

Proposed Amendment
to the
WATER QUALITY CONTROL PLAN
for the
NORTH COAST REGION
to
Update Water Quality Objectives
Final Supplemental Environmental
Document (SED)

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1. Executive Summary

A proposed amendment to the *Water Quality Control Plan for the North Coast Region* (Basin Plan) to update water quality objectives (proposed WQO Update Amendment) has been developed by staff of the North Coast Regional Water Quality Control Board (Regional Water Board). The primary goals of the proposed WQO Update Amendment are to develop a narrative groundwater toxicity objective, to update the chemical constituents objectives for surface waters and groundwaters, and clarify the process the Regional Water Board uses when narrative objectives are translated into numeric limits for use in permits, orders, or other regulatory actions. An explanation and justification for these proposed revisions are included in this Staff Report.

The proposed WQO Update Amendment language is appended to this Staff Report. This Staff Report provides the necessary information relative to the scope, need, and potential environmental impacts of the proposed WQO Update Amendment. The revisions proposed in the WQO Update Amendment are summarized below.

1.1 Summary of the Proposed WQO Update Amendment

Both substantive and non-substantive (editorial) revisions to Chapter 3 (Water Quality Objectives) and Chapter 4 (Implementation Plans) of the Basin Plan are included as part of the proposed WQO Update Amendment. In addition, the table of contents and other associated portions of the Basin Plan (e.g., Appendix A) are revised as appropriate.

Proposed revisions to Chapter 3 (Water Quality Objectives) are presented below:

- Addition of a new narrative toxicity objective for groundwater.
- Deletion of Table 3-2, *Inorganic, Organic, and Fluoride Concentrations Not to be Exceeded in Domestic or Municipal Supply*.
- Revision of the narrative chemical constituents objectives (surface water and groundwater) to expand its applicability to the protection of all beneficial uses.
- Revision of the opening paragraph to the section titled “Objectives for Inland Surface Waters, Enclosed Bays, and Estuaries” and the section titled “Water Quality Objectives for Groundwater” to reference the new policy, *Policy for the Application of Narrative Water Quality Objectives* (see description below), contained in Chapter 4 (Implementation Plan) .
- Minor revisions to Table 3-1, *Specific Water Quality Objectives for North Coast Region* and Table 3-1a. Includes reformatting of information contained in Table 3-1, relocating information contained in footnote 5 to a new Table 3-1b (*Specific Objectives for Temperature in the Upper Trinity River*), and addition of a title to Table 3-1a (*Site-Specific Objectives (SSOs) for Dissolved Oxygen (DO) in the Mainstem Klamath River*). All of the tables have been relocated to the end of Chapter 3 to improve readability.

- Revision of the Compliance with Water Quality Objectives section to eliminate outdated language and reference new State Water Board policy, including both a discussion on compliance with water quality objectives for NPDES and non-NPDES programs as well as a discussion on monitoring.
- Addition of references to the National Toxics Rule (NTR), California Toxics Rule (CTR), and the State Water Board *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries* (SIP) to inform the reader of their applicability to surface waters in the North Coast Region.

Proposed revisions to Chapter 4 (Implementation Plans) are presented below:

- Addition of a new section heading, “Regionwide Policies,” at the beginning of the chapter just after the introductory language.
- Addition of a new *Policy for the Application of Narrative Water Quality Objectives* (proposed Narrative WQO Policy) under the new “Regionwide Policies” heading. The proposed policy describes the process the Regional Water Board uses when narrative objectives are translated into numeric limits for use in permits, orders, or other regulatory actions.
- Revision of the Compliance with Water Quality Objectives section to eliminate outdated language and reference new State Water Board policy for NPDES compliance schedules. Reference to state law for application of compliance schedules for non-NPDES permits and orders has been retained.

Other editorial (non-substantive) revisions, as presented in Chapter 3, have been made to Chapter 3. These revisions are consistent with editorial amendments to previous chapters of the Basin Plan and improve clarity and readability. The same editorial revisions will be made to Chapter 4 in the second phase of this project, when other more substantive revisions are proposed. At this time, the only editorial revision proposed in Chapter 4 is to rename the chapter as “Implementation Policies and Action Plans.”

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2. Introduction

This staff report presents the necessary information and findings to support the proposed WQO Update Amendment. The proposed WQO Update Amendment was developed by Regional Water Board staff to update the Basin Plan by revising the Water Quality Objectives and Implementation Plans sections of the Basin Plan. The primary goals of the proposed WQO Update Amendment are to develop a narrative groundwater toxicity objective, to update the chemical constituents objectives for surface waters and groundwaters, and clarify the process the Regional Water Board uses when narrative objectives are translated into numeric limits for use in permits, orders, or other regulatory actions.

The proposed WQO Update Amendment language is appended to this staff report. Appendices A and B provide a strikethrough/underline version of the proposed revisions to the Water Quality Objectives and Implementation Plans portions of the Basin Plan (Chapters 3 and 4, respectively). Appendices C and D present the “clean version” of Chapters 3 and 4 of the Basin Plan with the proposed revisions incorporated. This staff report provides the information relative to the scope, need, and environmental impacts of the proposed WQO Update Amendment necessary to support the Regional Water Board’s consideration and adoption of the proposed amendment.

2.1 Overview of the North Coast Region

The North Coast Region (Region) is comprised of all basins (including Lower Klamath Lake and Lost River basins) which drain into the Pacific Ocean from the California-Oregon state line to the southerly boundary of the watershed of the Estero de San Antonio and Stemple Creek in Marin and Sonoma counties.

The Region is divided into two natural drainage basins, the Klamath River Basin and the North Coastal Basin. The Region includes all of Del Norte, Humboldt, Trinity, and Mendocino counties, approximately 80 percent of Siskiyou and Sonoma counties, and small portions of Modoc, Lake, Glenn, and Marin counties. The Region encompasses approximately 19,400 square miles, including 340 miles of scenic coastline, vast areas of remote wilderness, as well as urbanized and agricultural areas.

The Region had a population of 670,287 people in 2005. About 2 percent of the state’s total population lives in this Region, and 49 percent of the Region’s population lives in incorporated cities. Between 2000 and 2005, the population grew by 26,287 people, a growth of 4 percent over the 5-year period.¹

Surface water and groundwater resources are used in a number of ways that support human and aquatic ecosystem uses (i.e. beneficial uses of water).

¹ California Water Plan, 2009 Update, Department of Water Resources.

Many large and small communities, as well as individual landowners, depend on surface waterbodies for their municipal and/or domestic water supplies. The cities of Eureka, Fort Bragg, and Santa Rosa all rely largely on surface water supplies with intakes on the Mad, Noyo, and Russian rivers, respectively. Recreation on and around surface waters annually attracts millions of people from across the country and the globe to the Region. Surface waters also support fish and wildlife habitat, sport and commercial fishing, hydroelectric power generation, and many other beneficial uses.

Shallow and deeper groundwaters are extensively used for municipal and domestic supply, agricultural supply, and industrial service supply in the North Coast Region. The cities of Santa Rosa, Sebastopol, Rohnert Park, Ukiah, and Yreka rely at least in part on groundwater for their municipal supply. An unknown number of private wells supply domestic and agricultural water throughout the Region, many reliant on shallow groundwater resources.

Predicted population increases in the Region and anticipated erratic future precipitation trends due to climate change are likely to increase reliance on groundwater resources to support future water needs in the Region. Increased demand on groundwater supplies is already occurring in many areas of the Region. Protection of groundwater resources is also an important component in the protection of a number of beneficial uses associated with surface waters, such as providing base flow and cold freshwater habitat from inflow of cold groundwater to streams during warm summer months.

See Section 7.2 of this staff report for more information on the hydrologic units in the Region.

2.2 Function and Framework of the Basin Plan

The Porter-Cologne Water Quality Control Act (Porter-Cologne) established the regional water board system and charged the boards with the primary responsibility for protecting water quality in the state.² Porter-Cologne also required that each regional water board formulate and adopt basin plans for all areas within its region. The Regional Water Board's Basin Plan is designed to provide a definitive program of actions to preserve and enhance water quality and protect beneficial uses of waters of the state in the Region and forms the basis for the Regional Water Board's regulatory programs. The Basin Plan also must be consistent with state policies and plans. The Basin Plan, including periodic updates, has been approved by the State Water Resources Control Board (State Water Board), the Office of Administrative Law (OAL), and the United States Environmental Protection Agency (U.S. EPA), as appropriate.³

² Wat. Code § 13001.

³ U.S. EPA approval is required for surface water standard actions.

Specifically, the Basin Plan 1) identifies beneficial uses for surface waters and groundwaters, 2) sets narrative and numeric ambient water quality objectives that must be attained or maintained to protect beneficial uses, 3) includes implementation programs that include specific prohibitions, action plans, and policies to achieve ambient water quality objectives, and 4) describes surveillance and monitoring activities.

