

July 31, 2017 – Version 2

DRAFT

Program for Control and Permitting of Nitrate Discharges to Groundwater in the Sacramento-San Joaquin River Basins and in the Tulare Lake Basin

The Program for Control and Permitting of Nitrate Discharges to Groundwater in the Sacramento-San Joaquin River Basins and in the Tulare Lake Basin (Nitrate Control Program) applies to all groundwater basins that are designated with the municipal and domestic (MUN) beneficial use.¹

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

Program Overview

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

The SNMP summarizes existing nitrate conditions in the Central Valley, and based on this information, the Central Valley Water Board recognizes that there are groundwater basins and sub-basins in the Central Valley that currently exceed the water quality objective for nitrate, which is set at the primary maximum contaminant level of 10 mg/L-N. 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 includes three 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 Program. The actual timeframe for meeting these three goals, and ultimately for all groundwaters that have the beneficial use designation of MUN to meet the water quality objective of 10 mg/L-N for nitrate, is largely unknown and will vary from basin to basin. However, based on the studies conducted as part of the SNMP, the Central Valley Water Board acknowledges that for some basins, it may take multiple decades. In some cases, restoration of the groundwater basin for MUN uses may not be feasible. In such cases, it may be necessary for the Central Valley Water Board to consider de-designating MUN uses from that groundwater basin.

¹ The implementation provisions in this Nitrate Control Program also apply to permitting discharges to groundwater that are permitted based on total nitrogen and not just nitrate.

The Nitrate Control Program prioritizes health risks associated with drinking water that exceeds the nitrate drinking water standard. The Central Valley Water Board will continue to take actions for managing nitrates through adoption of waste discharge requirements (WDRs), Conditional Waivers, and through other orders as determined appropriate by the Central Valley Water Board that are consistent with the provisions of the Nitrate Control Program.

The Nitrate Control Program, in conjunction with the Exceptions Policy, provides Central Valley Water Board with the discretion to authorize exceptions to meeting nitrate water quality objectives for the protection of the MUN beneficial use. One primary condition for authorizing an exception is implementation of an approved Alternative Compliance Project, which must assure that groundwater users impacted by discharges of nitrates have drinking water that meets state and federal drinking water standards.

The Nitrate Control Program provides the Central Valley Water Board with authority and flexibility to determine if assimilative capacity is available for nitrates on a volume-weighted average basis in the upper zone of the groundwater within a defined management zone area. Certain conditions and requirements must be satisfied for the Central Valley Water Board to find assimilative capacity based on a volume-weighted average.

The Nitrate Control Program establishes priority Groundwater Basins/Subbasins based on ambient nitrate conditions, and timelines for implementing nitrate management actions. Groundwater Basins/Subbasins not prioritized will comply with the Nitrate Control Program as directed by the Central Valley Water Board's Executive Officer. The Central Valley Water Board shall implement the Nitrate Control Program through existing or new waste discharge requirements or conditional waivers by applying its provisions on dischargers through (1) individual requirements (or per a General Order), or, (2) to participants in a Management Zone.

Compliance with the Nitrate Control Program through participation in a Management Zone is optional. However, the Central Valley Water Board encourages dischargers to work cooperatively to implement the Nitrate Control Program through a Management Zone. In all cases, the Nitrate Control Program seeks to protect high quality groundwater by establishing triggers. The triggers are not water quality objectives but before the Central Valley Water Board can authorize a discharge, or collective discharges in a Management Zone, to exceed an established trigger level, the Central Valley Water Board approve an Alternative Compliance Project, except in limited and unique circumstances.

Priority Areas for Implementation

The Priority 1 and 2 Groundwater Basins/Subbasins are identified in table IV.x.²

Table IV.x – Prioritized DWR Bulletin 118 Groundwater Basins/Subbasins

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

The Non-Prioritized Groundwater Basins/Subbasins are identified in Table IV.x.

