Meyerhoff, Richard

From: Deborah Ores <deborah.ores@communitywatercenter.org>
Sent: Monday, August 01, 2016 6:10 PM
To: Meyerhoff, Richard; dorzalli@cvsalinity.org; Tess Dunham
Cc: Laurel Firestone; Phoebe Seaton; Jennifer Clary
Subject: CV-SALTS Policy Documents
Attachments: 6-13-2016DraftNitratePermittingPolicy_EJedits.docx; CVSaltspolicycover_0801.pdf; 2016_0608_DraftExceptionsPolicy_EJedits.docx; 2016_0603_DraftOffsetsPolicy_ EJedits.docx

Follow Up Flag: Follow up
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Hello everyone,

Please find attached comments on behalf of Community Water Center, Leadership Counsel for Justice and Accountability, and Clean Water Fund. We are providing a comment letter on the overarching framework, as well as red-lines of the draft policies on Nitrate Permitting, Offsets, and Exceptions.

Please let me know if you have any questions.

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August 1, 2016

Pamela Creedon
Executive Officer
Central Valley Regional Water Quality Control Board
11020 Sun Center Dr #200,
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David Cory, Chair
Central Valley Salinity Coalition
c/o Central Valley Regional Water Quality Control Board
11020 Sun Center Dr #200,
Rancho Cordova, CA 95670

Re: Comments CV Salts Policy documents

Dear Ms. Creedon and Mr. Cory,

Thank you for the opportunity to provide comments on the documents prepared as part of the CV-SALTS process. We agree with the current goal of the policies to (1) ensure short and long term reliable, safe and affordable drinking water to impacted residents, (2) achieve BPTC that achieve salt and nutrient balance, and (3) restore the aquifer to best water quality since 1968. Our comments reflect our interest in providing greater specificity to this framework in order to ensure that these goals are in fact realized. In addition to the red-line copies of the policies, this letter provides an overview of our edits, which include an alternative, simpler framework for the SNMP that will ensure achievement of the three primary goals identified by CV SALTS as well as provide greater certainty to both the regulated community and consumers of groundwater.

Our comments reflect our belief that

- The Exceptions Policy provides needed flexibility for dischargers, although strict requirements are needed to protect other beneficial users and ensure restoration of water quality in the aquifer;
- Best Practicable Treatment and Control (BPTC) must be required of all dischargers;
- Management Zones can play a role in assessing water quality trends and ensuring BPTC throughout a region, but may not be an appropriate tool for determining compliance.
- Offset programs can help a discharger meet its obligations to achieve water quality objectives and avoid degradation of the receiving water;

- Mitigation programs are distinct from offsets and are intended to make whole those uses affected by degradation or pollution
- The most appropriate method of mitigation will be through payment into mitigation funds for drinking water access and aquifer restoration;
- Assimilative capacity should be applied on a geographically limited scale, i.e. the receiving water impacted by the underlying discharge
- Water quality targets should be set at a level that acknowledges the uncertainty of the data and provides a needed buffer between current water quality and water quality objectives that allow a public water systems to design treatment or find a new water source.

Assimilative Capacity

We are concerned that the use of assimilative capacity calculated across a management zone or subbasin runs counter to the goals of the program to protect users and restore water quality. Averaging water quality over such a large area creates the mistaken impression that water quality objectives are being met, when in fact degradation and pollution will almost certainly occur. If degradation and pollution are to be permitted under this program, this must only happen under specific and measurable conditions and locations under the Program's Exceptions Policy. Instead, we propose that the Regional Board consider only the assimilative capacity of the receiving water that will be directly impacted by the permitted discharge.

Like the authors of the policy documents, we also reviewed the State Water Board's Recycled Water Policy (RWP) for its use of assimilative capacity. The Recycled Water Policy's reliance on assimilative capacity was limited in scope, both substantively and temporally, in anticipation of a Salt and Nutrient Management Plan. Unlike that document, assimilative capacity as used in the SNMP guarantees negative impacts to the basin as it explicitly is used to allow discharges with nitrate concentrations above the current water quality of the management zone and allows degradation up to the water quality objective based on basin-level averaging.

While we support the use of assimilative capacity on a limited geographical basis, we understand that that dischargers bear a larger responsibility for assessing the cumulative impacts of their discharges within a subbasin. For the purposes of understanding these cumulative impacts, a calculation of assimilative capacity of the subbasin within the upper zone is appropriate.

Assimilative Capacity, in both contexts, should not be considered based on the Water Quality Objective but, rather, should include a buffer of the WQO such that assimilative capacity is

deemed to exist if contaminant levels are better than 75% of the water quality objective. If assimilative capacity is granted up to the MCL, any accidental discharges of nitrates above what is permitted could cause serious impacts on public health and other beneficial users. Additionally, we do not agree with characterizing some discharges as di minimus. As discussed below, we recommend three categories of discharges: those that do not degrade, those that will cause degradation up to 75% of the MCL and those that cause or contribute to an exceedance of 75% of the WQOs.

Nitrate Permitting Policy

The Nitrate Permitting Policy promotes a preference for allowing discharges despite their impact to water quality. The SNMP recommends that the Central Valley Water Board be predisposed to allocate assimilative capacity where it is available and thus cause high quality waters to be degraded. The SNMP defends this predisposition by stating that in general allowing the discharges "assures a significantly better outcome for the people of California than would requiring strict compliance with WDRs." This statement assumes that the case for degradation has already been made, while our understanding of that policy is that a full anti-degradation analysis must be conducted before such a conclusion can be reached. The notation in the Policy document that a regional guidance document will be developed explaining what maximum benefit to the people of the state will look like in these circumstances, it is premature to include such permissive language in the SNMP prior to its development.

The SNMP also includes references to assimilative capacity with which we have already expressed our disagreement.

The five categories for types of discharges seem both overly complicated and less than protective. First of all, any discharge which degrades water quality cannot be declared "de minimus," particularly a single discharge that uses 10% of the assimilative capacity, the upper limit for a single discharger. We think that *all* discharges that have the potential to degrade water quality must be subject to anti-degradation analysis. Additionally, the categories as written fail to provide a buffer between permitted discharges and the water quality objective. Given the impact on public water systems and the uncertainty in water quality throughout the aquifer, such a buffer must be required.

Proposed: Nitrate Permitting Policy

We propose a simpler Nitrate permitting policy that expands Regional Board authority to require offsets and mitigation programs while also granting the Board the authority to authorize exceptions (discussed below) in limited circumstances. All dischargers, regardless of categories listed below, must employ BPTC, must participate in a trend monitoring program and must monitor and publicly report Nitrate application, with respect to both ration (A/R) and load (A-R).

We propose that there be 3, rather than 5 categories of discharges

1. Those which meet WQOs and do not degrade highest water quality at FEG (as defined by the state's Anti-Degradation Policy)
2. Those which degrade water quality at FEG up to 75 % of the MCL
3. Those which degrade water quality at FEG to 75% of the MCL or cause or contribute to pollution

For the first category, the Board may authorize the discharge and may require offsets and / or mitigation programs if appropriate (maybe this is wrong but still feels like they may as well have authority). Discharger must monitor to ensure that discharge will not degrade water quality

For the second category, Board may authorize the discharge, subject to an anti-deg analysis and may require offsets and mitigation programs if appropriate. The Board shall require monitoring and reporting of N application and water quality necessary to ensure compliance with permit conditions.

For the third category, the Board may authorize the discharge, subject to an exception. The Board shall require mitigation programs as appropriate. The Board shall require monitoring and reporting of N application and water quality necessary to ensure compliance with permit conditions.

Management Zone Policy

We have serious concerns about the scale, formation and governance of the management zones as described, and do not see how they offer an incentive to dischargers to participate.

First, the policy document does not contain any parameters on how the boundaries of management zones will be drawn nor is there a requirement that the boundaries are linked to hydrological conditions. This could lead to gerrymandering which will result in impacted communities being left out of a given zone's jurisdiction. This potential and probable result

undermines the SNMP goals of addressing all impacted residents and restoring groundwater quality.

