

PROPOSED ORDER NO. R3-2017-0002
SUMMARY OF ANTIDEGRADATION POLICY ANALYSIS

Introduction

In October 1968, the State Water Resources Control Board (State Water Board) adopted Resolution No. 68-16, *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (Antidegradation Policy). Like other Regional Water Boards, the Central Coast Water Board has incorporated the Antidegradation Policy into its Basin Plan. The Antidegradation Policy prohibits degradation of high-quality water unless the degradation is to the maximum benefit to the people of the state, will not unreasonably affect current and future beneficial uses, and the discharge(s) will not cause exceedances of water quality objectives. Antidegradation requirements are triggered when there is a proposed discharge to a high-quality water. “High-quality waters” are those surface waters or groundwater where water quality is better than applicable water quality objectives. In addition, individuals who discharge to high-quality water must implement “best practicable treatment or control” (BPTC) to avoid pollution and maintain the highest water quality consistent with the maximum benefit to the people of the state.

Staff is conducting three primary steps: 1) Conduct a baseline water quality assessment, 2) determine whether ag discharges have degraded and will degrade high quality waters, and 3) evaluate if Ag Order 3.0 will result in BPTC of the wastes consistent with the maximum benefit to the people of the State. Figure 1 outlines the general approach utilized for applying the Antidegradation Policy to Ag Order 3.0.

Antidegradation findings are included in Ag Order 3.0. Ag Order 3.0 is intended to be an interim order lasting three years, during which staff will develop Ag Order 4.0. Central Coast Water Board staff has completed the first two steps, above, including completing the baseline water quality assessment and compiling information to document that agricultural discharges have degraded high quality waters. Ag Order 3.0 requires growers to continue implementing management practices and conducting monitoring and reporting, to ensure they are making progress in ongoing efforts to not cause or contribute to exceedances of water quality objectives in surface waters or groundwater. The Central Coast Water Board intends to include requirements in Ag Order 4.0 to further result in the BPTC of the wastes consistent with the maximum benefit to the people of the State, protect and achieve water quality objectives, establish compliance schedules, and to require verification monitoring. Thus, Ag Order 3.0 is part of a phased approach to bring dischargers into compliance with requirements to implement BPTC and a time schedule to meet water quality objectives, consistent with the maximum benefit to the people of the State.

Antidegradation Policy Requires Central Coast Water Board to Maintain High Quality Waters

The State Water Board’s Administrative Procedures Update 90-004, *Antidegradation Policy Implementation for NPDES Permitting*, completed in July 1990, provides step-by-step guidance for Regional Water Boards in implementing the Antidegradation Policy. In addition, the court in *Asociación de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Board* (2012) 210 Cal.App.4th 1255 (AGUA) also described a framework for applying the Antidegradation Policy.