Table 2 Non-Prioritized DWR Bulletin 118 Groundwater Basins/Subbasins

Non Prioritized Basins	
2-4	Pittsburg Plain
5-21.66	Solano
5-22.15	Tracy
2-3	Suisun-Fairfield Valley
5-21.52	Colusa
5-22.14	Kern County (Kern River)
5-21.61	South Yuba
5-21.64	North American
5-21.57	Vina
5-22.16	Cosumnes
5-21.58	West Butte
5-21.68	Capay Valley
5-21.62	Sutter
5-21.56	Los Molinos
5-22.10	Pleasant Valley
5-21.60	North Yuba
5-21.65	South American
5-21.54	Antelope
5-21.59	East Butte
5-21.51	Corning

² The Prioritization of the Groundwater Basins/Subbasins, including identification per DWR’s Bulletin 118, is as of date that the analysis occurred. See Luhdorff and Scalmanini Consulting Engineers and Larry Walker Associates (2016a).

5-21.50	Red Bluff
5-21.55	Dye Creek
5-22.09	Westside
5-21.53	Bend
5-6.04	Enterprise
5-6.03	Anderson
5-6.01	Bowman
5-6.06	South Battle Creek
5-6.05	Millville
5-6.02	Rosewood

Timelines for Notifications to Dischargers

The Nitrate Control Program establishes timelines for implementation based on the priority designation of the groundwater basin/subbasin, and based on receipt of a Notice to Comply as issued by the Central Valley Water Board. The Executive Officer of the Central Valley Water Board retains discretion to extend the timelines for implementation of the Nitrate Control Program based on proper justification.

Timelines for Issuance of Notices to Comply to Existing Dischargers³

Priority 1 Basins - The Central Valley Water Board shall issue Notices to Comply with the Nitrate Control Program to existing dischargers in Priority 1 Basins as soon as is reasonably feasible after the effective date of the Nitrate Control Program.

Priority 2 Basins – The Central Valley Water Board shall issue Notices to Comply with the Nitrate Control Program to existing dischargers in Priority 2 Basins within 2 to 4 years after the effective date of the Nitrate Control Program.

Non-Prioritized Basins - For existing dischargers in non-prioritized Basins/Subbasins, the Central Valley Water Board shall issue Notices to Comply in a time manner that is reasonable, based on available resources.

Timelines for Compliance for New or Expanding Dischargers

After the effective date of the Nitrate Control Program, new dischargers, or those with a substantial or material change to their operation, must comply with the provisions of the Nitrate

³ For the purposes of the Nitrate Control Program, the term existing dischargers means individual facility-type dischargers subject to individual Waste Discharge Requirements (e.g., POTWs), individual facility-type dischargers subject to General Waste Discharge Requirements that essentially comply with the General Waste Discharge Requirements as an individual facility (e.g., Dairy General Order), facilities or discharges subject to Conditional Waivers, or non-point source type dischargers subject to General Waste Discharge Requirements through a Third Party (e.g., Irrigated Lands Third Party Orders). For those dischargers that are essentially regulated as an individual facility, notifications required by the Nitrate Control Program shall be issued and received on an individual basis. 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.

Control Program – regardless of the prioritization of the basin/subbasin to which the individual discharges.

Timelines for Submittals of Notices of Intent By Dischargers Upon Receipt of a Notice to Comply

Existing Dischargers in Priority 1 Basins/Subbasins

Within **270-days** after receiving a Notice to Comply, existing dischargers shall conduct an initial assessment of their discharges as it relates to nitrates. Previous groundwater assessments conducted by the discharger (or third party group on behalf of collective dischargers), and/or antidegradation analysis that have been submitted and approved by the Central Valley Water Board’s Executive Officer may satisfy this requirement.

In lieu of conducting an initial assessment, existing dischargers may work collaboratively and cooperatively to prepare a Preliminary Management Zone Proposal. Preliminary Management Zone Proposals must be submitted to the Central Valley Water Board for posting and for dissemination to other dischargers within the proposed Management Zone boundary area within **270-days** after receiving a Notice to Comply. The Executive Officer of the Central Valley Water Board retains the discretion to extend the 270-day timeline for submittal of a Preliminary Management Zone Proposal if proper justification is provided to the Executive Officer at least 30 days prior to the expiration of the 270-day deadline.

Within **60-days** after posting and notification of a Preliminary Management Zone Proposal that overlays the area in which an existing discharger discharges nitrates, existing dischargers must submit a Notice of Intent for Compliance with the Nitrate Control Program.