Chapter 2 of the Basin Plan (Beneficial Uses) identifies the existing and potential beneficial uses of water in the North Coast Region, including uses that pertain to: human health (e.g., drinking water, recreation), commerce (e.g., industrial process water, hydropower), aquatic life (e.g., cold water habitat, spawning habitat), and ecological services (e.g., flood peak attenuation, water quality enhancement). Existing beneficial uses are those uses, which were attained in a waterbody on or after November 28, 1975, under the Clean Water Act.⁴ Potential beneficial uses are established for any of the following reasons: 1) the use existed prior to November 28, 1975, but is not currently being attained; 2) plans already exist to put the water to that use; 3) conditions make such future use likely; 4) the water has been identified as a potential source of drinking water based on the quality and quantity available (see *Sources of Drinking Water Policy*, in Appendix 7); 5) existing water quality does not support these uses, but remedial measures⁵ may lead to attainment in the future; or 6) there is insufficient information to support the use as existing, however, the potential for the use exists and upon future review, the potential designation may be re-designated as existing.”

One of the functions of the Basin Plan is to designate beneficial uses for individual waterbodies or categories of waters. Whether an existing beneficial use is designated or not; however, it still must be protected. Table 2-1 of the Basin Plan identifies the designated beneficial uses of individually named hydrologic areas, as well as categories of waters. The beneficial uses of the North Coast Region include:

MUN	Municipal and Domestic Supply
AGR	Agricultural Supply
IND	Industrial Service Supply
PRO	Industrial Process Supply
GWR	Groundwater Recharge
FRSH	Freshwater Replenishment
NAV	Navigation
POW	Hydropower Generation
REC-1	Water Contact Recreation
REC-2	Non-Contact Recreation

⁴ Date of the first Water Quality Standards Regulation published by USEPA (November 28, 1975) 40 CFR 131.3 (e).

⁵ Remedial measures include implementation of effluent limits required under Section 301(b) and 306 of the CWA, and implementation of cost-effective and reasonable best management practices for nonpoint source control. 40 CFR 131.10(d).

COMM	Commerical and Sport Fishing
WARM	Warm Freshwater Habitat
COLD	Cold Freshwater Habitat
ASBS	Preservation of Areas of Special Biological Significance
SAL	Inland Saline Water Habitat
WILD	Wildlife Habitat
RARE	Rare, Threatened, or Endangered Species
MAR	Marine Habitat
MIGR	Migration of Aquatic Organisms
SPWN	Spawning, Reproduction, and/or Early Development
SHELL	Shellfish Harvesting
EST	Estuarine Habtiat
AQUA	Aquaculture
CUL	Native Amercian Culture
FLD	Flood Peak Attenuation/Flood Water Storage
WET	Wetland Habitat
WQE	Water Quality Enhancement
FISH	Subsistence Fishing

All of the beneficial uses are designated for some or all of the surface waters in the North Coast Region. Groundwaters are designated as a category of waters for MUN, AGR, IND, PRO, AQUA, and CUL beneficial uses. Where groundwater and surface water are connected, the designated beneficial uses of the surface water may also apply to groundwater.

Chapter 3 of the Basin Plan (Water Quality Objectives) identifies ambient water quality objectives that the Regional Water Board has adopted for the protection of beneficial uses of water. These objectives describe the characteristics of waterbodies necessary to allow the beneficial use of those waterbodies and form the basis for establishing numeric effluent (or discharge) limits or cleanup levels in Regional Water Board permits, orders, or other regulatory actions.

Many of the water quality objectives described in Chapter 3 were developed in the 1970s or 1980s and have not been revised since. Some of these are outdated, with respect to the findings of current scientific literature. For example, one of the subjects of this proposed amendment, the chemical constituents objective does not reflect current scientific understanding for all parameters. Further, the chemical constituents objective applies to both surface water and groundwater, both sources of drinking water. But, the specific numeric criteria contained in the Basin Plan are the drinking water standards described in the California Code of Regulations, Title 22 at the time the criteria were adopted. They do not include consideration of other human health exposures (e.g., contact or fish consumption) or aquatic life exposures (e.g., migration, feeding, early development exposures), despite the fact that other beneficial uses are designated for surface water and groundwaters in the Region. Chapter 3 also includes a general objective which applies to all waters in the region. The general objective

incorporates state and federal antidegradation policies for maintaining existing high quality waters.

2.3 Background on the Proposed WQO Update Amendment

Periodic review of the Basin Plan is required by state and federal law in order to ensure that the Basin Plan remains effective regulation. As part of the review process (triennial review), the Regional Water Board identifies and ranks water quality-related issues that could potentially be resolved through an amendment to the Basin Plan.

For a number of years, the Regional Water Board has ranked the development of a groundwater toxicity objective as a high priority during each triennial review process. During the 2004 Triennial Review of the Basin Plan, the Regional Water Board included direction that a Basin Plan amendment be developed that would clearly articulate the process used by the Board in translating narrative water quality objectives into numeric limits for use in permits, orders, or other regulatory actions as appropriate. At this time, the Regional Water Board also directed staff to develop minor editorial (non-substantive) revisions to the existing water quality objectives for groundwater and surface water to update outdated references, etc.

As part of the 2007 Triennial Review, these issues were combined into one task to facilitate development of a comprehensive proposal and to aid in outreach and solicitation of public comment. Staff determined that the multitude of actions required to complete this task would be most appropriately divided into two distinct Basin Plan amendments. The actions identified in this staff report represent the first phase of this work. This first phase focuses on revisions to water quality objectives and the addition of new language that clarifies how narrative objectives are translated into numeric values. The second phase will focus on revisions to Basin Plan Chapter 4 (Implementation Plans) to include new groundwater protection policies (e.g., the State's Recycled Water Policy and Onsite Waste Treatment System Policy) and update the implementation program for the discharge of waste to land.

The 2011 Triennial Review List, adopted on September 29, 2011, identifies the two phases of this work as task three of thirty-one tasks. Staff will soon begin development on the second phase of this project, the *Proposed Amendment to the Water Quality Control Plan for the North Coast Region to Update Regional Groundwater and Surface Water Protection Policies and Action Plans*.

2.4 Goals of the Proposed WQO Update Amendment

The primary goal of the proposed WQO Update Amendment is to make clear and transparent the process that staff uses when developing permits, orders, and other regulatory actions, particularly with respect to its control of chemical discharges. To accomplish this goal staff proposes that:

- 1) The chemical constituents objective for surface water and groundwater be updated to reflect current scientific understanding, more clearly apply to the protection of all beneficial uses, and more flexibly remain current;
- 2) A toxicity objective for groundwater be articulated, using the toxicity objective for surface water as a model;
- 3) The process for translating the ambient water quality objectives into permit limits and cleanup levels be clearly described, including the process by which narrative objectives are translated into numeric criteria.

One of the phenomenon requiring greater clarity is that though the Basin Plan includes a chemical constituents objective for surface water and groundwater protection, it is not the only factor important to the regulation of chemical constituents. For example, the State Water Board has adopted the State Implementaton Plan (SIP) which describes the application of the National Toxics Rule (NTR) and California Toxics Rule (CTR) for the protection of human and aquatic life receptors in surface water. Similarly, the State Water Board adopted Resolution No. 92-49 which directs groundwater cleanup activities. It requires that groundwater quality be returned to background conditions, where possible, in keeping with the requirements of the antidegradation policy. Where not possible, Resolution No. 92-49 requires that cleanup activities result in the “best water quality which is reasonable...considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible...”The chemical constituent levels derived through application of the SIP for surface water protection or Resolution No. 92-49 for groundwater protection, often have no similarity with the numeric criteria listed in Table 3-2 of the Basin Plan.

Further, the State Water Board has developed, and updates regularly, a document entitled “A Compilation of Water Quality Goals,” and an associated database of chemical constituent thresholds developed by other federal or California State agencies. The State Water Board maintains the database, Water Quality Goals Online, on its website which is freely available to all the Regions and the public. It also publishes the matrix as regular updates in the “Water Quality Goals” report. The numeric thresholds represented in the database includes:

- Drinking water standards (MCLs) developed by the California Department of Public Health (CDPH)
- Maximum Contaminant Level Goals (MCL goals or MCLG) developed by the U.S. Environmental Protection Agency (USEPA)
- California Public Health Goals (PHGs) developed by California Environmental Protection Agency (Cal/EPA)
- California Drinking Water Notification and Response Levels developed by CDPH
- Cancer Potency Factors developed by the Office of Environmental and Human Health Assessment (OEHAA)
- Reference doses and cancer risk in drinking water are described in the Integrated Risk Information System (IRIS) developed by USEPA

- Drinking Water Health Advisories and Water Quality Advisories developed by USEPA
- Suggested No-Adverse-Response Levels (SNARLs) developed by the National Academy of Sciences
- Proposition 65 Safe Harbor Levels developed by OEHHA
- California Toxics Rule and National Toxics Rule developed USEPA
- California Ocean Plan Objectives developed by the State Water Board
- National Recommended Water Quality Criteria developed by USEPA
- Agricultural Water Quality Thresholds developed by the Food and Agriculture Organization of the United Nations]
- Taste and Odor Thresholds developed by USEPA
- And other numeric thresholds.