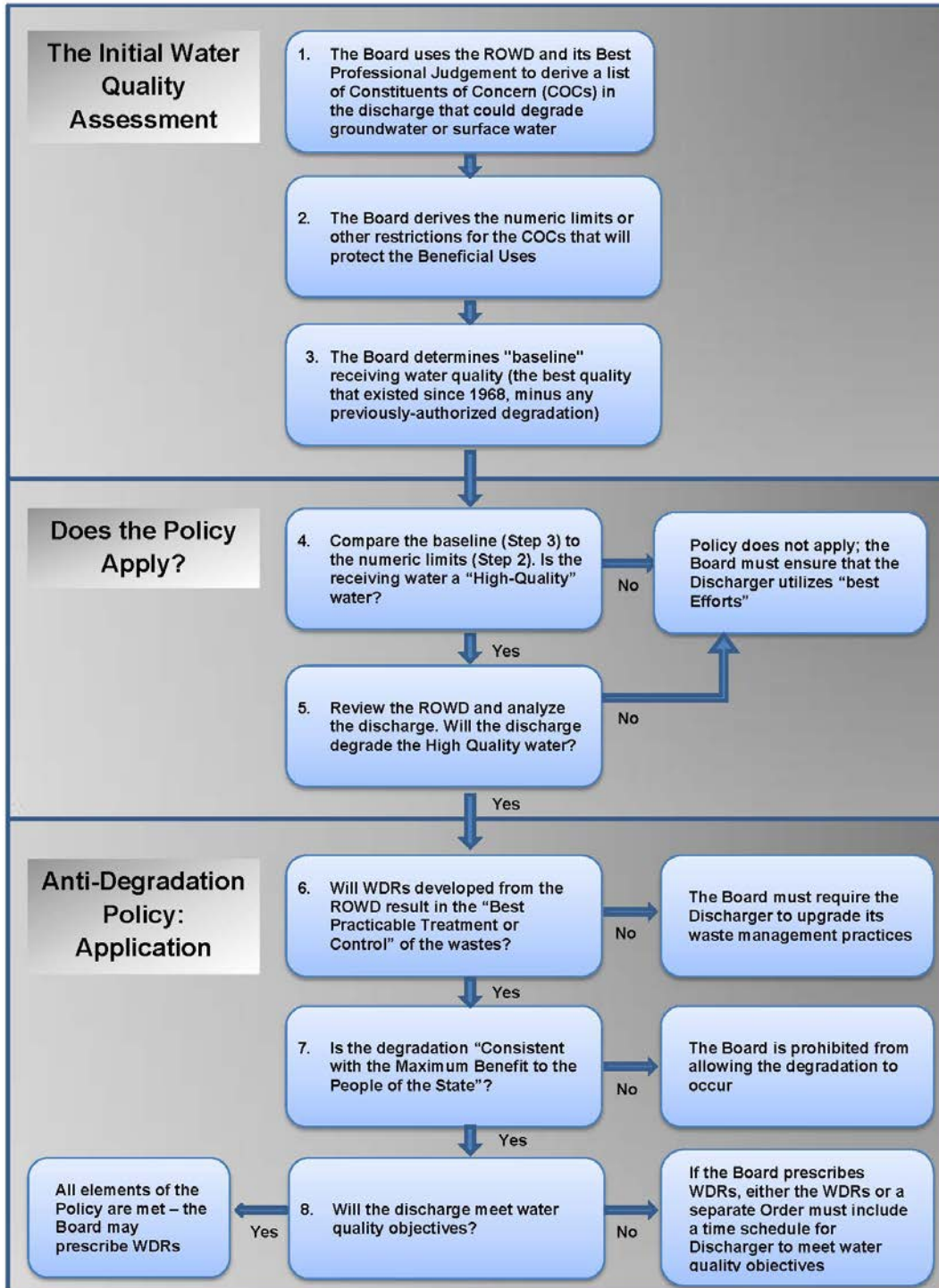


Figure 1. State Antidegradation Policy Flowchart

AGUA Decision

The court in *AGUA* rejected the antidegradation findings in a general order regulating 1,600 dairies in the Central Valley Region. The record showed that at least some of the groundwater in question was better than the applicable objectives at some time after 1968, which is the “baseline” for an antidegradation analysis. In considering whether the specific requirements of the dairy order met the BPTC standard, the court relied on State Water Board guidance that BPTC determinations may consider relative benefits of proposed treatment or control methods to proven technologies; performance data; alternative methods of treatment or control; methods used by similarly situated dischargers; and/or promulgated best available technology (BAT) or other technology-based standards. The court stated that costs of treatment or control should also be considered, and also stated that the Water Boards may use a phased approach or time schedules to bring dischargers into compliance with requirements to implement BPTC or to meet water quality objectives.

State Water Board Order WQ 2015-0175

State Water Board Order WQ 2015-0175 provides additional guidance on how to conduct an antidegradation analysis for an order covering multiple dischargers over a large area. In Order WQ 2015-0175, the State Water Board considered the antidegradation analysis for 86 municipal separate storm sewer system (MS4) dischargers in Los Angeles County. The board laid out some general principles that are instructive for conducting an analysis for a general order:

1. “The baseline for the application of the state antidegradation policy is generally the highest water quality achieved since 1968. However, where a water quality objective for a particular constituent was adopted after 1968, the baseline for that constituent is the highest water quality achieved since the adoption of the objective.” (*Id.*, pp. 24-25, n. 82.)
2. The baseline is adjusted to reflect degradation that was authorized consistent with the Antidegradation Policy. A prior order that lacks adequate antidegradation findings will not adjust the antidegradation baseline. In that case, a board reissuing an existing permit cannot simply compare the new requirements to the prior requirements to determine whether, and how much, degradation will occur.