The Notice of Intent for Compliance with the Nitrate Control Program shall provide the existing dischargers initial assessment, or, if the existing discharger has selected the Management Zone Compliance Option, the exiting discharger must indicate its intent to seek to comply with the Nitrate Control Program by participating in a Management Zone. If the discharger decides to seek to comply by participating in a Management Zone, then the Notice of Intent shall include the dischargers name, intent to comply through a Management Zone, and name of the Management Zone group to which the discharger intends to join.

Dischargers that are part of the initial group of dischargers that prepared the Preliminary Management Zone Proposal shall be presumed to agree to comply with the Nitrate Control Program by participating in the Management Zone, unless they otherwise notify the Central Valley Water Board of their intent to comply through the Non-Management Zone Compliance option through submittal of a Notice of Intent. In such a case, the discharger will need to submit the Initial Assessment as outlined in the Non-Management Zone Compliance section of this Nitrate Control Program along with their Notice of Intent to the Central Valley Water Board.

Existing Dischargers in All Other Basin/Subbasins

Within **1-Year** after receiving a Notice to Comply, existing dischargers shall conduct an initial assessment of their discharges as it relates to nitrates. Previous groundwater assessments conducted by the discharger (or third party group on behalf of collective dischargers), and/or antidegradation analysis that have been submitted and approved by the Central Valley Water Board's Executive Officer may satisfy this requirement.

In lieu of conducting an initial assessment, existing dischargers may work collaboratively and cooperatively to prepare a Preliminary Management Zone Proposal. Preliminary Management Zone Proposals must be submitted to the Central Valley Water Board for posting and for dissemination to other dischargers within the proposed Management Zone boundary area within **1-Year** after receiving a Notice to Comply. The Executive Officer of the Central Valley Water Board retains the discretion to extend the 1-Year timeline for submittal of a Preliminary Management Zone Proposal if proper justification is provided to the Executive Officer at least 30 days prior to the expiration of the 1-Year deadline.

Within **60-days** after posting and notification of a Preliminary Management Zone Proposal that overlays the area in which an existing discharger discharges nitrates, existing dischargers must submit a Notice of Intent for Compliance with the Nitrate Control Program.

The Notice of Intent for Compliance with the Nitrate Control Program shall provide the existing dischargers initial assessment, or, if the existing discharger has selected the Management Zone Compliance Option, the exiting discharger must indicate its intent to seek to comply with the Nitrate Control Program by participating in a Management Zone. If the discharger decides to seek to comply by participating in a Management Zone, then the Notice of Intent shall include the dischargers name, intent to comply through a Management Zone, and name of the Management Zone group to which the discharger intends to join.

Dischargers that are part of the initial group of dischargers that prepared the Preliminary Management Zone Proposal shall be presumed to agree to comply with the Nitrate Control Program by participating in the Management Zone, unless they otherwise notify the Central Valley Water Board of their intent to comply through the Non-Management Zone Compliance option through submittal of a Notice of Intent. In such a case, the discharger will need to submit the Initial Assessment as outlined in the Non-Management Zone Compliance section of this Nitrate Control Program along with their Notice of Intent to the Central Valley Water Board.

New or Dischargers Seeking a Substantial or Material Change

New dischargers, or existing dischargers seeking a permit modification due to a substantial and/or material change to a facility shall indicate how the discharger intends to comply with the Nitrate Control Program at the time of application, and shall include a Notice of Intent with the application.

Nitrate Control Program Implementation – Non-Management Zone Compliance

Unless a discharger has elected to participate in a Management Zone, dischargers must comply with the Nitrate Control Program in the following manner.

1. Submittal of a Notice of Intent

- a. Within 60-days after posting of a Preliminary Management Zone Proposal that may apply to the area where the discharge in question is located, the discharger must submit a Notice of Intent that includes the following:
 - i. An initial assessment of receiving water and/or discharge conditions;
 - ii. Identification of Category of the Discharge.⁴
 - iii. For traditional point sources, the initial assessment shall determine if the discharge is impacting any nearby public water supply wells or domestic wells for nitrates based on all readily available data and information; for non-point sources, the initial assessment shall identify areas where there are “hot spots” with respect to nitrate concentrations in groundwater based on all readily available data and information⁵;
 - iv. As applicable, an Early Action Plan that includes specific actions and a schedule of implementation to address immediate needs of those drinking groundwater that exceeds the drinking water standard if there are public water supply or domestic wells impacted by nitrates from discharges covered by the NOI. Early Action Plans shall not be necessary for discharges in Category 1.
 - v. Information necessary to support allocation of assimilative capacity and a proposed Alternative Compliance Project, as applicable and necessary.
 - vi. Application for Exception pursuant to the Exceptions Policy, as applicable.
 - vii. If the discharger(s) is in an area that is covered by a Preliminary Management Zone Proposal, and the discharger(s) is seeking an allocation of assimilative capacity under this Option, the discharger(s) must show how allocation of assimilative capacity to the discharger(s) under this Option will impact (or not) available assimilative capacity for those participating in the management zone.