Staff uses this compilation, among other tools, to identify the most protective and appropriate numeric limits to apply to a given project or discharge. Staff regularly uses this resource for identifying the most protective chemical constituent thresholds, when developing permits, orders and other regulatory actions for the protection of surface water and groundwater.

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3. Proposed Revisions to Basin Plan Chapter 3 - Water Quality Objectives

This section of the staff report presents the rationale for the recommended revisions to Chapter 3, the Water Quality Objectives portion of the Basin Plan. The proposed revisions to this chapter are included with this staff report as Appendices A and C (strikethrough/underline copy and clean copy, respectively). In some case, excerpts from the proposed Basin Plan amendment language are included in the staff report to provide clarity.

3.1 General Organizational Changes

Major portions of the Basin Plan are currently identified as “sections” within the table of contents and the text of the Basin Plan. No numbering system is currently applied to the subsections contained in these “sections.” As part of this amendment, staff proposes to replace the term “section,” where appropriate, with “chapter” to indicate clearly the overall framework of the Basin Plan. Sections and subsections are used as appropriate, and a numbering system is introduced to identify individual parts within each chapter for the user’s convenience. This is consistent with formatting revisions made to Chapters 1 and 2 of the Basin Plan during earlier editorial amendments.

The current page numbering system used in the Basin Plan (e.g., “3-9.00” and “3-10.00.”) was implemented to accommodate updating of hard copy Basin Plans on a page-by-page basis before the routine utilization of computer technology. The use of this expanded numbering system allowed a new page to be easily inserted between existing pages (e.g., “3-9.01”) without having to repaginate the remaining portion of the Basin Plan. This expanded numbering system has not been used in the North Coast Region’s Basin Plan for several revisions. As part of this amendment, staff proposes to replace this numbering scheme with a “3-x” format.

3.2 Revisions to “Introduction” Section

Various editorial changes are proposed for the introductory section of this chapter including:

- Addition of explanatory language generally describing narrative and numeric water quality objectives.
- Addition of a footnote clarifying that the terms “designated use” and “water quality criteria” are based in federal law.
- Addition of a footnote clarifying that “beneficial use” and “water quality objectives” are terms derived from state law.
- Relocation of the existing text describing controllable factors to its own section. In addition, the phrase “human caused” will be substituted for “man caused.”
- Deletion of outdated or redundant text such as the reference to expired waivers, the description of classes of water (which is presented in Chapter 2 – Beneficial

Uses) and the superseding of water quality objectives contained in earlier editions of the Basin Plan.

- Removal of references to appendices no longer proposed for inclusion in the Basin Plan.
- Other minor editorial changes, such as capitalization, punctuation, grammar, and other minor revisions to improve clarity.

3.3 New Section: Regulatory Actions

A new section has been added to describe how the Regional Water Board addresses (or controls) controllable water quality factors, through the adoption of permits, orders, and other regulatory actions. This new section makes the link from water quality objectives and how they form the basis for establishment of the permits, and other actions to help the reader better understand the process. The specific language describing “controllable factors” has not been changed, only how it is presented in Chapter 3.

3.4 Revision to “General Water Quality Objectives” Section

The title of the “General Objective” section will be changed to “General Water Quality Objectives” for naming consistency and to acknowledge that there may be more than one general water quality objective located within this section, in the future. Reference to the “General Water Quality Objectives” section is recommended for inclusion in other sections of the Basin Plan (e.g., Water Quality Objectives for Groundwaters), as appropriate, to inform the user of the applicability of the general water quality objectives. This will be addressed in the discussion presented below for each of the subject objectives.

3.4.1 Revisions to the “Antidegradation Policies” Section

Existing language from the “General Objectives” section will be placed into a subordinate section of the “General Water Quality Objectives” section and will be titled “Antidegradation Policies.” The inclusion of the commonly used phrase “antidegradation” in the section heading will make it easy for the user to locate this section in either hard copy or electronic format.

Minor editorial changes were originally recommended by staff to improve the clarity and readability of the Antidegradation Policies section. Substantive public comments were received in early February 2012, requesting several additional changes to the Antidegradation Policies section. Given the larger scope of the recommended revisions, staff now proposes that this work be placed on the Triennial Review list and prioritized for future Basin Plan amendment.

One revision staff does propose at this time, is to remove existing language referring readers to the Antidegradation Policies as Appendices 6 and 6B of the Basin Plan and

refer the reader, instead, to the State Water Board website. This is the approach staff recommends for all State policies now appended to the Basin Plan, as a way of ensuring the reader is directed to the most up-to-date information. Advances in technology make inclusion of these documents as appendices to the Basin Plan unnecessary as they are easily accessed via the internet.

3.5 Revisions to “Objectives for Ocean Waters” Section

Staff recommends that the “Objectives for Ocean Waters” heading be changed to “Water Quality Objectives for Ocean Waters” for consistency.

In addition, reference to the *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) in the appendix section of the Basin Plan is revised to direct the reader to the State Water Board’s website.

3.6 Revisions to “Objectives for Inland Surface Waters, Enclosed Bays, and Estuaries” Section

The introductory language in this section is revised to include a reference to the State Water Board *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries* (SIP) to inform the reader that this policy is applicable to waters in the North Coast Region. This revision is consistent with the information on applicable state plans and policies presented in the section on ocean waters. References to the National Toxics Rule (NTR) and the California Toxics Rule (CTR) are added to inform the reader that these regulations are applicable to waters in the North Coast Region as well as adding a statement that these regulations address human health and aquatic life protection. References to the other tables containing site-specific objectives (i.e., Tables 3-1a and 3-1b) will be added after the reference to Table 3-1. Finally, reference to the new Narrative WQO Policy contained in Chapter 4 is included in this introductory section, as well as a summary of its purpose and use. Other minor editorial revisions, such as revision to the heading for consistency with other headings, are also proposed to improve readability.

The Water Quality Objectives chapter contains seventeen water quality objectives that apply to the protection of surface waters in the Region. Nine of these objectives require minor revisions for the reasons detailed below. Additionally, the objectives will be rearranged and presented in alphabetical order for the user’s convenience.

3.6.1 “Bacteria” Objective

No revisions to the bacteria objective are proposed as part of this amendment. Significant substantive revisions, which will be addressed at a future date, are required to appropriately update this objective. These revisions have been postponed until an objective with statewide applicability is adopted by the State Water Board as part of their ongoing effort to update freshwater bacteria standards.

The issue of updating the bacteria objective for surface waters has been included on the Triennial Review list since 2001 and its importance was reaffirmed on the 2011 Triennial Review list. To complete development of the proposed pathogen Total Maximum Daily Load (TMDL) for the Russian River by the scheduled date of 2014, the Regional Water Board may need to address this issue independent of the state's action.

3.6.2 “Biostimulatory Substances” Objective

No revisions proposed to the existing language.

3.6.3 Revisions to “Chemical Constituents” Objective

The existing chemical constituents objective for surface waters applies to waters with the domestic and municipal supply (MUN) and agriculture supply (AGR) beneficial uses and also to individual waters. Waters with MUN beneficial uses must comply, at a minimum, with Table 3-2 in the Basin Plan, while waters with AGR uses must not contain concentrations of chemical constituents in amounts which adversely affect such beneficial use.

For years, Regional Water Board staff has struggled with the outdated values contained in Table 3-2 and has relied on footnote 2 to the Table in order develop and include appropriately protective limits in permits, orders, and other regulatory actions. Footnote 2 to Table 3-2 specifies that other more stringent criteria and protective policies may be applied, such as SIP, Resolution No. 92-49, and cancer potency factors, as examples.

Furthermore, while the existing chemical constituents objective specifies numeric values for MUN and a general narrative objective for AGR, the existing objective includes no guidance for developing effluent limits to protect uses other than MUN and AGR. Other beneficial uses of water which may be more sensitive to chemical exposures than MUN and AGR include, but are not limited to: COMM, SHELL, FISH, CUL, COLD, SPWN, WILD or RARE. In addition, the numeric criteria contained in Table 3-2 for the protection of MUN are based on the MCLs developed by the CDPH. Other numeric thresholds such as the cancer potency factors developed by OEHHA, may provide greater protection of drinking water for some parameters.