Antidegradation findings are necessarily made at a generalized level in an order covering many dischargers and many pollutant/waterbody combinations. The State Water Board’s 1990 guidance for NPDES permitting was designed for individual facilities.¹ That guidance “has limited value when considering antidegradation in the context of storm water discharges from diffuse sources, conveyed through multiple outfalls, with multiple pollutants impacting multiple water bodies within a municipality, or in this case, region, especially given that reliable data on the baseline water quality from 1968 is not available.” (*Id.*, p. 27.) The State Water Board went on to modify the MS4 permit’s findings to demonstrate how the order met the antidegradation requirements.

¹ The *AGUA* case relied on the 1990 NPDES guidance and subsequent groundwater guidance based on it.

Baseline Water Quality Assessment Documents High Quality Waters

Central Coast Water Board staff completed a water quality assessment to determine the baseline for high quality waters in agricultural areas of the Central Coast Region. The baseline is the best water quality that has existed since 1968, the year in which the Antidegradation Policy was promulgated. Substantial water quality data are available to determine this baseline, which enabled staff to conduct general groundwater sub-basin and hydrologic sub-area constituent of concern specific analysis. The primary agricultural constituents of concern for groundwater included nitrate, chloride, sulfate, conductivity, total dissolved solids and pesticides (e.g. aldicarb, chlorpyrifos, diazinon, imidacloprid, permethrin, glyphosate). The primary agricultural constituents of concern for surface water included nutrients (e.g., nitrate, ammonia), toxicity, pesticides² (e.g. aldicarb, chlorpyrifos, diazinon, imidacloprid, permethrin, glyphosate), chloride, sulfate, turbidity, and total dissolved solids.

Focusing on these constituents of concern, staff evaluated water quality in agricultural areas of the Central Coast Region using all available data (water-quality parameters and sampling locations) from multiple data sources maintained in the following state-wide and regional data management systems:

- California Environmental Data Exchange Network (CEDEN)
- Surface Water Ambient Monitoring Program (SWAMP)
- Central Coast Ambient Monitoring Program (CCAMP)
- GeoTracker Groundwater Ambient Monitoring and Assessment (GAMA) Program

The baseline water-quality assessment included surface water quality data from agricultural areas collected by Central Coast Water Quality Preservation, Inc. (CCWQP) on behalf of participating growers to implement the Cooperative Monitoring Program (CMP) required by the by the Irrigated Lands Regulatory Program (ILRP) since 2004, as well as groundwater monitoring data required since 2012. For the specific primary constituents of concern identified for agricultural discharges, the Central Coast Water Board compared the water quality data to the relevant numeric limits to ensure protection of the beneficial uses associated with the groundwater and surface receiving water. In total, 261,181 lines of evidence were assessed to establish baseline water-quality for 71 groundwater sub-basin areas and 53 hydrologic sub-areas.

Results of Baseline Water Quality Assessment

The results of the baseline water quality assessment for groundwater and surface water are summarized in Table 1 and Table 2, respectively. Although baseline water quality varies in agricultural areas covered by Ag Order 3.0, all groundwater sub-basin areas with sufficient data were determined to be high quality for one or more constituents of concern per the Antidegradation Policy, meaning that baseline groundwater quality is better than that required by water quality control plans and policies (i.e., groundwater quality is better than the applicable numeric or narrative water quality objectives). Furthermore, for all groundwater sub-basin areas with sufficient nitrate data to conduct the baseline water quality assessment, all are considered

²Thousands of pesticides are in use in California including insecticides, herbicides, fungicides, fumigants, rodenticides, avicides, plant growth regulators, defoliant, desiccants, algicides, and antimicrobials. Many have a combination of multiple active ingredients. The pesticide constituents of concern used in this assessment are not exhaustive and generally focused on those commonly documented as causing impacts to water quality in the central coast region.

high quality waters with respect to nitrate since historical nitrate concentrations were substantially below the maximum contaminant level (MCL). For individual constituents of concern, three of the 71 groundwater sub-basin areas were determined to be low quality for total dissolved solids (Cholame Valley, Cuyama Valley) and three groundwater sub-basin areas were low quality for conductivity (Cholame Valley, Cuyama Valley, Toro Valley).