2. Categorization of Discharges

- *Category 1 - No Degradation Category:* Discharge⁶ is equal to or less than the water quality objective of 10 mg/L-N, and the discharge is better than baseline receiving water quality.⁷

⁴ 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.

⁵ Where available and appropriate, a discharger may use assessments prepared by other entities to identify public and/or private wells that may exceed the drinking water standard for nitrates.

⁶ Discharge as used here is intended to mean the quality of the discharge as it enters shallow groundwater. Thus, the quality of the discharge itself may exceed the standard but due to transformation and other variables, it meets or is better than the objective as it enters shallow groundwater.

⁷ Baseline receiving water quality as used in this section of the Nitrate Control Program is that as measured in the shallow zone.

- *Category 2 - De minimus Category:* Baseline receiving water has available assimilative capacity (i.e., is better than the water quality objective). Discharge(s) may be above the water quality objective as it enters the receiving water, but the discharge(s) must use less than 10% of the available assimilative capacity over a 20-year period and not cause the receiving water to exceed a trigger of 7.5 mg/L in that time period.
- *Category 3 - Degradation Below 75% of the Water Quality Objective Category:* Discharge occurs in a basin where concentrations in the volume-weighted upper zone are below an acceptable annual increase,⁸ the discharger(s) estimates the need to use available assimilative capacity in baseline receiving water that is considered to be more than *de minimus*, and discharge will not cause the receiving water to exceed a trigger of 75% of the water quality objective for nitrate over a 20 year planning horizon.
- *Category 4 - Degradation Above 75% of the Water Quality Objective Category, or Receiving Water Quality is at 50% of the WQO and the Discharge(s) occur in a Basin where concentrations in the volume-weighted average of the upper zone exceeds the acceptable annual increase:*⁹ Discharge may cause the receiving water to exceed the trigger of 75% of the water quality objective for nitrate over a 20 year planning horizon, or the receiving water is already at 50% of the WQO and the discharge occurs in a basin where the volume-weighted average of the upper zone exceeds an acceptable annual increase in concentration.
- *Category 5 - Discharge Above Objective and No Available Assimilative Capacity:* Discharge exceeds the water quality objective for nitrate, and where the receiving water has no available assimilative capacity, will be considered to be part of this category.

3. Early Action Plan

When the Notice of Intent includes an Early Action Plan to address immediate drinking water needs, the discharger shall begin to implement the EAP within 60 days after submittal unless a letter of objection is provided to the discharger by the Executive Officer of the Central Valley Water Board within that 60-day period.

4. Incorporation Into Waste Discharge Requirements or Conditional Waivers

Based on the information submitted as part of the Notice of Intent, the Central Valley Water Board may find that existing Waste Discharge Requirements or Conditional Waivers applicable to certain dischargers comply with the Nitrate Control Program, and that no further revisions to such Waste Discharge Requirements or Conditional Waivers are necessary.

⁸ Acceptable annual increase: upper zone concentrations do not increase more than 0.1 mg/L NO₃-N per year using cumulative average annual increase over a five-year period. The cumulative average refers to an Olympic average, meaning that the highest and lowest sample results are removed; average is calculated from the remaining results. This helps address statistical outliers that otherwise may skew the results.

⁹ See previous footnote

Where the Central Valley Water Board cannot find that existing Waste Discharge Requirements or Conditional Waivers comply with the Nitrate Control Program, or where additional information is necessary, the Central Valley Water Board shall adopt a new or revised Waste Discharge Requirements or Conditional Waiver. Depending on the category of the discharge, the Central Valley Water Board must find the following in its action to adopt new or revised waste discharge requirements or conditional waiver provisions.