Second, there is no discussion as to how to coordinate and incorporate all the necessary parties within the basin within the management zone framework. It is unclear why a discharger discharging below the water quality objective would participate in a management zone. As currently proposed, it is likely only dischargers discharging above the water quality objective would participate, thus making it difficult for the management zone to function as expected. We are also concerned about the lack of discussion around the inclusion of other stakeholders - i.e. impacted residents or other water providers. As the management zone would be required to draft an Early Action Plan which would aim to address the impacts of nitrate contamination, there is no place for those impacted by nitrates to have a say in the solution. Additionally, within the basin as a whole, the policy does not require coordination between management zones that have a hydrologic connection.

Finally, calculating assimilative capacity across a management zone appears to disincentivize aquifer restoration. Locally significant impacts will not be treated as pollution and nuisance, instead being approved as within limits due to the averaging of assimilative capacity. We prefer exceptions, which acknowledge that pollution and nuisance are occurring and provide limited and specific regulatory relief

Without adequate coordination and clear parameters on how zones are created, it is hard to see how this framework will achieve the goal of reducing impacts to nitrates and restoring the basin. Instead of the current proposal we propose that the scope of the management zones be narrowed and also developed with the hydrological conditions in mind to prevent unfair gerrymandering.

Management zones should not be used for the development and implementation of drinking water projects nor for the purposes of determining the extent to which, and under what conditions, a discharger may discharge into receiving water. Drinking water projects should be handled at a minimum on a regional basis rather than a much narrower management zone basis. The best means of developing and sustaining drinking water solutions is through a mitigation fund in which all dischargers contribute to which will fund both short and long-term drinking water solutions.

Proposed Use of Management Zones

Management zones will primarily be used to provide basin-scale information about nitrogen loading trends and basin restoration needs. Furthermore, these activities must be developed in coordination with all other management zones within the basin or subbasin.

Offsets Policy

The offsets policy as written confuses offsets with mitigation and managed restoration projects. The purpose of offsets is to reduce the total contaminant load upon the aquifer in order to comply with water quality objectives. While we support the development and implementation of mitigation projects which will bring safe drinking water to communities, and believe these projects should be required by the WDRs, these are not the same as offset projects.

Offsets must be projects which reduce the contaminant loading into the aquifer from another source to make up for the degradation or pollution for which the discharger in question is responsible. A discharger seeking to qualify a project as an offset must participate or fund a project which will reduce nitrate contamination at the same or greater amount as the original discharge, and must be located in the discrete area impacted by the underlying discharge. Merely mitigating the impacts of nitrate contamination on impacted beneficial users does not prevent the degradation of the aquifer. Neither can this be considered managed restoration, as its intent is to avoid pollution and degradation rather than restore water quality to the best available since 1968.

We are also concerned that the anti-degradation language used in this policy creates a slippery slope allowing for the assumption that all offset projects (which is a loosely used term in this policy paper) will result in a benefit to the people of the state when in fact not all projects are created equally and will result in the necessary benefits to impacted beneficial users.

Offsets proposal

Offsets shall only be authorized as a means to allow dischargers to comply with water quality objectives (including the buffer) such that the discharge plus the offset allows the discharger to demonstrate no degradation or degradation (if approved) up to 75% of the water quality objective (i.e. categories 1 and 2 for Nitrate discharges). Any other programs designed to address the impacts of Nitrate dischargers with respect to both aquifer restoration and drinking water availability, shall be considered mitigation programs or projects, not offsets. The Board must find that offsets do not create or allow for any negative localized impacts that would not have occurred but for the offset.

Exceptions Policy

While we understand the utility of exceptions for dischargers that cannot meet water quality objectives, the current policy proposal contains insufficient conditions and findings to show that exceptions will lead to long-term restoration of the aquifer. As currently proposed the exceptions policy will effectively result in de-designation of basins. An effective exceptions policy must require enforceable and measured steps toward restoration of aquifers for beneficial uses.

Proposed Exceptions Policy

We propose the following exceptions policy which includes conditions designed to demonstrate restoration of the basin and the access to safe drinking water for all end-users.

At the initial granting of the exception the following must be included in the exception proposal:

- Ensure that the discharger is mitigating for Nitrate Impacts to groundwater within the first year that the exception is in effect, by
    - Paying into a mitigation fund to provide short term drinking water and develop and implement long term drinking water solutions or otherwise implementing a plan to fully mitigate impacts to drinking water.
    - Paying into a mitigation fund designed to restore the aquifer to meet water quality objectives or otherwise implementing a plan to fully mitigate impacts to the aquifer.
- Long-term management plans show improved water quality trends over a 10 and 20 year horizon
- Long-term management plans show salt/nitrate balance in as short a time as practicable but not to exceed 50 years
- Long-term management plans show show restoration of aquifer to meet water quality objectives in as short a time as practicable but not to exceed 50 years
-

At the first renewal (if appropriate):

- Demonstration that short-term drinking water solutions were effectively implemented
- Demonstration that mitigation fund / alternative drinking water projects have been effective and identification of additional actions if needed.
- Demonstration that aquifer restoration/mitigation projects have been effective and identification of additional actions, if needed.

- Targets have been identified for optimum nitrogen application and integrated into WDRs for each crop.
- BPTC established for each discharger and integrated into WDR
- Long-term management plans show improved water quality trends over a 10 and 20 year horizon
- Long-term management plans show salt/nitrate balance in as short a time as practicable but not to exceed 40 years
- Long-term management plans show show restoration of aquifer to meet water quality objectives in as short a time as practicable but not to exceed 40 years

At the second renewal (if appropriate):

- Demonstration that short-term drinking water solutions were effectively implemented
- Demonstration that mitigation fund / alternative drinking water projects have been effective and identification of additional actions if needed.
- Demonstration that aquifer restoration/mitigation projects have been effective and identification of additional actions, if needed.
- BPTC established for each discharger and integrated into WDR
- Long-term management plans show improved water quality trends over a 10 and 20 year horizon
- Long-term management plans show salt/nitrate balance in as short a time as practicable but not to exceed 30 years
- Long-term management plans show show restoration of aquifer to meet water quality objectives in as short a time as practicable but not to exceed 30 years

At the third renewal (if appropriate):

- Demonstration that short-term drinking water solutions were effectively implemented
- Demonstration that mitigation fund / alternative drinking water projects have been effective and identification of additional actions if needed.
- Demonstration that aquifer restoration/mitigation projects have been effective and identification of additional actions, if needed.
- BPTC established for each discharger and integrated into WDR
- Long-term management plans show improved water quality trends over a 20 year horizon
- Long-term management plans show salt/nitrate balance in as short a time as practicable but not to exceed 20 years
- Long-term management plans show show restoration of aquifer to meet water quality objectives in as short a time as practicable but not to exceed 20 years

At the fourth renewal (if appropriate):

- Demonstration that short-term drinking water solutions were effectively implemented
- Demonstration that mitigation fund / alternative drinking water projects have been effective and identification of additional actions if needed.
- Demonstration that aquifer restoration/mitigation projects have been effective and identification of additional actions, if needed.
- BPTC established for each discharger and integrated into WDR
- Long-term management plans show improved water quality trends over a 20 year horizon
- Long-term management plans show salt/nitrate balance in as short a time as practicable but not to exceed 10 years
- Long-term management plans show show restoration of aquifer to meet water quality objectives in as short a time as practicable but not to exceed 10 years

*Mitigation fund / mitigation projects: THe regional board shall establish two mitigation funds: one that will be capitalized at a level necessary to mitigate impacts of nitrate discharges on drinking water, and the other capitalized a level necessary to support aquifer restoration in as short a time frame as practicable, but not to exceed 50 years. When granting the exception, the Regional Board shall require payment into both mitigation fees unless a discharger can demonstrate that an alternative drinking water project or aquifer restoration project will have a more substantial impact, and will more effectively achieve the goals included in the exceptions policy, than paying into the mitigation feel.

Secondary MCL Policy

We strongly support the comments submitted by CUWA (California Urban Water Agencies). The requirements of CV Salts must reflect the regulatory framework under which public water systems operate, including the need for a buffer between the source water concentration and the drinking water objective. In addition, the apparent assumption in the policy document that secondary MCLs are “aesthetic” and don’t have a link to public health, is in error. We know from experience that residents who either don’t like the taste of their water or distrust the quality because of its color tend to purchase bottled water and soft drinks to avoid drinking it. This not only a financial burden, it also contributes to health issues related to consumption of sugary beverages.