Similarly for surface water, all 53 hydrologic sub-areas were determined to be high quality for one or more constituents of concern per the Antidegradation Policy. For nitrate, all hydrologic sub-areas were determined to be high quality per the Antidegradation Policy, (with the exception of two hydrologic sub-areas which lacked sufficient water quality data to conduct the assessment). For toxicity and pesticides, monitoring data is only available after approximately 1997, therefore there was insufficient data to conduct assessments for some hydrologic sub-areas. However even with recent data for the 41 hydrologic sub-areas with sufficient toxicity data, all are considered high quality waters for toxicity per the Antidegradation Policy. Furthermore, no hydrologic sub-areas were determined to be low quality for any individual constituents of concern per the Antidegradation Policy.

Historical surface water data is generally lacking for total dissolved solids, chlorpyrifos, diazinon, and toxicity. Additionally, historical groundwater data is also lacking for chlorpyrifos and diazinon. Therefore, water quality data was insufficient to complete a baseline water quality assessment for these constituents of concern in some groundwater sub-basin and hydrologic sub-areas.

Agricultural Discharges Have Degraded and Threaten to Degrade High-Quality Waters

Staff completed a review of discharge information and relevant literature and has determined that agricultural discharges have degraded and threaten to degrade high quality waters within the Central Coast Region with various pollutants, including those identified above. Enrollment information and required reports submitted by growers in compliance with the Ag Order 1.0 and Ag Order 2.0 document that routine use of fertilizers and pesticides in agricultural areas has caused severe water-quality impacts.

Over the last 30 years, a large number of studies have documented severe water quality conditions in agricultural areas in the Central Coast Region resulting from the continuing application of fertilizers and pesticides, and agricultural land disturbance. Most recently, the California Nitrogen Assessment documented that excess nitrogen from synthetic fertilizers is the largest statewide import of nitrogen in California and a significant cause of groundwater contamination (2016). In addition, the UC Davis Nitrate Report documented that nitrate from fertilizer is the largest regional source of nitrate in groundwater in the Salinas Valley aquifer, resulting in contamination of public drinking water wells and private domestic wells (Harter et al, 2012).

Similarly for surface waters, a large number of studies have documented that toxicity resulting from agricultural waste discharges of pesticides has significantly impacted aquatic life in Central Coast streams (Anderson et al., 2003; Anderson et al., 2006a; Anderson et al., 2006b; Anderson et al., 2010). Most recently, a collaborative study of the Central Coast Water Board's Central Coast Ambient Monitoring Program (CCAMP), Department of Pesticide Regulation (DPR) and the Granite Canyon Marine Pollution Studies Laboratory documented toxicity in the Santa Maria and Salinas watersheds resulting from the agricultural use of a broad suite of pesticides.

Central Coast Water Board staff has also examined a large amount of water quality data submitted by growers, in compliance with Ag Order 1.0 and Ag Order 2.0. Since March 2012, growers have sampled approximately 4000 groundwater wells in the Central Coast Region and results indicate that approximately 25% of wells sampled exceed the maximum contaminant level (MCL). Additionally, required total nitrogen applied reports submitted by growers also documents the excess application of nitrogen fertilizers in many cases. Pesticide use reporting required by DPR documents the continued application of pesticides known to cause toxicity in the Central Coast Region, and surface receiving water monitoring data reported in compliance with Ag Order 2.0 continues to document surface water impairments in agricultural areas. These studies and others with similar findings related to the primary pollutants are summarized in Ag Order 3.0.

