ENVIRONMENTAL ANALYSIS AND CHECKLIST

Proposed Basin Plan Amendment to Revise the Water Quality Objective for Nitrate-Nitrogen in the Chino South Groundwater Management Zone

Lead Agency:

Santa Ana Regional Water Quality Control Board

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Section 1
Introduction

As a Lead Agency, the California Regional Water Quality Control Board, Santa Ana Region (Santa Ana Water Board or Regional Board) is required to comply with the California Environmental Quality Act (CEQA) when considering amendments to the Water Quality Control Plan (Basin Plan) for the Santa Ana River Basin. Accordingly, this Substitute Environmental Document (SED) has been prepared to address the potential environmental effects of an action involving an amendment to the Basin Plan related to the revised nitrate-nitrogen objective[1] for the Chino-South Groundwater Management Zone (GMZ) (Proposed Action). A more detailed description of the Proposed Action is provided in Section 2, and a summary of the overall environmental setting is described in Section 3.

The SED includes an Environmental Checklist that serves as the basis for a systematic evaluation of the potential for the amendment to result in a significant impact relative to a variety of environmental factors, such as biological resources, recreation, water quality and other such topics as presented in Section 4. Section 5 includes a discussion of alternatives to the Proposed Action.

1.1 Regulatory Setting

Pursuant to Section 15251(g) of the CEQA Guidelines, the Water Quality Control/Section 208 Planning Program of the State and Regional Water Boards is exempt from the requirements of preparing an Environmental Impact Report (EIR), Negative Declaration (ND) or Initial Study. However, the program is subject to other provisions in CEQA, including the policy of avoiding significant adverse effects on the environment where feasible. This is to be presented in a substitute document which includes, at a minimum, a description of the proposed activities and either: 1) alternatives to the activities and mitigation measures to avoid or reduce any significant or potentially significant effects that the Proposed Action may have on the environment; or 2) a statement that the Proposed Action would not have any significant or potentially significant effects on the environment, as supported by a checklist or other documentation.

Additionally, the Regional Board must comply with the State Water Resource Control Board's regulations on exempt regulatory programs when amending basin plans (California Code of Regulations, Title 23, Section 3775-3782). These regulations require the completion of an Environmental Checklist and a written report that includes: 1) a brief description of the proposed activity; 2) reasonable alternatives to the proposed activity; and (3) mitigation measures to minimize any significant adverse environmental impacts of the proposed activity.

The analysis must consider a reasonable range of environmental, economic, and technical factors, population and geographic areas, and sites. Where specific data are not available, the Santa Ana

[1] Unless otherwise specified, nitrate is reported as nitrate-nitrogen in this document. The State Water Resources Control Board, Division of Drinking Water's primary maximum contaminant level (MCL) for nitrate as nitrogen is 10 milligrams per liter (mg/L).

Water Board may utilize numerical ranges and averages, but is neither required nor encouraged to engage in speculation or conjecture. A project-specific level analysis is not required, nor is it feasible.

Pursuant to Water Code Section 13360, the Regional Board is prohibited from specifying the design, location, type of construction, or particular manner of compliance with waste discharge requirements or other orders. Instead, those entities subject to the proposed Basin Plan amendment are responsible for identifying compliance strategies, and conducting the required CEQA analysis of implementation of the selected strategies at the project level. Thus, the Regional Board cannot conduct project-level CEQA analyses of strategies that would be implemented by others, nor is it required to do so.

Consistent with the CEQA Guidelines and Water Code Sections identified above, the environmental analysis contained herein: includes a written analysis that identifies a reasonable range of reasonably foreseeable compliance strategies (Section 2.3); presents an Environmental Checklist (Section 4); evaluates reasonably foreseeable environmental effects (Section 4) and mitigation measures, if applicable; and discusses alternatives to the Proposed Action (Section 5). This analysis takes into consideration a reasonable range of environmental and economic factors, population, and geographic areas and sites.

Section 2

Proposed Action Description

2.1 Background

Federal law requires states to establish water quality standards (beneficial uses, water quality criteria, and an antidegradation policy for all surface water bodies within the state's jurisdiction and to review those standards at least once every three years. The State Water Resources Control Board (State Water Board) sets statewide policy, and, together with the nine Regional Boards, implements state and federal laws and regulations. Each of the Regional Boards, including the Santa Ana Regional Board, is required to adopt a Water Quality Control Plan or Basin Plan subject to approval by the SWRCB that identifies the beneficial uses of the surface and groundwaters in each region and local water quality conditions and problems. Under the Porter-Cologne Water Quality Control Act (California Water Code, Division 7, Chapter 2 §13050), establishment of water quality standards, including beneficial uses and water quality objectives, is required for all waters of the state (surface and groundwater). In California, water quality criteria are known as "water quality objectives."

The current Basin Plan for the Santa Ana region was adopted in 1995 and updated in 2004 and 2008. Minor editorial corrections were made to Chapter 4 in 2011. The Basin Plan establishes water quality standards for the surface and groundwaters of the Santa Ana region and provides the basis for the Regional Board's regulatory programs. The Basin Plan designates the beneficial uses of specific waterbodies within the Santa Ana region and establishes water quality objectives for the protection of these uses. The Basin Plan also establishes distinct groundwater management zones (GMZs) to set water quality standards for groundwater.

2.1.1 2004 Basin Plan Amendment

In 2004, Regional Board amended the Basin Plan to better control the discharge of nitrogen and total dissolved solids (TDS) to local surface waterbodies and groundwater. Resolution Number R8-2004-0001 established new groundwater management zones (GMZ), revised nitrate-nitrogen and TDS objectives, revised TDS and nitrogen Waste Load Allocations (WLAs) for discharges of wastewater to the Santa Ana River and its tributaries, and revised reach designations for selected waterbodies.

Figure 1 shows the current GMZ boundaries and water quality objectives for nitrate-nitrogen and TDS, as amended in 2004. GMZs are intended to be hydrologically-distinct groundwater units from a groundwater flow and water quality perspective. The Basin Plan identifies 37 separate GMZs and assigns appropriate water quality objectives for TDS and nitrogen for each. In general, the groundwater management zone boundaries are consistent with groundwater

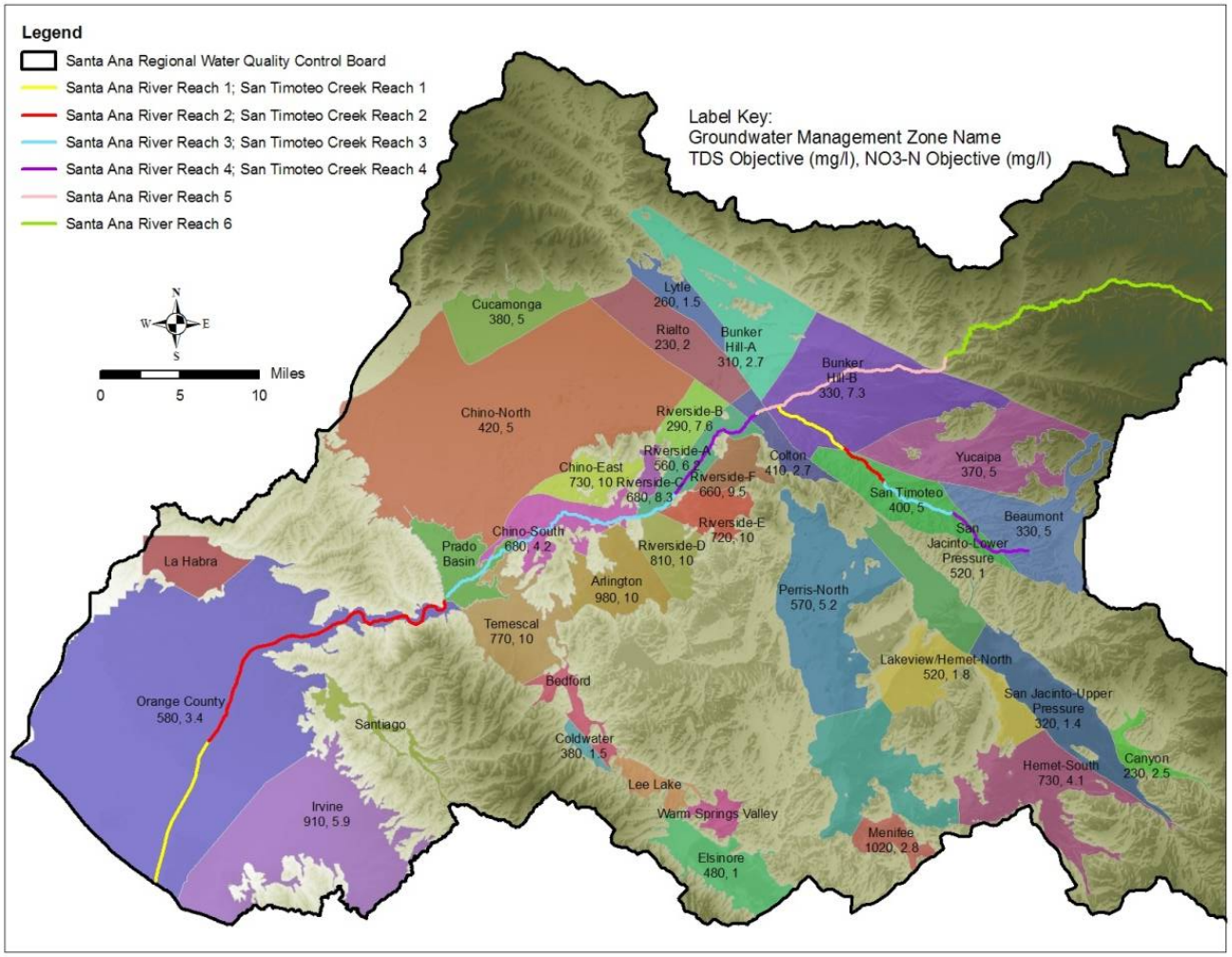

Figure 1 Groundwater Management Zones and Water Quality Objectives for TDS and Nitrate-Nitrogen (NO3-N) based on Basin Plan amendment to update the Salt Management Plan (Resolution No. R8-2004-0001)

flow regimes and include well-defined areas of recharge and discharge. As shown on Figure 1, a water quality objective of 4.2 mg/L for nitrate-nitrogen was adopted in the Chino-South GMZ. The objective was computed as the volume-weighted average concentration of nitrate-nitrogen based on all sampling data collected for the period beginning in 1954 and ending in 1973 (*e.g.*, the baseline evaluation period).[2]

As part of the same 2004 Basin Plan amendment, the Regional Board approved an updated WLA for nitrogen (and TDS) to prevent degradation of water quality in the Chino-South GMZ (and other GMZs) that are recharged by flows in the Santa Ana River system. These WLAs are the basis for National Pollutant Discharge Elimination System (NPDES) permit effluent limitations on nitrogen (and TDS) in treated municipal effluent (wastewater) discharges to those segments of the Santa Ana River that overlie the Chino-South GMZ. All affected NPDES permits include effluent limitations that are consistent with the approved WLAs. This includes a limit for total inorganic nitrogen (TIN[3]) of 10 mg/L.[4]

The 2004 Basin Plan Amendment also contained provisions that required implementation of a long-term watershed-wide monitoring program to determine compliance with water quality objectives and to assess the status and trends of nitrogen and TDS concentrations throughout the watershed. The Basin Monitoring Program Task Force (BMPTF), formed by local stakeholders and facilitated by the Santa Ana Watershed Project Authority (SAWPA), implements the monitoring requirements. The monitoring data are used to assess whether applicable water quality standards are being attained, to determine if any assimilative capacity[5] exists in each groundwater management zone, and, when needed, to revise wasteload allocations.

