

Section 6.1 Groundwater Management Zone Policy

The proposed Groundwater Management Zone Policy would enhance the Central Valley Water Board's authority to issue waste discharge requirements to groups of dischargers that have contributed or are contributing to nitrate impairments in groundwater, and who are willing to work collaboratively to address those impairments. The Groundwater Management Zone Policy would establish the process by which participating dischargers would define areas of the aquifer that have been adversely impacted by nitrate discharges, develop plans to address impairments in these areas (Management Zone Implementation Plans), and obtain the Central Valley Water Board's approval of Implementation Plans.¹

In addition to establishing this process, the Groundwater Management Zone Policy will set the minimum requirements that must be met for the Central Valley Water Board to approve Management Zone Implementation Plans. For example, the proposed Groundwater Management Zone Policy will require that Implementation Plans establish a governance structure for participating dischargers, ensure that the needs of individuals and communities that depend on the aquifer as their source of drinking water are met, and, where feasible, balance nitrate inputs and implement long-term projects to rectify groundwater impairments. Lastly, the proposed Groundwater Management Zone Policy would alter how the Central Valley Water Board would account for and allocate assimilative capacity amongst dischargers participating in a management zone.

Though the Central Valley Water Board's adoption of the Groundwater Management Zone Policy itself will not authorize or cause any degradation of high-quality waters, implementation of the Policy through the Board's issuance of waste discharge requirements, conditional waivers, and other permits and orders pursuant to the Policy may result in water quality degradation over and above that which the Central Valley Water Board could authorize pursuant to currently applicable Basin Plan provisions. This analysis discusses how the Central Valley Water Board's implementation of the proposed Groundwater Management Zone Policy will nonetheless be consistent with State Water Board Resolution 68-16, the Statement of Policy with Respect to Maintaining High Quality of Waters in California (*State Antidegradation Policy*). In addition, this analysis considers two alternate approaches proposed by stakeholders.

The three approaches considered in this analysis include:

Proposed Policy Option – Dischargers may propose a Management Zone Implementation Plan to the Central Valley Water Board. The Management Zone Implementation Plan, once approved by the Board, would become enforceable through the Board's reissuance or modification of waste discharge requirements. Assimilative capacity would be defined as the additional nitrate loading that could occur up until the volume-weighted average of nitrate concentrations measured in the upper zone reached 75% of the water quality objective. Management Zone participants could therefore request that the Board authorize assimilative capacity collectively to participants on this basis.

No-Average Option – Identical to the Proposed Policy Option with the exception that the Board could not allocate assimilative capacity collectively to dischargers based on a volume-weighted

¹ With respect to salinity, management zones may be a future tool, but the proposed Policy does not include criteria and requirements for development of a salinity based management zone.

average of nitrate concentrations measured in the upper zone. Management Zone Implementation Plans would primarily function as a means of collaboratively prioritizing and addressing water quality impairments within the management zone.

Evaluation-Only Option – The Board would continue to regulate nitrate discharges in the traditional manner (i.e., by issuing waste discharge requirements on a permit-by-permit basis, where the waste discharge requirements would require compliance with applicable water quality objectives in shallow groundwater). The concept of a “management zone” would only be used as a mechanism for evaluating regional nitrate concentration trends.

As described below, should the Central Valley Water Board approve either the Proposed Policy Option or the No-Average Option, the Board would be authorized to allow additional degradation beyond that which the Basin Plan currently allows through the issuance of waste discharge requirements, conditional waivers, and other permits. Furthermore, some of this degradation would likely occur in areas currently considered “high-quality waters” as that term is defined in the *State Antidegradation Policy*.

Under the Evaluation-Only Option, Management Zones would solely function to coordinate monitoring and modeling efforts, and would not be an alternative path towards regulatory compliance for collective groups of dischargers. Under this option, the Board would not be authorized to allow additional degradation beyond that which the Basin Plan currently allows; should the Board adopt the Evaluation-Only Option, the Board’s current process for evaluating compliance with the *State Antidegradation Policy* would remain the same. Therefore, no further analysis of this option is required.

Defining the Process by which the Board will ensure that any change to high quality waters will not unreasonably affect present and anticipated beneficial uses of such water or result in water quality less than water quality objectives following adoption of the Proposed Policy Option or the No-Average Option

Proposed Policy Option –The Board currently requires that dischargers that discharge nitrates comply with a water quality objective of 10 ug/L in the shallow aquifer underlying their discharge. Compliance with the water quality objective may currently be assured through the adoption of effluent limitations, or through the adoption of receiving water limits that limit discharges from causing or contributing to a violation of the water quality objective in the shallow aquifer. The nitrate water quality objective of 10 mg/L correlates to the drinking water maximum contaminant level (MCL), which is designed to protect the beneficial use most sensitive to nitrate impacts, which is the municipal and domestic drinking water (MUN) beneficial use.

The Proposed Policy Option would significantly change how the Board will determine compliance with the water quality objective during the time when the dischargers are implementing their Management Zone Implementation Plans – a time period which could span decades. Instead of determining compliance with applicable water quality objectives in shallow groundwater, the Board could authorize dischargers participating in a management zone to not cause groundwater to exceed 75% of the MCL, using a volume-weighted average in the upper portion of the groundwater aquifer. (Following implementation of the Implementation Plan, groundwater is expected to meet the drinking water MCL, or the highest quality water technically and economically achievable.)