Best Practicable Treatment and Control

The Central Coast Water Board must ensure that ag orders require BPTC to avoid pollution or nuisance and to maintain the highest water quality consistent with the maximum benefit to the people of the state. Furthermore, if the discharge does not meet relevant water quality objectives, then the Central Coast Water Board must also require a time schedule for Dischargers to meet water quality objectives. The court found in *AGUA* that the Antidegradation Policy does not require immediate implementation of BPTC and determined that a phased approach or time schedule for meeting antidegradation requirements was reasonable. (*Id.* At 1277-1278.)

As described above, Ag Order 3.0 is intended to be an interim order lasting three years, while staff develops Ag Order 4.0 as part of a phased approach to bring dischargers into compliance with requirements to implement BPTC and a time schedule to meet water quality objectives. Ag Order 3.0 requires growers to continue implementing management practices and conducting monitoring and reporting, to ensure they are making progress in ongoing efforts to meet water quality objectives over time. Furthermore, Ag Order 3.0 requires dischargers to improve management practices, and treatment and control measures, and change farming practices as necessary to reduce waste loading, and monitor and report progress. The Central Coast Water Board cannot dictate the manner of compliance with water quality orders (Wat. Code, §13360), and no single suite of management practices is appropriate for every field, ranch or operation. Rather, BPTC must be implemented through a combination of practices that will ensure that discharges ultimately meet all water quality objectives and eliminate any unreasonable degradation.

As part of Ag Order 4.0, the Central Coast Water Board is developing and improving requirements that will result in the implementation of BPTC of discharges to maximize protection of water quality, including monitoring and reporting requirements. Where feasible, these requirements are incorporated into Ag Order 3.0. For example, Ag Order 3.0 includes an increase in the implementation of total nitrogen applied (TNA) reporting and expands this existing requirement to additional acreage for crop types with high potential to discharge nitrogen to groundwater. Many growers are already complying with the TNA reporting requirements pursuant to Ag Order 2.0, and the expansion of this existing requirement to additional high-risk acreage is a reasonable next step to improve the Central Coast Water Board's ability to identify and minimize sources of waste that may degrade high-quality waters, specifically nitrate loading to groundwater which may impair drinking water sources—a priority for the Central Coast Water Board.

With respect to monitoring, *AGUA* held that if an order finds that degradation will not occur, the order must include appropriate monitoring capable of verifying the finding. The State Water Board's Office of Chief Counsel recommends monitoring as necessary on a case-by-case basis. Staff will propose additional monitoring as part of the Antidegradation analysis for Ag Order 4.0. Additionally, since agricultural discharges have degraded high quality drinking water sources, the Central Coast Water Board finds that monitoring and reporting is necessary to prevent and detect any degradation to high quality waters. The monitoring must include evaluating discharges of waste and confirming that the discharges are effectively controlled by management practices and to evaluate compliance with requirements. Monitoring and reporting methods may include, but are not limited to, monitoring sources of waste (e.g. reporting nitrogen applied), discharge monitoring (e.g. individual on-farm discharge monitoring, monitoring first encountered groundwater), receiving water monitoring (e.g. instream surface water monitoring, groundwater monitoring wells), upstream follow-up monitoring to determine individual sources of waste discharge based on receiving water monitoring, and regional monitoring programs. The Central Coast Water Board is in the process of evaluating the monitoring and reporting requirements to determine if they are sufficient to prevent and detect degradation to high quality waters. Based on this evaluation, staff may propose additional monitoring and reporting requirements in Ag Order 4.0 or sooner.

Any Degradation Allowed Must be Consistent with the Maximum Benefit to the People of the State

The Central Coast Water Board must carefully consider whether any permitted degradation is consistent with the maximum benefit to the people of the State. Any permitted degradation would only be from the baseline of high quality waters, and could not result in exceeding water quality objectives or standards such as drinking water standards. In considering the maximum benefit to the people of the state, the Central Coast Water Board must consider the costs to the affected public, such as costs to treat public and private drinking-water supplies degraded by agricultural discharges, as well as discharger costs. Additionally, while the Central Coast Water Board has the regulatory responsibility to protect water quality, and has prioritized the protection of drinking water sources and public health, the Board must also consider that the public has an interest in the viability of agriculture as a source of food and an essential economic driver in the State of California. In any case, the Antidegradation Policy does not allow discharges to cause exceedances of water quality objectives to be exceeded in the receiving surface water or groundwater. As a result, the affected public should not generally have to incur costs to treat drinking water supplies. It would not be in the public interest for the Central Coast Water Board to allow Ag Order 2.0 to expire with no interim regulatory program while Ag Order 4.0 is developed. Implementing Ag Order 3.0 as a short-term interim order, while staff develops Ag Order 4.0, is a reasonable next step as part of a phased approach to bring dischargers into compliance with requirements to implement BPTC of the wastes consistent with the maximum benefit to the people of the State.