Sincerely,

Phoebe Seaton
Leadership Counsel for Justice and Accountability

Laurel Firestone
Co-Executive Director and Attorney at Law
Community Water Center

Jennifer Clary
Water Policy Analyst
Clean Water Fund

Policy No. X: Nitrate Permitting Strategy

1.0 Regulatory Basis for Nitrate Permitting Strategy for Discharges to Groundwater

The Salt and Nitrate Management Plan (SNMP) sets forth several different approaches for managing salts and nitrates throughout the Central Valley. For dischargers regulated by the Central Valley Water Board, these management efforts must ultimately be implemented in permits issued to dischargers. Permits issued by the Central Valley Water Board are referred to as waste discharge requirements (WDRs), or Conditional Waivers from waste discharge requirements (Conditional Waivers).[1] WDRs must implement relevant provisions in the Basin Plans, and Conditional Waivers must be consistent with the Basin Plans. As discussed previously in Section X, the Basin Plans identify beneficial uses for designated waterbodies, establish water quality objectives that *"will ensure reasonable protection of beneficial uses and the prevention of nuisance,* and specify a program of implementation."[2] Many Central Valley groundwater basins and sub-basins are designated with the municipal and domestic water supply (MUN) beneficial use, which is defined to mean *"uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply."*[3] The MUN designations for specified groundwater basins are identified in the Tulare Lake Basin Plan, and generally designated for all groundwater basins in the Sacramento River and San Joaquin River Basin Plan.

Along with the MUN beneficial use designation, the Basin Plans include the following water quality objective to protect drinking water:

> *"At a minimum, waters designated for 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 which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals)..."*[4]

For waterbodies designated MUN, the Maximum Contaminant Level for nitrate is 10 mg/L as nitrogen.[5]

Thus, with respect to nitrate (under the Basin Plans as they currently exist), WDRs and Conditional Waivers must ensure that discharges authorized by the given WDR/Conditional Waiver meet the water quality objective in the discharge, or ensure that the receiving water will meet the water quality objective. In some areas of the Central Valley, and for some types of dischargers, the traditional permitting approach for nitrates may not be feasible, reasonable or practicable. The SNMP nitrate permitting strategy sets forth recommendations with respect to permitting nitrate discharges in WDRs

[1] CWC §13263 & 13269

[2] CWC §13241

[3] Basin Plan, pg. II-1

[4] Water Quality Control Plan (Basin Plan) for the Sacramento River Basin and the San Joaquin River Basin – 4th Ed., pg. III-10.0 and Water Quality Control Plan for the Tulare Lake Basin - 2nd Ed., pg. III-7.

[5] 22 CCR §64431(a); see Table 64431-A: Maximum Contaminant Levels for Inorganic Chemicals. Prior to January 1, 2016 the MCL was expressed as 45 mg/L (as NO_3) which is equivalent to 10 mg/L Nitrate as Nitrogen.

and Conditional Waivers under the traditional permitting approach as well as providing for alternative permitting approaches.

In either case, the Central Valley Water Board must adopt permits that implement and are consistent with the Basin Plans, which includes consideration of several recent statewide policies. There is also a need to consider the reality of existing water quality conditions in order to better understand how to meet long-term restoration goals. Relevant statewide policies are summarized below. Existing water quality conditions are described in detail in Sections XX.

1.1 Statewide Nitrate Policies

In 2013, the State Water Resources Control Board (State Water Board) reaffirmed the importance of developing appropriate WDRs to manage nitrate discharges:

> *"The Water Boards will evaluate all existing Waste Discharge Requirements to determine whether existing regulatory permitting is sufficiently protective of groundwater quality at these sites. The Water Boards will use the findings to improve permitting activities related to nitrate."*[6]

In 2012, the state legislature approved Assembly Bill 685 which amended the California Water Code to declare that:

> *"…every human being has the right to safe, clean, affordable and accessible water adequate for human consumption, cooking and sanitary purposes. All relevant state agencies, including the Department of Water Resources, the State Water Resources Control Board, and the State Department of Public Health, shall consider this state policy when revising, adopting or establishing policies, regulations, and grant criteria when these policies, regulations and criteria are pertinent to the uses of water described in this section."*[7]

To ensure statewide implementation and consideration of the Human Right to Water, the State Water Board in February of 2016 adopted the Human Right to Water as a Core Value and Directing Its Implementation in Water Board Programs and Activities (Resolution 2016-0010). Among other things, Resolution 2016-0010 finds that:

> "*When regulating discharges that could threaten human health by causing or contributing to pollution or contamination of drinking water sources, the Water Boards may consider all solutions for ensuring safe drinking water, including providing replacement water as an interim solution while long-term water quality solutions are developed."*

The Central Valley Water Board recently followed suit and adopted Resolution 2016-0018,[8] similarly directing implementation of the Human Right to Water in its programs and activities.

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[6] State Water Resources Control Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater (February, 2013). See recommendation #15 at page 43 of the report.

[7] Assembly Bill No. 685 added §106.3 to the California Water Code. Signed by Gov. Brown on September 25, 2012.

[8] Central Valley Water Board Resolution, adopted April 21, 2016

1.2 State's Antidegradation Policy & Allocation of Assimilative Capacity

When water quality in the groundwater basin is better than water quality objective specified in the Basin Plan, then the state's antidegradation policy[9] requires the Central Valley Water Board to regulate in a manner designed to maintain the highest quality water that is consistent with the maximum benefit of the people of the state and allows for all designated beneficial uses to continue~~reasonable~~.[10] Therefore, when the nitrate concentration in the receiving water is less than 10 mg/L, the Central Valley Water Board shall ~~'s preferred permitting strategy will be to~~ establish WDRs that preserve high quality water unless it finds that lowering water quality is consistent with the state's antidegradation policy.

The state antidegradation policy sets forth the specific conditions that must be met and demonstrations that must be made before the Central Valley Water Board can allow a discharge (or discharges) to lower existing water quality:

> *"1) Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.*
>
> *2) Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained."*[11]

1.3 SNMP Recommended Guidance to Evaluate Consistency with Anti-degradation Requirements

Assimilative capacity exists where the Board determines that current water quality is better than prescribed water quality objectives for the most sensitive beneficial use(s) within the receiving water. directly impacted by the discharge. The amount of assimilative capacity, if any, varies depending on the individual characteristics of the waterbody in question.

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When specific conditions noted above are met, the Central Valley Water Board can make an allocation of assimilative capacity and allow a discharge (or discharges) to lower existing water quality. The Central

[9] State Board Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality Waters of California

[10] SWRCB. Statement of Policy with Respect to Maintaining High Quality of Waters in California. Res. No. 68-16 (Oct. 28, 1968)

[11] State Water Board. Statement of Policy with Respect to Maintaining High Quality of Waters in California. Res. No. 68-16 (Oct. 28, 1968).

Valley Water Board should not ~~is not required to~~ allocate all of the estimated assimilative capacity available and, for this reason, the SNMP establishes triggers to maintain an appropriate safety factor to ensure that high quality receiving waters do not exceed the water quality objective for nitrate. Where there is insufficient data to determine current water quality, the Central Valley Water Board will presume there is no available assimilative capacity until sufficient data becomes available to prove otherwise.

To determine that the allocation of assimilative capacity "will not result in water quality less than that prescribed in the policies," the Central Valley Water Board will ~~generally~~ require dischargers to demonstrate that the permitted discharge(s) will not cause the ~~average~~ nitrate concentration in the receiving water~~relevant groundwater basin or sub-basin~~ to exceed 7.5~~10~~ mg/L. The level of demonstration needed here will vary based on a number of different factors. For example, for a discharge from a single facility (often referred to as a point source discharger), the demonstration may be relatively simple if the discharger is seeking to use assimilative capacity available as determined from looking at first encountered groundwater and the discharger has the necessary data and information to show that the discharge will not cause first encountered groundwater to exceed 7.5 mg/L-N ~~the water quality objective 10 mg/L-N~~ over a 20 year planning horizon. At the other end of the scale, multiple dischargers seeking to show assimilative capacity available in the receiving water ~~production zone over a defined management zone area~~ will likely need more extensive data and information, and/or modeling, to make the demonstration that 7.5 ~~10~~ mg/L will not be exceeded within a defined time frame.

