Board shall issue a Notice to Comply with the Salt Control Program to existing permittees that discharge salt in the Central Valley Region within one year of the effective date of the Basin Plan Amendments. Upon receipt of the Notice to Comply, permittees receiving the notice will be subject to the Conditional Prohibition of Salinity Discharges (Section ##), which establishes enforceable requirements for implementation of Phase I of the Salt Control Program.

No later than six months after receiving the Notice to Comply, existing permittees shall notify the Central Valley Water Board of its decision of whether to be permitted under the Conservative Salinity Permitting Approach or the Alternative Salinity Permitting Approach. Based on the selection of the permitting approach, the permittee shall comply with the following requirements:

- *Conservative Salinity Permitting Approach* – A permittee that selects this approach must submit an assessment of how the discharge will comply with the conservative permitting requirements set forth in the Conservative Salinity Permitting Approach. The permittee shall submit this assessment to the Central Valley Water Board with the notification to the Board of its permit compliance pathway decision. If the Board does not concur with the findings of the assessment, the Board may request additional technical and/or monitoring information with a deadline for submittal. When conducting the assessment, the permittee may use historical water quality information if the information adequately represents the character of the current discharger and/or receiving water and is approved by the Board's Executive Officer.

- *Alternative Salinity Permitting Approach* – A permittee that selects this approach shall participate in the Phase I P&O Study by providing at least the minimum required level of financial support throughout Phase I as determined by the lead entity overseeing the P&O Study. The permittee shall provide documentation of its compliance with the required level of support with the notification to the Central Valley Water Board of its permitting decision. If the permittee has an approved salinity-related Time Schedule Order, Compliance Schedule or variance that expires prior to the completion of the Phase I P&O Study, the Board, at its discretion, may extend the Time Schedule Order or Compliance Schedule or renew or grant a variance, as appropriate and allowed by other applicable policies.

New or Substantively Modified Discharges

A new permittee, or existing permittee seeking a permit modification due to a substantial and/or material change which increases salt concentration or load from a facility, shall indicate how the permittee intends to comply with the Salt Control Program at the time of application and provide the required information to support the decision, as described above.

Failure to Comply

Any permittee that does not submit a response to the Notice to Comply within the required six-month period may be subject to an enforcement action. Permittees who do not respond in the required six-month period are subject to enforcement for failure to respond to the Notice to Comply but may still select the Alternative Salinity Permitting Approach. Permittees selecting the Alternative Salinity Permitting Approach after the originally allocated six-month period will need to obtain approval from the lead entity conducting the P&O Study to join late and will be subject to the lead entity's requirements in addition to providing the minimum required level of financial support.

A permittee that elects to participate in the Alternative Salinity Permitting Approach must continue to provide at least the minimum required level of financial support to the lead entity for the P&O Study throughout the duration of Phase I of the Salt Control Program, unless the Central Valley Water Board has revised the permittee's permit in a manner that authorizes them to be subject to the Conservative Permitting Approach. In such cases, the permittee must remain in compliance with the Alternative Salinity Permitting Approach until such time that their permit is amended to allow compliance under the Conservative Permitting Approach. Where a permittee fails to provide the minimum required level of financial support to the P&O Study, the Board may require the permittee to comply with the requirements of the Conservative Salinity Permitting Approach.

Salt Control Program - Phase I to Phase II Re-Evaluation

Upon completion of Phase I and prior to initiation of Phase II of the Salt Control Program, the Central Valley Water Board will re-evaluate the Conservative and Alternative Salinity Permitting Approaches applicable under Phase I of the Salt Control Program. The Regional Water Board shall consider convening a stakeholder group to assist in the re-evaluation. In this re-evaluation, the Regional Water Board shall consider the findings of the P&O Study, results from surveillance and monitoring programs, proposals for use of other permitting options or approaches, and progress made towards meeting the overarching goals of the Salt Control Program. Based on the findings of this re-evaluation, the Regional Water Board may modify or re-adopt the Phase I permitting approaches and policies (e.g., variance and exceptions), thereby making them applicable to Phase II. Such amendments must be completed prior to the initiation of Phase II of the Salt Control Program.

Prior to the initiation of Phase II of the Salt Control Program, the Central Valley Water Board will notify all existing permittees in the Central Valley Region of the salinity-related permitting approaches applicable to Phase II. This notification must occur even if the Phase I permitting approaches are re-adopted. The purpose of the notification is to provide the opportunity for permittees to change the compliance pathway selected for Phase I. A permittee that elects to change its compliance pathway shall submit documentation to support the change within 180 days of the Board's notification.

A similar notification process will be utilized prior to the initiation of Phase III of the Salt Control Program.

FIGURE S-2: GENERAL SCHEDULE OF KEY PHASE I PRIORITIZATION AND OPTIMIZATION STUDY ACTIVITIES AND MILESTONES

Category	Year of Implementation (From Notice to Comply)									
	1	2	3	4	5	6	7	8	9	10
Stakeholder Coordination	Stakeholder Coordination Meetings (as needed frequency)									
	SGMA GSA Coordination Meetings (as needed frequency)									
Phase I Workplan	Phase I Work- plan									
Governance	Phase I Governance Plan		Long-term Governance Plan for Phases II & III							
Funding	Phase I Funding Plan		Long-term Funding Plan for Phases II & III							
Preferred Physical/Non-Physical Salt Management Projects		Development of Recommended Preferred Physical and Non-Physical Projects			Interim Project Report					
						Conceptual Design and Assessment of Environmental Permitting Requirements for Preferred Physical Projects				Final Project Report
Special Studies				Groundwater Quality Trace Constituent Study						
						Recycled Water Imports Study				
								Stormwater Recharge Master Plan Study		
					Emerging Tech				Emerging Tech	

Category	Year of Implementation (From Notice to Comply)									
	1	2	3	4	5	6	7	8	9	10
					Update No. 1				Update No. 2	
Basin Planning									Phase II Recommendations	
Reports		Progress Reports at Key Milestones (Years 1; 5; and 10 with documentation (electronic or otherwise) of participation)								

Edits Specific to the Tulare Lake Basin Plan Salinity Limits (Revision)

The following paragraphs include proposed modifications to the Tulare Lake Basin Plan in the sections indicated below.

CHAPTER 3 WATER QUALITY OBJECTIVES

Modify the Basin Plan in Chapter 3 Water Quality Objectives under the heading “Salinity” (page III-8 and III-9), as follows:

No proven means exist at present that will allow ongoing human activity in the Basin and maintain ground water salinity at current levels throughout the Basin.

CHAPTER 4 IMPLEMENTATION

Modify the Basin Plan in Chapter 4 Implementation under the heading “Irrigated Agriculture” (page IV-3), as follows:

Agricultural drainage may be discharged to surface waters provided it does not exceed an applicable water quality objective for boron. Other requirements also apply. An exception from boron limits for agricultural drainage discharged to surface waters may be permitted consistent with the Program for Exception from Implementation of Water Quality Objectives for boron.

Modify the Basin Plan in Chapter 4 Implementation under the heading “Discharges to Navigable Waters” (page IV-10), as follows:

- Discharges shall not exceed an applicable water quality objective for boron.
- A variance from boron limitations may be granted for municipal and domestic wastewater discharges to navigable waters if a variance is granted pursuant to the Variance Policy for Surface Water.

Modify the Basin Plan in Chapter 4 Implementation under the heading “Discharges to Land” (page IV-11), as follows:

Additional effluent limits follow…

- The incremental increase in salts from use and treatment must be controlled to the extent that it is reasonable, feasible and practicable.
- Discharges to areas that may recharge to good quality ground waters shall not exceed an applicable boron water quality objective.
- An exception from boron limits for discharges to land may be permitted consistent with the Program for Exception from Implementation of Water Quality Objectives.

Modify the Basin Plan in Chapter 4 Implementation under the heading “Industrial Wastewater” (page IV-13 and IV-14), as follows:

Generally, the effluent limits established for municipal waste discharges will apply to industrial wastes. Industrial dischargers shall be required to…

(1) Comply with water quality objectives established in Chapter 3.

(2) Comply with Chapter 15 for discharges of designated or hazardous waste unless the discharger demonstrates that site conditions and/or treatment and disposal methods enable the discharge to comply with this Basin Plan and otherwise qualify for exemption from Chapter 15.

(3) Comply with effluent limitations set forth in 40 CFR 400 when discharge is to surface water.

(4) Comply with, or justify a departure from, effluent limitations set forth in 40 CFR 400 if discharge is to land.

Modify the Basin Plan in Chapter 4 Implementation under the heading “Oil Field Wastewater” (page IV-15), as follows:

Policies regarding the disposal of oil field wastewater are…

- Discharges of oil field wastewater to unlined sumps, stream channels, or surface waters shall be regulated consistent with applicable laws, regulations and policies requiring the protection of beneficial uses in surface water and groundwater and the need to prevent nuisance conditions. Limits for the White Wolf subarea are discussed in the “Discharges to Land” subsection of the “Municipal and Domestic Wastewater” section.
- An exception from boron limits may be permitted consistent with the Program for Exception from Implementation of Water Quality Objectives for Boron.

Program to Control and Permit Nitrate Discharges to Groundwater

The Nitrate Control Program is a program for the control and permitting of nitrate discharges to groundwater in the Sacramento-San Joaquin River Basins and in the Tulare Lake Basin and applies to all groundwater basins that are designated with the municipal and domestic supply (MUN) beneficial use.[3]

This amendment was adopted by the Central Valley Water Board on 31 May 2018, and approved by the State Water Resources Control Board on <Day-Month-2018>. The Effective Date of the Nitrate Control Program shall be <Day-Month-2018>, the date of Office of Administrative Law approval.

Program Overview

Based on the CV-SALTS SNMP and its supporting studies, several groundwater basins and sub-basins in the Central Valley currently exceed the water quality objective for nitrate, which is set at the primary maximum contaminant level of 10 mg/L-N for drinking water. In addition, the SNMP and supporting studies identified that the cost for treating groundwater that exceeds 10 mg/L-N to be in the range of $36 to $81 billion, and in some scenarios would take more than 70 years for groundwater to meet the standard. Based on this and other information, the SNMP identified the need for a Nitrate Control Program that includes the following management goals:

Goal 1 – Ensure a Safe Drinking Water Supply;
Goal 2 – Achieve Balanced Salt and Nitrate Loadings; and,
Goal 3 – Implement Managed Aquifer Restoration where reasonable, feasible and practicable.

The timeframe for meeting these three goals is largely unknown and will vary from basin to basin. Further, the SNMP recognized that it may not be reasonable, feasible or practicable to achieve balanced loadings or fully restore groundwater in some basins/sub-basins. For other basins, it may take multiple decades to achieve the goals of the Nitrate Control Program. In some limited cases, where restoration of the groundwater basin for MUN uses may not be reasonable, feasible or practicable it may be necessary for the Central Valley Water Board to consider de-designating the MUN beneficial use designations from that groundwater basin.

The Nitrate Control Program is prioritized to first address health risks associated with drinking water that exceeds the nitrate primary maximum contaminant level (i.e., nitrate drinking water standard). Priority Groundwater Basins/Sub-basins[4] have been identified based on ambient

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[3] The implementation provisions in this Nitrate Control Program apply to discharges of nitrate to groundwater. To extent that the Central Valley Water Board uses other forms of nitrogen speciation (e.g., total Nitrogen and nitrite+nitrate) to address nitrate discharges, this Control Program would also apply in those circumstances.

[4] The prioritized Groundwater Basins/Sub-basins identified in the public draft, including identification per DWR's Bulletin 118, are from Luhdorff and Scalmanini Consulting

nitrate conditions, and timelines have been established for implementation of the Nitrate Control Program in these prioritized basins and sub-basins. Implementation of the Nitrate Control Program in non-prioritized basins and sub-basins will occur as directed by the Central Valley Water Board's Executive Officer. In areas of the Central Valley where there are no identified groundwater basins or sub-basins, the Nitrate Control Program will apply when the Central Valley Water Board's Executive Officer determines it is necessary and appropriate to address nitrate discharges to localized groundwater.

Permittees within the prioritized basins and sub-basins that have received notice must generally assess nitrate levels in groundwater used for MUN that may be impacted by nitrate discharge(s). The assessment, using readily available data and information, must determine if the groundwater in question is a safe, reliable source of drinking water with respect to nitrates. If the groundwater is impacted, and if the permittee is causing an exceedance of nitrate in the groundwater in public water supply or domestic wells beyond the primary maximum contaminant level, then the permittee shall submit an Early Action Plan (EAP) that includes specific actions and a schedule of implementation to address the immediate needs of those drinking groundwater from public water supply or domestic wells that exceed the primary maximum contaminant level for nitrate.

For longer-term implementation of the Nitrate Control Program, the Central Valley Water Board's permitting actions specific to nitrate discharges to groundwater will fall within one of the two following approaches:

- Individual Approach (Path A) is the approach utilized when an individual permittee (or third party group subject to a General Order wishing to proceed under Path A) decides to comply with the nitrate requirements as an individual/third party, or in circumstances when a management zone is not an available option.
- Management Zone Approach (Path B) is the approach utilized when multiple permittees elect to participate in a management zone as the preferred method for complying with the Nitrate Control Program.

Path A is considered the default permitting approach while Path B is an optional approach. Where appropriate, the Central Valley Water Board will encourage permittees to work cooperatively with each other and other stakeholders to implement the Nitrate Control Program through a Management Zone.

The Nitrate Control Program provides the Central Valley Water Board with flexibility and authority to permit discharges of nitrate to groundwater using Alternative Compliance mechanisms rather than traditional permitting determinations. The Board's options for Alternative Compliance include: (1) determining availability of assimilative capacity on a volume-weighted average basis for a management zone; (2) granting a conditional exception for meeting nitrate water quality objectives in discharges and/or in groundwater; and, (3) offsets. To authorize Alternative Compliance through one of these options, the Board must approve an Alternative Compliance Project as part of the authorization. A fundamental element of any Alternative Compliance Project is that it must ensure that groundwater users impacted

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Engineers and Larry Walker Associates (2016a), and the Central Valley Water Board may adjust these priorities during the public review process.

by discharges of nitrates have access to drinking water that meets state and federal drinking water standards, and must provide specific milestones and timelines for meeting all three management goals of the program. In circumstances where it is not reasonable, feasible or practicable to meet management goal 2 and/or goal 3, permittees must still indicate how discharges of nitrate will be controlled to the extent that is reasonable, practicable and feasible.

The Nitrate Control Program protects high quality groundwater by establishing nitrate triggers. Nitrate triggers are not water quality objectives themselves. The Central Valley Water Board may authorize a discharge, or collective discharges in a Management Zone, to exceed a nitrate trigger level, but to do so the Board must approve an Alternative Compliance Project, except in limited and unique circumstances.

Geographic Areas of Application

Considering the extent and size of the Central Valley Water Board's jurisdictional boundaries, it is necessary to categorize and prioritize the region's groundwater basins/sub-basins based on currently known ambient water quality conditions (where information is available), location (e.g., valley floor versus foothill and mountainous areas), and areas that are not part of an identified basin/sub-basin.

Priority Basins and Sub-basins

Basins/sub-basins have been prioritized and within Priority 1 and 2 have been identified as having the most serious ambient water quality concerns for nitrate. Priority 1 and 2 Groundwater Basins/Sub-basins are identified in Table N-1 and are depicted in Figure N-1.

Non-Prioritized Basins/Sub-basins

Groundwater Basins/Sub-basins that are not currently prioritized are identified in Appendix X. These basins/sub-basins or areas with the basins/sub-basins may be designated by the Central Valley Water Board as a high priority on a case-by-case basis when determined necessary by the Board.

Areas Within Central Valley Water Board's Jurisdictional Boundary That Are Not Part of a Basin/Sub-basin

Due to geologic conditions, some areas within the Central Valley Water Board's jurisdictional area are not part of an identified groundwater basin/sub-basin. These areas tend to be outside of the valley floor, and nitrate concerns in drinking water are generally not an issue of concern.

FIGURE N-1: PRIORITIZED DWR BULLETIN 118 GROUNDWATER BASINS/SUB-BASINS

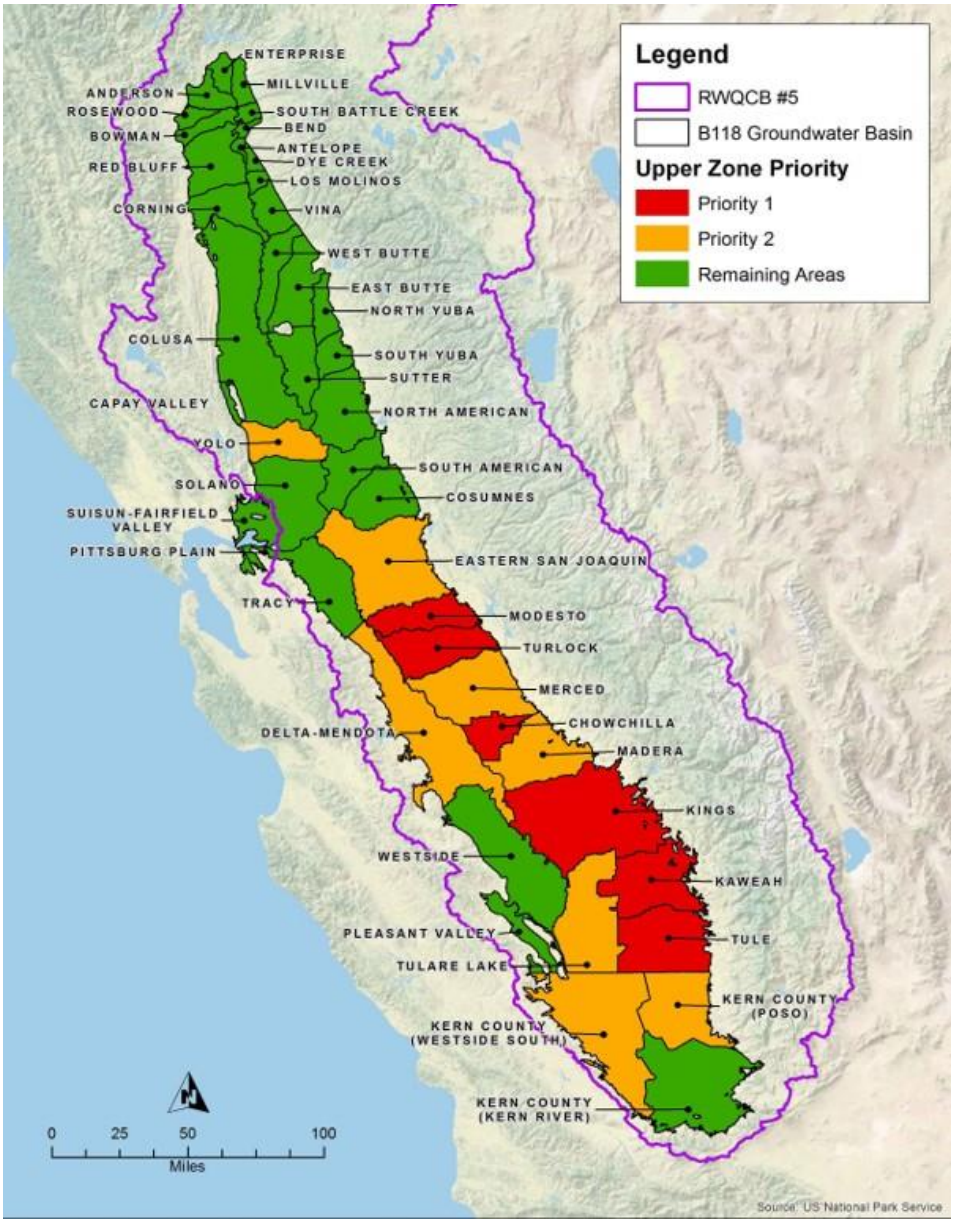


TABLE N-1: PRIORITIZED DWR BULLETIN 118 GROUNDWATER BASINS/SUB-BASINS

PRIORITY 1		PRIORITY 2	
5-22.11	Kaweah	5-21.67	Yolo
5-22.03	Turlock	5-22.04	Merced
5-22.05	Chowchilla	5-22.14	Kern County (Westside South)
5-22.13	Tule	5-22.12	Tulare Lake
5-22.02	Modesto	5-22.14	Kern County (Poso)
5-22.08	Kings	5.22-07	Delta Mendota
		5-22.01	Eastern San Joaquin
		5-22.06	Madera

Central Valley Water Board Review of Priorities

No later than January 1, 2024, the Central Valley Water Board shall review the priorities listed in Table N-1, and may adjust these priorities after considering water quality-based factors, and other relevant information. Factors the Board may consider in its review include, but are not limited to, the following:

(1) Degree to which areas (or subareas) with known nitrate drinking water supply contamination will be addressed under the current prioritization;

(2) Additional data/information provided by permittee(s) and/or other stakeholders within a basin/sub-basin (or subarea) that demonstrates that the nitrate concerns have or have not been addressed or will be addressed via another program or activity;

(3) Degree to which the area identified by water quality factors actually has impacted drinking water users (i.e., drinking water is predominately a surface water supply or drinking water supplies are primarily groundwater);

(4) Changes in groundwater basin/sub-basin boundaries by the Department of Water Resources, which may affect the spatial order as presented in Table N-1; and

(5) Maximization of efficient use of resources, which may affect the number of basins/sub-basins (or subareas) that may be included on the prioritized schedule of implementation.