When developing permits, orders and other regulatory actions, Regional Water Board staff identifies the numeric threshold necessary to protect the most sensitive beneficial uses of the water in question. This has been the case for many years, as demonstrated with examples in Tables 1 through 3 contained in Appendix E. This proposed amendment seeks to clarify the longstanding procedure within the framework of the Basin Plan so as to provide regulatory transparency. To ensure a transparent, long-lasting chemical constituents objective, staff proposes to eliminate the outdated numeric criteria in Table 3-2 and transform the chemical constituents objective into a narrative objective for the protection of beneficial uses and prevention of nuisance. Staff also proposes to add to Chapter 4 of the Basin Plan, a policy for the translation of narrative objectives into numeric limits, relying on compilations of up-to-date science as

represented by “A Compilation of Water Quality Goals” and ensuring the use of MCLs as a minimum.

Existing and proposed chemical constituents objectives are presented below.

3.6.3.1 Existing Basin Plan “Chemical Constituents” Objective:

Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Division 4, Article 4, Section 64435 (Tables 2 and 3), and Section 64444.5 (Table 5), and listed in Table 3-2 of this Plan.

Waters designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts which adversely affect such beneficial use.

Numerical water quality objectives for individual waters are contained in Table 3-1.

3.6.3.2 Proposed “Chemical Constituents” Objective indicating changes:

~~Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Division 4, Article 4, Section 64435 (Tables 2 and 3), and Section 64444.5 (Table 5), and listed in Table 3-2 of this Plan.~~

~~Waters designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts which cause nuisance or adversely affect such beneficial uses.~~

~~Numerical water quality objectives for individual waters are contained in Table 3-1, 3-1a, and 3-1b.~~

3.6.4 “Color” Objective

No revisions proposed to the existing language.

3.6.5 Revisions to “Dissolved Oxygen” Objective

Regional Water Board staff recommends an editorial revision to the existing dissolved oxygen objective. The proposed revision includes adding a reference to Table 3-1a, which was recently amended into the Basin Plan as part of the site-specific dissolved oxygen objective for the mainstem Klamath River.

3.6.6 “Floating Material” Objective

No revisions proposed to the existing language.

3.6.7 “Oil and Grease” Objective

No revisions proposed to the existing language.

3.6.8 Revisions to “Pesticides” Objective

References to Title 22 and Table 3-2 will be deleted from this objective. It is replaced in the introduction to this section with a reference to the Narrative Water Quality Objectives Policy.

Existing and proposed pesticides objectives are presented below.

3.6.8.1 Existing Basin Plan “Pesticides” Objective:

No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations found in bottom sediments or aquatic life.

Waters designated for use as domestic or municipal supply shall not contain concentrations of pesticides in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64444.5 (Table 5), and listed in Table 3-2 of this Plan.

3.6.8.2 Proposed “Pesticides” Objective Indicating Changes:

Waters shall not contain any ~~No~~ individual pesticide or combination of pesticides ~~shall be present~~ in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations found in bottom sediments or aquatic life.

~~Waters designated for use as domestic or municipal supply shall not contain concentrations of pesticides in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64444.5 (Table 5), and listed in Table 3-2 of this Plan.~~

3.6.9 Revisions to “pH” Objective

Minor revisions proposed for the pH objective include removal of the word “designated” and the use of complete beneficial use names (e.g., inland saline water habitat), along with abbreviations (SAL), instead of abbreviations alone. Elimination of the word “designated” is necessary as the inclusion of this language could suggest an intention to omit certain beneficial uses which must be protected, such as those with existing, though not designated, beneficial uses. Complete beneficial use names will be added throughout the proposed amendment as appropriate.

3.6.10 Revisions to “Radioactivity” Objective

The narrative portion of the Radioactivity objective will be retained with only slight editorial revision for consistency. But, reference to Title 22 and the table contained within the objective which presents maximum contaminant levels in pCi/L will be deleted since Title 22 is referenced in the Narrative WQO Policy. A reference to the proposed Narrative WQO Policy is added to the introduction to this section.

Existing and proposed radioactivity objectives are presented below.

3.6.10.1 Existing Basin Plan “Radioactivity” Objective:

Radionuclides shall not be present in concentrations which are deleterious to human, plant, animal or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or indigenous aquatic life.

Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64443, Table 4, and listed below:

MCL Radioactivity

<u>Constituent</u>	Maximum Contaminant Level, pCi/L
Combined Radium 226 and Radium 228.....	5

Gross Alpha particle activity	15
(including Radium 226 but excluding Radon and Uranium)	
Tritium	20,000
Strontium 90	8
Gross Beta particle activity	50
Uranium	20

3.6.10.2 Proposed “Radioactivity” Objective Indicating Changes:

~~Waters shall not contain r~~Radionuclides shall not be present in concentrations which are deleterious to human, plant, animal or aquatic life nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or indigenous aquatic life.

~~Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64443, Table 4, and listed below:~~

MCL Radioactivity

Constituent	Maximum Contaminant Level, pCi/L
Combined Radium 226 and Radium 228.....	5
Gross Alpha particle activity	15
— (including Radium 226 but excluding Radon and Uranium)	
Tritium	20,000
Strontium 90	8
Gross Beta particle activity	50
Uranium	20

3.6.11 “Sediment” Objective

No revisions proposed to the existing language.

3.6.12 “Settable Material” Objective

No revisions proposed to the existing language.

3.6.13 “Suspended Sediment” Objective

No revisions proposed to the existing language.

3.6.14 Revisions to “Tastes and Odors” Objective

References to numeric water quality objectives established by Department of Health Services and the U.S. EPA, as well as the reference to waste discharge requirements and other orders, will be removed from this objective to provide a more concise definition. To accomplish this, staff proposes to eliminate the second paragraph of the current objective. A reference to the proposed Narrative WQO Policy is added to the introduction to this section.

3.6.14.1 Existing Basin Plan “Taste and Odor” Objective:

Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses. Numeric water quality objectives with regards to taste and odor thresholds have been developed by the State Department of Health Services and the U.S. EPA. These numeric objectives, as well as those available in the technical literature, are incorporated into waste discharge requirements and cleanup and abatement orders as appropriate.

3.6.14.2 Proposed “Taste and Odor” Objective Indicating Changes:

Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses. ~~Numeric water quality objectives with regards to taste and odor thresholds have been developed by the State Department of Health Services and the U.S. EPA. These numeric objectives, as well as those available in the technical literature, are incorporated into waste discharge requirements and cleanup and abatement orders as appropriate.~~

3.6.15 Revisions to “Temperature” Objective

Minor revisions to the existing temperature objective are proposed to improve readability and correct outdated information. The reference to the State Water Board’s *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate*

Waters and Enclosed Bays of California as an appendix to the Basin Plan will be deleted. Instead, the reader will be referred to the State Water Board website as state plans and policies will no longer be included as appendices to the Basin Plan. A reference to the existing site-specific temperature objectives for the Upper Trinity River is also proposed for inclusion in the objective to provide clarity to the user.

3.6.16 Revisions to “Toxicity” Objective

The existing toxicity objective for surface waters will be refined to clarify that the objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. This language is identical to the language used in the Central Valley Region Basin Plan (Region 5).

In addition, the reference to a specific edition of *Standard Methods for the Examination of Water and Wastewater* will be changed to “latest edition.” This revision will ensure that the most current version provides the regulatory framework, not an outdated version, as can occur if a specific edition is referenced without qualification.

Existing and proposed toxicity objectives are presented below.

3.6.16.1 Existing Basin Plan “Toxicity” Objective:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in “Standard Methods for the Examination of Water and Wastewater”, 18th Edition (1992). As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96 hour bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.

3.6.16.2 Proposed “Toxicity” Objective Indicating Changes:

All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective shall be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same waterbody in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in ~~“Standard Methods for the Examination of Water and Wastewater”, 18th Edition (1992).~~ Standard Methods for the Examination of Water and Wastewater, latest edition (American Public Health Association, et al.). As a minimum, compliance with this objective ~~as stated in the previous sentence~~ shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed. Where appropriate, additional numerical receiving water objectives for specific toxicants will be established. As sufficient data become available, and-source control of toxic substances will be encouraged~~required~~.

3.6.17 “Turbidity” Objective

No revisions proposed to the existing language.

3.7 Revisions to Tables 3-1 and 3-1a - “Specific Water Quality Objectives”

Table 3-1 footnote 5 currently contains the site-specific temperature objectives for the Upper Trinity River. The information presented in this footnote will be reformatted as a stand-alone table (Table 3-1b), similar to the format used for the site-specific Klamath River dissolved oxygen (DO) objective. This change will require renumbering of the remaining Table 3-1 footnotes. In addition, the “50% lower limit” DO value presented for the South Fork Eel River will be corrected to read “10.0” (from "0.0"). The “1” was inadvertently omitted during a previous reformatting of the Basin Plan.