Further, the Central Valley Water Board will require dischargers to demonstrate that the permitted discharge(s) will not cause the average nitrate concentration at existing or planned wells to exceed ~~to exceed 10 mg/L, or~~ 7.5 mg/L~~the expressed trigger value~~. ~~For permitted discharges that are likely to lower water quality, the Central Valley Water Board will presume that present and probable future beneficial uses will not be unreasonably affected if the discharge(s) consumes less than 10% of the available assimilative capacity by itself and not more than 20% of the available assimilative capacity in combination with other authorized discharges. This approach is similar to the recommendations for certain groundwater recharge projects in the Recycled Water Policy.~~[12]

If a~~n individual~~ discharge(s) is likely to consume ~~more than 10% of the~~ available assimilative capacity~~, or a combination of discharges to the same groundwater basin or sub-basin is likely to consume more than 20% of the available assimilative capacity,~~ then the discharger(s) must demonstrate that allowing lower water quality will not detrimentally~~unreasonably~~ affect others. The identification of others will depend on the how the discharger(s) seek to determine available assimilative capacity. For example, if an individual discharger seeks to utilize available assimilative capacity in first encountered groundwater, then "others" would be those down-gradient in the relative immediate surrounding area. ~~In comparison, if multiple dischargers seek to use available assimilative capacity over a Management Zone area, then others would be those users within the Management Zone, and down-gradient of the Management Zone.~~

Next, to permit the use of assimilative capacity, the Central Valley Water Board is required to find that the discharger, or dischargers, are implementing "best practicable treatment or control necessary to

[12] ~~State Water Board. Policy for Water Quality Control for Recycled Water; Res. No. 2009-0011 (Feb. 3, 2009)~~

assure that a pollution or nuisance will not occur." To determine if BPTC is being implemented, the SNMP recommends that the Central Valley Water Board look at whether BMPs or BPTC (at the discharge) can assure that nitrate concentrations in the receiving water ~~at drinking water wells down-gradient~~ of the discharge will remain below 7.5~~10~~ mg/L for the defined planning horizon (i.e., 20 years). To evaluate if BPTC is being implemented, the SNMP recommends that the complete antidegradation analysis prepared by the discharger(s) include an evaluation of alternatives, which considers socioeconomic impacts of different control/treatment measures, and if different control/treatment measures are reasonable, practicable, and/or feasible.

If even with BPTC the discharge will result in in pollution or nuisance~~not~~, then the SNMP recommends that the Central Valley Water Board next consider whether offsets or mitigation projects ~~mitigation strategies~~ applied at any other point to ensure achievement of best water quality since 1968 and there are no localized impacts.~~between the discharge and all affected down-gradient water users (e.g., well-head treatment or alternative water supply, etc.) can better assure safe drinking water to those users. In making such a determination, the Regional Board shall not allow the discharge to cause any localized impacts and the offsets or mitigation projects shall have the goal of achieving highest quality water since 1968.~~ ~~To evaluate if BPTC is being implemented, the SNMP recommends that the complete antidegradation analysis prepared by the discharger(s) include an evaluation of alternatives, which considers socioeconomic impacts of different control/treatment measures, and if different control/treatment measures are reasonable, practicable, and/or feasible.~~

After, and in conjunction with evaluating BPTC, the Central Valley Water Board must then determine whether allocating assimilative capacity to authorize a discharge that is expected to lower water quality is "consistent with maximum benefit to the people of the state." To make this finding for nitrate discharges, the SNMP recommends that the Central Valley Water Board consider the following factors:

1) Economic and social costs, tangible and intangible, direct and indirect, of the current proposed and any future discharge(s) compared to the benefits for both the discharger and all others that may be affected by the discharge. This includes an evaluation of the discharger's capacity to bear the costs of not degrading ~~of compliance~~ (e.g. "affordability") and any potential adverse impacts to the surrounding community, including but not limited to the cost of finding and providing interim and long-term replacement water or paying higher costs for treated water sources, an evaluation of the community's and residents' capacity to bear those costs, impacts on property values, and impacts on health. ~~This is not intended to be a formal Cost-Benefit Analysis.~~

2) Environmental effects of allowing or prohibiting the proposed discharge (especially the net effect on water quality in the region and the Central Valley Water Board's long-term restoration plans). ~~In some cases, where the net effect on receiving water quality is shown to be spatially and/or temporally limited, the Central Valley Water Board may conclude that the discharge does not result in significant degradation.~~

T~~In general, t~~he Central Valley Water Board should not ~~is less likely to~~ allocate assimilative capacity to discharges where there is a reasonably feasible and practicable means for maintaining ~~high quality~~ waters~~s~~ quality ~~achieving compliance~~ with traditional waste discharge requirements. Where no feasible alternatives to maintain high quality water exist, and to deny the discharge would result in widespread

economic harm, the Central Valley Water Board may consider as a last resort an exception in order to allow the discharge to continue subject to conditions. ~~The Central Valley Water Board is also unlikely to prohibit discharges where no such means exist and considers this option only as a last resort.~~

~~Overall, the SNMP recommends that the Central Valley Water Board be predisposed to allocate assimilative capacity, and allow lower water quality, where doing so assures a significantly better outcome for the people of California than would requiring strict compliance with default waste discharge requirements. And, t~~The Central Valley Water Board should prioritize allocations of assimilative capacity when and where it would provide a demonstrably more effective means of assuring safe drinking water than other available permitting alternatives and there is a long-term plan to meet water quality objectives. To this end, a more detailed regional guidance document describing what sorts of demonstrations might constitute "maximum benefit to people of the state"[13] will be developed. It is anticipated that this recommended guidance will be submitted for consideration by the Central Valley Water Board as part of the final Basin Plan Amendment package to implement the SNMP.

Commented [1]: We are not comfortable with this localized approach to anti-deg.

Notably, if the Central Valley Water Board concludes that, even after implementing BPTC, a discharge will unreasonably affect present or anticipated beneficial uses of water, or result in water quality less than that prescribed in the Basin Plan, or cause ~~an unmitigated~~ pollution or nuisance to occur, or is inconsistent with maximum benefit to the people of the state, then lower water quality cannot be authorized by allocating a portion of the available assimilative capacity

1.4 Consideration of Water Quality Conditions

Understanding and being able to characterize current and projected water quality conditions is important because regulatory requirements differ when existing water quality is better than the applicable standard(s) (i.e., 10 mg/L-N for Nitrate).[14] Under such conditions, the range of permitting options also increases when the Central Valley Water Board finds that there is assimilative capacity available in the receiving water.[15] The SNMP implementation approach for permitting nitrate discharges to groundwater is separated into two paths. The first path (Path A) describes the proposed approach when an individual discharger (or third party group subject to a general order wishing to proceed under Path A) decides to comply with the nitrate components of the SNMP as an Individual/Third Party. The second path (Path B) describes the proposed approach when an individual intends to participate in a Management Zone to comply with the nitrate components of the SNMP.

Prior to determining which Path to follow, dischargers (individually or collectively) should conduct an initial assessment of their discharge, and evaluate any available Preliminary Management Zone Proposals. With this information, the discharger can then provide the Central Valley Water Board with a

[13] NOTE: To be developed as part of the SNMP Basin Plan Amendment Package based on the concepts described in Attachment A (below).

[14] State Water Board. Resolution No. 68-16: Statement of Policy with Respect to Maintaining High Quality of Waters in California (October 28, 1968).

[15] The specific method CV-SALTS recommends for determining whether and how much assimilative capacity is available is described in Section XXX of this Salt and Nitrate Management Plan.

Notice of Intent on if the discharger(s) intends to comply with the nitrate components of the SNMP as an individual/Third Party group, or as a participant in a Management Zone.

1.5 Initial Assessment of Receiving Water and/or Discharge Conditions & Evaluation of Preliminary Management Zone Proposals

Establishing appropriate WDRs,[16] and determining an appropriate pathway for compliance with the SNMP for nitrates requires consideration of a number of key factors including, but not limited to:[17]

1) The current nitrate concentration in the receiving water and any relevant trends.

2) The nitrate concentration in the discharge when it reaches the groundwater. ~~,~~ ~~I~~If this~~e~~ information is not available, then an estimate of the concentration of the leaching risk in the form of A-R may be accepted~~.~~

3) The nitrate concentration of other dischargers that may impact receiving water quality~~recharges to the same management zone, if permitting on a management zone basis.~~

4) ~~Consideration of elements of a Preliminary Management Zone Proposal~~.