Issuance of Notices to Comply

Existing Permitted Dischargers[5]

The Nitrate Control Program establishes timelines for implementation based on the priority designation of the groundwater basin/sub-basin, or lack of location within a groundwater basin/sub-basin. Implementation of the Nitrate Control Program for existing permitted dischargers occurs when notification is received from the Central Valley Water Board through the issuance of Notices to Comply. The Board will issue Notices to Comply according to the schedule in Table N-2. The Executive Officer of the Central Valley Water Board retains discretion to adjust the timelines in Table N-2 based on available resources.

[5] For the purposes of the Nitrate Control Program, the term “existing permitted dischargers” means dischargers subject to individual Waste Discharge Requirements, dischargers regulated as individual facilities under General Waste Discharge Requirements (e.g., facilities regulated under the Waste Discharge Requirements General Order for Existing Milk Cow Dairies), facilities or discharges subject to Conditional Waivers, or dischargers subject to General Waste Discharge Requirements that are regulated through a Third Party (e.g., dischargers regulated under Irrigated Lands Regulatory Program’s Third-Party General Orders). For those dischargers that are part of a third-party group, notifications required by the Nitrate Control Program may be issued to and received from the Third-Party group on behalf of their members, who in turn will be responsible for notifying its members.

New or Expanding Dischargers

After the effective date of the Nitrate Control Program, new dischargers located in groundwater basin/sub-basin (regardless of priority) or those with a material change to their operation that increases the level of nitrate discharged to groundwater must comply with the Nitrate Control Program and provide data and information as applicable. This provision does not apply to dischargers located in areas that are not part of a designated basin/sub-basin unless the Executive Officer of the Central Valley Water Board determines, based on the specific facts of the discharge, that it should be subject to the Nitrate Control Program and the Board's Executive Officer notifies the discharger accordingly.

TABLE N-2. TIMELINE FOR ISSUANCE OF NOTICE TO COMPLY WITH NITRATE CONTROL PROGRAM

Basin Priority	Time for Issuance of Notice to Comply
Priority 1 Basins	As soon as is reasonably feasible after the effective date of the Nitrate Control Program, but no later than 1 year from xxxx (effective date).
Priority 2 Basins	Within 2 to 4 years after effective date of the Nitrate Control Program.
Basins/sub-basins not Prioritized	Based on available resources, and as determined necessary by the Executive Officer of the Central Valley Water Board.
Areas that are Not Part of a Basin	As determined necessary by the Executive Officer of the Central Valley Water Board.

Community Request

Nothing in the Nitrate Control Program is intended to prevent or prohibit a community from specifically requesting that the Central Valley Water Board subject a basin, sub-basin, or portion thereof to the Nitrate Control Program in advance of the timelines identified here. Upon such a request, the Central Valley Water Board will consider the same factors evaluated during initial prioritization utilizing any additional information provided and will consider whether the request appropriately enhances ongoing efforts to address nitrate contamination on a region-wide scale.

Permittees Requesting Deferral for a Sub-basin or Portion of a Sub-basin

Permittees may request that, for a sub-basin or a portion of a sub-basin, the Central Valley Water Board defer the issuance of Notices to Comply so that the notices for that sub-basin or portion of a sub-basin are issued along with the notices issued for a lower priority basin. Such a request must be accompanied by documentation related to the factors considered during the original prioritization. The request may be provided at any time up to six months prior to the scheduled issuance of a Notice to Comply as outlined in the section titled *Implementation of Permitting Approach*es.

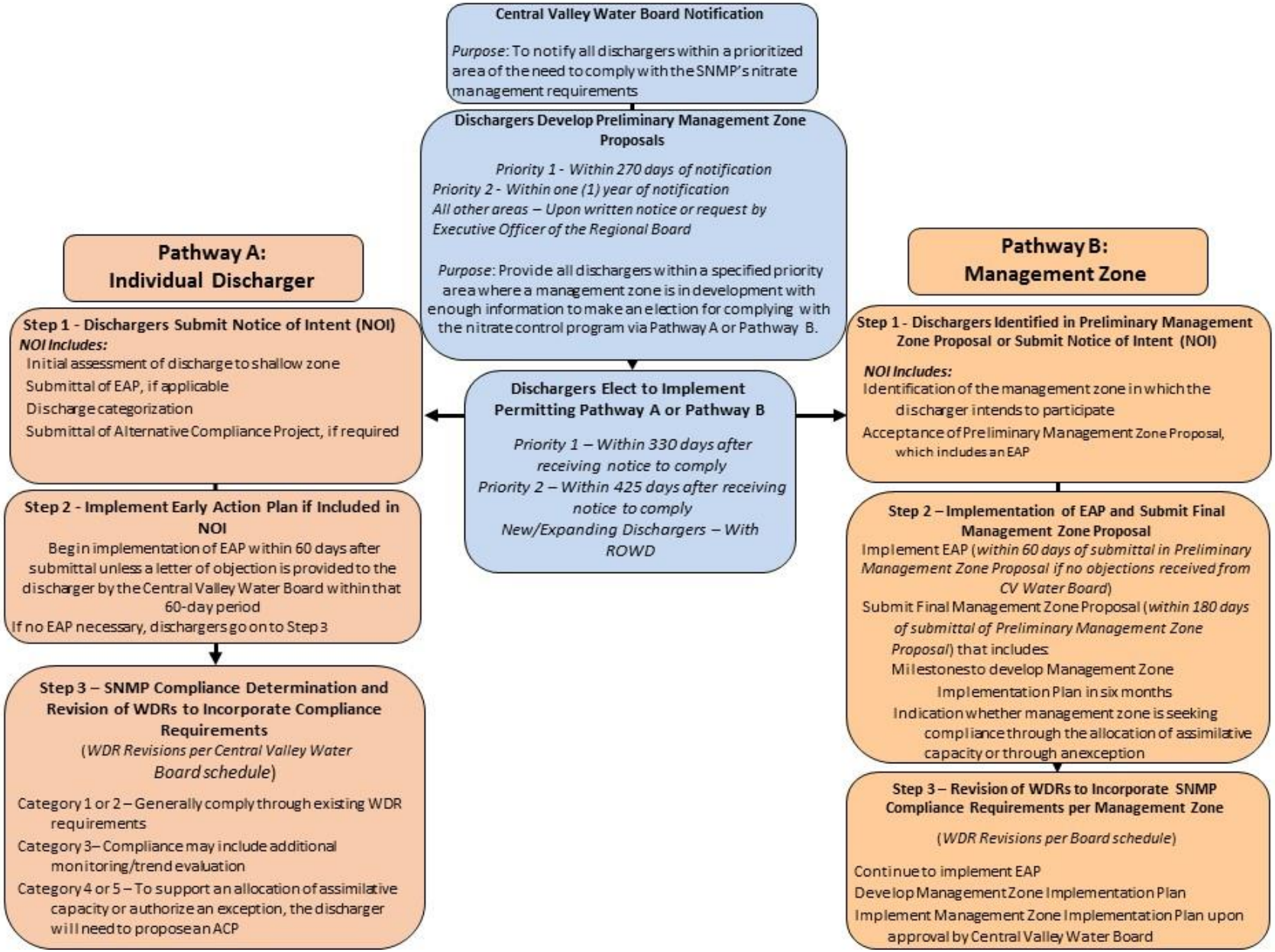
Permitting Approaches

Long-term implementation of the Nitrate Control Program will occur through updates of existing waste discharge requirements or conditional waivers, or through the issuance of new waste discharge requirements or conditional waivers for new sources of nitrate. Permit actions must fall under one of the two following approaches (Figure N-2):

(1) Individual Permitting Approach (Path A): Individual requirements (or per a General Order); or,

(2) Management Zone Approach (Path B): Participation in a Management Zone.

FIGURE N-2. NITRATE PERMITTING STRATEGY



Path A –Individual Permitting Approach

Path A applies to all permitted dischargers unless the discharger affirmatively elects to participate in the Management Zone Approach under Path B. For Path A, nitrate discharge impacts to groundwater are assessed in shallow groundwater underlying the area of discharge, otherwise referred to as the "Shallow Zone." What constitutes the Shallow Zone in any given area may vary but the purpose is to represent the area of the aquifer available for use by the shallowest domestic wells. To determine ambient nitrate concentrations in the Shallow Zone for purposes of the Nitrate Control Program only, several options are available:

(1) Use readily available data and information to calculate ambient nitrate concentrations for the shallowest ten percent (10%) of the domestic water supply wells in the Upper Zone[6] of a groundwater basin/sub-basin as defined and established in *Region 5: Updated Groundwater Quality Analysis and High Resolution Mapping for Central Valley Salt and Nitrate Management Plan* (June 2016);

(2) Conduct a site (or area) specific evaluation based on various types of available data and information, including but not limited to, depth and age of domestic wells in the area of contribution, groundwater table, well completion report data, and other available and relevant information; or,

(3) An equivalent alternative approved by the Central Valley Water Board's Executive Officer.

Based on the impact of the discharge to the Shallow Zone and the quality of the discharge, nitrate discharges will be characterized and placed into one of five categories (see Table N-3). Central Valley Water Board determinations regarding availability and allocation of assimilative capacity will be based on ambient water conditions in the Shallow Zone.

To protect high quality groundwater throughout the Central Valley, a nitrate trigger level of 75% of the water quality objective for nitrate is established. The trigger level is not a water quality objective. Permitted discharges that cause or may cause nitrate in the Shallow Zone to exceed a nitrate trigger may be subject to development and implementation of an Alternative Compliance Project.

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[6] Upper Zone is defined to mean, "the portion of groundwater basin, sub-basin or management zone from which most domestic wells draw water. The Upper Zone generally extends from the top of the saturated zone to the depth to which domestic wells are generally constructed (screened). The lower boundary of the upper zone varies based on well construction information for a given basin or sub-basin. The Corcoran Clay layer may define the lower boundary of the upper zone or the lower zone, pending the available well construction and groundwater use information."

TABLE N-3: NITRATE DISCHARGE CATEGORIES

Category	Discharge Quality and Impact to Groundwater
Category 1 No Degradation	Discharge quality, as it reaches the Shallow Zone[7], is better than the applicable water quality objective and is better than the average nitrate concentration in the Shallow Zone.
Category 2 *De Minimis* Impacts	The average nitrate concentration in the Shallow Zone is better than the applicable water quality objective, and, over a 20-year planning horizon: • The effect of the discharge on the average nitrate concentration in the Shallow Zone is expected to use less than 10% of the available assimilative capacity in the Shallow Zone; and • The discharge, in combination with other nitrate inputs to the Shallow Zone, is not expected to cause average nitrate concentrations in the Shallow Zone to exceed a nitrate trigger of 75% of the applicable water quality objective.
Category 3 Degradation Below Trigger	The average nitrate concentration in the Shallow Zone is better than the applicable water quality objective. Estimated that discharge is more than *de minimis*, but will not cause the average nitrate concentration in the Shallow Zone to exceed a trigger of 75% of the applicable water quality objective over a 20-year planning horizon.
Category 4 Degradation Above Trigger	The average nitrate concentration in the Shallow Zone is better than the water quality objective. Though the discharge is reasonably expected to cause the average nitrate concentration in the Shallow Zone to exceed a trigger of 75% of the applicable water quality objective over a 20-year planning horizon, the average nitrate concentration in the Shallow Zone is expected to remain at or below the applicable water quality objective over the same 20-year planning horizon.

[7] For the purposes of this Table, the “Shallow Zone” is the portion of the aquifer whose areal extent is defined by the boundaries of the discharge area and whose vertical extent is defined by the depth of the shallowest 10% of the domestic water supply wells near the discharge or an equivalent alternative.

Category	Discharge Quality and Impact to Groundwater
Category 5 Discharge Above Objective	Either: • The average nitrate concentration in the Shallow Zone is better than the applicable water quality objective, but the discharge may cause the average nitrate concentration in the Shallow Zone to exceed the water quality objective over a 20-year planning horizon; or, • The average nitrate concentration in the Shallow Zone exceeds the applicable water quality objective and the discharge quality, as it reaches the Shallow Zone, also exceeds the applicable water quality objective.

Path B –Management Zone Approach

Permittees with nitrate discharges may elect to comply with the Nitrate Control Program by participating in a Management Zone. The Central Valley Water Board finds Management Zones to be a regulatory option that is both appropriate and preferable for many areas of the Central Valley, because the use of Management Zones can maximize resources to address the varying degrees of nitrate concentrations found in groundwater basins/sub-basins, and can provide a more integrated approach to developing local solutions for localized areas of contaminated groundwater. Management Zones are a type of "Alternative Compliance Project" and are subject to Alternative Compliance Project requirements. Table N-4 summarizes the characteristics, intent and purposes of a Management Zone.

Individual nitrate discharges from permittees participating in a Management Zone are not categorized like discharges in Path A. Rather, impacts to groundwater are assessed collectively in the upper zone, which is defined to mean, "the portion of groundwater basin, sub-basin or management zone from which most domestic wells draw water. It generally extends from the top of the saturated zone to the depth to which domestic wells are generally constructed (screened). The lower boundary of the upper zone varies based on well construction information for a given basin or sub-basin. The Corcoran Clay layer may define the lower boundary of the upper zone or the lower zone, pending the available well construction and groundwater use information."

For a Management Zone, Central Valley Water Board determinations of availability and allocation of assimilative capacity are based on a volume-weighted average of nitrate concentrations in the Upper Zone.

Implementation of Permitting Approaches

Due Dates for Deliverables

To implement the Permitting Approaches set forth in this control program, permittees need to provide the Central Valley Water Board with information regarding their discharge of nitrate. Deadlines for submitting this information varies based on the priority of the basin/sub-basin,

and the permitting approach selected. Table N-5.A and Table N-5.B identify the various deliverables based on which permitting approach a discharger seeks to follow, and associated due dates for these deliverables.

TABLE N-4: CHARACTERISTICS, INTENT AND PURPOSE OF A MANAGEMENT ZONE

Characteristics

- A defined area which incorporates a portion of a large groundwater basin(s)/sub-basin(s)
- Encompasses all groundwater for those permittees that discharge nitrate to said groundwater that have selected to comply with the Nitrate Control Program through participation in the defined Management Zone.
- Voluntarily proposed by those regulated permittees located within the proposed Management Zone boundary that have decided to work collectively and collaboratively to comply with the Nitrate Control Program.

Intent and Purposes

- Defined area that serves as a discrete regulatory compliance unit for complying with the Nitrate Control Program for multiple permittees.
- Basis for the establishment of local management plans to manage nitrate within the Management Zone's boundary.
- Participants work collectively to implement SNMP management goals: (1) safe drinking water, (2) achieving balance, and (3) restoring groundwater basins/sub-basins (where reasonable, feasible and practicable) across the Management Zone.
- Where groundwater within the Management Zone boundary, and groundwater impacted by those permittees within the Management Zone boundary, is being used as a drinking water supply, and where those drinking water supplies are impacted by nitrates and exceed or are likely to exceed nitrate drinking water standards in the foreseeable future, Management Zone participants will ensure the provision of safe drinking water to all residents in the area adversely affected by those dischargers of nitrates from those that are participating in the Management Zone.
- Ensure the provision of safe drinking water for the Management Zone through stakeholder coordination and cooperation.
- Work towards better resource management through appropriate allocation of resources.
- Central Valley Water Board imposes reasonable provisions collectively for the Management Zone, and its permittee participants, that recognize the need to prioritize nitrate management activities over time for compliance with the Nitrate Control Program and the SNMP's Management Goals.

TABLE N-5.A: PATHWAY A, SUMMARY SCHEDULE FOR IMPLEMENTATION

Deliverable	Application	Due Dates[A]	
Initial Assessment/ Notice of Intent	All existing and new permittees electing Pathway A.	Existing Permittees - Priority 1 Basins/Sub-basins	330 days after receiving Notice to Comply
		Existing Permittees - Priority 2 Basins/Sub-basins & Non-Prioritized Basins	425 days after receiving Notice to Comply
		New or Expanding Permittees	With Report of Waste Discharge
Early Action Plan	Required if permittee is causing any public water supply or domestic well to exceed nitrate water quality objective.	To be submitted with Notice of Intent and initiated within 60-days if no objection received by the Central Valley Water Board	
Alternative Compliance Project if needed	Required for Category 4 and Category 5 Permittees	To be submitted with Notice of Intent	

A. The Executive Officer of the Central Valley Water Board retains the discretion to extend the due dates identified here for submittal of identified deliverables if proper justification is provided to the Executive Officer at least 30 days prior to required date for submittal.

TABLE N-5.B: PATHWAY B, SUMMARY SCHEDULE FOR IMPLEMENTATION

Deliverable	Application	Due Dates[A]	
Notice of Intent	All existing and new Permittees electing Pathway B.	Existing Permittees - Priority 1 Basins/Sub-basins	330 days after receiving Notice to Comply
		Existing Permittees - Priority 2 Basins/Sub-basins & Non-Prioritized Basins	425 days after receiving Notice to Comply
		New or Expanding Permittees	With Report of Waste Discharge
Preliminary Management Zone Proposal	Permittees electing Path B that are actively participating in development of Preliminary Management Zone Proposal.	Existing Permittees - Priority 1 Basins/Sub-basins	270 days after receiving Notice to Comply
		Existing Permittees - Priority 2 Basins/ Sub-basins & Non-Prioritized Basins	1 year after receiving Notice to Comply

Deliverable	Application	Due Dates[A]	
		New or Expanding Permittees	With Report of Waste Discharge
Early Action Plan	Required element of Preliminary Management Zone Proposal for public water supply and domestic wells within the Management Zone area that exceed nitrate water quality objective.	To be submitted with Preliminary Management Zone Proposal and initiated within 60-days if no objection received by the Central Valley Water Board	
Alternative Compliance Project if needed	Equivalent to Management Zone Implementation Plan noted below		
Final Management Zone Proposal		180 days after receiving comments from Central Valley Water Board on Preliminary Management Zone Proposal	
Management Zone Implementation Plan		Six (6) months after the Final Management Zone Proposal is accepted by the Executive Officer of the Central Valley Water Board.	