In the Chino-South GMZ, the current ambient groundwater concentrations of nitrate-nitrogen and TDS for the most recent recomputation period are well above the water quality objectives of 4.2 mg/L, and 680 mg/L, respectively. Thus, there is no assimilative capacity for nitrate-nitrogen or TDS in the Chino-South GMZ. When there is no assimilative capacity, the State Water Board has stated that, "Where the constituent in a groundwater basin is already at or exceeding the water quality objective, the Regional Board must set [effluent] limitations no higher than the objectives set forth in the Basin Plan. Exceptions to this rule may be granted where it can be shown that a higher discharge limitation is appropriate due to system mixing or removal of the constituent through percolation through the ground to the aquifer.[2]"

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[2] Wildermuth Environmental, Inc. TIN/TDS Study Phase 2A of the Santa Ana Watershed, Development of Groundwater Management Zones, Estimation of Historic and Current TDS and Nitrogen Concentrations in Groundwater, Final Technical Memorandum. July 27, 2000.

[3] Total inorganic nitrogen = nitrite + nitrate+ ammonia nitrogen

[4] The concentration of TIN can be approximated (in the range of pH conditions normally observed in the Santa Ana River system) as the sum of nitrate + ammonia + nitrite. Ammonia and nitrite may be transformed into nitrate-nitrogen by natural chemical and biological processes in the environment. The Regional Board takes this into consideration by imposing effluent limits for TIN to ensure attainment of nitrate objectives in the receiving water.

[5] Assimilative capacity refers to the ability of a water body to naturally absorb and use a substance without impairing water quality or harming aquatic life. If current pollutant concentrations are the same or greater than the water quality objective, then no assimilative capacity exists for that pollutant.

2.1.2 Nitrate-Nitrogen Objective

California has established a Primary Maximum Contaminant Level (MCL) of 10 mg/L for nitrate-nitrogen in drinking water.[6] However, because water quality in the Chino-South GMZ, during the baseline evaluation period, was better than necessary to protect the designed beneficial use, the nitrate-nitrogen objective was set to 4.2 mg/L in order to preserve and maintain this higher quality as is required by the antidegradation policy.[7]

The Chino-South GMZ antidegradation nitrate-nitrogen objective was established in 2004; since then, more recent data show that groundwater quality in the Chino-South GMZ is degrading. Groundwater samples collected for the 20-year period beginning in 1978 and ending in 1997 showed that the nitrate-nitrogen concentration had increased by more than 100 percent to a volume-weighted average of 8.8 mg/L. Routine reassessments, performed every three years, indicate that nitrate-nitrogen levels continue to rise in the Chino-South GMZ (see Figure 2). The most recent computation, using data collected in the 20-year period from 1993 to 2012, indicates that the volume-weighted average nitrate-nitrogen concentration is now approximately 28 mg/L.

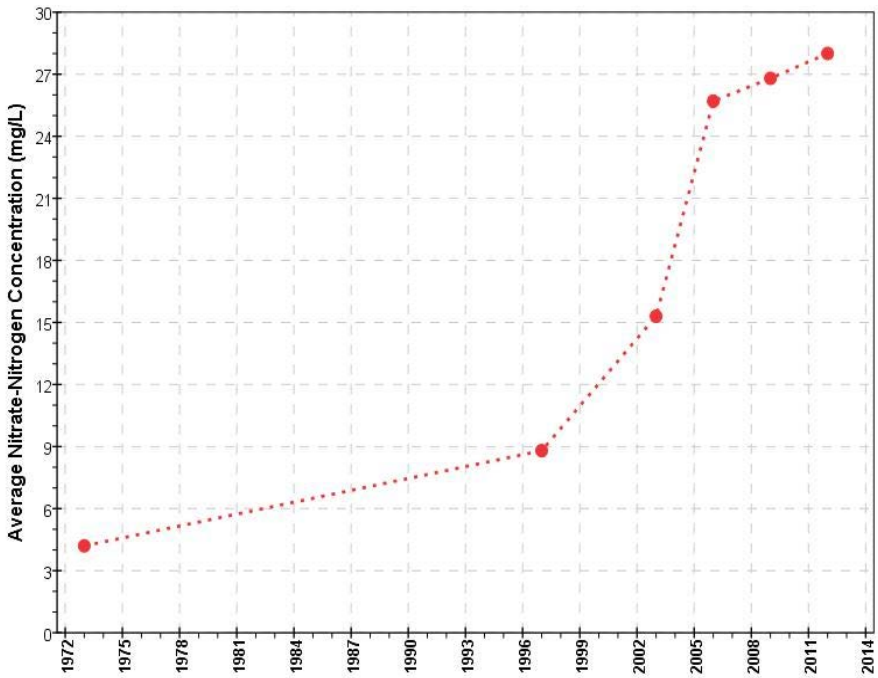


Figure 2 Long-term Trend for Average Nitrate-Nitrogen Concentrations in the Chino-South GMZ[8]

[6] 22 CCR §64431(a); see Table 64431-A: Maximum Contaminant Levels for Inorganic Chemicals.

[7] Antidegradation refers to avoiding a lowering of existing water quality standards as prescribed under SWRCB Resolution 68-16, Statement of Policy with Respect to Maintaining High Quality Of Waters in California. Resolution 68-16 requires that existing water quality be maintained even if it is better than the established standards unless it can be demonstrated that a change would be consistent with providing maximum benefit to the people of California; would not unreasonably affect present and anticipated beneficial use of such water; and would not result in water quality that is less than that prescribed. State Water Resources Control Board Resolution No. 68-16: Statement of Policy with Respect to Maintaining High Quality Waters in California. (October 28, 1968).

[8] Wildermuth Environmental, Inc. Recomputation of Ambient Water Quality in the Santa Ana Watershed for the Period 1993 to 2012. Technical Memorandum prepared for the Santa Ana Watershed Project Authority Basin Monitoring Program Task Force. August, 2014. (see Table 3-2 in original).

The pattern of nitrate-nitrogen concentrations evident from comprehensive well monitoring data collected throughout the Chino-South GMZ indicates that the long-term degradation of water quality is most likely due to past land use practices in the area. Nitrogen that originated from widespread use of fertilizer or the dairy operations that were once prevalent in the area have been slowly seeping into the groundwater for many years. Most of these legacy nitrogen loads occurred when there was little or no regulatory control over such discharges. Today, most of these agricultural operations have been displaced by urbanization. But, the problem will continue until the excess nitrates are finally flushed from the vadose (unsaturated) zone. Prior experience in the Pomona area, where urban development displaced the once-dominant agricultural land use, suggests that it takes about 50 years to purge the vadose zone.

Because the current ambient nitrate-nitrogen average concentration (28 mg/L) is greater than the applicable water quality objective (4.2 mg/L), the Regional Board has determined that there is no assimilative capacity for nitrate-nitrogen in the Chino-South GMZ.

The Regional Board relies on a Waste Load Allocation Model (WLAM) to derive appropriate discharge limitations for wastewater discharges to the Santa Ana River system while taking into account the nitrogen reductions that occur through system mixing or as a result of percolation through the streambed sediments.[9] The WLAM is a predictive tool that can assess whether projected flows percolating to groundwater from surface streams comply with the applicable water quality objectives for that area. The WLAM takes into consideration the quantity and quality of all flows projected to be present in the surface stream including both stormwater runoff and discharges of wastewater. Results from the WLAM analysis are used to establish appropriate effluent limits governing TIN and TDS concentrations in wastewater discharged to surface waters throughout the region.

The WLAM takes into account system mixing using more than 60 years of daily precipitation and streamflow data to estimate the volume and quality of stormwater runoff draining to the Santa Ana River. The WLAM also accounts for the nitrate removal that occurs as water flows downstream and percolates through the vadose zone. The Regional Board has approved a site-specific nitrogen loss coefficient of 50 percent for streambed recharge to groundwater where the Santa Ana River overlies the Chino-South GMZ.[10]

The WLAM is periodically updated and re-run to adjust for changes in land use, wastewater discharges and precipitation patterns. The most recent update, completed in early 2015, shows that the long-term (63-year) average concentration of TIN in water recharging the Chino-South GMZ from Reach 3 of the Santa Ana River ranges from 4.03 mg/L to 4.14 mg/L depending on how much wastewater is discharged versus how much is used as recycled water.[11] This suggests that the current NPDES permit limits, which specify an average annual TIN concentration no greater

[9] Wildermuth Environmental, Inc. TIN/TDS Study - Phase 2B of the Santa Ana Watershed, Wasteload Allocation Investigation Technical Memorandum. October, 2002.

[10] See pg. 5-21 of the Basin Plan (Jan. 24, 1995; updated Feb., 2016).