This method of evaluating compliance with the water quality objective will nonetheless ensure the reasonable protection of beneficial uses, as long as the dischargers take responsibility for ensuring that all groundwater users affected by nitrate dischargers in the management zone are made whole through the provision of replacement drinking water supplies. This is the first priority for those participating in a management zone, and the needs of the water users must be provided for both the short and long-term. These provisions of the Groundwater Management Zone Policy are designed to ensure that, regardless of whether groundwater is considered high-quality or not, beneficial *uses* will be protected by providing robust protection for groundwater *users*.

More importantly, the Groundwater Management Zone Policy has an overarching goal at achieving nitrate balance within the affected aquifer and restoring water quality within that aquifer where restoration is reasonable and feasible, resulting in protection of existing and probable future beneficial uses. This begins with an initial assessment of groundwater conditions as part of the management zone's preliminary proposal, as well as a characterization of nitrate conditions as a minimum requirement for the Management Zone proposal and its subsequent Implementation Plan. The characterization of conditions as part of the Management Zone Implementation Plan will be the basis for demonstrating how nitrate in the zone will be managed over the short and long-term to meet the SNMP management goals.

In cases where balance and/or restoration is not reasonable or feasible, the Central Valley Water Board may need to evaluate the need to alter beneficial uses. However, such a consideration is a last resort, and only after it has been demonstrated that restoration of the basin in question to meeting water quality objectives is in fact not reasonable or feasible. Otherwise, all management zone proposals need to include long-term implementation plans for moving towards restoration of the aquifer in question. For example, a minimum requirement of a management zone implementation plan is identification of "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."

Further, any request for allocation of assimilative capacity from high quality waters (which, in this circumstance, would be defined as management zones where a volume-weighted average of water within the upper aquifer does not exceed 75% of the nitrate MCL) must be supported by a comprehensive antidegradation analysis for that zone, which must include demonstration that "there is sufficient assimilative capacity to ensure that the proposed discharge, together with discharges from participants to the same management zone, including discharges to recharge projects, will not cause the volume-weighted average water quality in the appropriate zone underlying the management zone to exceed the applicable Basin Plan objective(s) (upper zone for nitrate and production zone for salt)." Pursuant to the Groundwater Management Zone Policy, the Central Valley Water Board must evaluate and approve a finding ratifying this analysis before issuing revised waste discharge requirements or conditional waivers to effectuate the Management Zone Implementation Plan. Accordingly, the minimum requirements in the Groundwater Management Zone Policy ensure that any changes to high quality waters will not result in water quality less than water quality objectives when evaluated and considered over the long-term.

Other policy elements, which are minimum requirements for a Management Zone Implementation Plan, also ensure that changes to high quality waters will not be unreasonable affected:

- Consistency with the management goals of the SNMP, including plan for achieving balance and establishing a managed aquifer restoration program;
- Need for short and long-term projects and/or planning activities to make progress towards meeting the SNMP management goals;
- Milestones for achievement of the SNMP management goals, including a schedule of implementation; and,
- Surveillance and monitoring program adequate to assure that the plan, when implemented, is achieving the expected progress towards attainment of the SNMP management goals.

These provisions, taken collectively with the provisions of the Groundwater Management Zone Policy described above, will ensure that any change to high quality waters authorized by the Board pursuant to any waste discharge requirement, conditional waiver, or other order issued following the adoption of the Groundwater Management Zone Policy will not unreasonably affect present and anticipated beneficial uses of such water or result in water quality less than water quality objectives.

No-Average Option – As with option 1, option 2 is more restrictive and thus provides further protection for present and anticipated beneficial uses of water.

Defining the Process by which the Board will ensure that discharges to existing high quality waters will be regulated under waste discharge requirements that will result in best practicable treatment or control necessary to ensure (a) that pollution or nuisance will not occur and (b) that the highest water quality consistent with maximum benefit to the people of the state will be maintained

Proposed Policy Option – The Groundwater Management Zone Policy anticipates that the Central Valley Water Board will revise waste discharge requirements to incorporate requirements from the approved Management Zone Implementation Plans. When approving the Management Zone Implementation Plans, the Board must find that the treatment or control methods that will be employed by the dischargers while they implement the Management Zone Implementation Plans will result in “best practicable treatment or control” of the wastes in their discharges.

The Groundwater Management Zone Policy differs from the Board’s current permitting approach in that it would allow the Board to consider the “practicability” of the *collective* actions of the dischargers participating in the management zone, rather than the practicability of individual treatment or control methodologies on a case-by-case basis. In other words, if the Board was considering waste discharge requirements for two individual facilities on a permit-by-permit basis, it would need to evaluate whether each individual facility was implementing pollution or control methods that were “best practicable treatment or control” based on the financial and technical capacities of each of the facilities on its own. Under the traditional permitting approach, if the two facilities found that it might be practicable for them to collectively finance a pollution treatment methodology that would reduce pollutant loadings to a greater degree than each could individually afford on their own, there would still be some ambiguity as to whether the Board could consider this alternative the “best practicable treatment or control” alternative. However, under the proposed Groundwater Management Zone Policy, the Board would be afforded the ability to take a broader view of practicability on the scale of the management zone.