A. The Executive Officer of the Central Valley Water Board retains the discretion to extend the due dates identified here for submittal of identified deliverables if proper justification is provided to the Executive Officer at least 30 days prior to required date for submittal.

Deliverables

Initial Assessment/Notice of Intent (Path A)

Permittees, or those seeking a permit to discharge that includes the discharge of nitrate, must prepare an Initial Assessment and Notice of Intent, unless the permittee is actively engaged in developing a Management Zone proposal and is identified as an initial participant in a Preliminary Management Zone Proposal submitted pursuant to Path B.

Existing Permittees

Upon receipt of a Notice to Comply, existing permittees shall conduct an initial assessment of their discharge as it relates to nitrate. The initial assessment shall be submitted as part of a Notice of Intent and must include the following unless as otherwise approved by the Central Valley Water Board's Executive Officer:

(i.) Estimated impact of discharge of nitrate on the Shallow Zone over a 20-year planning horizon;

- May be estimated based on a simple mass balance calculation assuming 20 years of loading as nitrate reaches the water table.

(ii.) Initial assessment of water quality conditions based on readily available existing data and information.

- May use default information in or referenced by, the Central Valley SNMP (2016) or provide supplemental information that includes water quality conditions in the shallow and upper zones;[8]

(iii.) Survey of the discharge, and determination if the discharge is causing any public water supply or domestic well to be contaminated by nitrate;

(iv.) If causing contamination of a public water supply or domestic well, an Early Action Plan; Identification/summary of current treatment and control efforts, or management practices;[9]

(v.) Identification of any overlying or adjacent Management Zone;

(vi.) Identification of Category of the Discharge, and information to support the categorization;[10]

(vii.) Information necessary to support request for allocation of assimilative capacity, if applicable;

(viii.) For category 4 dischargers, identification of an Alternative Compliance Project or justification as to why the Central Valley Water Board should not require implementation of an Alternative Compliance Project.

(ix.) For category 5 dischargers, information as required to support an Application for an Exception pursuant to the Exceptions Policy, which would include identification of an Alternative Compliance Project.

Previous groundwater assessments conducted by the discharger (or third-party group on behalf of collective dischargers), and/or antidegradation analyses that have been submitted

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[8] Dischargers may rely on previous groundwater assessments conducted by the discharger, assessments conducted by others that are applicable and relevant, or previous antidegradation analysis that have been submitted to the Central Valley Water Board.

[9] If the discharger seeking compliance through this option is a third party submitting the NOI on behalf of the individual members of the third party, the third party will need to take reasonable efforts to summarize the management practices being used by its members with respect to protecting groundwater quality from the impacts of nitrates from member farming operations.

[10] If the discharger seeking compliance through this option is a third party submitting the NOI on behalf of the individual members of the third party, the third party will need to take reasonable efforts to categorize the various geographic areas as covered by the third party general order.

and approved by the Central Valley Water Board's Executive Officer may satisfy all or part of initial assessment requirement.

Recycled Water Permittees

Permittees for recycled water that meets the requirements of Title 22 of the California Code of Regulations may substitute the information requested above with the same information that is otherwise required for a Recycled Water Application under State Water Resources Control Board Order No. 2014-0090-DWQ, General Waste Discharge Requirements for Recycled Water Use.

New Dischargers, or Existing Permitted Dischargers Proposing Material Changes to their Regulated Discharge

New dischargers that propose to discharge new or additional levels of nitrate[13], or existing dischargers seeking a permit modification due to a material change to a facility that requires submittal of a Report of Waste Discharge and that includes an increase in nitrate discharges (either in volume or concentration), shall include the initial assessment information at the time of submittal of the Report of Waste Discharge. If a Management Zone exists for the area where the new or expanded discharge shall occur, the discharger shall indicate how the discharger intends to comply with the Nitrate Control Program, i.e., Path A or Path B. If a Management Zone does not exist at the time of application, the Central Valley Water Board may use its discretion to issue a time schedule to the discharger for complying with the Nitrate Control Program through a later formed Management Zone.

Option In lieu of Individual Initial Assessment/Notice of Intent

In lieu of conducting an initial assessment and submitting a Notice of Intent, existing permitted dischargers may work collaboratively and cooperatively to prepare a Preliminary Management Zone Proposal that meets the requirements specified under Path B.

Preliminary Management Zone Proposal (Path B)

Existing permitted dischargers may work cooperatively to prepare a single Preliminary Management Zone Proposal for an identified geographic area. A Preliminary Management Zone Proposal must include all of the following unless otherwise approved by the Central Valley Water Board's Executive Officer:

(i.) Proposed preliminary boundaries of the Management Zone area;

(ii.) Identification of Initial Participants/Dischargers;

(iii.) Identification of other dischargers and stakeholders in the management zone area that the initiating group is in contact with regarding participation in the management zone;

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[13] In cases where there is an ownership transfer of a facility and where the level of nitrate being discharged does not change, an initial assessment may not be necessary.

(iv.) Initial assessment of groundwater conditions based on readily available existing data and information.

- May use default information in or referenced by, the Central Valley SNMP or provide supplemental information that includes water quality conditions in the upper zone;

(v.) Identification/summary of current treatment and control efforts, or management practices;[14]

(vi.) Initial identification of public water supplies or domestic wells within the Management Zone area with nitrate concentrations exceeding the water quality objective;

(vii.) An Early Action Plan to address drinking water needs for those that rely on public water supply or domestic wells with nitrate levels exceeding the water quality objective;

(viii.) Documentation of process utilized to identify affected residents and the outreach utilized to ensure that they are given the opportunity to participate in development of an Early Action Plan;

(ix.) Identification of areas within or adjacent to the management zone that overlap with other management areas/activities;

(x.) Any constituents of concern that the individual discharger/group of dischargers intend to address besides nitrate (not required but is an option available);

(xi.) Proposed timeline for:

- Identifying additional participants;
- Further defining boundary areas;
- Developing proposed governance and funding structure for administration of the Management Zone;
- Additional evaluation of groundwater conditions across the management zone boundary area, if necessary; and,
- Preparing and submitting a Final Management Zone Proposal and a Management Zone Implementation Plan.

Preliminary Management Zone Proposals must be submitted to the Central Valley Water Board according to the due dates identified in Table N-5.

Permittees that are identified as an Initial Participant in a Management Zone shall be presumed to be electing Path B for complying with the Nitrate Control Program, unless they

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[14] If the discharger seeking compliance through this option is a third party submitting the NOI on behalf of the individual members of the third party, the third party will need to take reasonable efforts to summarize the management practices being used by its members with respect to protecting groundwater quality from the impacts of nitrates from member farming operations.

otherwise notify the Central Valley Water Board of their intent to withdrawal from Path B. If a permittee withdraws from Path B, the permittee must submit an initial assessment and Notice of Intent within 30 days from withdrawing from Path B.

Early Action Plan (Path A and Path B as applicable)

Early Action Plans are required if public water supply or domestic wells in the area of contribution exceed the water quality objective for nitrate. Implementation of an Early Action Plan that is addressing elevated nitrate concentrations in public water supply and/or domestic wells by providing an alternative water supply does not create a presumption of liability for the cause of the elevated concentrations.

An Early Action Plan must include the following, unless otherwise approved by the Central Valley Water Board's Executive Officer:

(i.) A process to identify affected residents and the outreach utilized to ensure that impacted groundwater users are informed of and given the opportunity to participate in the development of proposed solutions;

(ii.) A process for coordinating with others that are not dischargers to address drinking water issues, which must include consideration of coordinating with affected communities, domestic well users and their representatives, the State Water Board's Division of Drinking Water, Local Planning Departments, Local County Health Officials, Sustainable Groundwater Management Agencies and others as appropriate;

(iii.) Specific actions and a schedule of implementation that is as short as practicable to address the immediate drinking water needs of those initially identified within the management zone, or area of contribution for a Path A discharger, that are drinking groundwater that exceeds nitrate standards and that do not otherwise have interim replacement water that meets drinking water standards; and

(iv.) A funding mechanism for implementing the Early Action Plan, which may include seeking funding from Management Zone participants, and/or local, state and federal funds that are available for such purposes;

An Early Action Plan may be part of an Alternative Compliance Project.

Final Management Zone Proposal (Path B)

Management Zone participants must prepare and submit a Final Management Zone Proposal. The Final Management Zone Proposal must include all information from the Preliminary Management Zone Proposal, updated as necessary, as well as the following:

(i.) Timeline for development of the Management Zone Implementation Plan;

(ii.) Updated list of participants;

(iii.) Governance structure that, at a minimum, establishes the following: (a) roles and responsibilities of all participants; (b) identification of funding or cost-share

agreements to implement short term nitrate management projects/activities, which may include local, state and federal funds that are available for such purposes; and (c) a mechanism to resolve disputes among participating dischargers;

(iv.) Additional evaluation of groundwater conditions across management zone area, if necessary;

(v.) Identification of proposed approach for regulatory compliance (i.e., use of assimilative capacity and/or seeking approval of an exception for meeting nitrate water quality objectives);

(vi.) Explanation of how the management zone intends to interact and/or coordinate with other similar efforts such as those underway pursuant to the SGMA; and,

(vii.) Documentation of actions taken to implement the Early Action Plan.

Final Management Zone Proposals shall be submitted to the Central Valley Water Board for review and comment according to the due dates identified in Table N-5B.

Management Zone Implementation Plan (Path B)

A Management Zone Implementation Plan is the equivalent of an Alternative Compliance Project. Management Zone Implementation Plans shall:

(i.) Identify how emergency, interim and permanent drinking water needs for those affected by nitrates in the Management Zone area are being addressed, and how a drinking water supply that ultimately meets drinking water standards will be available to all drinking water users within the Management Zone boundary, and the timeline and milestones necessary for addressing such drinking water needs;

(ii.) Show how the Management Zone plans to achieve balanced nitrate loadings within the management zone (to the extent reasonable, feasible and practicable);

(iii.) Include a plan for establishing a managed aquifer restoration program to restore nitrate levels to concentrations at or below the water quality objectives to the extent it is reasonable, feasible and practicable to do so;

(iv.) Document collaboration with the community and/or users benefitting from any proposed short/long-term activities to provide safe drinking water;

(v.) Identify funding or cost-share agreements, or a process for developing such funding or cost-share agreements, to implement intermediate and long-term nitrate management projects/activities, which may include identification of local, state and federal funds that are available for such purposes;

(vi.) Identify nitrate management activities within a Management Zone which may be prioritized based on factors identified in the Central Valley SNMP (2016) and the results of the characterization of nitrate conditions. Prioritization provides the basis for allocating resources with resources directed to the highest water quality priorities first;

(vii.) Include a water quality characterization and identification of nitrate management measures that contains:

- Characterization of nitrate conditions within the proposed management zone, which will be used as the basis for demonstrating how nitrate will be managed within the Management Zone over short and long-term periods to meet the management goals established in the Central Valley Region SNMP.
- Short (≤ 20 years) and long-term (> 20 years) projects and/or planning activities that will be implemented within the Management Zone, and in particular within prioritized areas (if such areas are identified in the Implementation Plan) to make progress towards attaining each of the management goals identified by the Nitrate Control Program. Over time as water quality is managed in prioritized areas, updates to the plan may shift the priorities in the Management Zone.
- Milestones related to achieving balanced nitrate loadings and managed aquifer restoration.
- A short and long-term schedule for implementation of nitrate management activities with interim milestones.
- Identification of triggers for the implementation of alternative procedures or measures to be implemented if the interim milestones are not met.
- A water quality surveillance and monitoring program that is adequate to ensure that the plan when implemented is achieving the expected progress towards attainment of management goals. All or parts of the surveillance and monitoring program may be coordinated or be part of a valley-wide and/or regional groundwater monitoring, if appropriate.
- Consideration of areas outside of the Management Zone that may be impacted by discharges that occur within the Management Zone boundary areas.

(viii.) Identify the responsibilities of each regulated discharger, or groups of regulated dischargers participating in the Management Zone, to manage nitrate within the Zone.

(ix.) Include information necessary for obtaining an Exception as set forth in the Exceptions Policy, or information necessary for the Central Valley Water Board to grant use of assimilative capacity for Management Zones.

Management Zone Request for Allocation of Assimilative Capacity

A request for allocation of assimilative capacity for a Management Zone may not be for an area larger than an identified basin or sub-basin from Table N-2, and must include the following:

(i.) A comprehensive antidegradation analysis, consistent with the State Antidegradation Policy, which includes an evaluation of impacts to down-gradient areas.[11]

(ii.) Demonstration that there is sufficient assimilative capacity to ensure that discharges of nitrate from participants to the Management Zone, including discharges to recharge projects, will not cause the volume-weighted average water quality in the upper zone underlying the management zone to exceed the applicable Basin Plan objective(s);

(iii.) Demonstration that the proposed discharges covered by the management zone will not unreasonably affect present and anticipated beneficial uses in or down-gradient to the Management Zone;

(iv.) Demonstration that the allocation of assimilative capacity, and the resulting net effect on receiving water quality, is consistent with maximum benefit to the people of the State; and

(v.) Demonstration that Best Practicable Treatment or Control will be implemented to ensure that pollution or nuisance will not occur and that any degradation authorized by Central Valley Water Board will be consistent with the maximum benefit to the people of the state.

(vi.) Demonstration that allocation of assimilative capacity to dischargers participating in the Management Zone will not result in groundwater, as a volume-weighted average in the upper zone, to exceed a trigger level of 75% of the nitrate water quality objective over a 20-year timeframe. The Central Valley Water Board retains the discretion to allocate assimilative capacity above this trigger level as long as the Board can find that use of assimilative capacity above the trigger level will not result in pollution or nuisance over the longer term.

Management Zone Request for Exception to Meeting a Nitrate Water Quality Objective

A Management Zone may request an Exception to meeting a Nitrate Water Quality Objective. The request for application of the Exception may apply to all permitted dischargers participating in the Management Zone. The Central Valley Water Board must find that all required components of the Management Zone Implementation Plan, which is equivalent to an Alternate Compliance Project, is complete to consider an Exception. A complete Management Zone Implementation Plan is considered to meet the application requirements for an Exception for nitrate under the Exceptions Policy

Modification to Management Zone Implementation Plan

A Management Zone Implementation Plan shall be reviewed periodically, and may be modified periodically to incorporate changes based on new data or information. Any such modifications should generally be changes that will benefit water quality or user protection in the management zone. Any modifications to the Management Zone Implementation Plan that

impact or change timelines, milestones or deliverables identified in the Implementation Plan must be approved by the Central Valley Water Board.

Central Valley Water Board Actions

Individual Permitting Approach – Path A

The Central Valley Water Board will use the information contained in a submitted Initial Assessment/Notice of Intent or Report of Waste Discharge to determine if the discharge in question complies with the Nitrate Control Program. If the Board finds that the discharge as currently permitted is in compliance with the Nitrate Control Program, then revisions to existing waste discharge requirements or conditional waivers may not be necessary. In such cases, the Board will provide the permittee with a letter stating its finding with respect to the adequacy of existing waste discharge requirements and compliance with the Nitrate Control Program.

If the discharge as permitted, or proposed to be discharged, does not comply with the Nitrate Control Program, or if the Central Valley Water Board needs additional information to make such a determination, the Board may request additional information using its existing authorities.

Based on the categorization of the discharge, the Central Valley Water Board may require the permittee to conduct additional monitoring and/or implement an Alternative Compliance Project as part of permit conditions.

Upon receipt of a completed Initial Assessment/Notice of Intent or Report of Waste Discharge, the Central Valley Water Board shall take all reasonable efforts to revise applicable waste discharge requirements or conditional waivers within one year, as resources allow.

Implementation of an Early Action Plan shall begin as soon as is reasonably feasible, but no later than 60 days after submittal, unless the Central Valley Water Board deems the Early Action Plan to be incomplete. A revised Early Action Plan must be resubmitted and implemented within the time period directed by the Board's Executive Officer.

Management Zone Permitting Approach – Path B

Preliminary Management Zone Proposal

Upon receipt of a Preliminary Management Zone Proposal, the Central Valley Water Board shall prominently post the proposal on its website, circulate the Proposal publicly through its Lyris list-serve and provide individual post card notices (as resources allow) of the Proposal's availability to dischargers within the Management Zone boundary area that are not already identified as Initial Participants. The Board will work with the group of initiating dischargers to help communicate the availability of the Proposal to other dischargers and stakeholders within the Management Zone area. The Preliminary Management Zone Proposal shall be available for public comment for at least 30 days after being posted by the Board.

Early Action Plan

Implementation of the Early Action Plan shall begin as soon as is reasonably feasible, but no later than 60 days after submittal, unless the Central Valley Water Board deems the Early Action Plan to be incomplete. A revised Early Action Plan must be resubmitted and implemented within the time period directed by the Board's Executive Officer.

Final Management Zone Proposal

pon receipt of a Final Management Zone Proposal, the Central Valley Water Board shall prominently post the proposal on its website, circulate the Final Proposal publicly through its Lyris list-serve, and make the Final Proposal available for public review and comment for at least 30 days. The Executive Officer of the Board shall determine if the Final Management Zone Proposal meets the minimum requirements set forth under Path B and must determine if the Final Management Zone Proposal is deemed complete. A complete Final Management Zone Proposal functions as an equivalent to a Report of Waste Discharge for all existing permitted dischargers that are participating in the Management Zone.

Management Zone Implementation Plan

Within a reasonable time period, but not longer than six months after finding the proposed Management Zone Implementation Plan is complete or finding that requests for modifications to an approved Management Zone Implementation Plan that would alter timelines, milestones or deliverables are complete, the Central Valley Water Board shall provide public notice, request comment and schedule and hold a public hearing on the Management Zone Implementation Plan and the request for Alternative Compliance (i.e., volume weighted assimilative capacity or exception) embedded within the plan.

When the Central Valley Water Board finds it necessary to revise existing or issue new waste discharge requirements or conditional waivers to implement the Management Zone Implementation Plan, the notice, request for comment and public hearing requirement may be conducted in conjunction with the Board's process for revising or adopting waste discharge requirements or conditional waivers for those permittees participating in the Management Zone.

The Central Valley Water Board may approve all or part of a request for use of assimilative capacity to a Management Zone using a volume-weighted average in the upper zone, if the Board finds all of the following:

(i.) The request is consistent with the State Antidegradation Policy;

(ii.) The request is supported with a comprehensive antidegradation analysis;

(iii.) The request includes a Management Zone Implementation Plan that meets the requirements identified herein;

(iv.) Allocation of assimilative capacity to dischargers participating in the Management Zone will not adversely impact available assimilative capacity in areas outside of the Management Zone; and,

(v.) Allocation of assimilative capacity to dischargers participating in the Management Zone will not result in groundwater, as a volume-weighted average in the upper zone, to exceed a trigger level of 75% of the nitrate water quality objective for MUN over a 20-year timeframe. The Central Valley Water Board retains the discretion to allocate assimilative capacity above this trigger level as long as the Central Valley Water Board can find that use of assimilative capacity above the trigger level will not result in pollution or nuisance over the longer term.