[11] Wildermuth Environmental, Inc. Addendum to the 2008 Santa Ana River Wasteload Allocation Model Report: Scenario 8. Technical Memorandum. January 5, 2015.

than 10 mg/L, would ensure compliance with the nitrate-nitrogen objective for the Chino-South GMZ over the long run.[12]

Data from the most recent WLAM analysis also indicates that the highest average concentration of TIN in water recharging to the Chino-South GMZ corresponds to periods with lower than average precipitation (droughts) and, therefore, less dilution from the related runoff. Review of the results show that during the driest 10-year portion of the entire 63-year meteorological simulation period, the maximum average concentration of TIN in water recharging to the Chino-South GMZ is expected to range from 4.25 mg/L to 4.34 mg/L, depending on how much treated effluent is recycled versus discharged. As shown in Table 1, at such times, the maximum average TIN concentration in water percolating from the Santa Ana River to the Chino-South GMZ will be about 3.3 percent (0.14 mg/L) higher than the nitrate-nitrogen objective.[13]

Table 1 Average TIN Concentrations in Water Recharged to the Chino-South GMZ from Reach-3 of the Santa Ana River (2020 land use conditions)

Metric	Scenario 8d: Max. Recycle	Scenario 8e: Intermediate	Scenario 8f: Max. Discharge
Long-Term Average (63 years)	4.03 mg/L	4.10 mg/L	4.14 mg/L
Single Highest 10-year Average	4.25 mg/L	4.31 mg/L	4.34 mg/L
Probability that average recharge quality will exceed 4.2 mg/L in any 10-year-period	11.1%	30.2%	44.4%
Maximum amount the Basin Plan objective would be exceeded	0.05 mg/L 1.1%	0.11 mg/L 2.6%	0.14 mg/L 3.3%

Although the exceedance of the nitrate-nitrogen objective is relatively small when it occurs, and the long-term average still complies with the Basin Plan objective, results from this WLAM analysis complicate the process of issuing permits for wastewater discharges flowing into Reach 3 of the Santa Ana River. Federal and state law require the Regional Board to establish effluent limits that will ensure that these discharges will not cause or contribute to an exceedance of water quality objectives. The permit limits must ensure compliance under all conditions that may reasonably occur including multiple years of lower than normal precipitation. Since there is no way to accurately predict at the time the permits are issued what the future rainfall pattern will be, more restrictive effluent limitations may be deemed necessary to ensure consistent compliance with the objective.

At present, all of the NPDES permits for wastewater discharges to Reach 3 of the Santa Ana River restrict the average TIN concentration to not more than 10 mg/L[14]. However, because the WLAM indicates that imposition of this current effluent limit does not ensure consistent short-term compliance with the water quality objective in the Chino-South GMZ during droughts, the

[12] See Basin Plan, Chapter 5 Implementation, TDS and Nitrogen Management, III. TDS/Nitrogen Management Plan, B. TDS and Nitrogen Regulation, 3 Nitrogen Loss Coefficients.

[13] Wildermuth Environmental, Inc. Addendum to the 2008 Santa Ana River Wasteload Allocation Model Report: Scenario 8. Technical Memorandum. January 5, 2015.

[14] NPDES permits specify the TIN limitation as a running 12-month flow-weighted average.

Regional Board may be obligated to impose more stringent effluent limits unless some other adjustment is made to address the short-term compliance issue.

2.2 Proposed Amendment

The Proposed Action consists of an amendment to the Basin Plan to raise the nitrate objective in the Chino-South GMZ to resolve the current inconsistency. The amendment consists of amending Table 4-1 in the Basin Plan to revise the water quality objective for nitrate-nitrogen in the Chino-South GMZ from its current value of 4.2 mg/L to a new value of 5.0 mg/L.

As described in Section 2.1 above, the current nitrate-nitrogen objective of 4.2 mg/L was established by the Regional Board in 2004 based on baseline evaluation of all sampling data collected in 1954 through 1973. Over time, the average nitrate-nitrogen concentration in the Chino-South GMZ has been rising and the most recent estimate, based on sampling data collected between 1993 and 2012, indicates the volume-weighted average nitrate-nitrogen concentration now stands at about 28 mg/L. The long-term increase is caused by legacy loads of nitrogen that resulted from past agricultural/livestock practices and are moving through the vadose zone. Urbanization has since displaced most of these former agricultural operations but water quality in the Chino-South GMZ may continue to be adversely affected for many years until nitrogen are flushed from the vadose zone. Prior experience in the Pomona area, where urban development displaced the once-dominant agricultural land used, suggests that it takes about 50 years to purge the vadose zone.

Until then, the discharge of large quantities of treated municipal effluent at no more than 10 mg/L TIN to Reach 3 of the Santa Ana River, which overlies and recharges the Chino-South GMZ, will help reduce the average nitrate-nitrogen concentration in the Chino-South GMZ. The Proposed Action would accommodate these ongoing discharges without requiring significant expenditures to provide additional treatment that might otherwise be required to ensure objective compliance during drought periods. This additional treatment and associated costs are not justified by the marginal water quality improvements that might result. These marginal water quality improvements are not necessary to ensure the continued protection of beneficial uses. In short, the Proposed Action would ensure that the best practicable treatment and control facilities now in place would continue to provide the highest water quality consistent with the maximum benefit to the people of the state, as required by the antidegradation policy.

Raising the water quality objective for nitrate-nitrogen in the Chino-South GMZ from 4.2 mg/L to 5 mg/L would have no adverse impact on the beneficial uses of the GMZ. Most importantly, a 5 mg/L nitrate-nitrogen objective is half of the Primary MCL established to protect drinking water uses and prevent methemoglobinemia.

Applying the 50 percent nitrogen loss coefficient established in the Basin Plan, wastewater discharged at an average TIN concentration of 10 mg/L would enter the aquifer at no more than 5 mg/L. Thus, continuing to meet the current effluent limits would ensure that wastewater discharges could meet a 5 mg/L nitrate-nitrogen objective in groundwater without needing to rely on any stormwater dilution to make this demonstration.

Raising the nitrate-nitrogen objective to 5 mg/L would not result in less stringent effluent limitations for the wastewater treatment plants: effluent limitations of 10 mg/L TIN would continue to be specified in relevant NPDES permits pursuant to the established WLAs. Thus, the change in objective would not raise concerns with regard to federal anti-backsliding regulations. [15]

Raising the objective would avoid the need to impose more restrictive permit limits in order to address the short-term compliance issues that may arise because of drought conditions, as discussed above. In turn, this would avoid the significant costs associated with meeting more restrictive effluent limits. These significant costs are not reasonable nor warranted by the marginal water quality improvement in the discharges that would result. This finding takes into account the facts that:

1) The existing and reasonably foreseeable future nitrate-nitrogen concentrations in the Chino-South GMZ are and will be driven by legacy nitrogen loading from the vadose zone;

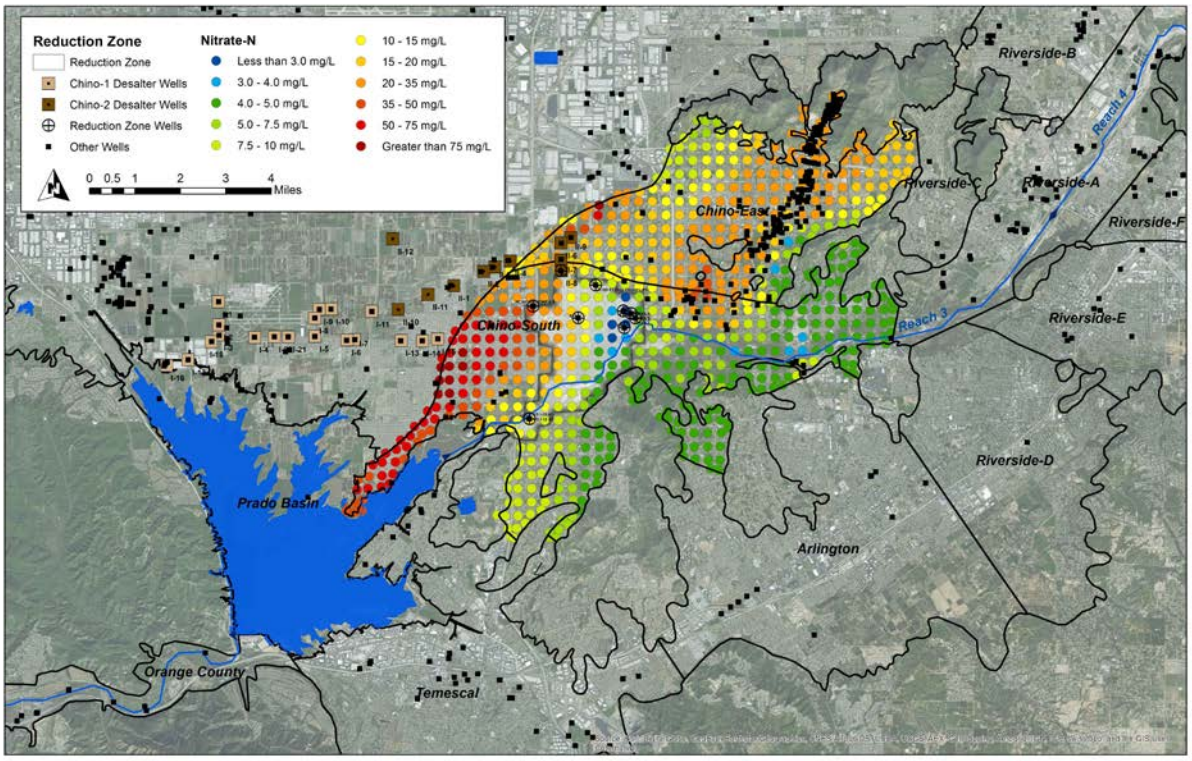
2) Wastewater discharges currently provide dilution and improvement of GMZ quality conditions. Comprehensive water quality data reveal that the lowest nitrate-nitrogen concentrations measured in the Chino-South GMZ are found in those areas of the aquifer closest to the Santa Ana River. The discharge of large volumes of wastewater effluent to Reach 3 of the River is not causing or contributing to the problem in the Chino-South GMZ; rather, it is part of the long-term solution for improving groundwater quality;

3) The beneficial uses of the Chino-South GMZ would continue to be protected even if the nitrate-nitrogen objective is raised and no treatment beyond that already provided is necessitated.

As previously noted, significant additional treatment costs may result in the relocation of wastewater discharges to avoid those costs. Relocation of the discharges would mean that these wastewater discharges would no longer provide dilution of nitrogen (and TDS) in the Chino-South GMZ.

[15] 40 CFR §122.15(i) implementing 33 U.S.C. §1342(o) [§402(o) of the Clean Water Act]

Figure 3 Average Nitrate-Nitrogen Concentration in the Chino-South GMZ (1993-2012)



2.3 Identification of Reasonably Foreseeable Methods of Compliance

As discussed previously, while the Regional Board cannot specify the particular manner of compliance, with orders it adopts, the analysis conducted for this SED must address possible environmental impacts of the reasonably foreseeable methods of compliance, taking into account a range of environmental, economic, and other factors.