- **Category 1 - No Degradation Category**
 - Discharge is equal to or better than the nitrate water quality objective of 10 mg/L-N (i.e., less than 10 mg/L-N); and,
 - Discharge is better than baseline receiving water quality.

- **Category 2 - De minimus Category**
 - Baseline receiving water quality has assimilative capacity.
 - Discharge will not use more than 10% of available assimilative capacity over a 20-year planning horizon and will not cause the receiving water to exceed a trigger level of 7.5 mg/L-N over that planning horizon.
 - Discharge is not in a basin where the volume-weighted average in the upper zone is increasing more than 0.1 mg/L NO₃-N per year using cumulative average annual increase over a 5-year period.
 - Available assimilative capacity determined based on the quality of the discharge as it enters the receiving water, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.¹⁰
 - Discharge will not unreasonably affect present and anticipated beneficial uses.
 - Waste Discharge Requirements or Conditional Waiver will ensure that Best Practical Treatment or Control at a level that is necessary to assure that pollution and nuisance will not occur, and that the highest water quality consistent with the maximum benefit to the people of the state will be maintained.
 - Central Valley Water Board must consider the impact that granting available assimilative capacity to the discharger(s) will have on assimilative capacity for those that are part of a management zone that overlaps the area where the discharge occurs.

- **Category 3 - Degradation Below 75% of the Water Quality Objective Category**
 - Baseline receiving water quality has assimilative capacity.
 - Discharge(s) will use more than 10% of available assimilative capacity over a 20-year planning horizon.
 - Discharge will not cause the receiving water to exceed 7.5 mg/L for nitrate as N over a 20-year planning horizon.
 - Discharge is in a basin where the volume-weighted average of the upper zone is increasing more than 0.1 mg/L NO₃-N per year using cumulative average annual increase over a 5-year period.

¹⁰ In making this determination, the Central Valley Water Board shall consider information provided by the discharger that demonstrates that the level of nitrogen entering the receiving water is different than the level of nitrates in the discharge due to naturally occurring groundwater recharge, nitrogen transformation and losses, and nitrogen up take by plants.

- Available assimilative capacity determined based on the quality of the discharge as it enters the receiving water, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil (see footnote 53).
 - Discharge will not unreasonably affect present and anticipated beneficial uses.
 - Waste Discharge Requirements or Conditional Waiver will result in Best Practical Treatment or Control at a level that is necessary to assure that pollution and nuisance will not occur, and that the highest water quality consistent with the maximum benefit to the people of the state will be maintained.
 - Central Valley Water Board must consider the impact that granting available assimilative capacity to the discharger(s) will have on assimilative capacity for those that are part of a management zone that overlaps the area where the discharge occurs.
 - Additional monitoring and periodic trend evaluation conditions are imposed to ensure compliance with the Nitrate Control Program.
- **Category 4 - Degradation Above 75% of the Water Quality Objective**
 - Receiving water quality has assimilative capacity.
 - Discharge(s) will use more than 10% of available assimilative capacity over a 20-year planning horizon.
 - Discharge will cause the receiving water to exceed 75% of the WQO for nitrate (i.e., 7.5 mg/L-N) over a 20-year planning horizon but will not cause receiving water to exceed the water quality objective for nitrate over a 20-year planning horizon; or, the receiving water is at or above 50% of the WQO and the volume-weighted average in the upper zone is exceeding an acceptable annual increase in concentration.
 - Available assimilative capacity determined based on the quality of the discharge as it enters the receiving water, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.¹¹
 - Discharge will not unreasonably affect present and anticipated beneficial uses.
 - Waste Discharge Requirements or Conditional Waiver will result in Best Practical Treatment or Control at a level that is necessary to assure that pollution and nuisance will not occur, and that the highest water quality consistent with the maximum benefit to the people of the state will be maintained.
 - Central Valley Water Board must consider the impact that granting available assimilative capacity to the discharger(s) will have on assimilative capacity for those that are part of a management zone that overlaps the area where the discharge occurs.
 - Discharger may be required to develop and implement an Alternative Compliance Project to meet the requirements of the Nitrate Control Program, which shall include the following:
 - Identification of nitrate related drinking water supply issues in the area impacted by the discharge(s);

¹¹ In making this determination, the Central Valley Water Board shall consider information provided by the discharger that demonstrates that the level of nitrogen entering the receiving water is different than the level of nitrates in the discharge due to naturally occurring groundwater recharge, nitrogen transformation and losses, and nitrogen up take by plants.