The Central Valley Water Board may grant an exception to meeting nitrate water quality objectives to existing permitted dischargers participating in the Management Zone, if the Board finds all of the following:

(i) The request is consistent with the Exceptions Policy; and,

(ii) The request includes a Management Zone Implementation Plan that meets the requirements identified herein and serves as an Alternative Compliance Project for an exception to be granted.

If a Management Zone Implementation Plan is found to not be complete, and if the permittees of a Management Zone does not revise the Management Zone Implementation Plan in a timely manner that makes it complete for consideration by the Central Valley Water Board, then permittees within that Management Zone must comply with the Nitrate Control Program via Path A as directed by the Board's Executive Officer.

Requirements for Alternative Compliance Projects

The Central Valley Water Board will require a permittee(s) to develop and implement an Alternative Compliance Project to support an allocation of assimilative capacity on a volume-weighted basis, above a trigger level (except in unique or limited circumstances), or to authorize an exception.

- For permittees electing to comply under Path A, the Alternative Compliance Project must be submitted with the Initial Assessment/Notice of Intent.
- For permittees electing to comply under Path B, the Alternative Compliance Project is the Management Zone Implementation Plan.

At a minimum, an Alternative Compliance Project must include the following:

(1) Identification of public water supply and domestic wells that exceed nitrate water quality objectives and that are within the discharge areas zone of contribution;

(2) A schedule, with identified milestones, for addressing those nitrate-related drinking water issues; and,

(3) Identification of steps to be taken to meet the management goals of the Nitrate Control Program, which may be phased in over time[12]

The Central Valley Water Board has developed *Guidelines for Developing Alternative Compliance Projects*, which dischargers should consider in development of an Alternative Compliance Project. The guidelines may be found in the Staff Report to Incorporate a Salt and Nitrate Control Program for the Central Valley (Central Valley Water Board, 2018).

Program Review

The Nitrate Control Program will be reviewed on the same schedule as the Salt Control Program with the first review occurring no later than <Day Month Year> (15 years after Office of Administrative Law approval).

Conditional Prohibition for Salt and Nitrate Control Program

Salt Control Program

During Phase 1 of the Salt Control Program, a Conditional Prohibition shall apply to all permittees discharging salt pursuant to Board-issued waste discharge requirements and conditional waivers, except those dischargers regulated under the Board's Irrigated Lands Regulatory Program (ILRP). Dischargers regulated under the ILRP will instead be required to comply with the initial phase of the Salt Control Program through an amendment to the ILRP General Orders, which the Central Valley Water Board shall consider within 18 months of the effective date of the Basin Plan Amendment.

For permittees subject to the Conditional Prohibition, the prohibition shall apply from the time of receiving a Notice to Comply until such time that the permittees' existing waste discharge requirements or conditional waivers regulating the discharge of salts are updated or amended to reflect requirements of Phase I of the Salt Control Program, or until such time that the Central Valley Water Board affirmatively notifies the permittee that their permit complies with the Phase I of the Salt Control Program without the need for further update or amendments. Until the discharger receives a Notice to Comply, the relevant waste discharge requirements or conditional waiver provisions governing the discharge of salts, including any applicable compliance schedule, shall remain in force.

[12] The Central Valley Water Board recognizes that full compliance with management goals 2 and 3 (i.e., reaching balance and managed restoration) may not be reasonable, feasible or practicable in all circumstances. In such cases, the discharger is responsible for providing the Board with all necessary information to show why full compliance with management goals 2 and 3 are not reasonable, feasible or practicable. Dischargers shall still implement actions towards meeting the management goals that are reasonable, feasible and practicable.

Conditional Prohibition on Salt Discharges

Upon receiving a Notice to Comply from the Central Valley Water Board, discharges of salts at concentrations that exceed salinity numeric values identified in the Phase 1 Conservative Permitting Approach of the Salt Control Program are prohibited unless the permittee is implementing the Phase I requirements of the Salt Control Program.

Permittees subject to the Conditional Prohibition must notify the Central Valley Water Board within six months of receiving a Notice to Comply whether they elect to be regulated under the Conservative or Alternative permitting approaches. Dischargers who do not reply to the Notice to Comply will be required to meet the requirements of the Salt Control Program's Conservative permitting approach. The following information must be submitted with the permittee's response to the Central Valley Water Board of its permit compliance pathway decision (i.e. within six months of receiving a Notice to Comply).

(a) Conservative Salinity Permitting Approach

Permittees not selecting the alternative approach must submit an assessment of how their discharge complies with the conservative permitting requirements set forth in the Salt Control Program. If the Central Valley Water Board's Executive Officer does not concur with the findings of the assessment, the Executive Officer may request additional information from the permittee to verify that the permittee will meet those conservative permitting requirements.

(b) Alternative Salinity Permitting Approach

Permittees selecting the alternative salinity permitting approach must submit written documentation from the lead entity for the Salinity Prioritization and Optimization Study (P&O Study) confirming the discharger's full participation in the P&O Study. Status of the P&O Study must be documented and confirmed through reports to the Central Valley Water Board from the lead entity. Dischargers maintaining full participation in the P&O Study will be deemed in compliance with salinity discharge requirements in their waste discharge requirements or conditional waivers consistent with the Salt Control Program. During the P&O Study, the permittee must maintain current efforts to control levels of salinity in the discharge.

The Salinity Conditional Prohibition shall sunset at the end of Phase I of the Salt Control Program.

Nitrate Control Program

The Conditional Prohibition of Nitrate Discharges shall apply to all permittees discharging nitrate pursuant to Board-issued waste discharge requirements and conditional waivers, except those dischargers regulated under the Board's Irrigated Lands Regulatory Program (ILRP). Dischargers regulated under the ILRP will instead be required to comply with the initial phase of the Nitrate Control Program through an amendment to the ILRP General Orders, which the Central Valley Water Board shall consider within 18 months of the effective date of the Basin Plan Amendment.

For those permittees subject to the Conditional Prohibition, the prohibition shall apply from the time of receiving a Notice to Comply until such time that the permittees' existing waste discharge requirements or conditional waivers regulating the discharge of nitrate are updated or amended to reflect requirements of the Nitrate Control Program, or such time that the Central Valley Water Board affirmatively notifies the permittee that their permit complies with the Nitrate Control Program without the need for further update or amendments. Until such time as the discharger receives a Notice to Comply, the relevant waste discharge requirements or conditional waiver provisions governing the discharge of nitrate shall remain in force.

Conditional Prohibition of Nitrate Discharges to Groundwater

Upon receiving a Notice to Comply from the Central Valley Water Board, discharges of nitrate are prohibited unless a permittee is implementing the requirements of the Nitrate Control Program. These requirements include, but are not limited to, the development of an Early Action Plan (EAP), when so required, and the initiation of that EAP within 60 days of the submittal of the EAP to the Board, unless an extension has been granted by the Executive Officer. If a discharger has not elected to participate in the Management Zone Approach (Path B), the requirements of the Individual Permitting Approach (Path A) shall apply to the discharge. Compliance timelines are identified in the Nitrate Control Program.

After receiving a Notice to Comply with the Nitrate Control Program, all permittees subject to the Conditional Prohibition must provide either a Notice of Intent to comply with the Nitrate Control Program under Path A or be included as a participant in a previously-submitted Preliminary Management Zone Proposal (Path B). The Notice of Intent must be submitted within 330 days of receiving the Notice to Comply for Priority 1 Basins and within 425 days for remaining basins.

(a) Path A – Individual Permitting Approach

Permittees electing Path A must submit a Notice of Intent that includes an Initial Assessment to the Central Valley Water Board that complies with the applicable requirements of the Nitrate Control Program. Should the Initial Assessment identify the need for an Early Action Plan (EAP), the proposed EAP must be submitted with the Notice of Intent. The discharger must initiate the activities proposed under the EAP within 60 days of the submittal of the EAP, unless the Board's Executive Officer deems the EAP to be incomplete. Revised EAPs must be submitted and implemented within timelines directed by the Board's Executive Officer. Should the Initial Assessment identify the need for an Alternative Compliance Project (ACP), the permittee must submit the proposed ACP with the Notice of Intent.

(b) Path B – Management Zone Approach

Permittees electing to comply under a Management Zone Approach must meet the timelines identified in the Nitrate Control Program, including, but not limited to, submitting a Preliminary Management Zone Proposal within 270 days (Priority 1 Basins) or within one year (remaining basins) of receiving a Notice to Comply with the Nitrate Control Program. The Preliminary Management Zone Proposal must document all permittees considering compliance under Path B for the Management Zone. When an EAP is required, the EAP must be submitted with the

Preliminary Management Zone Proposal. Activities proposed under the EAP must be initiated within 60 days after submittal unless the Central Valley Water Board deems the EAP incomplete. Revised EAPs must be re-submitted and implemented within timelines directed by the Board's Executive Officer.

Surveillance and Monitoring Program Requirements for the Central Valley Salt and Nitrate Control Program

The overarching goals of the Salt and Nitrate Surveillance and Monitoring Program are to:

- Periodically assess the progress of the Salt and Nitrate Control Program and, if appropriate, support efforts to re-evaluate the requirements of the control program.
- Develop statistically-representative ambient water quality determinations and trend analyses for Total Dissolved Salts (TDS)/Electrical Conductivity (EC) and Nitrate as Nitrogen.
- Maximize the use of existing monitoring programs to provide needed data and avoid duplication of efforts.

The Central Valley Water Board will require permittees discharging salt and nitrate to provide information to the entity leading the surveillance and monitoring program to allow the Board to satisfy the monitoring goals. This information may come from the dischargers' monitoring efforts; monitoring programs conducted by state or federal agencies or collaborative watershed efforts; or from special studies evaluating effectiveness of management practices. Information gathered will be consolidated and evaluated by the entity leading this surveillance and monitoring effort and a Program Assessment Report will be submitted to the Board every five years that answers the following management questions.

- What are the ambient conditions and trends of salinity in surface waters throughout the Central Valley?
- What are the ambient conditions and trends of salinity and nitrate in the following groundwater zones for groundwater basins within the Central Valley Region: upper; lower; and production?

Within two years of the effective date of the Salt and Nitrate Control Program, or as extended with the approval of the Central Valley Water Board's Executive Officer, the entity leading the effort will submit to the Board a Work Plan that is compliant with all surface water and groundwater requirements set forth in this section. The Work Plan will include a Quality Assurance Project Plan (QAPP). Implementation of the Work Plan will be initiated within 30 days of the approval by the Central Valley Water Board's Executive Officer.

Permittees that discharge salt or nitrate in the Central Valley Region shall participate in the preparation of the Program Assessment Report by contributing funding for the preparation of the report and any additional activities necessary to ensure that all required information is available to the lead entity. Permittees that discharge salt or nitrate must either gather needed information required by the Work Plan for their area of contribution and provide the information to the lead entity in a format acceptable to the lead entity, or permittees must demonstrate their support for the lead entity to gather needed information by submitting documentation of such support from the lead entity. The requirements for participation shall be established by the lead entity and will consider factors such as participation in other existing groundwater quality monitoring programs that will contribute data to the Salt and Nitrate Monitoring Program,

resources required to develop and implement the Monitoring Program, including preparation of the Program Assessment Reports, and other factors.

Surface Water Requirements

To assess ambient conditions and trends of salinity and other secondary MCLs in surface waters throughout the Central Valley, the monitoring program for surface waters will rely on data collected by existing Central Valley monitoring and assessment programs already established in the region as well as any additional information collected under the Salt and Nitrate Control Program.

The portion of the Work Plan that addresses the surface water component will include at a minimum:

- Description of how the entity leading the Salt and Nitrate Surveillance and Monitoring Program will utilize data collected by existing monitoring and assessment programs to evaluate ambient conditions and trends in major water bodies including but not limited to the Sacramento River, Feather River, San Joaquin River and Delta as well as their major tributaries;
- Identification of the monitoring programs and associated monitoring locations that will be utilized;
- Approach that will be used to compile data from existing surface water quality databases and other sources for use in the assessment;
- Approach to assess ambient water quality conditions and trends for selected secondary Maximum Contaminant Levels (SMCLs), including but not necessarily limited to salinity-related SMCLs. Identification of the specific SMCLs to be assessed by the SAMP and frequency of analysis will be included in the work plan.

Groundwater Requirements

The Salt and Nitrate Groundwater Monitoring Program (Groundwater Monitoring Program) shall be sufficiently robust to evaluate ambient water quality and trends in groundwater basins in the floor of the Central Valley Region, including all sub-basins within the following groundwater basins defined by Department of Water Resources Bulletin 118: Redding Area (#5-6); Sacramento Valley (#5-21); and San Joaquin Valley (#5-22). Remaining groundwater basins will be considered for incorporation after completion of the Phase I Prioritization and Optimization Study and before initiation of Phase II of the Salt Control Program.

The Groundwater Monitoring Program shall consider, as appropriate, Chapter 5 of the CV-SALTS SNMP (2016) as guidance during the development of the work plan and shall include, at a minimum, the following components:

- Groundwater Monitoring Program goals;
- Entities responsible for the collection and reporting of data from groundwater wells incorporated into the Groundwater Monitoring Program;

- Identification of the groundwater monitoring wells to be included in the program and how the selected wells will provide a representative assessment of ambient water quality and trends by basin/sub-basin;
- Governance and funding mechanisms and agreements necessary to ensure the Groundwater Monitoring Program obtains the required data;
- Procedures for review and revision of the Groundwater Monitoring Program;
- A QAPP that includes:
    - Characteristics of each well incorporated into the program, e.g., well types, logs and construction data, where available;
    - Sample collection requirements, e.g., water quality parameters, sampling frequency and collection methods;
    - Data reporting and management requirements
- Approach to assess ambient water quality conditions and water quality trends for TDS/EC and Nitrate as Nitrogen in the Upper, Lower and Production Zones for each groundwater basin/sub-basin included in the Groundwater Monitoring Program; and
- Approach to evaluate the progress of the Salt and Nitrate Control Program based on trends in water quality.

To the extent practicable, the Groundwater Monitoring Program will utilize data collected by existing Central Valley Water Board water quality monitoring programs to be cost-effective and establish consistency in how groundwater quality data are collected, managed, assessed and reported. In this regard, the Irrigated Lands Regulatory Program Groundwater Quality Trend Monitoring Program implemented by the Central Valley Groundwater Monitoring Collaborative is anticipated to provide the foundation for the development of the Groundwater Monitoring Program. Data developed under the Irrigated Lands Regulatory Program will be supplemented as needed, to ensure that the periodic Program Assessment Report is completed on schedule. Sources of supplemental data include but are not limited to Groundwater Ambient Monitoring and Assessment (GAMA) shallow domestic well monitoring program; USGS Oil and Gas Regional Groundwater Monitoring Program; routine Title 22 sampling program; monitoring programs associated with implementation of Groundwater Sustainability Plans; monitoring programs established to comply with WDRs/Conditional Waivers; monitoring programs established as part of the approval of a management zone under the nitrate control program, or through the direct collection of groundwater quality data.

Program Assessment Report Requirements

An assessment of ambient water quality conditions and trends shall be completed at least once every five years consistent with the requirements of the approved work plan. The first Program Assessment Report shall be submitted to the Central Valley Water Board no later than five years after the approval of the Work Plan and every five years thereafter, unless a revised reporting schedule is approved by the Board's Executive Officer.

Recommendations for Implementation to Other Agencies

Modify the Basin Plan in Chapter 4 Implementation as follows:

Recommendations to Other Agencies

General

The implementation of long-term salinity management in the Central Valley is critically important to the long-term sustainability of the Central Valley and its water supply. Failure to control salts will result in a decline of Central Valley surface and groundwater quality at an enormous cost to all water users of Central Valley waters, eventually creating greater hardship for the environment, agriculture, industry, municipal utilities, and the entire economy of the Central Valley and the State. The need to control and abate the impacts from increasing salinity through implementation of the Salt Control Program in the Central Valley is an important priority for the State of California and is consistent with the goals and objectives of the California Strategic Growth Plan (California Bond Accountability, 2008). Nearly two-thirds of the State's population and over 3 million acres of irrigated agricultural lands rely on waters from the Central Valley via the State's water project to meet their daily needs. A significant portion of the southern Central Valley's domestic, agricultural and industrial water supply is imported from the Sacramento/San Joaquin Delta via State and federal water projects. Delta water is of lower water quality than the Sierra Mountain waters that historically fed the valley and water projects import nearly 400 thousand tons of salt a year from the Delta into the valley.

Due to the complexity and far-reaching impacts of salt management in the valley, the Central Valley Water Board has determined that all users of Central Valley waters, within and outside of the Board's jurisdictional area, are considered stakeholders responsible for the successful implementation of the Salt Control Plan. Successful implementation will require significant participation and actions by federal, state, local agencies, districts, associations and other entities that use or transport Central Valley's waters. It is recommended that these entities participate in the P&O Study to be done under Phase I, and in the other two phases of the Salt Control Program as appropriate. Participation in the Phase I P&O Study may be done 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 Salt Control Program and coordination.

Recommendations to Federal Officials

The U.S. Federal Legislature should establish the Central Valley Salinity Act[13] to develop a Central Valley Salt Control Program and authorize the construction, operation, and maintenance of certain works in the San Joaquin and Tulare Lake Hydrologic Regions in the

[13] Similar to the Colorado River Basin Salinity Control Act (SCA), Public Law 93-320, enacted 24 June 1974.

Central Valley to control the salinity of water delivered to users in the Central Valley and the State.

Recommendations to Federal Agencies and Departments

The U.S. Natural Resource Conservation Service, U.S. Department of Agriculture, U.S. Fish and Wildlife Service, U.S. Geological Service, U.S. Army Corps of Engineers and U.S. Bureau of Reclamation should participate in the P&O Study to understand how the Salt Control Program supports their agency's mission and provide funding for the P&O Study and subsequent phases of the Salt Control Program as appropriate.
The U.S. Environmental Protection Agency should participate in the P&O Study to understand how to integrate the agency's goals into the study. The Agency should provide funding to the P&O Study and future salt control implementation programs for studies on the impacts of salt discharges on the environment and determining appropriate mitigating measures to address the impacts.

Recommendations to the State Legislature

The State of California Legislature should include in future budgets or funding mechanisms a means to fund a portion of the P&O Study, fund implementation of the salt management solutions identified through P&O solutions, and fund other elements of the Salt and Nitrate Control Program for the Central Valley.

Recommendations to the State Water Board

The State Water Board should use its water rights permitting and enforcement authorities, as appropriate, to require participation in the P&O Study to those holders of water right permits for waters in the Central Valley. This is especially important when granting water rights separates water from its watershed resulting in the accumulation of salt in inland areas or the reduction in assimilative capacity of surface and groundwater, such as exporting of surface waters to areas outside of the Central Valley. The State Water Board should seek and prioritize funding opportunities to fund a portion of the P&O Study and future implementation of the salt management solutions identified through P&O Solutions. The State Water Board should support water resource programs that are related to salt management and should prioritize grant and other funding sources to support implementation of the Salt and Nitrate Control Program.

The State Water Board should develop or revise drought and conservation regulations, policies and plans to be consistent with maintaining a salt balance in the Central Valley. Such policies should balance the need for conservation where adequate recharge is needed to protect and maintain high quality groundwaters.

Recommendations to Other State Agencies and Departments

The California Department of Food and Agriculture, California Department of Fish and Wildlife, California Department of Conservation and the California Department of Water Resources

should participate and provide funding to the P&O Study to ensure that the implementation of its programs and policies are consistent with the requirements of the Salt Control Program.