The title, *Site-Specific Objectives (SSOs) for Dissolved Oxygen in the Mainstem Klamath River*, will be added to Table 3-1a for clarity and to facilitate placement into the Table of Contents.

The site-specific tables (Tables 3-1, 3-1a, and 3-1b) will be relocated to the end of the chapter to improve readability.

3.8 Deletion of Table 3-2 - “Inorganic, Organic, and Fluoride Concentrations Not to be Exceeded in Domestic or Municipal Supply”

The deletion of Table 3-2 is consistent with the revisions and updates made to the chemical constituents objectives for both surface waters and groundwaters. Fifty-one numeric objectives adopted to protect waters with the beneficial use municipal and domestic supply (MUN) are identified in Table 3-2 - *Inorganic, Organic and Fluoride Concentrations Not to Be Exceeded in Domestic or Municipal Water Supply*. The numeric objectives in Table 3-2 are based upon the Maximum Contaminant Levels (MCLs) that were specified in Title 22 of the California Code of Regulations at the time Table 3-2 was adopted or last revised. MCLs are established for drinking water protection only and are not necessarily protective of aquatic life or other beneficial uses. Updates that have been made to these regulations, such as additional constituents and changes to MCL values, have not been explicitly incorporated into the Basin Plan. In addition, only 27 of the 126 priority pollutants included in the National Toxics Rule (NTR) and California Toxics Rule (CTR) are included in this table of chemical constituents which affect waters with the beneficial use municipal and domestic supply.

The presence of the outdated and incomplete information contained in Table 3-2, *Inorganic, Organic, and Fluoride Concentrations Not to be Exceeded in Domestic or Municipal Supply*, of the Basin Plan results in confusion and inefficiencies affecting staff and the public’s time and resources. To alleviate this problem, staff recommends that Table 3-2 and all references to it be deleted from the Basin Plan. In its place, staff recommends that the Board consider adoption of a revised narrative chemical constituents objective and the proposed Narrative WQO Policy for the purpose of translating narrative objectives into numeric limits in permits, orders, and other regulatory actions. The combination of a narrative chemical constituents objective and the Narrative WQO Policy not only better reflects the staff’s current practice, it will lead to less confusion when developing limits in permits, orders, and other regulatory actions.

Staff recommends that Table 3-2 and all references to it be deleted from the Basin Plan for the following reasons:

- The values listed in Table 3-2 were first derived during the mid-1970s and are based on the Maximum Contaminant Level (MCL) values listed in California Code of Regulations (CCR) Title 22 at the time. Staff conducted a review of the MCLs in Table 3-2 and determined that a large number of the values presented

in Table 3-2 are no longer appropriate as they do not accurately reflect MCLs currently listed in Title 22.

- Additional and new chemical constituents and their MCLs have been added to the CCR since the adoption of Table 3-2. The chemical constituents listed in the CCR will continue to expand. Established MCL values are always subject to future revision.
- The process by which the Regional Water Board staff currently translates narrative objectives into numeric limits for incorporation into permits, orders, or other regulatory actions is not clearly apparent to the regulated community and other stakeholders as the values set in permits, orders, etc. may not coincide with the values listed in Table 3-2. Values differing from those listed in Table 3-2 are the result of access to updated threshold values found in, for example, current Title 22 regulation (MCLs and SMCLs) and CTR. Staff is currently using the same basic process that is outlined in the proposed Narrative WQO Policy to make these determinations for the Board's consideration. Thus, the proposed Narrative WQO Policy is being added to provide transparency and articulate the regulatory process that staff is currently using when drafting permits, orders, etc.
- Presented with its current title, Table 3-2, and the regulation of the chemical constituents contained in the table, appears to apply only to the protection of waters with the beneficial use municipal and domestic supply and not to provide protection for all beneficial uses of water. To compensate for this point of confusion, staff has relied on footnote number 2 to Table 3-2, to establish effluent limits for use in permits, orders, or other regulatory actions that are protective of all existing beneficial uses of water. Footnote 2 provides, in part, that more stringent objectives may apply. This has led to numerous disagreements over what constitutes a "more stringent" objective for a particular application, and a tremendous amount of staff and discharger's time has been spent resolving these disagreements. The lack of a clear and transparent policy that articulates the process staff uses to determine the appropriate numeric level has been one of the biggest causes for time delays in preparing permits, cleanup orders, etc. in the North Coast Region.
- Lead has been listed in Table 3-2 since the 1975 version of the Basin Plan. Title 22 does not currently contain an MCL for lead. Appropriate limits for lead will be determined through application of the Narrative WQO Policy.
- Fluoride MCLs currently listed in Table 3-2 are dependent on the average annual maximum daily air temperature. Title 22 no longer specifies temperature dependent MCLs for fluoride. Rather, a single MCL value for fluoride is contained in the Title 22 section pertaining to inorganic chemical MCLs.
- Table 3-2 currently contains a list of temperature dependent optimal fluoride levels. These levels apply to public water systems that are fluoridating and not to the protection of surface waters and groundwaters in the region. Therefore, these values and any references to the Title 22 section pertaining to these values are not needed in the Basin Plan.

3.9 Revision to “Water Quality Objectives for Groundwaters” Section

Staff proposes the addition of introductory language to this section of the Basin Plan. The underlined language, presented below, is being added for clarity.

In addition to the general water quality objectives and the site-specific objectives contained in Table 3-1, the following objectives shall apply to groundwaters of the North Coast Region. Water quality objectives are presented in alphabetical order. Numeric water quality limits for individual groundwaters shall be developed in accordance with the Narrative Water Quality Objective Policy contained in Chapter 4.

The heading “General Objectives” will be deleted from this section to provide consistency with other sections of the Basin Plan.

The Basin Plan currently contains four water quality objectives that apply to the protection of groundwaters in the North Coast Region. These objectives require minor revisions for the reasons explained below. A toxicity objective has also been added. Additionally, the objectives will be rearranged into alphabetical order for the reader’s convenience.

3.9.1 “Bacteria” Objective

No revisions to the bacteria objective are proposed as part of this amendment. Significant substantive revisions, which will be addressed at a future date, are required to appropriately update this objective.

3.9.2 Revisions to “Chemical Constituents” Objective

The current chemical constituents objective refers to waters with the domestic and municipal supply(MUN) and agriculture (AGR) supply beneficial uses and also to individual waters and, as such, suffers from the same inadequacies as the chemical constituents objective for surface waters. To clarify that beneficial uses other than AGR and MUN must be protected, Regional Water Board staff proposes to alter the language to more clearly apply to the protection of other beneficial uses identified in the Basin Plan. Staff also proposes to delete references to Title 22 and Table 3-2 from this objective for the same reasons set forth above in the discussion regarding the chemical constituents objective for surface waters. Narrative language is proposed which is consistent with the language used in other narrative objectives including insertion of a reference to nuisance conditions. Reference to the proposed Narrative WQO Objective is given in the introduction to this section.

Existing and proposed groundwater chemical constituents objectives are presented below.

3.9.2.1 Existing Basin Plan “Chemical Constituents” Objective:

Groundwaters used for domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64435 Tables 2 and 3, and Section 64444.5 (Table 5) and listed in Table 3-2 of this Plan.

Groundwaters used for agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use.

Numerical objectives for certain constituents for individual groundwaters are contained in Table 3-1. As part of the state's continuing planning process, data will be collected and numerical water quality objectives will be developed for those mineral and nutrient constituents where sufficient information is presently not available for the establishment of such objectives.

3.9.2.2 Proposed Groundwater “Chemical Constituents” Objective:

~~Groundwaters used for domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64435 Tables 2 and 3, and Section 64444.5 (Table 5) and listed in Table 3-2 of this Plan.~~

~~Groundwaters used for agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that cause nuisance or adversely affect such beneficial uses.~~

~~Numerical objectives for certain constituents for individual groundwaters are contained in Table 3-1. As part of the state's continuing planning process, data will be collected and numerical water quality objectives will be developed for those mineral and nutrient constituents where sufficient information is presently not available for the establishment of such objectives.~~

3.9.3 Revisions to “Radioactivity” Objective

The current objective for radioactivity refers to groundwaters with the beneficial use municipal and domestic supply (MUN). To ensure that this objective appropriately applies to all beneficial uses of groundwaters, Regional Water Board staff proposes to alter the language to more broadly refer to beneficial uses, so as to encompass all beneficial uses of waters. Reference to Title 22 will be deleted from this objective. A reference to the Narrative WQO Policy is included in the introduction to this section. Additionally, the erroneous reference to Table 3-2 that has been present in the Basin Plan since 1994 will be deleted.