The permitting options available to the Central Valley Water Board, and the demonstrations required for various options, depends on these variables. An initial assessment is appropriate to determine how the regulated discharge is likely to affect nitrate concentrations in the receiving water. The level of effort to complete the initial assessment should be proportional to the relative risks involved. Low threat discharges in low vulnerability areas generally require considerably less detail. High threat discharges or high vulnerability areas may require more sophisticated analysis and modeling.

In the simplest case, groundwater quality currently complies with the primary MCL and nitrate concentrations in the discharge are even lower. No special consideration is necessary because the discharge complies with water quality standards and does not cause water quality degradation.

At the other end of the spectrum, where groundwater quality already exceeds the primary MCL for nitrate and there is no reasonably feasible or practical means for assuring that nitrate concentrations from the discharge will be less than 10 mg/L when the discharge reaches the groundwater, an alternative compliance option may be needed.

~~1.6 Permitting Pathways~~

~~The SNMP encourages dischargers to participate in Management Zones as the preferred method for complying with the nitrate components of the SNMP. However, participation in a Management Zone may not be appropriate for every discharger, or groups of dischargers, depending on water quality and various discharger related circumstances. Accordingly, the SNMP proposes two pathways for complying with the nitrate components of the SNMP. Path A is for those intending to comply with the SNMP as an~~

[16] The term WDRs as used in this section refers to both WDRs and Conditional Waivers, and the strategy applies equally to the Central Valley Water Board's adoption of WDRs under CWC §13263 or adoption of Conditional Waivers under CWC §13269.

[17] State Water Board. In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 00481827), California Regional Water Quality Control Board, Central Coast Region. Order No. WQ 81-5; (3/19/81).

~~individual discharger (or third party group subject to a general order), and follows more closely with the Central Valley Water Board's traditional permitting approach. Path B is for those intending to comply with the SNMP by participating in a Management Zone. Notably, for those dischargers intending to comply via Path A, assimilative capacity may be granted by the Central Valley Water Board subject to required findings but assimilative capacity must be available in shallow/first encountered groundwater. In comparison, for dischargers intending to comply by participating in a management zone (i.e., Path B), assimilative capacity may be granted by the Central Valley Water Board (again subject to required findings), and the Central Valley Water Board can evaluate the availability of assimilative capacity using a volume-weighted average. The level of information necessary, as well as WDR conditions/requirements, will vary based on the circumstances associated with each discharge.~~

~~Based on the order of priority notification, dischargers will need to notify the Central Valley Water Board of their intent to either comply with the components of the SNMP as an individual discharger, or as part of a Management Zone.[18] The SNMP recommends that the notification be made in the form of a Notice of Intent (NOI). Further, to make this election and submit a NOI, dischargers will need to evaluate Preliminary Management Zone Proposals that will be made available, as well as evaluate the circumstances of their own discharge. The NOI requirements will vary depending on the Path selected, and is described in relation to each Path below.~~

2.0 Path A - Permitting Strategy for Individual Discharger or Third Party Group Subject to General Order Wishing To Proceed Under Path A

2.1 Categorization of Discharges for Nitrates

The level of effort and the conditions/requirements imposed by the Central Valley Water Board in permitting nitrate discharges will vary depending on the impact to water quality. The SNMP recognizes that there are some discharges of nitrates to groundwater that would be considered low-threat, and are therefore relatively simple for the Central Valley Water Board to authorize in existing WDRs, or renewed/revised WDRs. For example, discharges that are better than receiving water quality and the receiving water is better than the water quality objective of 10 mg/L are considered to not lower water quality. In such circumstances, the discharge is not subject to the state's antidegradation policies and the Central Valley Water Board is not required to make the findings as specified in Resolution 68-16 to authorize the discharge. Others may be able to demonstrate that their discharge, or collective discharges, are low threat in nature because they have data and information that demonstrates that the discharges have not degraded groundwater over a specified time-period, and that the nature of the discharge has remained constant. For example, in some areas of the Central Valley where groundwater

[18] ~~For purposes of this notification, individual dischargers that are subject to General Orders that cover a specified geographic area or are commodity based, and that are administered by a Third Party (e.g., Third Party Orders for Irrigated Agriculture), the Third Party may provide notice as required in this step on behalf of its members. For individual dischargers that are subject to a General Order that is not administered by a Third Party (e.g., Dairy General Order), the individual must provide the necessary notice as indicated in this step.~~

is better than the nitrate water quality objective, and cropping and cultural practices have remained constant, data and information may be used to demonstrate the low threat nature of the discharge.

However, at the other end of the spectrum, there may be discharges of nitrates that are above the drinking water standard, and there is no available assimilative capacity. In these circumstances, it may be appropriate for the Central Valley Water Board to grant an exception to meeting the water quality objective rather than prohibiting the discharge.

Because of the various levels of impacts, the SNMP establishes five categories for dischargers choosing to comply with the SNMP via Path A. The five categories are as follows:

- Category 1 - No Degradation Category: Discharge[19] is equal to or less than the water quality objective of 7.5~~10~~ mg/L, ~~and~~ the discharge is better than receiving water quality as measured in First Encountered Groundwater, and the discharge will not contribute to quality lower than the highest quality water to exist since 1968 or other standard as determined through an anti-degradation analysis.~~.~~

- Category 2 - *Degradation~~De minimus~~* Category: Receiving water is better than water quality objective and the proposed discharge is above receiving water quality~~water quality objectives~~, thus leading to degradation. To allow allow degradation up to the trigger of 75% of water quality objectives (i.e. 7.5 mg/L)), the Central Valley Water Board will require additional monitoring and trend evaluations as part of the WDRs in order to make appropriate findings consistent with Resolution 68-16 and the SNMP. Discharges which would lead to degradation higher than 75% are required to apply for an exception in order to account for uncertainty of actual water quality. ~~has assimilative capacity in First Encountered Groundwater (i.e., is better than the water quality objective). For this category, the discharge may be above the water quality objective as it enters first encountered groundwater, but the discharge will use less than 10% of the available assimilative capacity, and is thus considered de minimus~~.

- ~~Category 3 - Degradation Below 75% of the Water Quality Objective Category: Discharges will be considered as part of this category if they anticipate using available assimilative capacity in First Encountered Groundwater that is considered to be more than *de minimus* but will not cause First Encountered Groundwater to exceed a trigger of 75% of the water quality objective for nitrate over a 20 year planning horizon. To allow use of assimilative capacity in this circumstance, the Central Valley Water Board will require may find it necessary to include additional~~

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[19] Discharge as used here is intended to mean the quality of the discharge as it enters first encountered 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 first encountered groundwater.

~~monitoring and trend evaluations as part of the WDRs in order to make appropriate findings consistent with Resolution 68-16 and the SNMP.~~

- ~~Category 4 – Degradation Above 75% of the Water Quality Objective Category: Discharges will be considered as part of this category if they anticipate using available assimilative capacity in First Encountered Groundwater, and use of assimilative capacity will cause First Encountered Groundwater to exceed the trigger of 75% of the water quality objective for nitrate over a 20-year planning horizon. To allow use of assimilative capacity in this circumstance, the Central Valley Water Board will require may find it necessary to include additional conditions as part of the WDRs in order to make appropriate findings consistent with Resolution 68-16 and the SNMP.~~

- Category ~~5~~3 - Pollution~~Discharge Above Objective And No Available Assimilative Capacity~~: Discharges that exceed the 7.5 mg/L ~~water quality objective~~ trigger limit for nitrate, and where First Encountered Groundwater is greater than 75% of the water quality objective ~~has no available assimilative capacity~~, will be considered to be part of this category. Discharges in this category must~~may need to~~ seek an exception pursuant to the Exceptions Policy under the SNMP.

2.2 Submittal of Notice of Intent

For those dischargers that intend to comply via Path A, the NOI will need to include the following:

- An initial assessment of receiving water and/or discharge conditions.
- An initial assessment to determine if the discharge (or collective discharges) are impacting any nearby public water supply wells or domestic wells for nitrates.
- As applicable, an Early Action Plan, including 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 within the area of influence of discharges covered by the NOI.
- Identification of Category of the Discharge (see section 2.1 above).
- Information necessary to support allocation of assimilative capacity, as applicable (see Section xx below).
- Application for Exception pursuant to the Exceptions Policy, as applicable.

2.3 Notice of Intent with Early Action Plan

When the Notice of Intent includes an Early Action Plan that includes a plan to address immediate drinking water needs, the Central Valley Water Board will notify the discharger within 30 days if the discharger may proceed forward with implementing the Early Action Plan.