The California Environmental Protection Agency, the California Department of Fish and Wildlife and the Delta Stewardship Council should participate in the P&O Study to ensure that proposed solutions found through the study are sound and will not adversely impact our resources or the Delta.

Recommendations to Counties and Municipalities

Municipalities within the Central Valley, as well as those outside of the Central Valley that benefit from the export and import of Central Valley surface waters, should participate in and support the P&O Study to ensure that actions they plan, permit and implement minimize reductions in surface water and groundwater quality, while promoting water sustainability.

County and municipal planning departments within the Central Valley should ensure their land use and development policies, ordinances and actions are consistent with the goals and objectives of the Salt and Nitrate Control Program and requirements of the Groundwater Sustainability Agencies.

Recommendations to Groundwater Sustainability Agencies (GSAs)

Groundwater Sustainability Agencies (GSAs) within the Central Valley should participate in and support the P&O Study under the Salt Control Program as well as any Management Zones developed under the Nitrate Control Program to ensure that actions they plan, permit and implement minimize reductions in groundwater quality, while promoting water sustainability.

Recommendations to Local Agencies, Districts, Associations, Commissions, Coalitions, Industries and other Entities Within and Outside of the Central Valley

Agencies, Districts, Associations, Commissions, Coalitions, Industry and other entities[14] include parties that may or may not have been participating in the CV-SALTS initiative to develop the Salt and Nitrate Management Plan and that benefit from the export and import of State Water Project and Central Valley Water Project surface waters. These entities should participate in and provide funding for the P&O Study, and subsequent phases of the Salt Control Program as appropriate, and participate in management zone implementation plans as

[14] These parties include, but are not limited to, Resource Conservation Districts, California League of Food Processors, Dairy CARES, Wine Institute, California Urban Water Agencies, Association of California Water Agencies, California Association of Sanitation Districts, Contra Costa Water District, Metropolitan Water District, San Joaquin River Authority, Kern Water District, Westlands Water District, East San Joaquin Water Quality Coalition, South Delta Water Agency, Friant Water Users Authority, San Joaquin River Water Contractors, State Water Contractors, Santa Clara Water District, East Bay Municipal Utility District, and others.

appropriate to ensure that actions they plan, permit or implement minimize reductions in surface and groundwater quality within the Central Valley while promoting water sustainability.

Agencies, Districts, Associations, Commissions, Coalitions, Industry and other entities[15] responsible for existing and future water resource and/or salinity treatment and/or disposal facilities within the Central Valley should participate in and provide funding for the P&O Study, and subsequent phases of the Salt Control Program as appropriate, and participate in management zone implementation plans as appropriate to ensure that actions they plan, permit or implement minimize reductions in surface and groundwater quality within the Central Valley while promoting water sustainability.

[15] These parties include, but are not limited to, Resource Conservation Districts, California League of Food Processors, Dairy CARES, Wine Institute, California Urban Water Agencies, Association of California Water Agencies, California Association of Sanitation Districts, Contra Costa Water District, Metropolitan Water District, San Joaquin River Authority, Kern Water District, Westlands Water District, East San Joaquin Water Quality Coalition, South Delta Water Agency, Friant Water Users Authority, San Joaquin River Water Contractors, State Water Contractors, Santa Clara Water District, East Bay Municipal Utility District, and others.

Definitions and Terminology Specific to the Salt and Nitrate Control Program

ALTERNATIVE COMPLIANCE PROGRAM (ACP): project(s) designed to provide the same or higher level of intended protection to water users that may be adversely affected by the discharge. For example, where a discharge is unable to comply with water quality objectives for nitrate, the permittee may seek an exception and offer to provide a safe and reliable alternative water supply for nearby drinking water wells that exceed or threaten to exceed the primary MCL for nitrate. Alternative Compliance Programs may be used in conjunction with other non-traditional regulatory options (including variances, exceptions, offsets, management zones and assimilative capacity allocations) to mitigate the adverse effects from a discharge until a feasible, practicable and reasonable means for meeting water quality objectives becomes available.

AQUIFER: A body of rock or sediment that is sufficiently porous and permeable to store, transmit and yield significant or economic quantities of groundwater to wells or springs.

AREA OF CONTRIBUTION: The portion(s) of Basin or Sub-basin where a discharge or discharges will co-mingle with the receiving water and where the presence of such discharge(s) could be detected.

ASSIMILATIVE CAPACITY: The capacity of a high-quality receiving water to absorb discharges of chemical constituents and still meet applicable water quality objectives that are protective of beneficial uses. State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (*State Antidegradation Policy*) requires a consideration, to the extent feasible, of the degree to which a discharge will affect the available assimilative capacity of a high-quality water relative to baseline water quality when the Central Valley Water Board is authorizing degradation. For the purposes of the Nitrate Control Program, available assimilative capacity may be calculated based on the average groundwater concentration of nitrate in the receiving water.

AVERAGE GROUNDWATER CONCENTRATION: The mean, volume-weighted concentration of a chemical constituent computed using the reasonably available, representative and reliable well data collected in a given Basin or Sub-basin during the most recent 10-year sampling period. The Central Valley Water Board may authorize longer or shorter averaging periods where necessary and appropriate. Statistical tools and transformations or other QA/QC data may be used to identify and disqualify outliers, to normalize data, or to spatially and temporally de-cluster well data to reduce the potential for sampling bias when estimating a mean concentration.

GROUNDWATER BASIN: A groundwater basin is an alluvial aquifer comprised of soils and sediments that are sufficiently porous and permeable to store, transmit and yield significant or economic quantifies of water to wells or springs. Groundwater basins have a definable bottom and well-defined lateral boundaries that are usually characterized by impermeable formations of rock or clay or by subsurface gradients that physically

constrain subsurface flows to a limited direction. The California DWR (2006) has identified 126 groundwater basins or sub-basins in the Central Valley Region.

BEST EFFORTS: The applicable standard that must be met by a permittee when the Central Valley Water Board is authorizing waste discharges that may impact waters that are not considered "high quality waters." The Best Efforts approach involves making a showing that the constituent is in need of control and establishing limitations which the permittee can be expected to achieve using reasonable control methods. Factors that should be considered include: the water supply available to the permittee; the past effluent quality of the permittee; the effluent quality achieved by other similarly situated permittees; the good-faith efforts of the permittee to limit the discharge of the constituent; and the measures necessary to achieve compliance

BEST MANAGEMENT PRACTICES (BMP): Structural or non-structural (operational) control techniques designed to reduce the discharge of pollutants into receiving waters, especially for non-point sources where conventional wastewater treatment technologies are not a feasible or practicable compliance option.

BEST PRACTICABLE TREATMENT OR CONTROL (BPTC): The applicable standard that must be met by a permittee when the Central Valley Water Board is authorizing the degradation of high-quality waters pursuant to the State Antidegradation Policy. BPTC is conceptually comparable (but not legally synonymous) with other similar phrases commonly used to proscribe the most effective, efficient and affordable means for minimizing pollution, such as: Best Available Technology Economically Achievable (BATEA), Best Practicable Control Technology (BPT), Best Conventional Pollution Control Technology (BCT), and Best Management Practices (BMP).

CONDITIONAL PROHIBITION: Conditional prohibitions of discharge can be established in the Basin Plan for any type of discharge. (Wat. Code § 13243.) A conditional prohibition may specify conditions or areas where the discharge of waste, or the discharge of certain types of waste, will not be permitted unless specific conditions are met. A conditional prohibition established in the Basin Plan is directly enforceable by the Central Valley Water Board even in the absence of WDRs or a waiver regulating the discharge or discharger.

CURRENT GROUNDWATER QUALITY: For the purposes of the Salt and Nitrate Control Program, "current groundwater quality" is defined as the volume-weighted Average Concentration of a chemical constituent in a given Basin or Sub-basin. Current water quality can be computed separately for the Production Zone, Upper Zone, Lower Zone, Shallow Zone and Management Zone.

DE MINIMIS DISCHARGE: *De minimis* discharges of nitrate are specifically defined in the Central Valley Water Board's Nitrate Control Program.

DOMESTIC WELL: A water well used to supply water for the domestic needs of an individual residence or systems of four or less service connections (DWR Bulletin 74).

EARLY ACTION PLAN (EAP): For the purposes of the Central Valley Water Board's Nitrate Control Program, an EAP is a plan that identifies specific activities, and a schedule for implementing those activities, that will be undertaken to ensure immediate access to safe drinking water for those who are dependent on groundwater from wells that exceed the Primary MCL for nitrate. (See also the SNMP Nitrate Permitting Strategy).

EXCEPTION TO A WATER QUALITY OBJECTIVE: A special authorization, adopted by the Central Valley Water Board through the normal public review and approval process, that allows a discharge or group of discharges to groundwater, subject to various conditions, without an obligation to comply with certain water quality objectives that would normally apply to the given discharge for the period of the exception. Exceptions are limited to a specific term that is determined by the Central Valley Water Board. (See also the SNMP Exceptions Policy).

LOWER GROUNDWATER ZONE (see Fig. 1): The remaining portion of a groundwater basin or sub-basin's Production Zone excluding the Upper Zone. Wells constructed in the Lower Zone are generally used for some municipal supply and/or agricultural purposes. The upper boundary of the Lower Zone varies based on well construction information for a given basin or sub-basin (see reference citation in the definition of Upper Zone). Where the Corcoran Clay layer exists, the Corcoran Clay layer may define the lower boundary of the Upper Zone or the Lower Zone, pending the available well construction and groundwater use information. The groundwater beneath the Corcoran Clay is referred to as the lower aquifer system.

MANAGEMENT ZONE: A discrete and generally hydrologically contiguous area for which permitted discharger(s) participating in the management zone collectively work to meet the goals of the SNMP and for which regulatory compliance is evaluated based on the permittees collective impact, including any alternative compliance programs, on a defined portion of the aquifer. Where Management Zones cross groundwater basin or sub-basin boundaries, regulatory compliance is assessed separately for each basin or sub-basin. Management Zones must be approved by the Central Valley Water Board. (See also SNMP Management Zone Policy).

NATURALLY-OCCURRING BACKGROUND CONCENTRATION: The concentration of a chemical constituent that is likely to be present a given groundwater Basin or Sub-basin without the influence of anthropogenic activities that may have occurred over time, accounting for temporal and spatial variability.

OFFSET PROJECT: Project(s) implemented in conjunction with, but separately from, a discharge where the net impact of both on receiving water quality is better than what would be expected to occur if the discharge was required to comply with waste discharge requirements prescribed in the absence of any offset. (See also the Offsets Policy).

PERCHED GROUNDWATER (see Fig. 1): Groundwater that is supported by a zone of material of low permeability located above an underlying main body of groundwater with

little or no hydrologic connectivity to the underlying main aquifer. In most cases, Perched Groundwater is excluded when characterizing the Production Zone, Upper Zone or Shallow Zone of the main Aquifer which makes up a given DWR Basin or Sub-basin.

PRODUCTION ZONE FOR GROUNDWATER (see Fig. 1): The portion of a basin or sub-basin from which the majority of groundwater is being pumped and utilized. The Production Zone includes the Upper Zone and the Lower Zone.

RECEIVING WATER(S): A surface waterbody (lake or stream) or a groundwater Basin or Sub-basin into which pollutants are discharged.

SALINITY: For purposes of implementing the Salt and Nitrate Control Plan, the definition of "salinity" and "salt" includes only: electrical conductivity, total dissolved solids, fixed dissolved solids, chloride, sulfate, and sodium.

SALT MANAGEMENT AREA: A defined groundwater basin or sub-basin that can be used receive and contain water with elevated salinity concentrations in order to remove the salt from sensitive areas until such time that the collected salts can be removed from the area for disposal or use.

SATURATED GROUNDWATER ZONE (see Fig. 1): The area below the land surface in which all pore space between soil, sand and rock particles is filled with water. The Saturated Zone is below the Unsaturated Zone and excludes areas of soil moisture where water is held by capillary action in the upper unsaturated soil or rock.

SHALLOW GROUNDWATER ZONE (see Fig. 1): The shallowest portion within the upper zone where groundwater would be considered to constitute an aquifer (which is defined as a "body of rock or sediment that is sufficiently porous and permeable to store, transmit, and yield significant or economic quantities of groundwater to wells and springs" [DWR, 2003]). In all cases, relevant groundwater does not include perched water. For example, this may be the upper portion of the upper zone that generally encompasses the shallowest 10% of the domestic water supply wells in a given basin or sub-basin. When determining the upper portion of the upper zone based on the shallowest 10% of the domestic wells in a given area, variations in well depth across the basin or sub-basin due to hydrogeologic conditions or other factors should be considered.

SUB-BASIN: A sub-basin is a smaller, but contiguous, area of the aquifer within a larger groundwater basin. The sub-basin boundaries can be defined both vertically and horizontally by a number of factors including, but not limited to: mineral or chemical concentrations, pumping practices, porosity, ownership, overlying land uses, jurisdictional oversight, flow gradients, tributary relationships, or other variables that merit the sub-basin be managed differently from adjacent areas in the same larger groundwater basin. The California DWR (2006) has identified 126 groundwater basins or sub-basins in the Central Valley Region; 41 of these aquifers are located on the valley floor, and the remainder are located in the surrounding foothills and mountains.

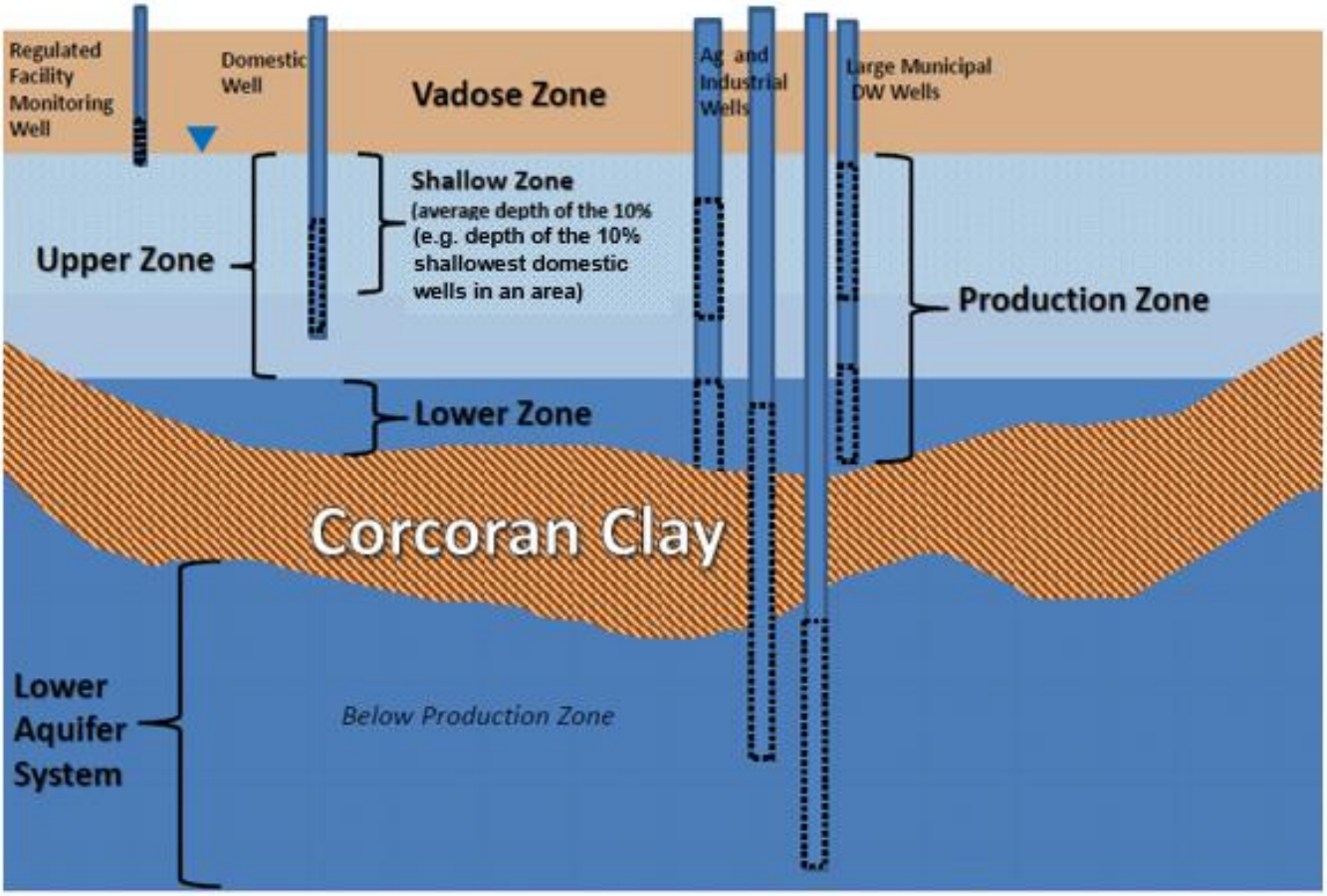
TRIGGER(s): A concentration or level for a specific constituent (e.g. TDS) or parameter (e.g. Electrical Conductivity) which, when equaled or exceeded, may require some permittees to initiate certain actions or implement certain measures.

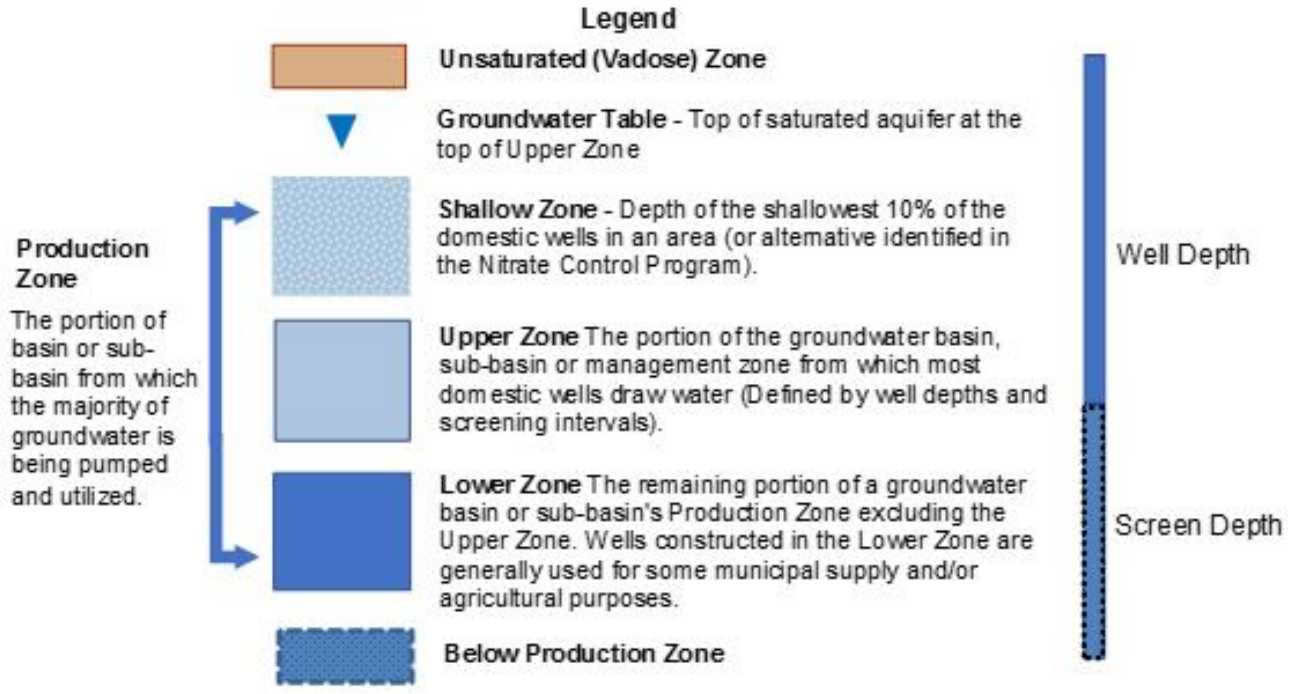
UNSATURATED ZONE (see Fig. 1): The area below the land surface in which the pore space between soil, sand and rock particles contains varying degrees of both air and water in ratios that inhibit extraction of significant or economic quantities of groundwater extraction. The term "Unsaturated Zone" is generally considered to be synonymous with the term "Vadose Zone."