- Time schedule with milestones for addressing nitrate related drinking water supply issues in the area impacted by the discharge(s);
 - Identification of the steps to be taken to implement the SNMP Management Goals. Such steps may be phased in over time and may require further evaluation and assessment for identification of proposed long-term actions.
- **Category 5 - Discharge Above Objective and No Available Assimilative Capacity**
 - Receiving water has no assimilative capacity for nitrates.
 - Discharge exceeds the water quality objective for nitrate.
 - No reasonable, feasible or practicable means are available for discharger to comply with Waste Discharge Requirements or Conditional Waiver that would otherwise limit the discharge of nitrate to groundwater concentrations to less than 10 mg/L-N.
 - It is infeasible, impracticable or unreasonable to prohibit the discharge.
 - Discharger may be required to develop and implement an Alternative Compliance Project for the nitrate components of the Nitrate Control Program, which shall include the following:
 - Identification of nitrate related drinking water supply issues in the area impacted the discharge(s);
 - Time schedule with milestones for addressing newly-identified nitrate related drinking water supply issues in the area impacted by the discharge(s);
 - Preliminary identification of the steps that will be taken to evaluate actions necessary to implement SNMP Management Goals where reasonable and feasible, which may be phased in over time and will likely require further evaluation and assessment to identify proposed long-term actions.
 - Discharger may need to obtain an Exception in accordance with the Exceptions Policy.

5. Allocation of Assimilative Capacity

To allocate assimilative capacity, the Central Valley Water Board must find the following:

- Assimilative capacity is available in shallow groundwater;
- Requests for use of assimilative capacity are supported by an antidegradation analysis (level of analysis required may vary depending on the Category of the discharge);
- Allocation of assimilative capacity is consistent with statewide Antidegradation Policy;
- Allocations of assimilative capacity above the trigger levels established for the various categories are supported by Alternative Compliance Projects, as determined appropriate; and,
- Allocation of assimilative capacity to discharger(s) not participating in a Management Zone is considered in light of assimilative capacity allocated to a Management Zone, and the impact thereon.

Nitrate Control Program Implementation – Management Zone Compliance Option

Dischargers may elect to comply with the Nitrate Control Program by participating in a Management Zone.

1. Intent and Purpose of a Management Zone

- Establish a defined area that is a portion of a larger groundwater basin/subbasin or land area that serves as a discrete regulatory compliance unit for complying with the Nitrate Control Program.
- Meet the SNMP Management Goals for (1) safe drinking water; (2) achieving balance, and (3) restoring groundwater basins/subbasins (where reasonable and feasible) across the Management Zone.
- Includes the groundwater and those dischargers that discharge nitrate to said groundwater that have selected to comply with the Nitrate Control Program through participation in the defined Management Zone.
- Where groundwater within the Management Zone boundary, and groundwater impacted by those dischargers within the Management Zone boundary, are 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 facilitate the assurance of safe drinking water for all residents in the area adversely affected by those dischargers of nitrates from those that are participating in the Management Zone.
- Facilitate the assurance of safe drinking water for the Management Zone through stakeholder coordination and cooperation.
- Work towards better resource management through appropriate allocation of resources.
- Provide the Central Valley Water Board with the authority to adopt reasonable provisions for the Management Zone, and its discharger participants, that recognize the need to prioritize nitrate management activities over long periods of time for compliance with the Nitrate Control Program and the SNMP's Management Goals.