2.4 Revision of WDRs/Compliance with SNMP

After receiving the Notice of Intent, the Central Valley Water Board should have the information necessary to determine if the discharger can comply with the SNMP with no further action, or if the discharger will be required to submit additional information and/or if additional WDR conditions are necessary for the discharger to comply with the SNMP for nitrates. In general, discharges that fall within Categor~~y~~ies ~~and 2~~, (No Degradation ~~and De Minimus respectfully~~), will be determined to comply with the SNMP for nitrates without the need for further conditions or requirements. For discharges that fall within Category 2 (Degradation)~~ies 3 and 4 (Allocation of Assimilative Capacity)~~, the Central Valley Water Board must make findings that are consistent with the State's Antidegradation Policy (Resolution No. 68-16). Due to ~~Depending on~~ the level of degradation, the Central Valley Water Board will ~~may~~ require additional conditions in WDRs to implement the SNMP, and to allocate assimilative capacity. For Category ~~5~~3, the Central Valley Water Board must~~will need to~~ find that the discharge complies with the provisions in the Exceptions Policy.

To make findings of compliance with the nitrate components of the SNMP, the Central Valley Water Board must make the following findings and/or impose the following conditions that are applicable to each individual category. The findings and/or conditions shall be included in a new/revised WDR.

2.4.1. Category 1 - No Degradation Category

- Discharge is equal to or better than the nitrate water quality objective of 7.5 ~~10~~ mg/L-N (i.e., less than 10 mg/L-N); and, discharge is better than receiving water quality as measured in First Encountered Groundwater.
- Discharge is deemed to be in compliance with SNMP.

2.4.2. ~~Category 2 - *Degradation*~~*De minimus* ~~*Category*~~

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- ~~Receiving water quality has assimilative capacity in First Encountered Groundwater (i.e., is better than water quality objective of 10 mg/L-N).~~
- ~~Discharge(s) will not use more than 10% of available assimilative capacity over a 20 year planning horizon.~~
- ~~To determine amount of assimilative capacity consumed by the discharge, the Central Valley Water Board will consider the quality of the discharge as it enters First Encountered Groundwater, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.~~
- ~~Discharge will not unreasonably affect present and anticipated beneficial uses.~~
- ~~WDRs will ensure that discharges result in BPTC 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.~~

2.4.2~~3~~. Category 2~~3~~ - Degradation ~~Below 75% of the Water Quality Objective Category~~

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- Receiving water quality has assimilative capacity in First Encountered Groundwater (i.e., is better than water quality objective of 10 mg/L-N).
- ~~Discharge(s) will use more than 10% of available assimilative capacity over a 20 year planning horizon.~~

- Discharge will not cause First Encountered Groundwater to exceed 75% of the water quality objective for nitrate over a 20 year planning horizon.
- If the discharge causes the First Encountered Groundwater to exceed 50% of the water quality objective for nitrate over a 20 year planning horizon, the discharger must fund the increased costs of monitoring required of local impacted water districts.
- To determine amount of assimilative capacity consumed by the discharge, the Central Valley Water Board will consider the quality of the discharge as it enters First Encountered Groundwater, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.
- Discharge will not unreasonably affect present and anticipated beneficial uses.
- WDRs will ensure that discharges result in BPTC 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.
- Additional monitoring and periodic trend evaluation conditions are imposed to ensure compliance with SNMP
- Discharge must comply with the anti-degradation policy

~~2.4.4. Category 24 Degradation Above 75% of the Water Quality Objective~~

- ~~Receiving water quality has assimilative capacity in First Encountered Groundwater (i.e., is better than water quality objective of 10 mg/L N).~~
- ~~Discharge(s) will use more than 10% of available assimilative capacity over a 20 year planning horizon.~~
- ~~Discharge will cause First Encountered Groundwater to exceed 75% of the water quality objective for nitrate over a 20 year planning horizon but will not cause First Encountered Groundwater to exceed the water quality objective for nitrate over a 20 year planning horizon.~~
- ~~To determine amount of assimilative capacity consumed by the discharge, the Central Valley Water Board will consider the quality of the discharge as it enters First Encountered Groundwater, accounting for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil.~~
- ~~Discharge will not unreasonably affect present and anticipated beneficial uses.~~
- ~~WDRs will ensure that discharges result in BPTC 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.~~
- ~~Discharger required to develop and implement a SNMP Implementation Plan for the nitrate components of the SNMP, which shall include the following:~~
    - ~~Identification of nitrate related drinking water supply issues in the area of influence of the discharge;~~

- ~~Time schedule with milestones for addressing newly-identified nitrate related drinking water supply issues in the area influenced by the discharge;~~
- ~~Preliminary identification of the steps that will be taken to evaluate actions necessary to implement Management Goals 2 and 3, which may be phased in over time and will likely require further evaluation and assessment to identify proposed long-term actions.~~

2.4.3~~5~~. Discharge will result in receiving water that exceeds 7.5 N mg/L~~Above Objective and No Available Assimilative Capacity~~

- Receiving water has no assimilative capacity (7.5 mg/L) for nitrates in First Encountered Groundwater.
- Discharge exceeds the water quality objective for nitrate.
- No reasonable, feasible or practicable means are available for discharger to comply with WDRs 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 required to develop and implement a SNMP Implementation Plan for the nitrate components of the SNMP, which shall include the following:
  - Identification of nitrate related drinking water supply issues in the area of influence of the discharge;
  - Time schedule with milestones for addressing newly-identified nitrate related drinking water supply issues in the area influenced by the discharge;
  - Preliminary identification of the steps that will be taken to evaluate actions necessary to implement Management Goals 2 and 3, which may be phased in over time and will likely require further evaluation and assessment to identify proposed long-term actions.
- Discharger required to seek and obtain an exception in accordance with the Exceptions Policy.

~~3.0 Path B - Permitting Strategy for Participants of A Management Zone~~

~~3.1 Preparation of a Preliminary Management Zone Proposal~~

~~The SNMP encourages dischargers (and groups of dischargers) to work collectively to initiate development of a Preliminary Management Zone Proposal, the requirements of which are outlined in the Management Zone Policy. The purpose for preparing a Preliminary Management Zone Proposal is to provide all dischargers within the specified area for that management zone with enough information to make an election for complying with the nitrate components of the SNMP via Path A (as an individual discharger/third party group), or via Path B (participant in a Management Zone). After conducting their own initial assessment of their discharge, and after evaluating any applicable Preliminary Management Zone Proposal, dischargers will then need to notify the Central Valley Water Board of their election.~~

~~3.2 Submittal of Notice of Intent~~

~~For those dischargers that intend to comply with Path B, the NOI shall include identification of the Management Zone in which the discharger intends to participate, and acknowledge that they have reviewed and understand the commitments associated with participation in the Management Zone based on the Preliminary Management Zone Proposal that applies for their area of discharge.~~

~~3.3 Implementation of Early Action Plan~~

~~As part of participating in a Management Zone, dischargers will need to collectively be responsible for implementing the Early Action Plan that is part of the Preliminary Management Zone Proposal. Although WDRs for dischargers participating in a Management Zone will not yet be revised at this step in the process, the SNMP recommends that the Central Valley Water Board find participating dischargers in compliance with nitrate components of the SNMP as long as the participant is timely, and in good faith, participating in the Management Zone. Participating in the Management Zone includes assisting in the implementation of the Early Action Plan, and assisting in developing the Revised Management Zone Proposal. For dischargers that are subject to a General Order as a member of a Third Party Group, Third Party Group participation on behalf of its members shall constitute discharger participation.~~

3.3 Revision of WDRs/Compliance with SNMP

~~Per the Management Zone Policy, the Central Valley Water Board will revise WDRs/Conditional Waivers for those dischargers participating in the Management Zone after receiving the Revised Management Zone Proposal. Requirements for a Revised Management Zone Proposal are identified in the Management Zone Policy. Revisions to relative WDRs/Conditional Waivers may occur individually, or through a resolution that amends all applicable WDRs/Conditional Waivers.~~

~~Generally, the Central Valley Water Board will require Management Zone participants in the WDRs/Conditional Waivers to implement the detailed workplan for development of the SNMP Implementation Plan, and upon Central Valley Water Board approval of the SNMP Implementation Plan, to immediately transition to implementation of the SNMP Implemenation Plan.~~