UPPER GROUNDWATER ZONE (see Fig. 1): The portion of the groundwater basin, sub-basin or management zone from which most domestic wells draw water. It generally extends from the top of the saturated zone to the depth to which domestic wells are generally constructed (screened). The lower boundary of the Upper Zone varies based on well construction information for a given basin or sub-basin. The Corcoran Clay layer may define the lower boundary of the Upper Zone or the Lower Zone, pending the available well construction and groundwater use information. (as described in Section 2 of LWA/LSCE; Region 5: Updated Groundwater Quality Analysis and High-Resolution Mapping for Central Valley Salt and Nitrate Management Plan; June, 2016).

VARIANCE TO WATER QUALITY STANDARD: A special authorization, adopted by the Central Valley Water Board through the normal public review and approval process, that allows an NPDES-permitted discharge(s) to surface waters or a waterbody, subject to various conditions, without an obligation to comply with certain water quality standards that would normally apply to the given discharge(s) or waterbody. Variances are limited to specific terms governed by federal law and must also be approved by U.S. EPA. Variances apply solely to surface waterbodies or discharges to those surface waters.

FIGURE X-1: SCHEMATIC OF AQUIFER SYSTEM WITHIN CORCORAN CLAY EXTENT[1]





[1] For the purposes of this program, calculations for Upper, Lower and Production Zones do not extend below the Corcoran Clay

Proposed Modifications to the Basin Plans' Variance Policy

Variance Policy

The following paragraphs include proposed modifications and additions to the Sacramento River and San Joaquin River Basin Plan's *Chapter 4 Implementation* in the sections indicated below. Note that these changes are also proposed for the Tulare Lake Basin Plan.

Control Action Considerations of the Central Valley Water Board

Policies and Plans

Variance Policy for Surface Waters

As part of its state water quality standards program, states have the discretion to include variance policies. (40 C.F.R., §131.13.) This policy provides the Central Valley Water Board with the authority to grant a variance from application of water quality standards under certain circumstances.

I. Variances from Surface Water Quality Standards for Point Source Dischargers

A. A permit applicant or permittee subject to an NPDES permit may apply to the Central Valley Water Board for a variance from a surface water quality standard for a specific constituent(s), as long as the constituent is not a priority toxic pollutant identified in 40 C.F.R., §131.38(b)(1). A permit applicant or permittee may not apply to the Central Valley Water Board for a variance from a surface water quality standard for temperature. The application for such a variance shall be submitted in accordance with the requirements specified in section II of this Policy. The Central Valley Water Board may adopt variance programs that provide streamlined approval procedures for multiple dischargers that share the same challenges in achieving their water quality-based effluent limitation(s) (WQBELs) for the same pollutant(s). The *Variance Program for Salinity Water Quality Standards* in section III, below, is a multiple discharger variance program. Permittees that qualify for the *Variance Program for Salinity Water Quality Standards* by meeting the criteria in section III.1. may submit a salinity variance application in accordance with the requirements specified in section III of this Policy.

B. The Central Valley Water Board may not grant a variance if:

(1) Water quality standards addressed by the variance will be achieved by implementing technology-based effluent limitations required under sections 301(b) and 306 of the Clean Water Act, or

(2) The variance would likely jeopardize the continued existence of any endangered species under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.

C. The Central Valley Water Board may approve all or part of a requested variance, or modify and approve a requested variance, if the permit applicant demonstrates a variance is appropriate based on at least one of the six following factors:

(1) Naturally occurring pollutant concentrations prevent the attainment of the surface water quality standard; or

(2) Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the surface water quality standard, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable surface water quality standards to be met; or

(3) Human caused conditions or sources of pollution prevent the attainment of the surface water quality standard and cannot be remedied or would cause more environmental damage to correct than to leave in place; or

(4) Dams, diversions, or other types of hydrologic modifications preclude the attainment of the surface water quality standard, and it is not feasible to restore the waterbody to its original condition or to operate such modification in a way that would result in the attainment of the surface water quality standard; or

(5) Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality preclude attainment of aquatic life protection of surface water quality standards; or

(6) Controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact.

D. In making a determination on a variance application that is based on factor (3) in paragraph C above, the Central Valley Water Board may consider the following:

(1) Information on the type and magnitude of adverse or beneficial environmental impacts, including the net impact on the receiving water, resulting from the proposed methodologies capable of attaining the adopted or proposed WQBEL.

(2) Other relevant information requested by the Central Valley Water Board or supplied by the applicant or the public.

E. In making a determination on a variance application that is based on factor (6) in paragraph C., above, the Central Valley Water Board may consider the following:

(1) The cost and cost-effectiveness of pollutant removal by implementing the methodology capable of attaining the adopted or proposed WQBEL for the specific constituent(s) for which a variance is being requested.

(2) The reduction in concentrations and loadings of the pollutant(s) in question that is attainable by source control and pollution prevention efforts as compared to the reduction attainable by use of the methodology capable of attaining the adopted or proposed WQBEL.

(3) The overall impact of attaining the adopted or proposed WQBEL and implementing the methodologies capable of attaining the adopted or proposed WQBEL.

(4) The technical feasibility of installing or operating any of the available methodologies capable of attaining the WQBEL for which a variance is sought.

(5) Other relevant information requested by the Central Valley Water Board or supplied by the applicant or the public.

F. A determination to grant or deny a requested variance shall be made in accordance with the procedures specified in section II, below. Procedures specified in section III, below, will be used for applicants that qualify for the *Variance Program for Salinity Water Quality Standards*.

G. A variance applies only to the permit applicant requesting the variance and only to the constituent(s) specified in the variance application.

H. A variance or any renewal thereof shall be for a time as short as feasible and shall not be granted for a term greater than ten years.

I. Neither the filing of a variance application nor the granting of a variance shall be grounds for the staying or dismissing of, or a defense in, a pending enforcement action. A variance shall be prospective only from the date the variance becomes effective.

J. A variance shall conform to the requirements of the State Water Board's Antidegradation Policy (State Water Board Resolution 68-16).

II. Variance Application Requirements and Processes

A. An application for a variance from a surface water quality standard for a specific constituent(s) subject to this Policy may be submitted at any time after the permittee determines that it is unable to meet a WQBEL or proposed WQBEL based on a surface water quality standard, and/or an adopted wasteload allocation. The variance application may be submitted with the renewal application (i.e., report of waste discharge) for a NPDES permit. If the permittee is seeking to obtain a variance after a WQBEL has been adopted into a NPDES permit, the WQBEL shall remain in effect until such time that the Central Valley Water Board makes a determination on the variance application.

B. The granting of a variance by the Central Valley Water Board is a discretionary action subject to the requirements of the California Environmental Quality Act. As

such, the Central Valley Water Board may require the variance applicant to prepare such documents as are necessary so that the Central Valley Water Board can ensure that its action complies with the requirements set forth in the California Environmental Quality Act, or the Board may use any such documents that have been prepared and certified by another state or local agency that address the potential environmental impacts associated with the project and the granting of a variance.

C. A complete variance application must contain the following:

(1) Identification of the specific constituent(s) and water quality standard(s) for which a variance is sought;

(2) Identification of the receiving surface water, and any available information with respect to receiving water quality and downstream beneficial uses for the specific constituent;

(3) Identification of the WQBEL(s) that is being considered for adoption, or has been adopted in the NPDES permit;

(4) List of methods for removing or reducing the concentrations and loadings of the pollutants with an assessment of technical effectiveness and the costs and cost effectiveness of these methods. At a minimum, and to the extent feasible, the methods must include source control measures, pollution prevention measures, facility upgrades and end-of-pipe treatment technology. From this list, the applicant must identify the method(s) that will consistently attain the WQBELs and provide a detailed discussion of such methodologies;

(5) Documentation of at least one of the following over the next ten years. Documentation that covers less than ten years will limit the maximum term that the Central Valley Water Board can consider for the variance:

(i) That naturally occurring pollutant concentrations prevent the attainment of the surface water quality standard; or

(ii) That natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the surface water quality standard, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges to enable surface water quality standards to be met; or

(iii) That human caused conditions or sources of pollution prevent the attainment of the surface water quality standard from which the WQBEL is based, and it is not feasible to remedy the conditions or sources of pollution; or

(iv) That dams, diversions, or other types of hydrologic modifications preclude the attainment of the surface water quality standard from which the WQBEL is based, and it is not feasible to restore the water

body to its original condition or to operate such modification in a way that would result in attainment of the surface water quality standard; or

(v) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection of surface water quality standards from which the WQBEL is based; or

(vi) That installation and operation of each of the available methodologies capable of attaining the WQBEL would result in substantial and widespread economic and social impact.

(6) Documentation that the permittee has reduced, or is in the process of reducing, to the maximum extent practicable, the discharge of the pollutant(s) for which a variance is sought through implementation of local pretreatment, source control, and pollution prevention efforts; and,

(7) A detailed discussion of a proposed interim discharge limitation(s) that represents the highest level of constituent reduction that the permittee can consistently achieve during the term of the variance. Such discussion shall also identify and discuss any drought, water conservation, and/or water recycling efforts that may cause certain constituents in the effluent to increase, or efforts that will cause certain constituents in the effluent to decrease with a sufficient amount of certainty. When the permittee proposes an interim discharge limitation(s) that is higher than the current level of the constituent(s) in the effluent due to the need to account for drought, water conservation or water recycling efforts, the permittee must provide appropriate information to show that the increase in the level for the proposed interim discharge limitation(s) will not adversely affect beneficial uses, is consistent with state and federal antidegradation policies (State Water Board Resolution No. 68-16 and 40 C.F.R., § 131.12.), and is consistent with anti-backsliding provisions specified in section 402(o) of the Clean Water Act. If the permittee indicates that certain constituents in the effluent are likely to decrease during the term of the variance due to recycling efforts or management measures, then the proposed interim discharge limitation(s) shall account for such decreases.

(8) Copies of any documents prepared and certified by another state or local agency pursuant to Public Resources Code section 21080 et seq.; or, such documents as are necessary for the Central Valley Water Board to make its decision in compliance with Public Resources Code section 21080 et seq.

D. Within 60 days of the receipt of a variance application, the Central Valley Water Board shall determine that the variance application is complete, or specify in writing any additional relevant information, which is deemed necessary to make a determination on the variance request. Such additional information shall be submitted by the applicant within a time period agreed upon by the applicant and the

Board's Executive Officer. Failure of an applicant to submit any additional relevant information requested by the Board's Executive Officer within the agreed upon time period may result in the denial of the variance application.

E. The Central Valley Water Board shall provide a copy of the variance application to USEPA Region 9 within 30 days of finding that the variance application is complete.

F. Within a reasonable time period after finding that the variance application is complete, the Central Valley Water Board shall provide public notice, request comment, and schedule and hold a public hearing on the variance application. When the variance application is submitted with the NPDES permit renewal application (i.e., report of waste discharge), the notice, request for comment and public hearing requirement on the variance application may be conducted in conjunction with the Board's process for the renewal or amendment of the NPDES permit.

G. The Central Valley Water Board may approve the variance, either as requested, or as modified by the Board. The Board may take action to approve a variance and renew and/or modify an existing NPDES permit as part of the same Board meeting. The permit shall contain all conditions needed to implement the variance, including, at a minimum, all of the following:

(1) An interim effluent limitation for the constituent(s) for which the variance is sought. The interim effluent limitation(s) must be consistent with the current level of the constituent(s) in the effluent and may be lower based on anticipated improvement in effluent quality. The Central Valley Water Board may consider granting an interim effluent limitation(s) that is higher than the current level if the permittee has demonstrated that drought, water conservation, and/or water recycling efforts will cause the quality of the effluent to be higher than the current level and that the higher interim effluent limitation will not adversely affect beneficial uses. When the duration of the variance is shorter than the duration of the permit, compliance with effluent limitations sufficient to meet the water quality criterion upon the expiration of the variance shall be required;

(2) A requirement to prepare and implement a pollution prevention plan pursuant to Water Code section 13263.3 to address the constituent(s) for which the variance is sought;

(3) Any additional monitoring that is determined to be necessary by the Central Valley Water Board to evaluate the effects on the receiving water body of the variance from water quality standards;

(4) A provision allowing the Central Valley Water Board to reopen and modify the permit based on any revision to the variance made by the Central Valley Water Board during the next revision of the water quality standards or by *U.S.* EPA upon review of the variance; and

(5) Other conditions that the Central Valley Water Board determines to be necessary to implement the terms of the variance.

H. The variance, as adopted by the Central Valley Water Board in section G, is not in effect until it is approved by U.S. EPA.

I. Permit limitations for a constituent(s) contained in the applicant's permit that are in effect at the time of the variance application shall remain in effect during the consideration of a variance application for that particular constituent(s), unless a stay is granted by the State Water Resources Control Board under Water Code section 13321.

J. The permittee may request a renewal of a variance in accordance with the provisions contained in paragraphs A, B and C and this section. For variances with terms greater than the term of the NPDES permit, an application for renewal of the variance may be submitted with the renewal application for the NPDES permit in order to have the term of the variance begin concurrent with the term of the permit. The renewal application shall also contain information concerning the permittee's compliance with the conditions incorporated into its permit as part of the original variance and shall include information to explain why a renewal of the variance is necessary. As part of its renewal application, a permittee shall also identify all efforts the permittee has made, and/or intends to make, towards meeting the standard(s). Renewal of a variance may be denied if the permittee did not comply with any of the conditions of the original variance.

K. All variances and supporting information shall be submitted by the Central Valley Water Board to the U.S. EPA Regional Administrator within 30 days of the date of the Board's final variance decision for approval and shall include the following:

(1) The variance application and any additional information submitted to the Central Valley Water Board;

(2) Any public notices, public comments, and records of any public hearings held in conjunction with the request for the variance;

(3) The Central Valley Water Board's final decision; and

(4) Any changes to NPDES permits to include the variance.

L. All variances shall be reviewed during the Central Valley Water Board's triennial review process of this Basin Plan. For variances with terms that are greater than the term of the permit, the Board may also review the variance upon consideration of the permit renewal.

III. Variance Program for Salinity Water Quality Standards

The State Water Board and the Central Valley Water Board recognize that salt is impacting beneficial uses in the Central Valley and management of salinity in surface and ground waters is a major challenge for dischargers. No proven means exist at present that will allow ongoing human activity in the Basin and maintain salinity at current levels throughout the Basin. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a stakeholder that developed a comprehensive salt and nitrate management plan (SNMP) that documents salt and nitrate conditions in surface and ground water in the Central Valley, and identifies implementation measures and monitoring strategies to ensure environmental and economic sustainability. The SNMP recommends a long-term salinity management strategy that is phased over time. The first phase (Phase I) consists of developing a Prioritization and Optimization Study for long-term salinity management which is intended to be a feasibility study that identifies appropriate regional and sub-regional projects, including location, routing and implementation and operations of salt management projects. Phase II will consist of environmental permitting, obtaining funding, and engineering and design. Phase III would then consist of construction of physical projects as identified in the previous phases. Because the salinity management strategy is phased over time, there is a need for an interim salinity permitting approach to be implemented during Phase 1 and while transitioning from Phase I to Phase II. The interim salinity permitting approach is anticipated to require 15 years and will be re-evaluated prior to implementation of Phase II. Only permittees that are participating in the Prioritization and Optimization Study may apply for a variance under this Salinity Variance Program.

A. During the development of the Prioritization and Optimization Study, permittees who qualify may apply for a variance from salinity water quality standards if they have or will have WQBELs for salinity that they are unable to meet by submitting a salinity variance application. The *Salinity Variance Program* as described specifically herein is for municipal and industrial wastewater dischargers that have or will implement local pretreatment, source control, and pollution prevention efforts to reduce the effluent concentrations of salinity constituents and are now faced with replacing the municipal water supply with a better quality water or installing costly improvements, such as membrane filtration treatment technology, such that widespread social and economic impacts are expected consistent with the justification provided for the case study cities in the *Staff Report for the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity, June 2014*. Consistent with the planned development of the Prioritization and Optimization Study, no salinity variance under this section shall be approved after [15 years from effective date of these amendments]. For the purposes of the Salinity Variance Program, salinity water quality standards are defined to only include water quality standards for the following constituents: electrical conductivity, total dissolved solids, chloride, sulfate and sodium.

B. An application for a variance for a specific salinity water quality standard may be submitted at any time after the permittee determines that it is unable to meet a WQBEL or proposed WQBEL based on a salinity water quality standard. Preferably, the salinity variance application should be submitted with the renewal application (i.e., report of waste discharge) for a NPDES permit. If the permittee is seeking to obtain a variance after a WQBEL has been adopted into a NPDES permit, the WQBEL shall remain in effect until such time that the Central Valley Water Board makes a determination on the variance application. For dischargers that are participating in the same prioritization and optimization study, i.e. a study that covers their watershed or their groundwater basin, the dischargers may submit a joint application as long as the joint application contains all the information identified in paragraph C with individual discharger information provided for paragraphs C.7. through C.10.

C. An application for variance from WQBELs based on a salinity water quality standard must contain the following:

(1) Identification of the salinity constituents for which the variance is sought;

(2) Identification of the receiving surface water, and any available information with respect to receiving water quality and downstream beneficial uses for the specific constituent;

(3) Identification of the WQBEL that is being considered for adoption, or has been adopted in the NPDES permit;

(4) A description of salinity reduction/elimination measures that have been undertaken as of the application date, if any;

(5) A Salinity Reduction Study Work Plan, which at a minimum must include the following:

(i) Data on current influent and effluent salinity concentrations,

(ii) Identification of known salinity sources,

(iii) Description of current plans to reduce/eliminate known salinity sources,

(iv) Preliminary identification of other potential sources,

(v) A proposed schedule for evaluating sources,

(vi) A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

(6) An explanation of the basis for concluding that there are no readily available or cost-effective methodologies available to consistently attain the WQBELs for salinity.

(7) A detailed discussion explaining why the permittee's situation is similar to or comparable with the case studies supporting the *Salinity Variance Program* identified in the *Staff Report for the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity, June 2014*.

(8) A detailed discussion of proposed interim discharge limitation(s) that represents the highest level of treatment that the permittee can consistently achieve during the term of the variance. If the permittee indicates that certain constituents in the effluent are likely to decrease during the term of the variance due to efforts, then the proposed interim discharge limitation(s) shall account for such decreases.

(9) Documentation of the applicant's active participation in the development of the Prioritization and Optimization Study.

(10) A detailed plan of how the applicant will continue to participate in development of the Prioritization and Optimization Study.

D. After the receipt of a variance application for salinity, the Central Valley Water Board shall determine whether the variance application is complete and whether the permittee qualifies for consideration of the variance, or specify in writing any additional relevant information that is deemed necessary to make a determination on the salinity variance request. Such additional information shall be submitted by the applicant within a time period agreed upon by the applicant and the Central Valley Water Board's Executive Officer. Failure of an applicant to submit any additional relevant information requested by the Board's Executive Officer within the time period specified by the Executive Officer may result in the denial of the variance application for salinity.