Even though the Board could take a broader view of “best practicable treatment or control” when evaluating treatment or control methodologies proposed in the Management Zone Implementation Plans (as well as any waste discharge requirement amendments adopted to effectuate the Implementation Plans), the Groundwater Management Zone Policy would not obviate the need for the Central Valley Water Board to hold a public hearing and carefully consider whether the Implementation Plan actually describes actions, infrastructure, and methodologies that would be considered the best practicable treatment or control of nitrates.

The Groundwater Management Zone Policy will also not eliminate the need for the Central Valley Water Board to conduct hearings and make findings regarding whether or not the Management Zone Implementation Plans and waste discharge requirements adopted thereunder will ensure that pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to people of the state will be maintained. Furthermore, the Board will ensure that pollution or nuisance will not occur via the process outlined in the response above, and that any degradation will inhere to the maximum benefit to the people of the state as described in the response below.

The Groundwater Management Zone Policy will ensure that the Board has the ability to take a broader view of what can be considered “best practicable treatment or control” of nitrate discharges, which is not inconsistent with the *State Antidegradation Policy*. Following adoption of the Groundwater Management Zone Policy, the Board will still be required to ensure that any degradation authorized by the Board pursuant to any waste discharge requirement, conditional waiver, or other order that effectuates a Management Zone Implementation Plan will result in best practicable treatment or control necessary to ensure that pollution or nuisance will not occur and that the highest water quality consistent with maximum benefit to the people of the state will be maintained.

No-Average Option – Like with option 1, option 2 is more restrictive and thus provides further protection for ensuring that waste discharge requirements assure that pollution or nuisance will not occur.

Defining the Process by which the Board will ensure that any degradation to high quality waters is consistent with the “maximum benefit to the people of the state” following adoption of the Proposed Policy Option or the No-Average Option

Proposed Policy Option – Following adoption of the Groundwater Management Zone Policy, dischargers may propose Management Zone Implementation Plans to the Central Valley Water Board that, if incorporated into waste discharge requirements, conditional waivers, or other orders, would result in water quality degradation over the short-term. As described above, the Groundwater Management Zone Policy would authorize the Board to implement such Management Zone Implementation Plans provided that the plans would ultimately result in nitrogen balance and aquifer restoration, where feasible. However, the Management Zone Implementation Plans may propose that the Board allow current nitrate impairments to persist for years in order to prioritize projects that would ultimately result in nitrate load reductions, and could also propose that the Board allow limited areas of high-quality waters to be further degraded while dischargers plan, propose, and identify projects to restore impacted aquifers. Furthermore, under the volume-weighted averaging concept, the Board could authorize the allocation of assimilative capacity that could result in areas of the aquifer degrading beyond applicable water quality objectives while the dischargers participating in the Management Zone implement their Implementation Plan.

Authorizing such degradation would grant dischargers the latitude to develop long-term implementation plans that are both cost-effective and that can prioritize compliance alternatives that will have a greater net effect on nitrate reduction. Though these measures will ultimately require that dischargers make substantial and meaningful investments in nitrate reduction strategies and control measures, granting extended compliance timelines helps ensure that regulatory measures do unreasonably affect the economic vitality of the Central Valley's communities. This is certainly a benefit to those dischargers that will be granted the flexibility to develop Management Zone Implementation Plans that address their specific economic and technical capacities.

However, any analysis of whether or not degradation authorized by the Board inheres to the maximum benefit to the people of the State must not only consider the benefits enjoyed by dischargers, but also any negative effects borne by those individuals that may be adversely affected by the degradation. In this case, because the beneficial use most sensitive to nitrate impacts is the MUN beneficial use, those most affected by any increased nitrate degradation are those who depend on the aquifer as their source of drinking water. In order to address the needs of these populations, the Groundwater Management Zone Policy is specifically structured to require, as a condition of the Board's approval of a Management Zone Implementation Plan, that participants of the Management Zone provide alternate water supplies for nitrate-affected individuals and communities while long-term strategies are being implemented. In addition, even before the Central Water Board would need to approve the Management Zone Implementation Plan, participants of the management zone must collectively develop Early Action Plans to address immediate drinking water needs for those that rely on groundwater within the tentative management zone boundary.

Because the Groundwater Management Zone Policy both addresses the economic well-being of dischargers in the Central Valley *and* mandates that the Board require that Management Zone Implementation Plans assure that all affected users will be provided a safe drinking water supply, any degradation that the Board may authorize pursuant to the Groundwater Management Zone Policy is expected to be consistent with the maximum benefit of the people of the state.

No-Average Option – For the same reasons provided above, any revision to the Groundwater Management Zone Policy to implement the No-Average Option would be the maximum benefit to the people of the state. Providing safe drinking water remains the highest priority for a nitrate management zone and thus is to the maximum benefit to the people of the state.