Currently, a variety of methods are in place and being implemented in an effort to achieve compliance with the Basin Plan objectives, including source control programs, advanced treatment of effluent, reuse of effluent, and programs aimed at reducing urban runoff and stormwater pollution through implementation of structural and non-structural Best Management Practices (BMPs). The wastewater treatment plants in the Santa Ana River watershed are implementing Best Practicable Treatment or Control (BPTC) for TIN and operate advanced nitrification and denitrification systems.

The proposed amendment involves adoption of a revised nitrate-nitrogen objective, which would not trigger the need for upgrading technologies to reduce nitrate-nitrogen concentrations or other compliance mechanisms that would not otherwise occur should the proposed amendment not be adopted. In other words, BPTCs would continue to be implemented and maintained whether or not the proposed amendment is adopted. In addition, the amendment is not

anticipated to substantially change the manner or type of BPTC or other compliance methods that may be implemented in the future.

As the water quality of effluent from the publically owned treatment works (POTWs) would be maintained and would not be allowed to deteriorate, no adverse changes to the water quality of the receiving water are anticipated. Thus, the proposed revision to the nitrate-nitrogen objective would not result in the need for BPTC or implementation of other compliance methods.

Table 4-1. WATER QUALITY OBJECTIVES - Continued

GROUNDWATER MANAGEMENT ZONES	WATER QUALITY OBJECTIVES (mg/L)						Hydrologic Unit	
	Total Dissolved Solids	Hardness	Sodium	Chloride	Nitrate as Nitrogen	Sulfate	Primary	Secondary
UPPER SANTA ANA RIVER BASIN								
Big Bear Valley	300	225	20	10	5.0	20	801.73	
Beaumont "maximum benefit"++	330	---	---	---	5.0	---	801.62	801.63, 801.69
Beaumont "antidegradation"++	230	---	---	---	1.5	---	801.62	801.63, 801.69
Bunker Hill - A	310	---	---	---	2.7	---	801.51	801.52
Bunker Hill - B	330	---	---	---	7.3	---	801.52	801.53, 801.54, 801.57 801.58
Colton	410	---	---	---	2.7	---	801.44	801.45
Chino – North "maximum benefit"++	420	---	---	---	5.0	---	801.21	481.21, 481.23, 481.22 801.21, 801.23, 801.24
Chino 1 – "antidegradation"++	280	---	---	---	5.0	---	802.21	481.21
Chino 2 – "antidegradation"++	250	---	---	---	2.9	---	801.21	
Chino 3 – "antidegradation"++	260	---	---	---	3.5	---	801.21	
Chino – East @	730	---	---	---	10.0	---	801.21	801.27
Chino – South @	680	---	---	---	5.0 ~~4.2~~	---	801.21	801.26
Cucamonga "maximum benefit"++	380	---	---	---	5.0	---	801.24	801.21

Attachment 1. Proposed changes to Chino South Groundwater Management Zone shown as underline/~~strikeout~~

Table 4-1 WATER QUALITY OBJECTIVES - Continued

GROUNDWATER MANAGEMENT ZONES	WATER QUALITY OBJECTIVES (mg/L)						Hydrologic Unit	
	Total Dissolved Solids	Hardness	Sodium	Chloride	Nitrate as Nitrogen	Sulfate	Primary	Secondary
UPPER SANTA ANA RIVER BASIN								
Big Bear Valley	300	225	20	10	5.0	20	801.73	
Beaumont "maximum benefit"++	330	---	---	---	5.0	---	801.62	801.63, 801.69
Beaumont "antidegradation"++	230	---	---	---	1.5	---	801.62	801.63, 801.69
Bunker Hill - A	310	---	---	---	2.7	---	801.51	801.52
Bunker Hill - B	330	---	---	---	7.3	---	801.52	801.53, 801.54, 801.57 801.58
Colton	410	---	---	---	2.7	---	801.44	801.45
Chino – North "maximum benefit"++	420	---	---	---	5.0	---	801.21	481.21, 481.23, 481.22 801.21, 801.23, 801.24
Chino 1 – "antidegradation"++	280	---	---	---	5.0	---	802.21	481.21
Chino 2 – "antidegradation"++	250	---	---	---	2.9	---	801.21	
Chino 3 – "antidegradation"++	260	---	---	---	3.5	---	801.21	
Chino – East @	730	---	---	---	10.0	---	801.21	801.27
Chino – South @	680	---	---	---	**5.0**	---	801.21	801.26
Cucamonga "maximum benefit"++	380	---	---	---	5.0	---	801.24	801.21

Attachment 2. Proposed changes to Chino South Groundwater Management Zone "clean version"

Section 3

Environmental Setting

3.1 Surrounding Land Uses and Setting

The Santa Ana River watershed is located in southern California, south and east of the City of Los Angeles. In very broad terms, the Santa Ana Region is a group of connected inland basins and open coastal basins drained by surface streams flowing generally southwestward to the Pacific Ocean. It is the smallest of the State's nine regions at approximately 2,800 square miles. It includes the upper and lower Santa Ana River watersheds, the San Jacinto River watershed, and several other small drainage areas. It includes the northern portion of Orange County, the northwestern corner of Riverside County, and the southwestern corner of San Bernardino County.

The Santa Ana River Basin (Region) is one of the most densely populated of the nine Regions, with approximately 5 million people living in the region. Land use ranges from pristine forests to highly developed urban areas. The area is subject to a variety of pollution sources from industrial, agricultural and urban activities. Approximately 32 percent of the land use is developed as residential, commercial, or industrial uses. The nature of surface waters in the Basin varies considerably in relation to land use. Surface streams in mountainous/undeveloped areas are generally unmodified while surface waters in developed areas are generally modified/armored to varying degrees to ensure protection from flooding.

The Santa Ana River drainages generally flow from the northeast to southwest. The highest elevations of the watershed occur in the San Bernardino, San Gabriel and San Jacinto Mountains. In the central part of the watershed, the Santa Ana Mountains and the Chino Hills form a topographic high before the River flows onto the Coastal Plain and into the Pacific Ocean.

The climate of the Santa Ana Region is classified as Mediterranean: generally dry in the summer with mild, wet winters. The average annual rainfall in the region is about 15 inches, most of it occurring between November and March. Most streams within the basin carry minimal flow throughout most of the year except in response to rainfall events, or as a result of man-made discharges such as wastewater treatment effluent discharges or imported water releases. During the winter season, storms can bring significant rainfall resulting in high flow rates within the River and tributary streams and channels.

3.1.1 Chino-South Groundwater Management Zone (GMZ)

The Chino-South GMZ is located in the extreme northwest corner of Riverside County directly under Reach 3 of the Santa Ana River (see Figure 3), primarily underlying the areas of Eastvale, Jurupa Valley, Norco, and Riverside. Land uses overlying GMZ generally consist of mixed urban development and open space.

The Chino-South GMZ was established by the Regional Board when groundwater boundaries were realigned and the Basin Plan was updated in 2004.[16] The Chino-South GMZ is designated MUN to acknowledge the fact that the aquifer serves as a source of domestic or municipal drinking water supply. Other designated beneficial uses include agricultural supply (AGR) industrial service supply (IND), and industrial process supply (PROC).

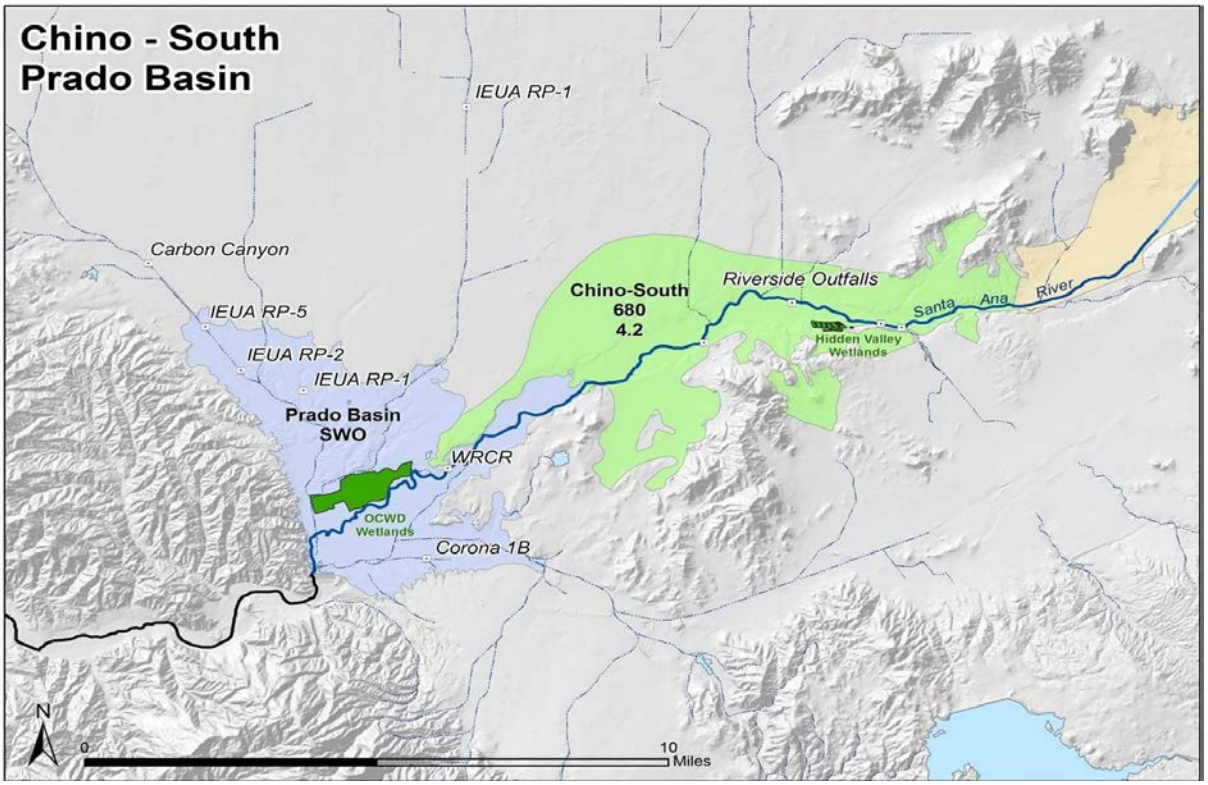


Figure 3 Chino-South Groundwater Management Zone[17]

[16] Res. No. 2004-0001 (January 22, 2004).