E. After determining that the variance application for salinity is complete, the Central Valley Water Board shall provide notice, request comment, and schedule and hold a public hearing on the variance application for salinity. When the variance application is submitted with the NPDES permit renewal application (i.e., report of waste discharge), the notice, request for comment and public hearing requirement on the variance application may be conducted in conjunction with the Central Valley Water Board's process for the renewal of the NPDES permit.

F. The Central Valley Water Board may approve a salinity variance, either as requested, or as modified by the Central Valley Water Board, after finding that the permittee qualifies for the salinity variance, the attainment of the WQBEL is not feasible consistent with the demonstrations based on the case studies identified in the *Staff Report for the Amendments to the Water Quality Control Plan for the*

Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity, June 2014, the permittee has implemented or will implement feasible salinity reduction/elimination measures, and the permittee continues to participate in the development of the prioritization and optimization studies for long-term salinity management. The Central Valley Water Board may take action to approve a variance and issue a new, or reissue or modify an existing NPDES permit as part of the same Board meeting. The permit shall contain all conditions needed to implement the variance, including, at a minimum, all of the following:

(a) The interim effluent limitation(s) that are determined to be attainable during the term of the variance. When the duration of the variance is shorter than the duration of the permit, compliance with effluent limitations sufficient to meet the water quality criterion upon the expiration of the variance shall be required;

(b) A requirement to implement the Salinity Reduction Study Work Plan submitted with the variance application as required by paragraph C.5, above;

(c) A requirement to participate in the development of the Prioritization and Optimization Study in accordance with the plan required by paragraph C.10, above.

(d) Any additional monitoring that is determined to be necessary to evaluate the effects on the receiving water body of the variance from water quality standards;

(e) A provision allowing the Central Valley Water Board to reopen and modify the permit based on any revision to the variance made by the Central Valley Water Board during the next revision of the water quality standards;

(f) Other conditions that the Central Valley Water Board determines to be necessary to implement the terms of the variance.

G. Permit limitations for a substance contained in the applicant's permit that are in effect at the time of the variance application shall remain in effect during the consideration of the variance application for that particular substance.

H. The permittee may request a renewal of a salinity variance in accordance with the provisions contained in paragraphs B and C of this section. For variances with terms greater than the term of the permit, an application for renewal of the salinity variance may be submitted with the renewal application for the NPDES permit in order to have the term of the variance begin concurrent with the term of the permit. The renewal application shall also contain information concerning its compliance with the conditions incorporated into its permit as part of the original variance, and shall include information to explain why a renewal of the variance is necessary. As part of its renewal application, a permittee shall also identify all efforts the permittee has

made, and/or intends to make, towards meeting the standard. Renewal of a variance may be denied if the permittee did not comply with the conditions of the original variance.

I. All variances shall be reviewed during the Central Valley Water Board's triennial review process of this Basin Plan. For variances with terms that are greater than the term of the permit, the Central Valley Water Board may also review the variance upon consideration of the permit renewal.

Proposed Modifications to the Basin Plans' Exceptions Policy

Exceptions Policy for Salinity, Nitrate, and/or Boron

The following paragraphs include proposed modifications and additions to the Sacramento River and San Joaquin River Basin Plan's *Chapter 4 Implementation* in the sections indicated below. Note that these changes are also proposed for the Tulare Lake Basin Plan.

Control Action Considerations of the Central Valley Water Board

Policies and Plans

Exceptions from Basin Plan Provisions and Water Quality Objectives for Groundwater and for Non-NPDES Dischargers to Surface Waters

Pursuant to Water Code sections 13050 and 13240 et seq., the Central Valley Water Board has adopted beneficial use designations and water quality objectives that apply to surface and ground waters in the basins covered by this Basin Plan as well as programs of implementation. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a stakeholder effort that developed a comprehensive salt and nitrate management plan (SNMP) that documents salt and nitrate conditions in surface and ground water in the Central Valley and identifies implementation measures and monitoring strategies to ensure environmental and economic sustainability. The SNMP identifies the need for a prioritized, long-term management strategy to address the need for providing safe drinking water while moving toward balanced salt and nitrate loading and managed restoration where reasonable, practicable and feasible. The Central Valley Water Board finds that it is reasonable to grant exceptions to the discharge requirements related to the implementation of water quality objectives for salinity, nitrate and boron for non-NPDES discharges to surface water, and for discharges to groundwater if the permittee is actively participating in the implementation of the long-term Salt and Nitrate Control Program and it is infeasible, impracticable or unreasonable to prohibit the discharge or it is preferable to have a discharger and/or area specific and time-limited exception rather than a more lasting water quality standard revision or where a water quality standard should be revised.

Exception Application Requirements Specific to Salinity

Under Phase I of the Salt Control Program, permittees that are in compliance with the conditions for the Alternative Permitting Approach are in compliance with their salinity limits. For the purposes of this Program, salinity and its constituents include, and are limited to, the following: electrical conductivity, total dissolved solids, chloride, sulfate and sodium. Additional conditions for exceptions to water quality objectives for salinity under Phase II and Phase III of the Salt Control Program may be incorporated in the future.

Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Nitrate and/or Boron

(1) Any person[16] subject to waste discharge requirements and/or conditional waivers issued pursuant to Water Code 13269 that are not also NPDES permits may apply to the Central Valley Water Board for an exception to discharge requirements from the implementation of water quality objectives for nitrate and/or boron. Recognized third party groups may apply on behalf of their members or for multiple permittees under a management zone. The exception may apply to the issuance of effluent limitations and/or groundwater limitations that implement water quality objectives for nitrate and/or boron in groundwater, or to effluent limitations and/or surface water limitations that implement water quality objectives for nitrate and/or boron in surface water. For the purposes of this Program, nitrate includes nitrate and other forms of nitrogen speciation (e.g. total inorganic nitrogen (TIN) and total Kjeldahl nitrogen (TKN)) used to address nitrate in groundwater. The application for such an exception(s) shall be submitted in accordance with the requirements specified in corresponding sections for nitrate and boron below (see sections ### and ###, respectively).

(2) When authorizing an exception to discharge requirements from the implementation of water quality objectives for nitrate and/or boron imposed as limitations in either waste discharge requirements and/or conditional waivers that are not also NPDES permits, the term for the exception shall generally not exceed 10-years, however the Central Valley Water Board shall have the discretion to adopt an exception for up to 50 years if the applicant(s) can demonstrate that it is necessary to further the management goals of the Salt and Nitrate Control Program. The Central Valley Water Board will have the authority to reauthorize (renew) an exception for one or more additional terms, the length of which shall be determined by the Central Valley Water Board but may only exceed 50 years if the management practices under the exception is resulting in significant, measurable and continuing improvements in water quality. The authorization of an exception, or any reauthorization, shall require approval of the Central Valley Water Board, after notice and hearing. The Central Valley Water Board shall also have the authority to rescind the authorization of an exception when the applicant(s) are not complying with the terms and conditions that are part of the exception. Any rescission of an exception may only occur after notice and hearing.

(3) The Central Valley Water Board will require those discharger(s) with authorized exceptions to prepare a status report every 5 years summarizing compliance with the terms and conditions of the exception. The status reports may be presented individually for individual exceptions or collectively for exceptions granted to multiple dischargers. The Central Valley Water Board will conduct its review of exceptions in a public hearing. The Central Valley Water Board may terminate an exception when the applicant(s) are

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[16] The term “person” includes, but is not limited to, “any city, county, district, the state, and the United States, to the extent authorized by federal law.” (Wat. Code, § 13050, subd. (c).)

not complying with the terms and conditions that are part of the exception. Any rescission of an exception may only occur after notice and hearing.

(4) Exceptions are intended to facilitate long-term attainment of water quality objectives under the Salt and/or Nitrate Control Program or to provide the time needed to revise an inappropriate water quality objective or beneficial use designation. The Central Valley Water Board will consider granting an exception to the implementation of water quality objectives for salinity, nitrate, or boron under this Program if the applicant is fully participating in the Salt and/or Nitrate Control Programs as indicated by the letter required under #####., below and meets the specific requirements for boron indicated in #####.

(5) The Central Valley Water Board will set interim performance-based requirements when the exception is authorized.

(6) Requirements associated with seeking and approving an exception shall include, but are not limited to: eligibility criteria, mitigation responsibilities, monitoring/reporting obligations, and expectations relevant to implementing the SNMP Management Goals.

(7) As a condition for reauthorizing/renewing an exception, the Central Valley Water Board will require those discharger(s) with authorized exceptions terms greater than ten years to prepare and submit a report every ten years that reassesses Best Management Practices (BMPs) and surveys available treatment technologies to determine if feasible, practicable and reasonable compliance options have become available. The Central Valley Water Board will include review of BMPs and available treatment technologies when conducting the public hearing to review compliance as described in paragraph 3 above. Following review of the BMPs and available treatment technologies, the Central Valley Water Board may revise requirements under the authorized exception.

(8) Where exceptions are sought in order to provide time to develop and approve a more appropriate water quality standard (uses and/or objectives), there must be a well-defined work plan (including a schedule of milestones) and a commitment by dischargers to provide the resources needed to complete the proposed process.

(9) Where existing water quality standards are unlikely to change, dischargers must explain how the proposed exception facilitates the larger long-term salt and/or nitrate strategy designed to ultimately attain those standards while in the interim allocating available resources to address more urgent water quality priorities such as provision of safe drinking water, where applicable.

(10) Upon receipt of an application for an exception to the implementation of water quality objectives for any constituent under this Program, the Central Valley Water Board shall determine that the exception application is complete, or specify in writing any additional relevant information, which is deemed necessary to make a determination on the exception request. Failure of an applicant to submit any additional relevant information requested by the Central Valley Water Board Executive Officer within the applicable time period may result in the denial of the exception application.

(11) Within a reasonable time period after determining that the exception application is complete, the Central Valley Water Board shall provide notice, request comment, and schedule and hold a public hearing on the application within a timely manner. The notice and hearing requirements shall comply with those set forth in Water Code section 13167.5. The Board will approve an exception by amending applicable waste discharge requirements and/or conditional waiver requirements.

Exception Application Requirements Specific to Nitrate

(1) Exceptions for nitrate will not be considered unless an adequate supply of clean, safe, reliable and affordable drinking water is available for those who have been adversely affected by the non-compliant discharge(s).

(2) An applicant seeking an exception to the implementation of water quality objectives for nitrate under this Program must submit an application to the Central Valley Water Board. The applicant's request shall include the following (For a Management Zone that is seeking an Exception for all participating permittees, the Management Zone Implementation Plan may substitute for an Exception application as long as it includes all of the following information identified here):

(a) An explanation/justification as to why the exception is necessary, and why the discharger is unable to ensure consistent compliance with existing effluent and/or groundwater/surface water limitations associated with nitrate at this time;

(b) A description of the alternative compliance project(s), Early Action Plan (EAP) or other implementation measures that the applicant will implement or participate in, consistent with the Nitrate Permitting Strategy of this Basin Plan for individual or collective groups of dischargers.

(c) Copies of any documents prepared and certified by another state or local agency pursuant to Public Resources Code section 21080 et seq.; or, such documents as are necessary for the Central Valley Water Board to make its decision in compliance with Public Resources Code section 21080 et seq.

(d) A work plan to provide an interim and permanent water supply for any person living in the area adversely affected by the discharge under the requested nitrate exception. The water supply work plan shall include a schedule of milestones and a description of financial commitments to assure completion of the interim and permanent water supply. Performance bonds may be required to assure timely implementation.

(e) A detailed plan of how the proposed implementation measures will further the long-term management goals of the Nitrate Control Program.

Exception Application Provisions Specific to Boron

(1) When granting an exception to the implementation of water quality objectives for boron under this Program, the Central Valley Water Board shall require the discharger to prepare and implement a Boron Reduction Study Work Plan, or a boron-based watershed management plan. A Boron Reduction Study Work Plan shall at a minimum include the following:

(a) Data on current influent and effluent boron concentrations;

(b) Identification of known boron sources;

(c) Description of current plans to reduce/eliminate known boron sources;

(d) Preliminary identification of other potential sources;

(e) A proposed schedule for evaluating sources; and

(f) A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

A boron-based watershed management plan shall at a minimum include the following:

(a) A discussion of the physical conditions that affect surface water or groundwater in the management plan area, including land use maps, identification of potential sources of boron, baseline inventory of identified existing management practices in use, and a summary of available surface and/or groundwater quality data;

(b) A management plan strategy that includes a description of current management practices being used to reduce or control known boron sources;

(c) Monitoring methods;

(d) Data evaluation; and,

(e) A schedule for reporting management plan progress.

(2) When granting an exception to the implementation of water quality objectives under this Program, the Central Valley Water Board will include a requirement to participate in CV-SALTS and contribute to the development and implementation of the SNMPs in accordance with the plan submitted under paragraph (8)(f), below.

(3) A person seeking an exception to the implementation of water quality objectives for boron under this Program must submit an application to the Central Valley Water Board. The person's request shall include the following:

(a) An explanation/justification as to why the exception is necessary, and why the discharger is unable to ensure consistent compliance with existing effluent and/or groundwater/surface water limitations associated with boron constituents at this time;

(b) A description of boron reduction/elimination measures that the discharger has undertaken as of the date of application, or a description of a salinity-based watershed management plan and progress of its implementation;

(c) A description of any drought impacts, irrigation, water conservation and/or water recycling efforts that may be causing or cause the concentration of boron to increase in the effluent, discharges to receiving waters, or in receiving waters;

(d) Copies of any documents prepared and certified by another state or local agency pursuant to Public Resources Code section 21080 et seq.; or, such documents as are necessary for the Central Valley Water Board to make its decision in compliance with Public Resources Code section 21080 et seq.

(e) Documentation of the applicant's active participation in the long-term salinity management strategy as indicated by a letter of support from CV-SALTS.

(f) A detailed plan of how the applicant will continue to participate in CV-SALTS and how the applicant will contribute to the development and implementation of the SNMPs.

Proposed Modifications to the Basin Plans to Incorporate a Drought and Conservation Policy

Drought and Conservation Policy

The following paragraphs include proposed modifications and additions to the Sacramento River and San Joaquin River Basin Plan's *Chapter 4 Implementation* in the sections indicated below. Note that these changes are also proposed for the Tulare Lake Basin Plan.

During emergencies such as drought, high quality water supplies diminish. Climate change is also anticipated to diminish available water supplies. Water conservation and water recycling can stretch limited water supplies, providing benefits to the people of the state. Conservation and recycling has the unintended consequence of creating compliance issues due to increased concentrations of constituents, such as salinity in discharges. It is the intent of the Central Valley Water Board to encourage conservation and water resource management. The purpose of this policy is to provide for permitting procedures to be applied to account for conditions associated with the loss of higher quality water supplies such as drought and climate change, and/or constituent increases directly related to voluntary and/or mandatory conservation measures and increased recycling efforts.

Unless otherwise excluded based on requirements of the Salt Control Program, a permittee (or third-party group on behalf of collective permittees) may qualify for interim permit limits for salinity under one or more of the following conditions:

a) A drought emergency is declared by an authorized federal or state authority, as defined by the California Emergency Services Act;

b) A local drought emergency or other emergency is declared, consistent with the California Emergency Services Act that impacts availability of water supplies; or

Water conservation and/or water recycling efforts may be causing or cause the concentration of salinity to increase in the effluent, discharges to receiving waters, or in receiving waters.

During Statewide or Local Drought or Other Emergencies that Limit Water Supplies

Permittees (or third party group on behalf of collective permittees) shall receive interim effluent and/or groundwater/surface water limitations based on their historical salinity load (with consideration given to reasonable increment of use or changes in source water salinity concentration) and shall not exceed an EC concentration of 2,200 µS/cm as a 30-day running average. The water quality-based effluent/groundwater/surface water limitations may be established in terms of EC concentration or total dissolved solids (TDS) loading, however, concentration and loading limits shall not be applied at the same time. An EC to TDS ratio of 0.64 shall be used to convert the EC concentrations to TDS concentrations, unless a discharge-specific ratio can be demonstrated. The Central Valley Water Board has the discretion to adjust these limitations based on local conditions including but not limited to local beneficial use protection and site-specific salinity objectives. The interim effluent and/or

groundwater/surface water limitations will remain in effect during the time period when one or more of the conditions noted in a or b, above, are met.

Limitations to Account for Water Conservation and Recycling Efforts

A permittee (or third-party group on behalf of collective permittees) may qualify for interim permit limits for salinity by submitting documentation that water conservation and/or water recycling efforts cause the concentration of salinity to increase in the effluent, discharges to receiving waters, or in receiving waters. Interim permit limits will be based on one of the following.

a) Permittees (or third party group on behalf of collective permittees) who demonstrate that their permitted discharges have a lower salinity concentration than the receiving water salinity concentration shall receive interim effluent and/or groundwater/surface water limitations that do not exceed the receiving water salinity concentration, provided there are no unreasonable impacts to downstream/downgradient water quality.

b) The remaining permittees (or third party group on behalf of collective permittees) shall receive interim effluent and/or groundwater/surface water limitations based on TDS loading consistent with their historical load (with consideration given to reasonable increment of use or changes in source water salinity concentration) and shall not exceed an EC concentration of 2,200 µS/cm as a 30-day running average. An EC to TDS ratio of 0.64 shall be used to convert the EC concentrations to TDS concentrations, unless a discharge-specific ratio can be demonstrated. The Central Valley Water Board has the discretion to adjust these limitations based on other considerations such as local beneficial uses and site-specific salinity objectives.

Long Term Waste Discharge Requirements and Limitations for Groundwater

Permittees to groundwater who submit documentation describing a long-term commitment (20 year planning horizon) to water conservation and/or water recycling efforts may be eligible to use a long-term (10+ year) flow-weighted average to calculate compliance with effluent and/or groundwater limitations when it can be demonstrated using recharge models and long-term precipitation estimates that applicable narrative or numeric salinity objectives can be met in the receiving water over the term of the compliance period. Periodic reassessments based on the best available data need to be conducted every five years unless otherwise directed in the waste discharge requirements to ensure that salinity objectives will be met and beneficial uses are protected.

Proposed Modifications to the Basin Plans to Incorporate an Offsets Policy

Offsets Policy

The following paragraphs are proposed for addition to *Chapter 4 Implementation* of the Sacramento River and San Joaquin River Basin Plan and the Tulare Lake Basin Plan within the proposed Salt and Nitrate Control Program at a location in the chapter to be determined.

Offsets Policy for Salt and/or Nitrate Discharges to Groundwater

An offset is an alternative means of achieving compliance with Waste Discharge Requirements (WDRs), either alone or in combination with other actions, for a given pollutant or pollutants that may be authorized by the Central Valley Water Board. An offset allows for the management of sources and loads of the constituent of concern (not directly associated with the regulated discharge) so that the combined net effect on receiving water quality from the discharge and the offset is functionally-equivalent to or better than that which would have occurred by requiring the discharger to comply with its WDR at the point-of-discharge. In most cases, an offset project proposed for nitrate or salt discharges should be located within the same groundwater basin/sub-basin or management zone as the regulated discharge and is applicable to groundwater only. Application for an offset may be submitted by individual permittees, or collective permittees within a management zone, by a third-party group on behalf of its members, or other forms of collective groups of permittee recognized by the Central Valley Water Board. The decision to pursue an offset is voluntary. Offsets must be:

(1) Proposed by the permittee[17] as an Alternative Compliance Project (ACP)[18]

(2) Approved by the Central Valley Water Board; and

(3) Enforceable through a WDR or other orders issued by the Board.