Existing and proposed groundwater radioactivity objectives are presented below.

3.9.3.1 Existing Basin Plan “Radioactivity” Objective:

Groundwaters used for domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 5, Section 64443, Table 4 and listed in Table 3-2 of this Plan.

3.9.3.2 Proposed “Radioactivity” Objective:

Groundwaters used for domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in ~~excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 5, Section 64443, Table 4 and listed in Table 3-2 of this Plan~~ concentrations that adversely affect beneficial uses.

3.9.4 Revisions to “Tastes and Odors” Objective

Staff proposes to remove the language stating that State Department of Health Services and U.S. EPA numeric objectives are incorporated into waste discharge requirements and cleanup and abatement orders. To accomplish this, staff proposes to eliminate the second paragraph of the current objective. In its place, Regional Water Board staff will use the Narrative WQO Policy when narrative objectives are translated into numeric levels for use in permits, orders, or other regulatory actions as appropriate.

3.9.5 Addition of a Groundwater “Toxicity” Objective

An important component of this amendment is the addition of a narrative toxicity objective for groundwaters to the North Coast Region Basin Plan. Because there is currently no groundwater toxicity objective, Regional Water Board staff has relied on

alternative justifications and authority for establishing cleanup levels and permit limits to address toxic constituents of concern. These alternative justifications include the following:

- State and federal antidegradation provisions (Basin Plan General Water Quality Objective).
- Prohibition of nuisance conditions contained in California Water Code Section 13304.
- Existing water quality objectives for groundwater including those for chemical constituents and taste and odor.
- *Sources of Drinking Water Policy*.⁶
- *Policies and Procedures for Investigation and Cleanup of Discharges Under Water Code Section 13304*.⁷

Adopting a specific groundwater toxicity objective will provide a more effective and sound regulatory standard to address the cleanup of toxic substances in groundwaters. Several other regional boards have adopted a groundwater toxicity objective to provide for the effective regulation and cleanup of an ever-changing and expanding universe of toxic or chemical constituents in products and waste materials that threaten and adversely impact waters of the state.

The proposed toxicity objective is nearly identical to the one in effect in the Central Valley Region. It is also similar to the narrative toxicity objective for surface water, already contained in the Basin Plan. The proposed narrative toxicity objective for groundwaters would provide that all waters be maintained free of toxic substances in concentrations that may produce detrimental physiological responses in human, plant, animal, or aquatic life associated with the beneficial uses. This objective would apply regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. This objective will recognize that background levels of some toxic substances, such as the naturally occurring inorganic constituent arsenic, may be found in groundwaters. Toxic substances that are present in groundwater at naturally occurring background levels are not considered pollutants that require cleanup under the Regional Water Board's authority. However, if the groundwater aquifer was considered a source of drinking water, the California Department of Public Health would require treatment.

3.9.5.1 Proposed Groundwater "Toxicity" Objective:

Groundwaters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological

⁶ State Water Board Resolution 88-63.

⁷ State Water Board Resolution 92-49.

responses in, humans or aquatic life associated with the beneficial use(s) or that adversely impact one or more beneficial uses. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

3.10 Revisions to “Compliance with Water Quality Objectives” Section

Staff has made revisions to the Compliance with Water Quality Objectives section of the Water Quality Objectives chapter of the Basin Plan (Chapter 3). Revisions are made to ensure the section is consistent with the State Water Board’s *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*,⁸ which was adopted in 2008. Upon adoption, the State Water Board’s *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits* superseded the *Compliance Schedule Policy* contained in the Basin Plan.

In addition to the discussion on National Pollutant Discharge Elimination Systems (NPDES), language is added to provide information relative to how the Board will evaluate compliance with objectives for other Board programs (e.g., cleanups).

⁸ State Water Board Resolution 2008-0025.

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4. Proposed Revisions to Basin Plan Chapter 4 - Implementation Plans

This section of the staff report presents a discussion on the revisions to Chapter 4 (Implementation Plans) proposed as part of this Basin Plan amendment. The following information is provided to inform the reader on the scope and rationale for the recommended revisions. The proposed revisions to the Chapter 4 are included with this staff report as Appendix B (strikethrough/underline).

Both the 2007 and 2011 Triennial Reviews of the Basin Plan identified numerous issues relative to Chapter 4 that warranted staff investigation. Staff initiated a Basin Plan amendment in 2010 that addressed two primary issues. First, the need to create a policy that articulates the process the Regional Water Board uses to translate narrative water quality objectives into numeric limits or levels, and second, the need to develop a comprehensive groundwater protection policy to address the discharge of waste to land.

Due to the complexity of the issues associated with this task (and the existing structure of the Basin Plan), staff has adopted a two-phased approach to address these issues. This first phase focuses on the effort necessary to complete the revisions to water quality objectives contained in Chapter 3 (Water Quality Objectives) of the Basin Plan and the addition of the proposed *Policy for the Application of Narrative Water Quality Objectives* (Narrative WQO Policy). The addition of the Narrative WQO Policy is the most substantive revision to the Implementation Plans chapter proposed as part of the first phase of this amendment effort. The second phase will focus on the needed remaining revisions to the Implementation Plans chapter. More staff work is needed to complete development of the other revisions to Chapter 4 identified as part of the Triennial Review process. Staff will begin work on the next phase, development of an implementation program to prevent impacts to waters of the state from application of waste to land, in the near future. This effort will also include the proposed revisions necessary to address the requirements of the State Water Board's Recycled Water Policy and Onsite Waste Treatment System Policy.

The recommended revisions to the Implementation Plans chapter included as part of this amendment are presented below. These revisions include both non-substantive (editorial) and substantive revisions to the chapter.

- Addition of a new section heading, "Regionwide Policies" to be inserted at the beginning of the chapter just after the introductory language.
- Addition of a new *Policy for the Application of Narrative Water Quality Objectives* (proposed Narrative WQO Policy) under the new "Regionwide Policies" heading. The proposed policy describes the process the Regional Water Board uses when narrative objectives are translated into numeric limits for use in permits, orders, or other regulatory actions as appropriate.
- Editorial revisions to the Schedules of Compliance section to be consistent with the *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*.

Major portions of the Basin Plan are currently identified as “sections” within the text and Table of Contents of the Basin Plan. No numbering system is currently applied to lesser parts of these major portions. As part of this amendment, staff has proposed to replace the term “sections” with “chapters” to identify the major portions of the Basin Plan up through Chapter 3. These same revisions; however, will be accomplished in Chapter 4 as part of the second phase of this project. This is because the more substantial revision of Chapter 4 will be undertaken at that time.

The current page-numbering scheme of the Basin Plan was implemented to accommodate updating of hard copy Basin Plans on a page-by-page basis. The scheme utilizes numbering such as “4-9.00” and “4-10.00.” This allows an updated page to easily be inserted between these pages as page “4-9.01,” for example, without the need to replace additional pages unnecessarily. Updating hard copy Basin Plans in this manner has become an uncommon occurrence due to advances in technology and improved ways of providing updates of the Basin Plan to interested parties. Most commonly, complete chapters of the Basin Plan are published in a portable document format on the Regional Water Board website. As part of this amendment, staff proposes to replace this numbering scheme with a “3-x” format, but only for chapters up through Chapter 3. As above, these same revisions will be accomplished in Chapter 4 as part of the second phase of this project.

The information contained in the Implementation Plans chapter is currently organized under three primary headings as follows:

- Point Source Measures
- Nonpoint Source Measures
- Total Maximum Daily Loads (TMDL)

This structure does not accommodate the inclusion of the proposed Narrative WQO Policy, which is applicable to both point and nonpoint sources of pollution as well as in watersheds for which a TMDL action plan has been established. To correct this deficiency, staff recommends that a new heading, “Regionwide Policies,” be inserted before the point source measures section. The proposed Narrative WQO Policy is then inserted under this new section heading. The proposed “Aquatic Ecosystem Restoration Policy,” “Temperature Implementation Policy,” and “Groundwater Protection Policy,” also on the Triennial Review list, could be inserted under this heading following the Regional Water Board’s future consideration and approval of each of these proposed amendments.

This section of the staff report presents staff’s rationale for each of the proposed revisions to the Implementation Plans chapter.