[17] Map provided courtesy of Wildermuth Environmental, Inc.

Section 4

Environmental Issues

This section presents the Environmental Checklist, evaluates the potential impacts of the action relative to 17 environmental issue areas, and presents mandatory findings of significance required under CEQA. The analysis begins with a summary delineation of the environmental factors (issue areas) addressed in the checklist and whether any potentially significant impacts have been identified in the analysis, and is followed by an explanation of the environmental factors potentially affected.

In formulating answers to the checklist questions, the environmental effects of the Proposed Action were evaluated in the context of the existing regulatory and environmental setting (see Sections 1.1 and 3, respectively). Social or economic changes related to a physical change in the environment were also considered in determining whether there would be a significant effect on the environment; however, adverse social and economic impacts alone are not considered significant effects on the environment. Section 15382 of the CEQA Guidelines defines a significant effect on the environment as "*a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A social or economic change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant.*"

Section 4 provides an evaluation of, and presents significant findings for, both the proposed amendment and reasonably foreseeable methods of compliance. The analysis of foreseeable methods of compliance addresses those reasonably foreseeable methods of compliance presented in Section 2.3. As the reasonably foreseeable methods of compliance go through the planning and design process, site-specific, project-level CEQA review and conformance will be necessary.

Adoption of the Basin Plan amendments and implementation of the reasonably foreseeable methods of compliance do not have the potential to result in significant adverse impacts on any of the 17 resource areas. However, pursuant to Section 13360 of the California Water Code, the Regional Board cannot define the specific actions that entities would take to comply with requirements derived from the amendments. While no substantial physical changes resulting from implementation of the Proposed Action are foreseeable at this time, specific compliance actions will be subject to CEQA review and/or approval by the Regional Board or other agency once they have been developed. As a result, the Regional Board (or other lead agencies under CEQA) could either disapprove projects with significant and unacceptable environmental impacts, or require implementation of mitigation measures (*e.g.*, best construction management practices) to ensure that environmental impacts are reduced to less than significant levels.

Environmental Factors Potentially Affected:

The following environmental factors were considered as part of this analysis.

Aesthetics	Agriculture and Forestry Resources	Air Quality
Biological Resources	Cultural Resources	Geology /Soils
Greenhouse Gases	Hazards & Hazardous Materials	Hydrology / Water Quality
Land Use / Planning	Mineral Resources	Noise
Population / Housing	Public Services	Recreation
Transportation/ Traffic	Utilities / Service Systems	Tribal Cultural Resources
Mandatory Findings of Significance		

The proposed action could potentially affect one or more of these factors, as indicated by the checklist on the following pages.

Determination:

On the basis of this initial evaluation:

x	I find that the Proposed Action COULD NOT have a significant effect on the environment.
☐	I find that the Proposed Action MAY have a significant effect on the environment. However, there are feasible alternatives and/or mitigation measures available that will substantially lessen any adverse impact. These alternatives are discussed in the attached written report
☐	I find that the Proposed Action MAY have a significant effect on the environment. There are no feasible alternatives and/or mitigation measures available that will substantially lessen an adverse impact. See Section 4 and 5 for a discussion of this determination.

Signature _____ Date _____

Printed Name/Title _____ Date _____

Environmental Factors (Issue Areas):

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
I. AESTHETICS: Would the action:				
a) Have a substantial adverse effect on a scenic vista?				X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?				X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?				X
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?				X

Discussion:

a) Would the action have a substantial adverse effect on a scenic vista?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not result in any physical changes that would affect a scenic vista or other aesthetic resources.

As discussed further under **IX. Hydrology and Water Quality a)**, water quality of the receiving water bodies subject to the revised water objective would not be allowed to degrade beyond existing conditions and thus no visual changes (*i.e.*, increase in trash or nuisance algae) are anticipated to occur from raising the water quality objective.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

See **I. Aesthetics a)** above.

c) Would the action substantially degrade the existing visual character or quality of the site and its surroundings?

See **I. Aesthetics a)** above.

d) Would the action create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not result in any physical changes that would create a new source of light or glare.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the action:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				X
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				X
d) Result in the loss of forest land or conversion of forest land to non-forest use?				X
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				X

Discussion:

a) Would the action convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of the amendment would not result in any physical changes and would not result in conversion of agricultural land to non-agricultural use or otherwise affect agricultural operations.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action conflict with existing zoning for agricultural use or a Williamson Act contract?

See **II. Agriculture and Forest Resources a**) above.

c) Would the action conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public

Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not result in any land use or other changes that would affect zoning for forest land or timberland, or otherwise result in the conversion of forest land or timberland to non-forest land/timberland use.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

d) Would the action result in the loss of forest land or conversion of forest land to non-forest use?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not result in any physical changes that would result in the loss of forest land or conversion of forest land to forest-use.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

e) Would the action involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

See II. **Agriculture and Forest Resources a) c)** and **d)** above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the action:				
a) Conflict with or obstruct implementation of the applicable air quality plan?				X
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?				X
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the action region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?				X
d) Expose sensitive receptors to substantial pollutant concentrations?				X
e) Create objectionable odors affecting a substantial number of people?				X

Discussion:

a) Would the action conflict with or obstruct implementation of the applicable air quality plans?

The Santa Ana region is within the South Coast Air Basin (SCAB), a 6,600-square mile basin encompassing all of Orange County, most of Los Angeles and Riverside Counties, and the western portion of San Bernardino County, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAB is currently designated as a nonattainment area is for both national and state 1-hour ozone and particulate matter (PM) standards. SCAQMD is responsible for administering the Air Quality Management Plan (AQMP), which is a comprehensive air pollution control program for attaining federal and state ambient air quality standards.

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not conflict with or obstruct implementation of the AQMP or any other air quality plans.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs

or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation is necessary.

b) Would the action violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Under the SCAQMD, the SCAB is designed as a nonattainment area for ozone and particulate matter. In addition, the SCAB is designated as a maintenance area for carbon monoxide and nitrogen dioxide and is in attainment for sulfur dioxide. In determining attainment and maintenance of air quality standards, the SCAQMD has established thresholds of significance for these and other criteria pollutants. A significant impact would occur if project operation results in substantial emissions which would exceed the established thresholds.

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan and would not involve new construction activities, increased traffic generation, or other activities that could generate new emissions. Thus, adoption of the proposed amendment would not result in exceedances of established thresholds for criteria pollutants or otherwise result in a violation of air quality standards or substantially contribute to existing or projected air quality violations.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated.

c) Would the action result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emission which exceeds quantitative thresholds for ozone precursors)?

See **III. Air Quality b)** above.

d) Would the action expose sensitive receptors to substantial pollutant concentrations?

See **III. Air Quality b)** above.

e) Would the action create objectionable odors affecting a substantial number of people?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan and would not involve construction, increased traffic generation, or other activities that could generate objectionable odors affecting a substantial number of people.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES: Would the action:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?				X
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?				X
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				X
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?				X
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				X

Discussion:

a) Would the action have a substantial adverse impact, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

Proposed Basin Plan Amendment:

Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. As described under **IX. Hydrology and Water Quality**, a) below, this revision to the water quality objective would be consistent with the state's Antidegradation Policy which requires that existing water quality be maintained even if it is better than the established standards unless it can be demonstrated that a change would be consistent with providing maximum benefit to the people of California; would not unreasonably affect present and anticipated beneficial use of such water; and would not result in water quality that is less than that prescribed. The proposed raising of the water quality objective would not result in any change in the water quality that might adversely affect wildlife or wildlife habitat. Therefore, the Proposed Action would not have any direct or indirect impacts to candidate, sensitive or special-status species.

Based on the above considerations, implementation of the proposed amendment to the Basin Plan would not lower surface water quality or otherwise adversely impact sensitive wildlife and/or sensitive habitat, including riparian habitat and wetlands; additionally, it would not interfere with the movement of any wildlife species or wildlife corridors, or impede the use of wildlife nursery sites, or conflict with any local policies or ordinances protecting biological resources or conflict with an adopted habitat conservation plan.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action have a substantial adverse impact on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

See **IV. Biological Resources a)** above.

c) Would the action have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marshes, vernal pools, coastal wetlands, etc.) through direct removal, filling, hydrological interruption, or other means?

See **IV. Biological Resources a)** above.

d) Would the action interfere substantially with the movement of any native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of wildlife nursery sites?

See **IV. Biological Resources a)** above.

e) Would the action conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

See **IV. Biological Resources a)** above.

a) Would the action conflict with the provisions of adopted habitat conservation plan, natural communities' conservation plan, or any other approved local, regional, or state habitat conservation plan?

See **IV. Biological Resources a)** above.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
V. CULTURAL RESOURCES: Would the action:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in '15064.5?				X
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to '15064.5?				X
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Disturb any human remains, including those interred outside of formal cemeteries?				X

Discussion:

a) Would the action cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction, earth movement, or other disturbance which could impact any structures or buried cultural resources.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5?

See **V. Cultural Resources a)** above.

c) Would the action directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

See **V. Cultural Resources a)** above.

d) Would the action disturb any human remains, including those interred outside of formal cemeteries?

See **V. Cultural Resources a)** above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VI. GEOLOGY AND SOILS: Would the action:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				X
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				X
ii) Strong seismic ground shaking?				X
iii) Seismic-related ground failure, including liquefaction?				X
iv) Landslides?				X
b) Result in substantial soil erosion or the loss of topsoil?				X
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the action, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				X
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?				X
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?				X

Discussion:

a) Would the action expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

(i.) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the state geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Several major earthquake faults are located in the Santa Ana region, including the San Andreas Fault, the San Jacinto Fault, the Elsinore-Whittier Fault, and the Newport-Inglewood Fault.

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve the construction of any structures or otherwise result in any human safety risks related to fault rupture, seismic ground-shaking, ground failure, or landslides.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

(ii.) Strong seismic ground shaking?

See **VI. Geology and Soils a)(i.)** above.

(iii.) Seismic-related ground failure, including liquefaction?

See **VI. Geology and Soils a)(i.)** above.

(iv.) Landslides?

See **VI. Geology and Soils a)(i.)** above.

b) Would the action result in substantial soil erosion or the loss of topsoil?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction or other earthmoving activities that could result in substantial soil erosion or the loss of topsoil.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable

c) Is the action located on a geologic unit or soil that is unstable, or that would become unstable as a result of the action, and potentially result in onsite or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse?