2. Preliminary Management Zone Proposal

An initiating group of dischargers seeking to comply with the Nitrate Control Program through this Management Zone Compliance Policy shall prepare a Preliminary Management Zone Proposal. A Preliminary Management Zone Proposal needs to include all of the following:

- Proposed preliminary boundaries of the Management Zone area;
- Identification of Initial Participants/Dischargers;
- 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;
- Identification of 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;

- Initial identification of public supply wells, and/or domestic wells that exceed the drinking water standard for nitrate;
- An Early Action Plan (EAP), that includes specific actions and a schedule of implementation to address the immediate drinking water needs of those initially identified within the management zone boundary that are drinking groundwater that exceeds nitrate standards and that do not otherwise have interim replacement water that meets drinking water standards;
- Initial assessment of groundwater conditions based on existing data and information;
- Identify constituents of concern the group intends to address with the management zone besides nitrates (the group has the option to consider other constituents of concern, but is not required to do so);
- Proposed timeline for:
 - Identifying additional participants;
 - Further defining boundary areas;
 - Developing proposed governance and funding structure for administration of the Management Zone;
 - Developing funding mechanism for implementing the EAP, which may include seeking funding from Management Zone participants, and/or local, state and federal funds that are available for such purposes;
 - Additional evaluation of groundwater conditions across the management zone boundary area, if necessary;
 - Identification of need for assimilative capacity on a management zone basis, or need for obtaining an approved exception from meeting the nitrate water quality objective for protection of the MUN beneficial use; and
 - Preparing and submitting a Final Management Zone Proposal and a Management Zone Implementation Plan.

Preliminary Management Zone Proposals shall be submitted to the Central Valley Water Board for review and comment. Upon receipt of a Preliminary Management Zone Proposal, the Central Valley Water Board shall prominently post the proposal on its website, circulate the Proposal publically through its Lyris list-serve and provide individual post card notices (as resources allow) of the Proposals availability to dischargers within the Management Zone boundary area that are not already identified as initiating dischargers. The Central Valley Water Board shall work with the group of initiating dischargers to help communicate the availability of the Proposal to other dischargers 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 Central Valley Water Board.

3. Implementation of Early Action Plan

The Early Action Plan (EAP) submitted with the Preliminary Management Zone Proposal shall start to be implemented within 60 days of submittal of the Preliminary Management Zone Proposal to the Central Valley Water Board, unless the Central Valley Water Board provides objections in writing within that 60-day period.

4. Final Management Zone Proposal

Within 180-days after receiving comments on a Preliminary Management Zone Proposal from the Central Valley Water Board, a Final Management Zone Proposal shall be submitted to the Central Valley Water Board. The Executive Officer of the Central Valley Water Board retains the discretion to extend the 180-day deadline for submittal of the Final Management Zone Proposal if proper justification is provided at least 30-days prior to expiration of the 180-day period.

The Final Management Zone Proposal must include the information from the Preliminary Management Zone Proposal, updated as necessary, as well as the following:

- Timeline for development of the Management Zone Implementation Plan;
- Updated list of participants;
- 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;
- Additional evaluation of groundwater conditions across management zone area, if necessary;
- 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); and,
- Explanation of how the management zone intends to interact and/or coordinate with other similar efforts such as those underway pursuant to the SGMA.

Final Management Zone Proposals shall be submitted to the Central Valley Water Board for review and comment. Upon receipt of a Final Management Zone Proposal, the Central Valley Water Board shall prominently post the proposal on its website, circulate the Final Proposal publically 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 Central Valley Water Board shall determine if the Final Management Zone Proposal meets the minimum requirements set forth above, and must determine if the Final Management Zone Proposal is deemed to be complete.

5. Management Zone Implementation Plan

A Management Zone Implementation Plan must include the following minimum requirements:

- Must identify how short-term and long-term drinking water needs affected by nitrates in the Management Zone area (and area impacted by dischargers within the Management Zone) are being addressed, and must show that where groundwater is impaired by nitrate contamination that a drinking water supply that meets drinking water standards is available to all drinking water users within the management zone boundary;

- Must show how the Management Zone plans to achieve balanced nitrate loadings within the management zone (to the extent feasible and reasonable);
- Must have 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 feasible and reasonable to do so;
- Any proposed short/long-term activities to provide safe drinking water must also document collaboration with the community and/or users benefitting from the proposal(s);
- 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;
- Implementation of nitrate management activities within a management zone may be prioritized based on factors identified in the Central Valley SNMP 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;
- Must include a water quality characterization and identification of nitrate management measures, including:
 - 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 established by the Central Valley SNMP. 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 assure 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.
- Identify the responsibilities of each regulated discharger, or groups of regulated dischargers participating in the management zone, to manage nitrate within the Zone.
- Must 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.