~~To comply with the SNMP, the Revised Management Zone Proposal will indicate if the Management Zone is seeking compliance through the allocation of assimilative capacity on volume-weighted basis, or through an exception to meeting the water quality objective for nitrate.~~

4.0 Allocating Assimilative Capacity

4.1 Path A - Individual Dischargers

As indicated previously, dischargers electing to comply with the nitrate components of the SNMP may use available assimilative capacity in First Encountered Groundwater. Realistically, the amount of analysis and information necessary for allocating available assimilative capacity will vary - depending on if the discharger, or group of dischargers, will degrade the receiving water (based on highest quality water since 1968) ~~is seeking to use less than 10% of available assimilative capacity~~, degrade water

quality up to 7.5 mg/L~~75% of the water quality objective~~, or degrade water in excess of 7.5 mg/L~~quality objective above 75% of the water quality objective. .~~[20]

The Central Valley Water Board will continue to account for reductions in nitrate mass or concentration as the discharge percolates to groundwater through the soil. The Central Valley Water Board will also continue to consider any dilution that may occur from other sources recharging to the same aquifer. [21]

When deriving appropriate WDRs for nitrate, the Central Valley Water Board will initially presume that the discharge can comply with such restrictions by implementing the Best Practicable Treatment or Control (BPTC) measures. In such cases, the Central Valley Water Board will likely allow the discharge and require appropriate monitoring to demonstrate on-going compliance. If dischargers require additional time to implement the necessary pollution control measures to meet what would be considered BPTC, the Central Valley Water Board is authorized to include a compliance schedule in the WDRs.

For dischargers electing Path A, assimilative capacity represents the amount of nitrate that a given local area of influence can absorb without exceeding the applicable water quality objective. Assimilative capacity is calculated by subtracting the current average nitrate concentration in the defined aquifer from the water quality objective (usually 10 mg/L). [22] In practice, the actual computation is a good deal more difficult because nitrate concentrations can vary dramatically based on depth, location and sampling date, even when evaluating available assimilative capacity in First Encountered Groundwater.[23] This introduces some uncertainty into the calculation and, as a result, the Central Valley Water Board ~~may~~ should be reticent to allocate all of the assimilative capacity that is estimated to be available - especially when state law does not obligate them to do so.[24]

Dischargers electing to comply with the SNMP via Path A, will need to submit information necessary to support the allocation of assimilative capacity. This information is generally referred to as an antidegradation analysis. The level of analysis necessary will vary based on the Category in which the discharge falls within. For discharges that fall within Category 2, the demonstration for granting assimilative capacity can be made by preparing a "simple" antidegradation analysis. For discharges that fall within Categories 3 and 4, the demonstration for granting assimilative capacity can be made by preparing a "complete" antidegradation analysis. Elements for a simple and complete antidegradation analysis are identified in Appendix X.

4.2 Path B - Participants of a Management Zone

The requirements for allocating assimilative capacity for management zones is specified in the Management Zone Policy.

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[20] See Section 4.0 of the SNMP for definitions.

[21] SWRCB. In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 00481827), California Regional Water Quality Control Board, Central Coast Region. Order No. WQ 81-5; (3/19/81).

[22] State Water Board. Policy for Water Quality Control for Recycled Water; Res. No. 2009-0011 (Feb. 3, 2009)

[23] A detailed explanation of the procedure that CV-SALTS recommends for estimating available assimilative capacity is described in Section XXX of the SNMP.

[24] CWC §13263(c)

5.0 Granting an Exception to Meeting the Water Quality Objective for Nitrate

5.1 Overview

As indicated previously, the Central Valley Water Board is required to implement the Basin Plans when establishing WDRs.[25] When existing nitrate concentrations in the groundwater already exceed 10 mg/L, and there is no assimilative capacity available, the State Water Board has previously ruled that regional boards may not authorize WDRs that allow discharges to be greater than the applicable water quality objective.[26]

For discharges to groundwater, compliance with the objective is generally assessed at the point-of-discharge or immediately below the root zone of an irrigated field.[27] Exceptions to this approach *"may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent by the process of percolation through the ground to the aquifer."*[28] So, for example, the Central Valley Water Board may take into consideration crop uptake, mixing with stormwater recharge, and transformation through the soil when assessing whether a discharge will meet the water quality objective when it reaches the groundwater. The burden of providing adequate technical information to support such findings generally falls on dischargers.

The above approach generally describes the Central Valley Water Board's current permitting strategy for discharges of nitrate to groundwater when there is no assimilative capacity available. If discharges are unable to immediately comply with such restrictions, and require additional time to implement the necessary pollution control measures, the Central Valley Water Board is authorized to establish an appropriate compliance schedule in the WDRs.[29] The SNMP recommends no changes to the Regional Board's existing authority in this area.

However, in some cases, there may be no reasonably feasible or practicable means for dischargers to comply with WDRs limiting the discharge of nitrate to groundwater to concentrations less than 10 mg/L, at least at the present time.[30] In such circumstances, under the current regulatory framework, the Central Valley Water Board may have no legal option but to prohibit the discharge.[31] This, in turn, may be tantamount to prohibiting any activity producing a discharge that is unable to comply with water quality objectives despite employing reasonable best efforts. Such an outcome is inconsistent with the

[25] CWC §13263(a) and § 13269(a) for Conditional Waivers.

[26] See, for example, SWRCB Order No. 73-4: In the Matter of the Petition of Orange County Water District for Review of Order No. 72-16 of the California Regional Water Quality Control Board, Santa Ana Region, Prescribing Waste Discharge Requirements for Rancho Caballero Mobile Home Park (Feb. 1, 1973).

[27] State Water Board Order No. WQ-88-12: In the Matter of the Petition of Carol Ann Close; San Diego County Milk Producers Council, el al. (pg. 14)

[28] State Water Board Order No. WQ-81-5: In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. (March 19, 1981).

[29] CWC §13263(c)

[30] See, for example, a more detailed discussion in: "Conclusions of the Agricultural Expert Panel: Recommendations to the State Water Resources Control Board pertaining to the Irrigated Lands Regulatory Program" September 9, 2014.

[31] CWC §13243 and CWC §13301; see also SWRCB Order No. 88-12: In the Matter of the Petition of Carol Ann Close; San Diego County Milk Producers Council, el al. (pg. 15).

State Water Board's declaration that *"Resolution 68-16 is not a 'zero-discharge' standard but rather a policy statement that existing quality be maintained when it is reasonable to do so."*[32]

In many instances, prohibiting the discharge may also be infeasible, impracticable or unreasonable. For example, municipal wastewater treatment plants cannot simply halt the flow of sewage into the facility without severe adverse consequences on public health and the environment. Similarly, prohibiting nitrate discharges from production agriculture may result in substantial and widespread adverse social and economic impacts on residents of the state while doing little to resolve the existing water quality impairments in the region. For this reason, the State Water Board had concluded that:

> *"Pollution prevention and cleanups … may not be feasible. Consequently, any practical solution to groundwater contamination must also focus on strategies to provide safe drinking water to consumers through treatment and alternative water supplies."*[33]

To that end, the State Water Board has also declared that:

> *"The single most important action that can be taken to help ensure safe drinking water for all Californians is to provide a stable, long-term source(s) of funding to assist those impacted by nitrate-contaminated groundwater."*[34]

Moreover, enforcing strict compliance with water quality objectives will do nothing to address prior nitrate discharges slowly moving through the vadose zone.[35] Nor does prohibiting the discharge determine when compliance cannot be achieved.[36] In either case, legacy loads are already programmed into the system even if the full effects~~affects~~ have yet to manifest in groundwater quality.

Thus, with this background in mind, the SNMP recommends that where existing groundwater quality already exceeds the MCL for nitrate (i.e., > 10 mg/L), the Central Valley Water Board's foremost goal should be to encourage rapid implementation of safe drinking water alternatives, while also requiring that dischargers work on reducing their nitrate loading to the aquifer. ~~–~~ To achieve this goal, the Central Valley Water Board needs additional permitting options. Specifically, the SNMP recommends that the Basin Plans be amended to extend and expand the Central Valley Water Board's current authority to authorize exceptions under certain circumstances.[37] The following section describes how such exceptions authority should be applied with respect to permitting nitrate discharges to groundwater. A

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[32] State Water Board Order No. 86-8; In the Matter of the Petition of the County of Santa Clara, et al. May 5, 1986; pg. 29

[33] State Water Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater. February 2013; pg. 5 (citing Thomas Harter, et al., Addressing Nitrate in California's Drinking Water: Report to the California State Water Resources Control Board. U.C. Davis Center for Watershed Sciences. January 2012).