4.1 Addition of Proposed “Policy for the Application of Narrative Water Quality Objectives”

Regional Water Board staff has identified the need to develop a Narrative WQO Policy which clearly articulates the process that staff utilizes when translating narrative water quality objectives into numeric limits in permits, orders, and other regulatory actions. The development of the Narrative WQO Policy is an attempt to reduce the confusion and disagreement, as described in section 3 of this staff report, which has sometimes been associated with the implementation of Table 3-2 numeric criteria and footnote 2 (allowing the application of more stringent objectives and policies) on a case-by-case basis, as well as the inclusion in permits, orders, and other regulatory actions limits that protect beneficial uses for which the Basin Plan currently does not provide a numeric objective. The policy is also necessary to provide transparency to the public with respect to how any of the narrative water quality objectives contained in the Basin Plan are translated into numeric criteria in permits, orders, and other regulatory actions.

Specifically, the policy is necessary to make clear that the focus of the Regional Water Board’s effort to protect water quality from chemical constituents is not restricted to the application of drinking water related maximum contaminant levels (MCLs), as suggested by the presence of a limited set of drinking water criteria derived from an older version of Title 22 contained in Table 3-2. But more fundamentally, the policy is necessary to provide transparency to the public with respect to how any of the narrative water quality objectives contained in the Basin Plan are translated into numeric criteria in permits, orders, and other regulatory actions. Narrative objectives which are translated through this step-wise process include, but are not limited to, chemical constituents, pesticides, sediment, toxicity, and radioactivity in both surface water and groundwater.

When staff recommends a constituent value for inclusion in a permit, cleanup order, or other board action; staff selects the value that protects all beneficial uses of water, including the use that is most sensitive to the constituent of concern. Often the most sensitive beneficial use is related to aquatic species protection as aquatic species are frequently affected by lower levels of a given chemical constituent than that required for drinking water supply protection. The value that protects the most sensitive use is used to derive the numeric limits used in permits, cleanup orders, or other regulatory actions as appropriate.

The Basin Plan does not currently identify the process used to select appropriate numeric values for implementing narrative objectives. A clear statement on the process the Regional Water Board uses to establish these values will facilitate the effective protection of all applicable beneficial uses of water by reducing confusion over the development of effluent limits. An outline of this process is provided as Figure 4-1.

Other regional water boards have adopted similar policies into their Basin Plans that clarify the method for selecting applicable numeric values for implementing narrative water quality objectives. In developing the proposed Narrative WQO Policy, staff incorporated elements of the Central Valley Region’s Basin Plan and the San Francisco

Bay Region's Basin Plan. The proposed Narrative WQO Policy is presented in Appendix B of this staff report.

Application of the proposed Narrative WQO Policy requires staff to identify applicable sources for relevant numeric values that are appropriate for protecting beneficial uses of the affected surface water or groundwater waterbody. A list provided as a footnote to the proposed Narrative WQO Policy includes several possible sources for numeric values including other governmental and non-governmental agencies and organizations. This list includes, but is not limited to, the following:

- California State Water Resources Control Board
- California Department of Health
- California Office of Environmental Health Hazard Assessment
- California Department of Toxic Substances Control
- University of California Cooperative Extension
- California Department of Fish and Game
- United States Environmental Protection Agency (U.S. EPA)
- U.S. Food and Drug Administration
- National Academy of Sciences
- U.S. Fish and Wildlife Service
- Food and Agricultural Organization of the United Nations
- World Health Organization

Staff has been implementing the State Implementation Policy (SIP) for setting limits in NPDES permits since 2000. The SIP implements criteria for priority toxic pollutants contained in the California Toxics Rule (CTR) promulgated by the U.S. EPA as well as other priority toxic pollutant criteria and objectives and these criteria supersede the values in Table 3-2 for surface water. The SIP applies to discharges of toxic pollutants into the inland surface waters, enclosed bays, and estuaries of California subject to regulation under the State's Porter-Cologne Water Quality Control Act and the federal Clean Water Act. The process laid out in the SIP is very similar to the process in the proposed Narrative WQO Policy. The record indicates that for more than 12 yrs a process very similar to the Narrative WQO Policy process has been used to determine water quality-based effluent limits for NPDES permits, but is not reflected in the Basin Plan. This proposed amendment seeks to rectify this problem. Table 1 contained in Appendix E provides examples of several NPDES permits beginning in 2004.

The process for writing Waste Discharge Requirements (WDRs) is laid out in the State Administrative Procedures manual. Staff incorporates site specific conditions including hydrogeologic conditions using a process which is identical to the Narrative WQO Policy process. Because WDRs are not updated as frequently as NPDES permits (i.e. 5 or 10-year cycles); the time period for which staff have been implementing the process similar to the Narrative WQO Policy is not quite as consistent as it is for NPDES permits.

Cleanup and Abatement orders (CAOs) are another type of enforcement used by the Regional Water Boards. They are used for requiring dischargers or potential dischargers to clean up the waste or to take remedial actions to prevent the discharge. Staff has been using the process laid out in the proposed Narrative WQO Policy to draft CAOs for many years. Table 2 contained in Appendix E presents information demonstrating this with examples of CAOs dating back to 1998.

The Narrative WQO Policy includes a footnote preventing its application from use in areas and during situations where superseding state or federal laws take precedent. For example, staff does not intend for the process specified in the Narrative WQO Policy to be used in the preparation of the biennial 303(d) list of water quality limited segments or the 305(b) surface water quality assessment. Section 303(d) of the federal Clean Water Act and federal regulation⁹ require states to identify waterbodies that do not meet water quality standards and are not supporting their beneficial uses. These waters are placed on the Section 303(d) List of Water Quality Limited Segments, also known as the 303(d) List of Impaired Waterbodies. The List of Water Quality Limited Segments identifies the pollutant or stressor causing impairment and establishes a schedule for developing a control plan to address the impairment. Placement on this list generally triggers development of a pollution control plan (TMDL) for each waterbody and associated pollutant/stressor on the list. There is no intention to supersede these processes with the adoption of the Narrative WQO Policy.

4.2 Revisions to “Compliance Schedule Policy”

The *Compliance Schedule Policy* presented in the Implementation Plans chapter of the Basin Plan has been superseded by the State Water Board *Policy for Compliance Schedules in NPDES Permits*.¹⁰ Revisions to the existing language are made to be consistent with the State Water Board’s policy by deleting outdated language and inserting a reference to State Water Board policy for NPDES permits and state law for non-NPDES permits.

⁹ 40 C.F.R. § 130.7.

¹⁰ State Water Board Resolution No. 2008-0025.