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 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's Executive Officer.

6. Process for Acceptance of Management Zone Implementation Plan & Modifications to the Management Zone Implementation Plan

Upon receipt of a Management Zone Implementation Plan, or modifications to an approved Management Zone Implementation Plan that would alter timelines, milestones or deliverables, the Central Valley Water Board shall post the Management Zone Implementation Plan for a period of at least 30-days to receive public comment, and shall notify the public of the availability of the Management Zone Implementation Plan through its Lyris list-serve. Prior to accepting the Management Zone Implementation Plan, the Central Valley Water Board's Executive Officer shall consider all public comments received, and may request revisions to the Implementation Plan as determined necessary and appropriate.

If a Management Zone Implementation Plan is not accepted, and if a Management Zone does not revise the Management Zone Implementation Plan in a timely manner that makes it acceptable to the Executive Officer, then dischargers within that Management Zone must comply with the Nitrate Control Program as directed by the Central Valley Water Board.

If modifications to a Management Zone Implementation Plan are not accepted, then the originally approved timelines, milestones and deliverables shall still apply.

7. Incorporation of Management Zone Requirements Into Waste Discharge Requirements or Conditional Waivers

The Central Valley Water Board may find it necessary to revise nitrate specific components of Waste Discharge Requirements or Conditional Waivers for those dischargers participating in the Management Zone to incorporate requirements related to the Management Zone Implementation Plan. Management Zones may seek an exception for meeting the nitrate water quality objective in groundwater pursuant to the Exceptions Policy, and/or may request for use of assimilative capacity for the Management Zone. The Central Valley Water Board may revise the Waste Discharge Requirements or Conditional Waivers to reflect approval of an Exception or use of assimilative capacity as determined appropriate.

8. Allocation of Assimilative Capacity To A Management Zone

A Management Zone may request that the Central Valley Water Board allocate use of available assimilative capacity for those dischargers participating in the Management Zone. Allocation of

assimilative capacity to a Management Zone may be based on the volume-weighted average¹² of groundwater quality within the upper zone for nitrates within the Management Zone. The allocation of assimilative capacity may not be granted for an area that is larger than an identified basin or sub-basin from Bulletin 118.

A request for allocation of assimilative capacity on a Management Zone basis must include the following:

- A comprehensive antidegradation analysis, consistent with the statewide Antidegradation Policy.¹³
- Demonstration that there is sufficient assimilative capacity to ensure that discharges 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);
- 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;
- 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
- Demonstration that Best Practicable Treatment or Control will be implemented to assure that a pollution or nuisance will not occur and will be consistent with maximum benefit.
- Where water quality for drinking water wells within the management zone does not meet drinking water standards for nitrate, and dischargers propose to rely on the calculated assimilative capacity of the upper zone to demonstrate compliance for nitrate, then the dischargers within the management zone must accept responsibility to mitigate localized impacts of discharges within the Management Zone as well as down-gradient users, and provide "maximum benefit" by implementing and maintaining an alternative drinking water source for impacted areas (e.g., alternate water supply, well-head treatment, point-of-entry treatment, etc.). Providing an alternative drinking water source may rely on temporary methods in the short-term (e.g., < 5 years), but the Management Zone Implementation Plan shall identify a permanent solution for providing safe drinking water along with a schedule for implementation within a reasonable time frame.
- Demonstration that the short and long-term solutions were developed collaboratively with the communities and/users to be protected.
- 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 for MUN over a 20-year timeframe. The Central Valley Water Board retains the discretion to allocation 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.

¹² See Section 3.3.1.4 of the Central Valley SNMP for acceptable method to calculate a volume-weighted average for the production zone.

¹³ State Water Board Resolution 68-16. *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Antidegradation Policy).

To approve use of assimilative capacity to a Management Zone using a volume weighted average in the upper zone, the Central Valley Water Board must find all of the following:

- The request is consistent with the statewide Antidegradation Policy;
- The request is supported with a comprehensive antidegradation analysis;
- The Management Zone Implementation Plan addresses, or will address, the need for assuring that users of groundwater impact by nitrates from participating dischargers have alternative drinking water sources that meet drinking water standards;
- The Management Zone Implementation Plan meets, or will meet, all of the requirements of this Policy; and,
- 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.