Table 1. Baseline Water Quality Assessment Summary: Groundwater

SUB BASIN #	SUB-BASIN NAME	COUNTY	CONSTITUENTS OF CONCERN HQ: High Quality, LQ: Low Quality, INSF: Insufficient Info											HIGH QUALITY WATER (for one or more constituents)
			Chloride	Conductivity	Nitrate	Sulfate	Total Dissolved Solids	Pesticides						
								Aldicarb	Chlorpyrifos	Diazinon	Imidacloprid	Permethrin	Glyphosate	
1.00	Soquel Valley	Santa Cruz	HQ	INSF	HQ	HQ	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
2.00	Pajaro Valley	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
2.00	Pajaro Valley	San Benito	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
2.00	Pajaro Valley	Santa Cruz	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
3.01	Llagas Area	San Benito	HQ	HQ	HQ	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
3.01	Llagas Area	Santa Clara	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
3.02	Bolsa Area	San Benito	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
3.02	Bolsa Area	Santa Clara	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
3.03	Hollister Area	San Benito	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
3.03	Hollister Area	Santa Clara	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
3.04	San Juan Bautista Area	San Benito	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.01	180/400 Foot Aquifer	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.02	East Side Aquifer	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.04	Forebay Aquifer	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.05	Upper Valley Aquifer	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.06	Paso Robles Aquifer	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.06	Paso Robles Aquifer	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.08	Seaside Aquifer	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.09	Langley Aquifer	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
4.10	Corral de Tierra Area	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
5.00	Cholame Valley	Monterey	HQ	LQ	HQ	HQ	LQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
5.00	Cholame Valley	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
6.00	Lockwood Valley	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
7.00	Carmel Valley	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
8.00	Los Osos Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES

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9.00	San Luis Obispo Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
12.00	Santa Maria River Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
12.00	Santa Maria River Valley	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
13.00	Cuyama Valley	San Luis Obispo	HQ	LQ	HQ	HQ	LQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
13.00	Cuyama Valley	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
13.00	Cuyama Valley	Ventura	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
14.00	San Antonio Creek Valley	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
15.00	Santa Ynez River Valley	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
16.00	Goleta	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
17.00	Santa Barbara	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
18.00	Carpinteria	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
18.00	Carpinteria	Ventura	HQ	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
19.00	Carrizo Plain	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
20.00	Ano Nuevo Area	San Mateo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
21.00	Santa Cruz Purisima Formation	Santa Cruz	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
22.00	Santa Ana Valley	San Benito	HQ	HQ	HQ	HQ	HQ	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
23.00	Upper Santa Ana Valley	San Benito	INSF	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
24.00	Quien Sabe Valley	San Benito	INSF	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
25.00	Tres Pinos Valley	San Benito	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
26.00	West Santa Cruz Terrace	Santa Cruz	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
27.00	Scotts Valley	Santa Cruz	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
28.00	San Benito River Valley	San Benito	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
29.00	Dry Lake Valley	San Benito	INSF	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
30.00	Bitter Water Valley	San Benito	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
31.00	Hernandez Valley	San Benito	INSF	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
32.00	Peach Tree Valley	Monterey	INSF	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
33.00	San Carpofofor Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
34.00	Arroyo de la Cruz Valley	San Luis Obispo	INSF	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
35.00	San Simeon Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
36.00	Santa Rosa Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
37.00	Villa Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
38.00	Cayucos Valley	San Luis Obispo	INSF	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
39.00	Old Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES

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40.00	Toro Valley	San Luis Obispo	HQ	HQ	HQ	HQ	LQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
41.00	Morro Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
42.00	Chorro Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
43.00	Rinconada Valley	San Luis Obispo	INSF	INSF	HQ	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
44.00	Pozo Valley	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
45.00	Huasna Valley	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
46.00	Rafael Valley	San Luis Obispo	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
47.00	Big Spring Area	San Luis Obispo	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
49.00	Montecito	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES
50.00	Felton Area	Santa Cruz	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
51.00	Majors Creek	Santa Cruz	INSF	INSF	INSF	INSF	INSF	HQ	INSF	INSF	HQ	HQ	HQ	INSF
52.00	Needle Rock Point	Santa Cruz	HQ	INSF	HQ	HQ	INSF	HQ	INSF	INSF	HQ	HQ	HQ	YES
53.00	Foothill	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	YES

Table 2. Baseline Water Quality Assessment Summary: Surface Water

SUB AREA #	HYDROLOGIC SUB AREA NAME	COUNTY	CONSTITUENTS OF CONCERN (HQ: High Quality, INSF: Insufficient Information)													HIGH QUALITY WATER (for one or more constituents)
			Ammonia	Chloride	Nitrate	Sulfate	Total Dissolved Solids	Toxicity	Turbidity	Pesticides						
										Aldicarb	Chlorpyrifos	Diazinon	Imidacloprid	Permethrin	Glyphosate	
330420	Ano Nuevo	San Mateo	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330413	Aptos - Soquel	Santa Cruz	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330411	Davenport	Santa Cruz	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330412	San Lorenzo	Santa Cruz	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330600	Bolsa Nueva	Monterey	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330700	Carmel River	Monterey	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331100	Carrizo Plain	San Luis Obispo	HQ	INSF	HQ	INSF	INSF	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	YES
331031	Oceano	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331012	Arroyo de la Cruz	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331016	Cayucos	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331017	Old	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331011	San Carpofo	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331013	San Simeon	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331014	Santa Rosa	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331018	Toro	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331015	Villa	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331022	Chorro	San Luis Obispo	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331023	Los Osos	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331021	Morro	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331026	Pismo	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331025	Point San Luis	San Luis Obispo	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331024	San Luis Obispo Creek	San Luis Obispo	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331700	Estrella River	San Luis Obispo	HQ	HQ	HQ	INSF	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330540	Pacheco - Santa Ana Creek	Santa Clara	INSF	INSF	HQ	INSF	INSF	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	YES

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330550	San Benito River	San Benito	HQ	HQ	HQ	INSF	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330520	Santa Cruz Mountains	Santa Cruz / San Benito / Santa Clara	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330530	South Santa Clara Valley	San Benito / Santa Clara	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330510	Watsonville	Monterey / Santa Cruz / San Benito	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330960	Arroyo Seco	Monterey	HQ	INSF	HQ	INSF	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330920	Chualar	Monterey	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330970	Gabilan Range	Monterey	HQ	HQ	HQ	INSF	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330912	Moro Cojo	Monterey	HQ	INSF	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330911	Neponset	Monterey	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330950	Monterey Peninsula	Monterey	INSF	INSF	INSF	INSF	INSF	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330981	Atascadero	Monterey / San Luis Obispo	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330990	Pozo	San Luis Obispo	INSF	INSF	INSF	INSF	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330930	Soledad	Monterey	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330940	Upper Salinas valley	Monterey	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331300	San Antonio	Santa Barbara	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331230	Cuyama Valley	San Luis Obispo / Santa Barbara / Ventura	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331210	Guadalupe	San Luis Obispo / Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331220	Sisquoc	Santa Barbara	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
330800	Santa Lucia	Monterey	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331430	Buellton	Santa Barbara	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331451	Santa Cruz Creek	Santa Barbara	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331410	Lompoc	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331420	Los Olivos	Santa Barbara	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331420	Santa Rita	Santa Barbara	HQ	HQ	HQ	HQ	INSF	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331510	Arguello	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331534	Carpinteria	Santa Barbara / Ventura	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331531	Goleta	Santa Barbara	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331533	Montecito	Santa Barbara	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES
331532	Santa Barbara	Santa Barbara	HQ	HQ	HQ	HQ	INSF	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	HQ	YES