Proposed Basin Plan Amendment: See **VI. Geology and Soils a) and b).** Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction or other earthmoving activities on a geologic unit or soil that is unstable or would be unstable, potentially resulting in landslides, lateral spreading, subsidence, liquefaction, or collapse.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

d) Is the action located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

See **VI. Geology and Soils a), b), and c)** above.

e) Would the action have soils that are incapable of supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

Proposed Basin Plan Amendment: The proposed amendment does not entail the construction of wastewater disposal systems.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VII. GREENHOUSE GAS EMISSIONS: Would the action:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				X
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				X

Discussion:

a) Would the action generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment not result in new construction, generation of new traffic, or other activities that could generate greenhouse gas emissions.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. As discussed in **VII. Greenhouse Gas Emissions a)** above, the revisions would not result in the generation greenhouse gas emissions. Additionally, the amendment would not otherwise conflict with an applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the action:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?				X
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?				X
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				X
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				X
e) For an action located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the action result in a safety hazard for people residing or working in the action area?				X
f) For an action within the vicinity of a private airstrip, would the action result in a safety hazard for people residing or working in the action area?				X
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?				X

Discussion:

a) Would the action create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve the transport, use, disposal, release, or transmission of hazardous materials.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the likely release of hazardous materials into the environment?

See **VIII. Hazards and Hazardous Materials a)** above.

c) Would the action emit hazardous emissions or handle hazardous materials or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

See **VIII. Hazards and Hazardous Materials a)** above.

d) Is the action located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan.

Adoption of this amendment would not involve construction or other disturbance at a hazardous site such that a significant hazard to the public or the environment would be created.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

e) For an action located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the action result in a safety hazard for people residing or working in the action area?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not result in exposing people to a safety hazard associated with a public or private airport.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

f) For an action located within the vicinity of a private airstrip, would the action result in a safety hazard for people residing or working in the action area?

See **VIII. Hazards and Hazardous Materials e)** above.

g) Would the action impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction or other activities that could impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

h) Would the action expose people or structures to the risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not expose people or structures to wildland fires.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
IX. HYDROLOGY AND WATER QUALITY: Would the action:				
a) Violate any water quality standards or waste discharge requirements?				X
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.*, the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?				X
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?				X
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?				X
f) Otherwise substantially degrade water quality?			X	
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?				X
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?				X
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				**X**
j) Inundation by seiche, tsunami, or mudflow?				X

Discussion:

a) Would the action violate any water quality standards or waste discharge requirements?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. This change does not require construction or other activities that would result in a waste discharge or otherwise violate water quality standards. The proposed revision to the water quality objective would theoretically allow for a lowering groundwater quality by 0.8 mg/L. The water quality objectives are established to be protective of water quality. As discussed in Section 2 and summarized below, the proposed water quality objective (5.0 mg/L for nitrate-nitrogen) (i)

does not violate water quality standards; (ii) is one-half the MCL for drinking water; and (iii) is much lower than the current ambient baseline condition (28 mg/L).

The existing nitrate-nitrogen water quality objective is 4.2 mg/L, which was computed as the volume-weighted average concentration of nitrate-nitrogen based on all available sample data collected between 1954 and 1973. However, since that time, nitrate-nitrogen levels in the Chino-South GMZ have been rising due to legacy loads of nitrogen from past agricultural/livestock practices. Sampling data collected between 1993 and 2012 (2012 current ambient water quality recomputation), indicates the volume-weighted average nitrate-nitrogen concentration is now approximately 28 mg/L. Therefore, while the Proposed Action would authorize wastewater dischargers to comply with a less-stringent water quality objective (5.0 mg/L) for nitrate-nitrogen in comparison to the 1954 to 1973 baseline condition, the proposed objective is considerably lower than the existing ambient nitrate-nitrogen concentration of 28 mg/L, and as such, the current wastewater discharges at TIN limit no greater than 10 mg/L, and a nitrogen loss coefficient of 50%, are helping to dilute nitrate-nitrogen concentrations in the receiving waters. Additionally, the proposed water quality objective is more stringent than the primary MCL of nitrate-nitrogen for drinking water of 10 mg/L.

As discussed in Section 2.1.2, raising the nitrate-nitrogen objective would accommodate and encourage continued recycled water recharge, as well as discharge of wastewater effluent that – under present and projected future conditions – results in dilution of the nitrate-nitrogen (and TDS) concentrations in the Chino-South GMZ. This means that current groundwater quality conditions are expected to improve as the result of these wastewater discharges.

Although raising the nitrate-nitrogen objective would not result in an actual lowering of water quality compared to the current average concentrations in the Chino-South GMZ, it does allow for lower water quality compared to the 1954 to 1973 baseline condition. Pursuant to the state's antidegradation policy, lowering of water quality is permissible provided that: (a) the change in water quality is consistent with maximum benefit to the people of the state and will not unreasonably affect the beneficial uses of the affected receiving waters; and, (b) waste discharges are required to meet requirements that result in the best practicable treatment or control of the discharges necessary to ensure that (i) pollution or nuisance will not occur, and (ii) the highest water quality consistent with maximum benefit to the people of the State will be maintained. Each of these antidegradation policy requirements are discussed below to demonstrate conformance of the Proposed Action.

An analysis for compliance with the Antidegradation Policy to ensure the avoidance of a lowering of existing water quality standards[18] determined the following:

1) Raising the nitrate-nitrogen objective for the Chino-South GMZ to 5 mg/L would be consistent with maximum benefit to the people of the state and this change would not unreasonably affect present or anticipated beneficial uses of the affected receiving waters.

Because of the existing groundwater contamination, the Chino Desalter Authority (CDA) operates an extraction and treatment system designed to pump and treat the degraded aquifer so that it

[18] California Regional Water Quality Control Board Santa Ana Region. 2017. Staff Report: Revised Nitrate-Nitrogen Objective for Chino South GMZ.

meets drinking water standards. The CDA is required to deliver product water with "not more than 25 mg/L nitrate-nitrogen (measured as nitrate-nitrogen)."[19] This is equivalent to approximately 5.6 mg/L nitrate-nitrogen. Thus, the proposed objective of 5.0 mg/L nitrate-nitrogen ensures that any wastewater percolating into the Chino-South GMZ will also meet CDA's nitrate-nitrogen specifications before it reaches the aquifer. An economic analysis (CDM Smith, 2017) conducted for this proposed Basin Plan amendment shows that the theoretical impact to the CDA's operations and maintenance budget would be approximately $5,000 to $10,000 annually.

The TDS objective for the Chino South GMZ is 680 mg/L. As with the nitrate-nitrogen objective, the TDS objective was established based on the best water quality that has been attained since 1968 and represents the average TDS concentration during the 1954 to 1973 baseline period. The current (2012) volume-weighted average TDS concentration in the Chino-South GMZ is 990 mg/L, 50 percent higher than the Basin Plan objective.[20] Because nitrate-nitrogen also contributes to salinity, the current effluent limits for TDS would remain unchanged (see Table 2).

Table 2 NPDES Effluent Limits for TDS in Wastewater Discharges that are Expected to Recharge the Chino-South GMZ

POTW Discharge	TDS Limit
City of Rialto	490 mg/L
Cities of Colton & San Bernardino (RIX)	550 mg/L
City of Riverside	650 mg/L

Thus, the current permit limits for TDS ensure that all municipal effluent recharging the Chino-South GMZ complies with the applicable water quality objective at the point-of discharge without benefit of any dilution from stormwater runoff. At their respective points-of-discharge, the permitted concentrations of TDS in all three municipal effluent are well below both the historical and current ambient average TDS concentration in the Chino-South GMZ. In addition, results from the WLAM analysis indicate that, even during a decade of below normal rainfall, the TDS concentration in the water recharging to Chino-South GMZ from Reach 3 of the Santa Ana River is not expected to exceed 625 mg/L. [21]

As stated above, raising the nitrate-nitrogen objective to 5 mg/L – which is still protective of beneficial uses with a 100 percent safety factor – would avoid the need to impose more restrictive effluent limits and, therefore, the expense associated with upgrading POTWs to meet such limits. Upgrading the treatment processes to provide more efficient nitrogen removal would ensure strict compliance with the current nitrate-nitrogen objective, but the upgrades would not measurably improve existing water quality in the Chino-South GMZ.

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[19] Chino Basin Desalter Authority. 2015 Urban Water Management Plan. June, 2016. Appendix C: CDA Joint Exercise of Powers Agreement: Amendment No. 2 to the Joint Exercise of Powers Agreement creating the Chino Basin Desalter Authority (see §K amending Section 5.3 re: "Quality")

[20] Wildermuth Environmental, Inc. Recomputation of Ambient Water Quality in the Santa Ana Watershed for the Period 1993 to 2012. Technical Memorandum prepared for the Santa Ana Watershed Project Authority Basin Monitoring Program Task Force. August, 2014.

[21] Wildermuth Environmental, Inc. Addendum to the 2008 Santa Ana River Wasteload Allocation Model Report: Scenario 8. Technical Memorandum. January 5, 2015 (see Tables 8d-CS, 8e-CS and 8f-CS in original report).

No changes to the TIN limits for wastewater discharges to the Santa Ana River will be needed to ensure consistent compliance with the proposed Chino-South GMZ objective. Since the effluent limits will remain unchanged, the WLAM also shows that any wastewater that does not percolate to groundwater in Reach 3 will not lower water quality or adversely affect beneficial uses further downstream (including Reach 2 of the Santa Ana River and the underlying Orange County GMZ).

2) Raising the nitrate-nitrogen objective for the Chino-South GMZ to 5.0 mg/L would not affect waste discharge requirements such that pollution or nuisance would occur or such that water quality consistent with maximum benefit to the people of the state would not be maintained.

Raising the nitrate-nitrogen objective would have no impact on waste discharge requirements. Wastewater effluent discharges would continue to be limited to 10 mg/L TIN. Treatment processes in place to comply with this limitation would continue to operate. Compliance with this limitation prevents pollution and nuisance and ensures that water quality that is consistent with maximum benefit to the people of the state will be maintained. If the nitrate-nitrogen objective were not modified, then effluent limitations would need to become more stringent to ensure compliance with the objective during droughts. As discussed above, the significant costs of providing additional treatment to meet such more stringent limitations are not commensurate with the water quality benefit that would ensue. These additional costs would be contrary to the effective and efficient use of limited resources and, therefore, not in the public interest. Existing waste discharge limitations and the treatment processes necessary to comply will continue to ensure the maintenance of water quality that is consistent with the maximum benefit to the people of the state.