[34] State Water Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater. February 2013; pg. 24.

[35] State Water Board. Report to the Legislature: Recommendations for Addressing Nitrate in Groundwater. February 2013; pg. 5 (citing the UC-Davis Report identified in Footnote #3, above).

[36] State Water Board. Report to the Legislature: Communities that Rely on Contaminated Groundwater. January 2013. See discussion at pages 18-20 in the report. See also the United Nations Report of the Special Rapporteur on the Human Right to Safe Drinking Water and Sanitation. A/HRC/18/33/Add.4 (August 2, 2011). http://www2.ohchr.org/english/bodies/hrcouncil/docs/18session/A-HRC-18-33-Add4_en.pdf

[37] Central Valley Water Board Resolution No. R5-2014-0074 (June 6, 2014); subsequently approved by the SWRCB in Res. No. 2015-0010 (March 17, 2015).

more detailed description of the specific basin plan revisions required to enact a broader exceptions policy and the rationale for such changes is provided in Section XXX of the SNMP.

5.2 Authorizing Exceptions

An "exception" allows the Central Valley Water Board to authorize a discharge to occur even where doing so may violate applicable water quality standards in the receiving groundwater basin.[38] Exceptions are most commonly employed when there is no feasible, practicable or reasonable means for a discharge to meet with water quality objectives and it is not feasible, practicable or reasonable to prohibit the discharge.

Exceptions are an appropriate option when state authorities determine that prohibiting a discharge would do more harm than good and allowing it to continue, with certain additional requirements and conditions, is in the best interests of the people of the state. Exceptions may also be an appropriate tool to authorize the time required to implement other regulatory solutions (e.g., developing site-specific objectives or reevaluating the applicable beneficial use) or to support a program of phased implementation and reasonable resource allocation including the planning and permitting activities required in such programs. However, exceptions are not intended to be a permanent waiver from compliance obligations. They are subject to specified conditions and reviewable periodically.

With respect to exceptions for nitrates, the SNMP recommends two overarching conditions. First, dischargers are still expected to to employ BPTC ~~make reasonable best efforts intended to comply with applicable WDRs when there exists a feasible and practicable means for doing so.~~ Second, in lieu of meeting the applicable water quality objective for nitrate, dischargers will be expected to propose an Alternative Compliance Project (ACP) designed to mitigate the significant adverse effect(s) of their permitted discharge as it relates to nitrate for which an exception is granted.[39] Moreover, an ACP for nitrate will need to assure that groundwater users down-gradient of the discharge have drinking water that meets applicable state and federal standards. ACPs need to~~may~~ include ~~both~~ interim actions (e.g., bottled water) in the short-term, permanent solutions (such as well-head treatment, service connections to larger systems, or alternative drinking water supplies) in the intermediate term, and efforts to re-attain the water quality objective (where feasible and practicable) over the long-term. In granting an exception, the Central Valley Water Board must also consider the three management goals, as discussed previously in Section XXXX.

The SNMP recommends that exceptions be reviewable every ten years.~~for two reasons~~ to ensure compliance with and, if necessary revise necessary conditions, such as improved source control and treatment technologies .~~P First, although the means to assure compliance may not currently exist, new source control and treatment technologies may be developed in the future. Therefore, exceptions need to be periodically reassessed. Second, p~~Permanent exceptions would be tantamount to nullifying the designated use. Therefore, where compliance cannot be assured (even over the long-term), the State

[38] Exceptions from compliance with water quality standards in a groundwater basin is similar to the concept of a "variance" for surface waters. The key distinction is that exceptions are governed exclusively by state law and variances are subject to both state and federal authority. See, for example, Res. No. R5-2014-0074.

[39] A more detailed description of the mandatory elements in an ACP is described in Section XXX of this SNMP.

Water Board has stated that the regional boards should consider whether the water quality standard itself is appropriate.[40] Exceptions are intended to complement, not replace, the water quality standards review process.

In the Basin Plans, the current exceptions policy is restricted to a limited number of salinity constituents (electrical conductivity, TDS, chloride, sulfate and sodium).[41] As discussed separately in the Exceptions Policy document (see Section XX), this policy should be revised in order to provide the Central Valley Water Board additional authority to allow exceptions for nitrate in WDRs. In summary, the current exceptions policy was deliberately designed to provide interim relief from meeting salinity objectives while CV-SALTS was in the process of developing the long-term SNMP. As such, the interim policy does not allow exceptions longer than 10 years and it prohibits the Central Valley Water Board from approving any new exceptions after June 30, 2019. Before that date, it was expected that the interim policy would be replaced by a more permanent exceptions policy – one that was developed in conjunction with the SNMP.[42]

The SNMP recommends that the expiration date specified in the interim policy be deleted so that that the Central Valley Water Board is authorized to approve exceptions after June 30, 2019. ~~In addition, the SNMP recommends that the 10-year time limit specified in the interim policy be revised by allowing the Central Valley Water Board to authorize or reauthorize exceptions for much longer periods where necessary to facilitate implementation of the long-term restoration strategies described in the SNMP~~.[43] Regardless, dischargers are expected to comply with water quality standards if and when a feasible and practicable means for doing so becomes available. The existing requirement to periodically assess and confirm discharger conformance with the terms and conditions of any exception would remain unchanged.

To grant an exception for discharges of nitrate, the SNMP recommends that the Central Valley Water Board consider the following factors:

1) Nitrate concentrations in the groundwater basin exceed or threaten to exceed the MCL.
2) There is no feasible, practicable or reasonable means to assure compliance with the relevant WDRs governing nitrate under traditional permitting approaches.
3) It is infeasible, impracticable or unreasonable to prohibit the discharge. The Central Valley Water Board will prepare guidelines for making such an assessment.
4) Authorizing the discharge is in the best interests of the people of the state.
5) The discharger, or group of dischargers, requests an exception and proposes to implement an ACP in lieu of meeting the relevant WDRs for nitrate.

[40] State Water Board Order No. WQ-81-5: In the Matter of the Petition of the City of Lompoc for Review of Order No. 80-03 (NPDES Permit No. CA 0048127), California Regional Water Quality Control Board, Central Coast Region. (March 19, 1981).

[41] Res. No. R5-2014-0074

[42] R5-2014-0074; Regional Board Staff Response to Public Comments, pg. 12 & 13.

[43] The long-term approach to nitrate management is described in Section XXX of the SNMP.

6) The ACP provides appropriate well-head treatment or an alternative drinking water supply to down-gradient groundwater users where nitrate levels exceed Nitrate concentrations of 7.5 mg/L ~~or threaten to exceed the MCL~~.[44]

7) The ACP provides a plan to meet Nitrate levels of 7.5 mg/L~~water quality objectives~~ or lower within an identified period of time, and clear milestones and timelines demonstrate progress toward the goal. ~~over the long-term.~~

8) The discharger continues to employ BPTC /~~make reasonable~~ best effort~~s, where feasible and practicable~~, to further reduce nitrate concentrations in the discharge.

9~~8~~) The discharger agrees to actively support implementation of the long-term nitrate compliance plan, as described in the SNMP.

Further, to approve an exception for nitrate, the SNMP recommends that the Central Valley Water Board consider whether the ACP will result in a higher level of public health protection (e.g., greater or faster risk reduction) than is likely to otherwise occur if the discharge were prohibited or is a key part of a long-term restoration strategy. In other words, will the ACP do a better job of achieving the real-world outcomes originally sought by requiring strict compliance with WDRs to meet water quality standards?

5.0 Proposed Modifications to the Basin Plans to Support Policy Implementation

The following subsections summarize the key changes anticipated for each Basin Plan to support adoption of this policy.

Existing and Potential Beneficial Uses

No modifications anticipated.

Water Quality Objectives

No modifications anticipated.

Implementation

Incorporate the relevant elements of this Policy into the Basin Plans to describe the permitting approach for nitrate in groundwater.

[44] The discharger may propose to participate in a regional project or make one or more payments to a regional nitrate mitigation fund approved as an ACP subject to Regional Water Board review and approval.