The following requirements apply to all offsets:

(1) Where an offset project is being considered for implementation, it should be consistent with any local implementation plans established to manage salt or nitrate concentrations in the same area. And, in general, it is desirable to encourage offsets in the same groundwater basin/sub-basin where the discharge occurs. However, offsets may also be used to incentivize implementation of some large-scale projects such as a regional regulated brine line or establish a mitigation fund to provide safe drinking water, provided that the offsets still result in a positive net effect on receiving water quality.

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[17] Throughout this document the term "discharger" can connote either an individual discharger or a coalition of dischargers regulated under a common set of categorical WDRs or watershed/groundwater basin/sub-basin permit or order, or dischargers working collaboratively within a management zone.

[18] See Appendix H guidance on development of an ACP project.

(2) When there is no assimilative capacity available in the receiving water, the offset shall result in a net improvement in existing water quality (e.g., the offset ratio must be > 1:1) compared to baseline regulatory requirements. (Offset ratios < 1:1 may be authorized only in accordance with the state's antidegradation policy unless an exception is granted or Time Schedule Order or Compliance Schedule Order allows a less stringent interim ratio to apply.)

(3) Offsets shall be for the same class of constituents.

(4) The proposed package (discharge + offset project) cannot result in unmitigated localized impairments (e.g., “hotspots”) to sensitive areas (especially drinking water supply wells) or have a disproportionate impact on a disadvantaged community in the sub-basin. Downgradient well owners shall be notified and encouraged to participate in the offset approval process.

(5) Offsets shall be approved by the Central Valley Water Board. The Board may elect to approve a specific offset project (a 1-step process) through the issuance of a permit, or the Board may generally authorize the use of offsets in a permit and subsequently approve individual offset projects in subsequent Board actions (e.g., a 2-step procedure).

(6) Offsets shall apply to a specific discharge for a defined period. Offsets may be renewed but must be periodically reviewed and reauthorized by the Central Valley Water Board. The length of that period will be specified by the Central Valley Water Board when the offset is approved.

(7) The terms and conditions governing an approved offset shall specify the remedial actions that must be undertaken by the discharger, and the metric(s) used to trigger such obligations, in the event that the offset project fails.

(8) The offset project shall include a monitoring and reporting program sufficient to verify that the pollution reduction credits are actually being generated as projected and that these credits are adequate to offset the discharge loads in the ratio approved by the Central Valley Water Board. Pollutant removal, reduction, neutralization, transformation, dilution through recharge and support of a mitigation fund may all be acceptable means of generating offset credits (subject to appropriate verification).

When authorizing an offset, the Central Valley Water Board shall consider the following conditions:

(1) When it is not feasible, practicable or reasonable for the discharge to comply directly with applicable WDRs.

(2) When it is not feasible, practicable or reasonable to prohibit a discharge that is unable to comply with applicable WDRs.

(3) When there is no assimilative capacity available in the receiving water or as a condition for allocating any available assimilative capacity in order to authorize a discharge.

(4) When the net effect of authorizing the discharge, including the proposed offset project, would result in better water quality in the groundwater basin/sub-basin or better support beneficial use attainment than is likely to occur if the discharge was required to comply with the applicable WDRs at the point-of-discharge.

(5) When the proposed offset project will provide substantially greater and more immediate public health protection than is expected to result if the discharger was required to comply with the applicable WDRs at the point-of-discharge or the non-compliant discharge was prohibited completely.

(6) When the proposed offset project is an integral part of and facilitates a larger strategic plan or project designed to ultimately achieve attainment of water quality standards or restoration of a water body.

(7) Other factors such as the: relative location of the discharge and offset project and potential impacts on downgradient waters, reliability of the recharge, the extent that a groundwater recharge project improves water quality and/or water storage in the aquifer above that which would occur without the project, impacts on the vadose zone over time, mixing assumptions, brine disposal, and whether the offset is proposed as a temporary or permanent alternate compliance strategy.

Within a reasonable time period after determining that the proposed offset application is complete, the Central Valley Water Board shall provide notice, request comment, and schedule and hold a public hearing on the application within a timely manner. The notice and hearing requirements shall comply with those set forth in Water Code section 13167.5. The offset shall be issued through a resolution or special order that amends applicable waste discharge requirements and/or conditional waiver requirements.

Application of Secondary Maximum Contaminant Levels to Protect Municipal and Domestic Supply

The following paragraphs are proposed for addition to *Chapter 4 - Implementation* of the Sacramento River and San Joaquin River Basin Plan and the Tulare Lake Basin Plan under the heading, "*Actions and Schedule to Achieve Water Quality Objectives".*

Maximum Contaminant Levels (MCLs) are designed for water supplied to the public. State and federal drinking water regulations require that most surface waters or groundwater under the direct influence of surface waters, provide filtration and disinfection treatment to the source water prior to it being served to the public unless an exemption to that water system has been granted. In many cases, groundwater can be supplied to the public without the need of additional treatment due to removal of many constituents as water percolates into the groundwater.

Secondary MCLs were intended to protect public welfare for chemical constituents that may adversely affect the taste, odor, appearance or consumer acceptance of drinking water. Secondary MCLs related to salinity are identified in section 64449 (Table B) of Title 22 of the California Code of Regulations (Title 22) and were developed for consumer acceptance. Constituent concentrations ranging to the "Upper" level in Table 64449-B are acceptable if it is demonstrated that it is neither reasonable nor feasible to achieve lower levels. In addition, constituents ranging to the "Short Term" level may be authorized on a temporary basis consistent with the provisions of section 64449(d)(3), pending construction of treatment facilities or development of new water sources, or with the Drought and Conservation Policy (Section ##). Lower concentrations of these chemical constituents are desirable for promoting greater consumer confidence and acceptance of water supplied by community water systems, and, where it is reasonable and feasible to do so, WDRs should consider the "Recommended" values in section 64449 (Table B). These "Recommended" concentrations are not water quality objectives per se but should be considered water resource management goals similar to other public policy goals established by the Central Valley Water Board and State Water Board to encourage meeting the best possible water quality while allowing greater water conservation, increased use of recycled water, more stormwater harvesting, additional groundwater recharge and storage, better drought protection, and allowing agricultural and wastewater dischargers to continue to discharge to groundwater basins and surface water bodies.

To implement the SMCLs in the Chemical Constituents section of the surface water and groundwater quality objectives, the Central Valley Water Board shall consider, as appropriate, a number of site-specific factors when developing WDRs, including, but not limited to those identified in the Staff Report to Incorporate a Salt and Nitrate Control Program into the Central Valley Basin Plans in Section 4.2.10 (Central Valley Water Board, 2018).

For receiving waters that have been deemed exempt from surface water filtration requirements, compliance with chemical constituents in Table 64449-A shall be determined using an unfiltered water sample.[19]

For receiving waters that are not exempt from surface water treatment requirements (i.e. 40 CFR Part 141, Subparts H, P, T & W), compliance with the Secondary Maximum Contaminant Levels for aluminum, copper, iron, manganese, silver, zinc, color and turbidity in Table 64449-A will be determined from samples that have been passed through a 1.5-micron filter to reduce filterable residue[20]; metal constituents will then be analyzed using the acid-soluble procedure described in EPA Approved Methods[21] as appropriate, or other methods approved by the Central Valley Water Board. Because this approach is intended to approximate the level of treatment normally applied to raw surface water sources before such water can be distributed to the public as drinking water, the Central Valley Water Board may adjust the filter size where necessary to more accurately represent site-specific conditions based on scientific evidence submitted for their consideration and after consultation with Division of Drinking Water and public comment. This provision applies solely to evaluating compliance with Secondary Maximum Contaminant Levels for certain metals and does not affect or alter the methods used to evaluate compliance with other water quality objectives that have been established for those same metals (e.g. as Primary MCLs, California Toxics Rule or National Toxic Rule constituents, or constituents with specific objectives listed in this Basin Plan).

For groundwaters, compliance with the Secondary Maximum Contaminant Levels for aluminum, copper, iron, manganese, silver, zinc, color and turbidity in Table 64449-A will be determined from samples that have been passed through a 1.5-micron filter to reduce filterable residue[31]; metal constituents will then be analyzed using the acid-soluble procedure described in EPA Approved Methods[32] as appropriate, or other methods approved by the Central Valley Water Board. Because this approach is intended to account for "removal of waste constituents as the water percolates through the ground to the aquifer," as described in WQ Order No.73-04 and Water Quality Order No. 81-05, the Central Valley Water Board may adjust the filter size where necessary to more accurately represent site-specific conditions based on scientific evidence submitted for their consideration and after consultation with Division of Drinking Water and

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[19] USEPA. National Primary Drinking Water Regulations: Long Term 2 Enhanced Surface Water Treatment Rule. 71 Federal Register: 654-786. January 5, 2006.

[20] Filter size recommended in EPA Approved Methods 30 CFR Part 136 for Total Dissolved Solids and Total Suspended Solids and is used for removing suspended solids from a solid prior to analysis. Filtering the sample will remove suspended solids that may contribute to turbidity and color in samples that may negatively impact analytical results for metal concentrations while better representing the dissolved solids that may pass through a water treatment plant's filtration system.

[21] Currently EPA Approved Methods are 200.7 and 200.8 for metals, Method 180.1 for turbidity and SM 2120 F-2011 for color. EPA methods are periodically updated and future approved methods may be applicable.

public comment. This provision applies solely to evaluating compliance with Secondary Maximum Contaminant Levels for certain metals and does not affect or alter the methods used to evaluate compliance with other water quality objectives that have been established for those same metals (e.g. Primary MCLs or constituents with specific objectives listed in this Basin Plan).

The Central Valley Water Board may require unfiltered samples be analyzed concurrently to assess general trends in receiving water quality, implement the state's Antidegradation Policy (Res. No. 68-16), and evaluate potential downstream impacts.

Estimated Costs to Agriculture

The following paragraphs are proposed for addition to the "ESTIMATED COSTS OF AGRICULTURAL WATER QUALITY CONTROL PROGRAMS AND POTENTIAL SOURCES OF FINANCING" section of the Sacramento River and San Joaquin River Basin Plan, Page IV-40 and the "Estimated Costs of Agricultural Water Quality Control Programs" section of the Tulare Lake Basin Plan, Page IV-30.

Central Valley-wide Salt and Nitrate Control Program

Cost Estimate for the Salt Control Program (Costs to Agriculture): Costs associated with the first phase of the Salt Control Program include costs associated with strategic planning, administration, and analyses and studies to support the Prioritization and Optimization Study (P&O Study). Costs are estimated to range from $357,000 to $696,000 per year for the first 10 years of the program. Cost identified after the first 10 years of the program are only speculative at this time and will be revised after the completion of the P&O Study. Costs are expressed as 2016 dollars.

Cost Estimate for the Nitrate Control Program (Costs to Agriculture): Costs associated with long-term restorations efforts are only speculative at this time. Costs associated with the Nitrate Control Program include costs associated with providing short-term safe drinking water supplies and development of Management Zones throughout the Priority 1 and Priority 2 basins/sub-basins. Costs are estimated to range from $24.1 million to $35.9 million per year. Costs are expressed as 2016 dollars.

Cost Estimate for the Surveillance and Monitoring Program (Costs to Agriculture): Costs associated with the Surveillance and Monitoring Program are costs designed to ensure the success of the Salt and Nitrate Control Program. Costs to agriculture are estimated to range from $70,000 to $130,000 per year. Costs are expressed as 2016 dollars.

Potential funding sources include:

1. Private financing by individual and/or group sources.
2. Bonded indebtedness or loans from governmental institutions.
3. Federal grants or low-interest loan programs.
4. Single-purpose appropriations from federal or State legislative bodies.
5. Grant and loan programs administered by the State Water Resources Control Board and Department of Water Resources, which are targeted for agricultural water quality improvement. These programs include:

    (a) Clean Water Act funds (State Water Resources Control Board)

    (b) Agricultural Water Quality Grant Program (State Water Resources Control Board)

    (c) Clean Water State Revolving Fund (State Water Resources Control Board) and

(d) Integrated Regional Water Management grants (State Water Resources Control Board, Department of Water Resources)

APPENDIX

Modify the Sacramento River and San Joaquin River Basin Plan and the Tulare Lake Basin Plan by adding a new appendix, Nitrate Control Program Non-Prioritized Basins (page XX), as follows:

Appendix X-X Nitrate Control Program Non-Prioritized Basins

Non-Prioritized Basins		
Basin/Sub-basin Number (DWR Bulletin 118)	**Name**	**Notes**
2-4	Pittsburgh Plain	Listed as Non-Prioritized in Table D4-2 of SNMP
5.21.66	Solano	Listed as Non-Prioritized in Table D4-2 of SNMP
5.22.15	Tracy	Listed as Non-Prioritized in Table D4-2 of SNMP
2-3	Suisun-Fairfield Valley	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.52	Colusa	Listed as Non-Prioritized in Table D4-2 of SNMP
5-22.14	Kern County (Southeastern)	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.61	South Yuba	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.64	North American	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.57	Vina	Listed as Non-Prioritized in Table D4-2 of SNMP
5-22.16	Cosumnes	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.58	West Butte	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.68	Capay Valley	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.62	Sutter	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.56	Los Molinos	Listed as Non-Prioritized in Table D4-2 of SNMP
5-22.10	Pleasant Valley	Listed as Non-Prioritized in Table D4-2 of SNMP

Non-Prioritized Basins		
Basin/Sub-basin Number (DWR Bulletin 118)	**Name**	**Notes**
5-21.60	North Yuba	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.65	South American	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.54	Antelope	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.59	East Butte	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.51	Corning	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.50	Red Bluff	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.55	Dye Creek	Listed as Non-Prioritized in Table D4-2 of SNMP
5-22.09	Westside	Listed as Non-Prioritized in Table D4-2 of SNMP
5-21.53	Bend	Listed as Non-Prioritized in Table D4-2 of SNMP
5-6.04	Enterprise	Listed as Non-Prioritized in Table D4-2 of SNMP
5-6.03	Anderson	Listed as Non-Prioritized in Table D4-2 of SNMP
5-6.01	Bowman	Listed as Non-Prioritized in Table D4-2 of SNMP
5-6.06	South Battle Creek	Listed as Non-Prioritized in Table D4-2 of SNMP
5-6.05	Millville	Listed as Non-Prioritized in Table D4-2 of SNMP
5-6.02	Rosewood	Listed as Non-Prioritized in Table D4-2 of SNMP
5-1.01	Lower Goose Lake Valley	Outside of Valley Floor
5-1.02	Fandango Valley	Outside of Valley Floor
5-3	Jess Valley	Outside of Valley Floor
5-8	Mountain Meadows Valley	Outside of Valley Floor
5-20	Berryessa Valley	Outside of Valley Floor
5-23	Panoche Valley	Outside of Valley Floor
5-26	Walker Basin Creek Valley	Outside of Valley Floor

Non-Prioritized Basins		
Basin/Sub-basin Number (DWR Bulletin 118)	**Name**	**Notes**
5-31	Long Valley	Outside of Valley Floor
5-35	McCloud Area	Outside of Valley Floor
5-36	Round Valley	Outside of Valley Floor
5-37	Toad Well Area	Outside of Valley Floor
5-38	Pondosa Town Area	Outside of Valley Floor
5-40	Hot Springs Valley	Outside of Valley Floor
5-41	Egg Lake Valley	Outside of Valley Floor
5-43	Rock Prairie Valley	Outside of Valley Floor
5-44	Long Valley	Outside of Valley Floor
5-45	Cayton Valley	Outside of Valley Floor
5-46	Lake Britton Area	Outside of Valley Floor
5-47	Goose Valley	Outside of Valley Floor
5-48	Burney Creek Valley	Outside of Valley Floor
5-49	Dry Burney Creek Valley	Outside of Valley Floor
5-50	North Fork Battle Creek	Outside of Valley Floor
5-51	Butte Creek Valley	Outside of Valley Floor
5-52	Grays Valley	Outside of Valley Floor
5-53	Dixie Valley	Outside of Valley Floor
5-54	Ash Valley	Outside of Valley Floor
5-56	Yellow Creek Valley	Outside of Valley Floor
5-57	Last Chance Creek Valley	Outside of Valley Floor
5-58	Clover Valley	Outside of Valley Floor
5-59	Grizzly Valley	Outside of Valley Floor
5-60	Humbug Valley	Outside of Valley Floor
5-61	Chrome Town Area	Outside of Valley Floor
5-62	Elk Creek Area	Outside of Valley Floor
5-63	Stonyford Town Area	Outside of Valley Floor
5-64	Bear Valley	Outside of Valley Floor
5-65	Little Indian Valley	Outside of Valley Floor
5-66	Clear Lake Cache Formation	Outside of Valley Floor
5-68	Joseph Creek	Outside of Valley Floor
5-69	Squaw Flat	Outside of Valley Floor
5-70	Los Banos Creek Valley	Outside of Valley Floor
5-71	Vallecitos Creek Valley	Outside of Valley Floor

Non-Prioritized Basins		
Basin/Sub-basin Number (DWR Bulletin 118)	**Name**	**Notes**
5-80	Brite Valley	Outside of Valley Floor
5-82	Cuddy Canyon Valley	Outside of Valley Floor
5-83	Cuddy Ranch Area	Outside of Valley Floor
5-84	Cuddy Valley	Outside of Valley Floor
5-85	Mil Potrero Area	Outside of Valley Floor
5-86	Joseph Creek	Outside of Valley Floor
5-87	Middle Fork Feather River	Outside of Valley Floor
5-88	Stony Gorge Reservoir	Outside of Valley Floor
5-89	Squaw Flat	Outside of Valley Floor
5-90	Funks Creek	Outside of Valley Floor
5-91	Antelope Creek	Outside of Valley Floor
5-92	Blanchard Valley	Outside of Valley Floor
5-93	North Fork Cache Creek	Outside of Valley Floor
5-94	Middle Creek	Outside of Valley Floor
5-95	Meadow Valley	Outside of Valley Floor
5-4	Big Valley	Outside of Valley Floor
5-5	Fall River Valley	Outside of Valley Floor
5-7	Lake Almanor Valley	Outside of Valley Floor
5-9	Indian Valley	Outside of Valley Floor
5-10	American Valley	Outside of Valley Floor
5-11	Mohawk Valley	Outside of Valley Floor
5-13	Upper Lake Valley	Outside of Valley Floor
5-14	Scotts Valley	Outside of Valley Floor
5-15	Big Valley	Outside of Valley Floor
5-16	High Valley	Outside of Valley Floor
5-17	Burns Valley	Outside of Valley Floor
5-18	Coyote Valley	Outside of Valley Floor
5-19	Collayomi Valley	Outside of Valley Floor
5-25	Kern River Valley	Outside of Valley Floor
5-27	Cummings Valley	Outside of Valley Floor
5-28	Tehachapi Valley Area	Outside of Valley Floor
5-29	Castac Lake Valley	Outside of Valley Floor
5-30	Lower Lake Valley	Outside of Valley Floor
5-12.01	Sierra Valley	Outside of Valley Floor

Non-Prioritized Basins		
Basin/Sub-basin Number (DWR Bulletin 118)	**Name**	**Notes**
5-12.02	Chilcoot	Outside of Valley Floor
5-2.01	South Fork Pitt River	Outside of Valley Floor
5-2.02	Warm Springs Valley	Outside of Valley Floor