Summary:

While raising the nitrate-nitrogen objective for the Chino-South GMZ would theoretically allow for a lowering of water quality in that GMZ, the reality is that the change would accommodate ongoing wastewater discharges that improve water quality conditions in the Chino-South GMZ. The change in the objective would have no effect on beneficial uses, and would not result in changes in waste discharge requirements such that pollution or nuisance would occur or that water quality inconsistent with maximum benefit to the people of the state would not be maintained.

The proposed Basin Plan amendment is consistent with the state's antidegradation policy. The proposed change to the objective would not result in adverse impacts on municipal and domestic supply or other beneficial uses. Best practicable treatment and control of wastewater discharges that results in water quality consistent with the maximum benefit to the people of the state would continue to be required and implemented. Implementation of the revised objective in NPDES permits issued for discharges of pollutants to surface waters that recharge the Chino South GMZ will be consistent with applicable federal anti-backsliding regulations since the nitrogen effluent limitations would not be less stringent than those currently in place for permitted wastewater discharges.

The Chino-South GMZ is designated MUN in the Basin Plan because groundwater from this area is beneficially used as a source for domestic and municipal water supply. The MCL for nitrate-nitrogen in drinking water is 10 mg/L. The proposed water quality objective of 5 mg/L is one-half

this value and, therefore, provides a 100 percent safety factor. Existing and potential MUN beneficial uses, and other beneficial uses that might be affected by nitrogen concentrations in supplied waters, will remain fully protected.

Since the current average nitrate-nitrogen concentration in the Chino-South GMZ is already 28 mg/L, raising the water quality objective to 5 mg/L will not cause existing water quality to degrade. Rather, discharges consistent with the proposed water quality objective of 5 mg/L will help mitigate and reverse the long-term degradation trend caused by other legacy sources of nitrate-nitrogen contaminating the vadose zone and thence underlying groundwater.

Wastewater discharges also help to preserve groundwater yield by replacing, in part, the groundwater that is extracted by the CDA's groundwater remediation project. The latter benefit is especially noteworthy following the California legislature's enactment of the Sustainable Groundwater Management Act (SGMA) in 2014.[22]

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*i.e.*, the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not change the amount of wastewater that is discharged in the Chino-South GMZ, or involve other activities that could deplete groundwater supplies or interfere with groundwater recharge.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

[22] AB 1739 and SB 1168 and SB 1319; Sept. 16, 2014. One of the principal goals of the SGMA is to ensure appropriate actions are taken to preserve the safe yield of groundwater basins.

c) Would the action substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not result in any construction or other activities, including changes in the amount of wastewater that is discharged in the Chino-South GMZ, that could substantially alter existing drainage patterns. See **IX. Hydrology and Water Quality, a)** and **b)** above.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

d) Would the action substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?

See **IX. Hydrology and Water Quality c)** above

e) Would the action create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not increase the rate or amount of runoff to the storm drain system or create additional sources of polluted runoff. See **IX. Hydrology and Water Quality, a)** and **b)** above.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

f) Would the action otherwise substantially degrade water quality?

See **IX. Hydrology and Water Quality a)** above

g) Would the action place housing within a 100-year floodplain, as mapped on a federal Flood Hazard Boundary, Flood Insurance Rate Map or other flood hazard delineation map?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not place housing within a 100-year flood plain.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: Less than significant impacts are anticipated with adoption of the Basin Plan amendment, no impacts associated with foreseeable methods of compliance are anticipated, and no mitigation measures are necessary.

h) Would the action place within a 100-year floodplain structures that would impede or redirect flood flows?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. The adoption of the proposed amendment would not place structures within a 100-year flood plain.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

i) Would the action expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

See **IX. Hydrology and Water Quality g)** above.

j) Would the action expose people or structures to a significant risk of loss, injury or death involving inundation by seiche, tsunami, or mudflow?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or otherwise contribute to risk of inundation by seiche, tsunami, or mudflow.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs

or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING: Would the action:				
a) Physically divide an established community?				X
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the action (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?				X
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?				X

Discussion:

a) Would the action physically divide an established community?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not result in any new construction or other changes that could divide an established community.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the action (including, but not limited to, the general plan,

specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. The adoption of the proposed amendment would meet statutory and regulatory water quality standards, and would remove an inconsistency, thereby ensuring that the water quality objective can be met. The amendment would not establish any new uses nor would they otherwise conflict with any land use plan, policy, or regulation; or any habitat conservation plan or natural community conservation plan.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

c) Would the action conflict with any applicable habitat conservation plan or natural communities' conservation plan?

See **X. Land Use and Planning b)** above.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
XI. MINERAL RESOURCES: Would the action:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				X
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				X

Discussion:

a) Would the action result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve ground disturbance or other activities that could result in the loss of availability of a known mineral resource.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

See **XI. Mineral Resources a)** above.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XII. NOISE Would the action result in				
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?				X
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?				X
c) A substantial permanent increase in ambient noise levels in the action vicinity above levels existing without the action?				X
d) A substantial temporary or periodic increase in ambient noise levels in the action vicinity above levels existing without the action?				X
e) For an action located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the action expose people residing or working in the action area to excessive noise levels?				X
f) For an action within the vicinity of a private airstrip, would the action expose people residing or working in the action area to excessive noise levels?				X

Discussion:

a) Would the action result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance or applicable standards of other agencies?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction, a change in land use or traffic generation, or other noise generating activities that would result in temporary or permanent increase in noise levels.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action expose persons to or generate excessive groundborne vibration or groundborne noise?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction or groundborne vibration or groundborne noise generating activities that would result in temporary or permanent increase in noise levels.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

c) Would the action result in a substantial permanent increase in ambient noise levels in the action vicinity above levels existing without the action?

See **XII. Noise a)** above.

d) Would the action result in a substantial temporary or periodic increase in ambient noise levels in the action vicinity above levels existing without the action?

See **XII. Noise a)** above.

e) For an action located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the action expose people residing or working in the action area to excessive noise levels?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve exposing people to excessive noise levels associated with a public or private airport.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

f) For an action located within the vicinity of a private airstrip, would the action expose people residing or working in the action area to excessive noise levels?

See **XII. Noise e) above**.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING -- Would the action:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				X
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?				X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?				X

Discussion:

a) Would the action induce substantial population growth in an area, either directly (*e.g.*, by proposing new homes and business) or indirectly (*e.g.*, through extension of roads or other infrastructure)?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or other activities that could induce population growth to the region, either directly or indirectly; nor would they involve displacing housing or people.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

See **XIII. Population and Housing a)** above.

c) Would the action displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

See **XIII. Population and Housing a)** above.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
XIV. PUBLIC SERVICES				
a) Would the action result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?				X
Police protection?				X
Schools?				X
Parks?				X
Other public facilities?				X

Discussion:

a) Would the action result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:

i.) Fire Protection

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment not involve construction or other activities that could affect service ratios, response times, or other performance objectives for any public services, including fire protection, police protection, schools, or parks, nor would it induce new population growth to the region, either directly or indirectly.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

ii.) Police Protection

See **XIV. Public Services a) i.)** above.

iii) Schools

See **XIV. Public Services a) i.)** above.

iv) Parks

See **XIV. Public Services a) i.)** above.

v) Other Public Facilities

See **XIV. Public Services a) i.)** above.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
XV. RECREATION				
a) Would the action increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				X
b) Does the action include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				X

Discussion:

a) Would the action increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not induce new growth to the region that could result in an increase in the use of existing neighborhood and regional parks or other recreational facilities.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Does the action include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?

See **XV. Recreation a)** above.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
XVI. TRANSPORTATION/TRAFFIC: Would the action:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?				X
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?				X
d) Substantially increase hazards due to a design feature (*e.g.*, sharp curves or dangerous intersections) or incompatible uses (*e.g.*, farm equipment)?				X
e) Result in inadequate emergency access?				X
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?				X

Discussion:

a) Would the action conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or activities that could generate new traffic that could conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action **conflict with** an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

See **XVI. Transportation/Traffic a)** above.

c) Would the action result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not affect air traffic patterns.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

d) Would the action substantially increase hazards because of a design feature (*e.g.*, sharp curves or dangerous intersections) or incompatible uses (*e.g.*, farm equipment)?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or activities that could substantially increase hazards because of a design feature or incompatible uses.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

e) Would the action result in inadequate emergency access?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or other activities that could result in inadequate emergency access.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

f) Would the action conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
XVII. Tribal Cultural Resources				
a) Would the action cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is:				
(1) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k)				X
(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?				X

Discussion:

a(1). Would the action cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place,

cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction, earth movement, or other disturbance which could impact any a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American Tribe.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

c) b(2). Would the action cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code §21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American Tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

d) See **XVII. Tribal Cultural Resources a(1)** above.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
XVIII. UTILITIES AND SERVICE SYSTEMS: Would the action				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?				X
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?				X
d) Have sufficient water supplies available to serve the action from existing entitlements and resources, or are new or expanded entitlements needed?				X
e) Result in a determination by the wastewater treatment provider which serves or may serve the action that it has adequate capacity to serve the action's projected demand in addition to the provider's existing commitments?				X
f) Be served by a landfill with sufficient permitted capacity to accommodate the action's solid waste disposal needs?				X
g) Comply with federal, state, and local statutes and regulations related to solid waste?				X

Discussion:

a) Would the action exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or other activities that could increase water demand or generate wastewater which could exceed the Regional Board's wastewater treatment requirements. See also **IX. Hydrology and Water Quality a).**

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Would the action require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or other activities that could increase demand for water or wastewater treatment.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

c) Would the action require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve construction of new stormwater drainage facilities or expansion of existing facilities. See XVIII**. Utilities and Service Systems b**), above**.**

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

d) Would the action have sufficient water supplies available to serve the action from existing entitlements and resources, or are new or expanded entitlements needed?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not construction or other activities could involve the need for new water supplies.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

e) Has the wastewater treatment provider that serves or may serve the action determined that it has adequate capacity to serve the action's projected demand in addition to the provider's existing commitments?

See **XVIII. Utility and Service Systems a)** above.

f) Is the action served by a landfill with sufficient permitted capacity to accommodate the action's solid waste disposal needs?

Proposed Basin Plan Amendment: Adoption of the proposed amendment would change the water quality objective for nitrate-nitrogen in the Chino-South GMZ identified in the Basin Plan. Adoption of this amendment would not involve new construction or other activities that could increase solid waste generation or otherwise affect landfill capacities.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

g) Would the action comply with federal, state, and local statutes and regulations related to solid waste?

See **XVIII. Utility and Service Systems f)** above.

	Potentially Significant Impact	**Less Than Significant with Mitigation Incorporation**	**Less Than Significant Impact**	**No Impact**
XIV. MANDATORY FINDINGS OF SIGNIFICANCE: Would the action				
a) Does the action have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?				X

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
b) Does the action have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an action are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future actions)?			X	
c) Does the action have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			X	

Discussion:

a) Does the action have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?

Proposed Basin Plan Amendment: As discussed in **IV. Biological Resources**, the adoption of the proposed amendment would not degrade the quality of the environment (including water quality) or adversely affect biological resources directly or indirectly. As discussed in **V. Cultural Resources**, no construction, earthwork, or removal of existing structures would occur, and thus, examples of the major periods of California history or prehistory would not be eliminated.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

b) Does the action have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an action are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future actions.)

Proposed Basin Plan Amendment: As discussed throughout this section, the adoption of the proposed amendment would not have significant adverse effects on the environment, and thus, would not cause or add to a cumulative impact.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

c) Does the action have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly?

Proposed Basin Plan Amendment: As discussed throughout this section, the adoption of the proposed Amendment would not have significant adverse effects on the environment, and thus, would not cause substantial adverse effects on human beings, either directly or indirectly.

Reasonably Foreseeable Methods of Compliance: The proposed change to the water quality objective for nitrate-nitrogen in the Chino-South GMZ would not result in the need for new BPTCs or implementation of other compliance methods that would not otherwise occur should the amendment not be approved.

Finding of Significance: No impacts associated with adoption of the Basin Plan amendment or foreseeable methods of compliance are anticipated and no mitigation measures are necessary.

Section 5

Alternatives

Pursuant to the State Water Board's regulations for implementing CEQA (CCR title 23, sec. 3777[a]), this environmental review must include an analysis of reasonable alternatives to the Proposed Action. The intent is to consider whether there are reasonable alternatives that would fulfill the underlying purpose of the Proposed Action which involves an Amendment to the Basin Plan to also achieve and protect water quality standards, but that would minimize or eliminate the potential adverse environmental effects of the Proposed Action. Further, pursuant to CEQA Section 15187, this environmental review must also include an analysis of reasonable foreseeable alternative means of compliance with the rule or regulation which would avoid or eliminate the identified impacts.

As described in the discussion of potential Environmental Impacts (Section 4), there are no potential adverse environmental impacts associated with the Proposed Action or reasonably foreseeable methods of compliance. As there are no potential environmental impacts which could be reduced by an alternative to the Proposed Alternative or alternative means of compliance with the Proposed Action, the only alternative addressed herein is the No Project Alternative. Under the No Project Alternative, there are three options that would fulfill the Federal and state requirements to ensure that wastewater discharges will not cause or contribute to an exceedance of water quality objectives, as described below. Of the three options, one option, Option 1, would involve a change to the manner or type of BPTC or other compliance methods that may be implemented in the future. Similar to the Proposed Action, there are no foreseeable methods of compliance associated with Options 2 and 3.

5.1 No Project Alternative - Option 1: Impose More Stringent Effluent Limits for TIN in NPDES Permits

Under the "No Project" Alternative, the Regional Board would not adopt the proposed amendment. Therefore, no raising of the water quality objective for nitrate-nitrogen in the Chino-South GMZ would occur. As described in Section 2 and shown on Table 1, while small exceedances of the current nitrate-nitrogen objective would occur only under certain conditions (*i.e.*, during prolonged periods of below average rainfall [droughts] depending on how much wastewater effluent is recycled versus the amount discharged), Federal and state law require the Regional Board to establish effluent limits which will ensure that these discharges will not cause or contribute to an exceedance of water quality objectives. Therefore, more stringent effluent limits for TIN would be imposed in the NPDES permits for wastewater discharge by the Regional Board.

Short-term compliance could be restored, without relying on dilution from runoff that occurs during subsequent wetter-than-normal years (*e.g.*, El Niño winters), by reducing the current effluent limit for TIN from 10 mg/L to 8.4 mg/L. Since 50 percent of the nitrogen is presumed lost through biological transformation as the water percolates through the vadose zone, wastewater discharged at 8.4 mg/L TIN will enter the underlying groundwater with an average TIN concentration no greater than 4.2 mg/L even if there is no stormwater dilution.

This alternative would likely require some permittees discharging to the Santa Ana River to upgrade their wastewater treatment plants to ensure consistent compliance with the more stringent effluent limits.[23] An economic analysis, undertaken as part of this Alternatives Analysis, indicates the total cost to implement the necessary improvements could be as much as $75 million in capital costs per publically owned treatment works (POTW) facility.[24] The improvements would include upgrades to current BPTC technologies.

The more stringent effluent limits may reduce the volume-weighted average TIN concentration in the recharge water by approximately 0.8 mg/L. This would result in negligible water quality improvements in a groundwater basin where the current average nitrate-nitrogen concentration is already much greater (28 mg/L). Thus, upgrading the treatment processes to provide more efficient nitrogen removal would ensure strict compliance with the current nitrate-nitrogen objective, but it would do very little to improve existing water quality in the Chino-South GMZ. Moreover, this reduction is not necessary to ensure the protection of the beneficial uses of the GMZ.

One possible response to the imposition of more stringent effluent limitations, is that wastewater discharge permittees may elect to bypass the Chino-South GMZ by relocating their wastewater outfalls to a point further downstream. The economic analysis (CDM Smith, 2017) indicates that installing the necessary pipelines would require costs ranging between $13M and $27M. Should this relocation occur, there would be no water quality benefit to the Chino-South GMZ as the result of wastewater discharges. In fact, the result would be poorer average water quality in the Chino-South GMZ since recharge from existing wastewater treatment facilities is currently helping to dilute excess nitrate-nitrogen from legacy sources.

Therefore, under the No Project Alternative, methods of compliance would likely include the upgrading of existing water treatment plants and/or installation of new wastewater transmission pipelines. Potential environmental impacts may include temporary impacts associated with construction activities such as air quality emissions, noise generation, and traffic increases (construction vehicles and workers). Further, depending on the alignment, possible temporary disruption to roadways, other land uses, and biological resources could occur if new pipelines are installed. Potential operational impacts could include a poorer ambient water quality in the Chino-South GMZ if wastewater outfalls are moved to a point further downstream. Therefore, impacts are anticipated to be greater as compared to the Proposed Action.

Implementation of methods of compliance, such as upgraded treatment plans and/or installation of new wastewater transmission pipelines would require a project-specific environmental review conducted by the lead agency under CEQA. Specific environmental impacts and mitigation measures to reduce impacts would be addressed during that process.

[23] Permittees most likely to be affected include: The cities of Colton, Rialto, Riverside and San Bernardino.

[24] CDM Smith. Proposed Basin Plan Amendment to Revise the Water Quality Objective for Nitrate-Nitrogen in the Chino South Groundwater Management Zone – Draft Economic Analysis. April 2017.

5.2 No Project Alternative - Option 2: Longer Averaging Period to Evaluate Compliance with Nitrate-nitrogen Objective

The WLAM indicates that exceedances that may occur during periods of drought are balanced by dilution that occurs during extremely wet years. So, over the long-run, the current effluent limits may be deemed adequate to not cause or contribute to the on-going nitrate-nitrogen degradation which is occurring in the Chino-South GMZ. The long-term (63-year) volume-weighted average nitrate-nitrogen concentration in the combined recharge of wastewater and stormwater that percolates from the Santa Ana River into the Chino-South GMZ is 4.02 mg/L - a value that is more than 4 percent below and complies with the 4.2 mg/L water quality objective.

The Regional Board could rely on this finding to conclude that the current effluent limits are adequate, particularly since the existing ambient nitrate-nitrogen-nitrogen concentration in the Chino-South is already 28 mg/L. However, to do so, the Regional Board must assume that average rainfall over the next several decades will be similar to that observed during the last 60 years. In light of statewide concern over potential climate change, it would be imprudent to make such an assumption.

Issuing NPDES permits with TIN limitations based on a very long averaging period (*e.g.*, 60+ years) that is significantly longer than the 5-year term of the permits is impractical from a compliance determination standpoint. Moreover, it would be difficult to justify such an extended averaging period when the objective itself is computed using only 20 years of sampling data. Given these circumstances, and the inherent vagaries of weather, Option 2 is not recommended.

No Project Alternative 2 would not result in physical changes, nor change the manner or type of BPTC or other compliance methods that may be implemented in the future. Therefore, environmental impacts are anticipated to be similar to that of the Proposed Action.

5.3 No Project Alternative – Option 3: Increase Site-Specific Nitrogen Loss Coefficient to 56 Percent

The Regional Board relied on site-specific studies to approve the current nitrogen-loss coefficient of 50 percent for areas of the Chino-South GMZ that underlie Reach 3 of the Santa Ana River.[25] These studies indicated that the average measured nitrogen loss was actually closer to 56 percent. That value was rounded-down to 50 percent because the 2004 WLAM showed that a 50 percent nitrogen loss coefficient was sufficient to ensure compliance with the nitrate-nitrogen objective in the Chino-South GMZ. The difference between the 56 percent and 50 percent loss coefficients was considered an approximate 10 percent safety factor.

If the site-specific nitrogen loss coefficient were revised to reflect the true average value documented by the original studies, *i.e.*, 56 percent, then effluent discharged in accordance with the current TIN limit of 10 mg/L would be expected to enter the Chino-South GMZ at concentrations no greater than 4.4 mg/L. Some small amount of stormwater dilution would still be needed to meet the 4.2 mg/L water quality objective.

[25] Wildermuth Environmental, Inc. Demonstration of Nitrogen Loss in Reach 3 of the Santa Ana River - Technical Memorandum. October, 2005.

Maintaining the roughly 10 percent safety factor in the nitrogen loss coefficient is appropriate since it helps to account for uncertainty, and since the application of the 50 percent loss coefficient is now well-established. Modifying the nitrogen loss coefficient, while scientifically defensible, may be misperceived as an attempt to manipulate the data in order to demonstrate that existing effluent limitations and treatment processes are sufficient to achieve consistent compliance with the Chino-South nitrate-nitrogen objective. However, Option 3 provides less public transparency and consistency with respect to established practice in establishing effluent limitations as compared to the Proposed Action.

No Project Alternative 3 would not result in physical changes or change the manner or type of BPTC or other compliance methods that may be implemented in the future. Therefore, environmental impacts are anticipated to be similar to that of the Proposed Action.

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