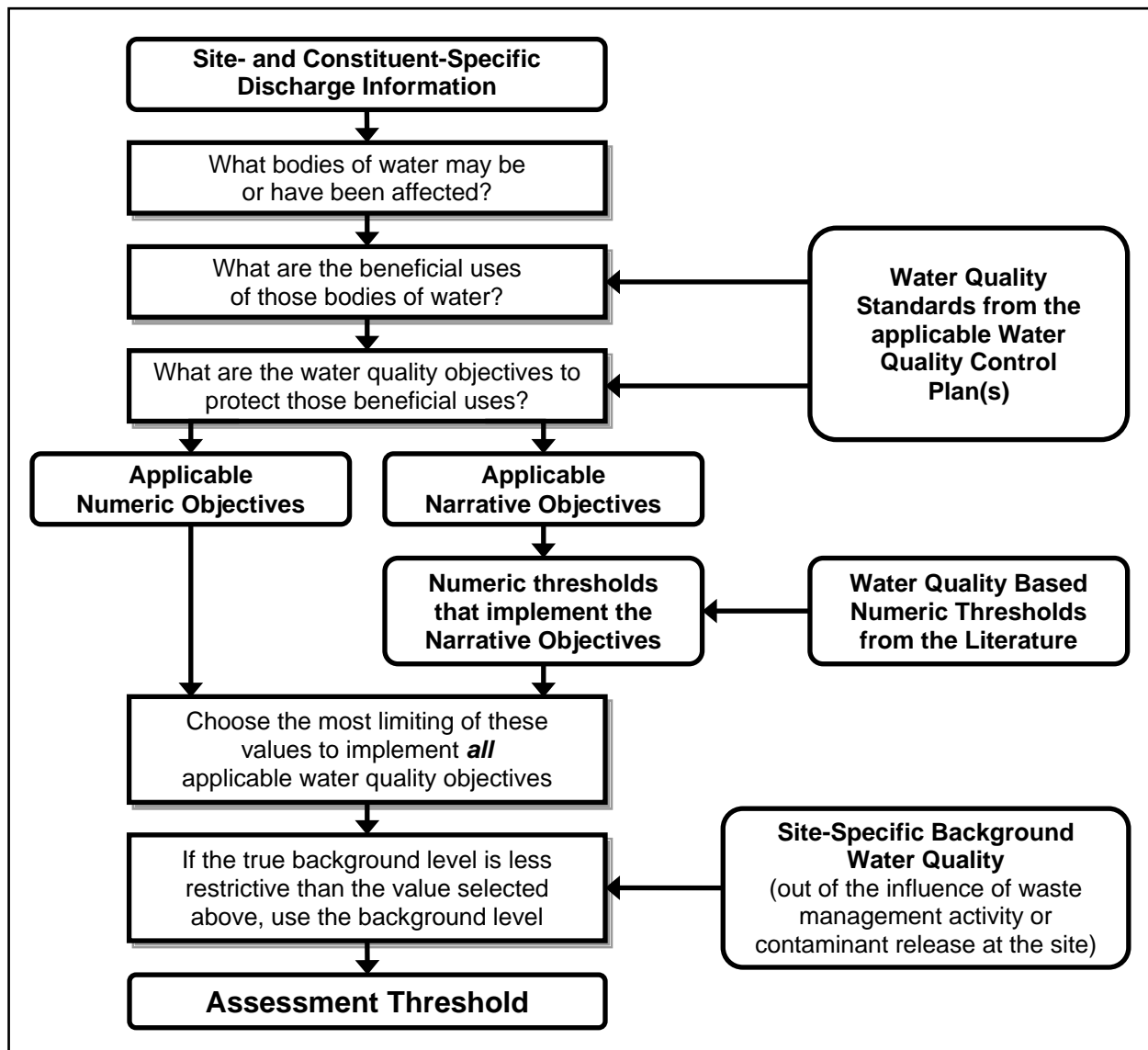


Figure 4-1. Numeric Value Selection Process for Narrative Water Quality Objectives¹¹

¹¹ Adapted from the State Water Board's *A Compilation of Water Quality Goals*, 16th Edition, April 2011

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5. Compliance with the California Environmental Quality Act

As a lead agency, the Regional Water Board is required to comply with the California Environmental Quality Act (CEQA) when considering amendments to the Basin Plan. Pursuant to section 15251(g) of the CEQA Guidelines, the Regional Water Board's basin planning process has been certified by the Secretary of Resources as exempt from the requirement to prepare an environmental impact report or initial study and negative declaration as part of the Basin Plan amendment process.¹² The State Water Board has promulgated guidelines for exempt regulatory programs that describe, in part, the environmental documentation required for the adoption or approval of plans or policies.¹³ This documentation is collectively referred to as the substitute environmental document (SED). The Draft SED shall consist of the following:

1. A written report prepared for the Regional Water Board containing an environmental analysis of the project;
2. A completed Environmental Checklist;
3. Other documentation as the Regional Water Board may include.

The Draft SED shall include, at a minimum, the following information

1. A brief description of the proposed project;
2. An identification of any significant or potentially significant adverse environmental impacts of the proposed project;
3. An analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts; and
 - a. An identification of the reasonably foreseeable methods of compliance with the project;
 - b. An analysis of any reasonably foreseeable significant adverse environmental impacts associated with those methods of compliance;
 - c. An analysis of reasonably foreseeable alternative methods of compliance that would have less significant adverse environmental impacts; and
 - d. An analysis of reasonably foreseeable mitigation measures that would minimize any unavoidable significant adverse environmental impacts of the reasonably foreseeable methods of compliance.

The environmental analysis shall take into account a reasonable range of environmental, economic, and technical factors, population and geographic areas, and specific sites. However, the Regional Water Board is not required to conduct a site-specific project level analysis of compliance methods. Nor is it required to speculate on methods of compliance that are not reasonably foreseeable.

¹² Cal. Code Regs., tit. 14, § 15251, subd. (g).

¹³ Cal. Code Regs., tit. 23, § 3777.

If the Regional Water Board determines that no fair argument exists that the project could result in any reasonably foreseeable adverse environmental impacts, the SED shall include a finding to that effect in lieu of an analysis of reasonable alternatives to the project and mitigation measures to avoid or reduce any significant or potentially significant adverse environmental impacts. Similarly, if the Regional Water Board determines that no fair argument exists that the reasonably foreseeable methods of compliance with the project could result in any reasonably foreseeable adverse environmental impacts; the SED shall include a finding to that effect in lieu of the analysis of reasonably foreseeable alternative methods of compliance and of reasonably foreseeable mitigation measures.

5.1 Description of the Proposed Project

The proposed WQO Update Amendment includes a number of actions relative to updating water quality objectives for both surface waters and groundwaters in the North Coast Region. The primary goals of the proposed WQO Update Amendment are to develop a narrative groundwater toxicity objective, to update the chemical constituents objectives for surface waters and groundwaters, and clarify the process the Regional Water Board uses when narrative objectives are translated into numeric limits for use in permits, orders, or other regulatory actions. The revisions proposed in the WQO Update Amendment are presented below.

Proposed revisions to Chapter 3 (Water Quality Objectives) are presented below:

- Addition of a new narrative toxicity objective for groundwater.
- Deletion of Table 3-2, *Inorganic, Organic, and Fluoride Concentrations Not to be Exceeded in Domestic or Municipal Supply*.
- Revision of the narrative chemical constituents objectives (surface water and groundwater) to expand its applicability to the protection of all beneficial uses.
- Revision of the opening paragraph to the section titled “Objectives for Inland Surface Waters, Enclosed Bays, and Estuaries” and the section titled “Water Quality Objectives for Groundwater” to reference the new policy, *Policy for the Application of Narrative Water Quality Objectives* (see description below), contained in Chapter 4 (Implementation Plan) .
- Minor revisions to Table 3-1, *Specific Water Quality Objectives for North Coast Region* and Table 3-1a. Includes reformatting of information contained in Table 3-1, relocating information contained in footnote 5 to a new Table 3-1b (*Specific Objectives for Temperature in the Upper Trinity River*), and addition of a title to Table 3-1a (*Site-Specific Objectives (SSOs) for Dissolved Oxygen (DO) in the Mainstem Klamath River*). All of the tables have been relocated to the end of Chapter 3 to improve readability.
- Revision of the Compliance with Water Quality Objectives section to eliminate outdated language and reference new State Water Board policy, including both a discussion on compliance with water quality objectives for NPDES and non-NPDES programs as well as a discussion on monitoring.

- Addition of references to the National Toxics Rule (NTR), California Toxics Rule (CTR), and the State Water Board *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries* (SIP) to inform the reader of their applicability to surface waters in the North Coast Region.

Proposed revisions to Chapter 4 (Implementation Plans) are presented below:

- Addition of a new section heading, “Regionwide Policies,” has been inserted at the beginning of the chapter just after the introductory language.
- Addition of a new *Policy for the Application of Narrative Water Quality Objectives* (proposed Narrative WQO Policy) under the new “Regionwide Policies” heading. The proposed policy describes the process the Regional Water Board uses when narrative objectives are translated into numeric limits for use in permits, orders, or other regulatory actions.
- Revision of the Compliance with Water Quality Objectives section to eliminate outdated language and reference new State Water Board policy for NPDES compliance schedules. Reference to state law for application of compliance schedules for non-NPDES permits and orders has been retained.

Other revisions, as presented below, have been made to Chapter 3. These revisions are consistent with editorial amendments to previous chapters of the Basin Plan and improve clarity and readability. The same editorial revisions will be made to Chapter 4 in the second phase of this project, when other more substantive revisions are proposed. At this time, the only editorial revision proposed in Chapter 4 is to rename the chapter as “Implementation Policies and Action Plans.”

- Replacement of “Section” with “Chapter” as appropriate.
- Removal of outdated or redundant information such as references to appendices no longer proposed for inclusion in the Basin Plan.
- Implementation of the chapter and section number system used in previous editorial amendments of the Basin Plan (Chapters 1 and 2).
- Revision of page numbers to remove “.00” from each page, resulting in the format “3-x.”

5.2 Identification of Significant Adverse Environmental Impacts

No significant or potentially significant adverse environmental impacts will result from the proposed WQO Update Amendment because the adoption of the WQO Update Amendment will not change the process and procedures that Regional Water Board staff currently uses when establishing limits in orders, permits, and other regulatory actions. The three main elements of the WQO Update amendment are 1) the addition of the Narrative WQO Policy, 2) the addition of a groundwater toxicity objective, and 3) the revision of the chemical constituents objective to better comport with Regional Water Board interpretation. None of these changes will impact existing regulatory programs, as described in more detail below.

The addition of the Narrative WQO Policy will formalize the process that the Board staff currently uses in establishing numeric limits from narrative objectives.. This process has been followed by Regional Water Board staff for a number of years, and allows for use of the best available science when establishing limits in permits, orders, and other regulatory actions. The process is well-described in a State Water Board document entitled “A Compilation of Water Quality Goals” and serves as the template for how staff identifies the most protective and appropriate numeric limits when interpreting narrative objectives. The Narrative WQO Policy is written broadly to capture the general process used to translate any narrative objective into numeric limits, with reference to sources of criteria, scientific literature, and compilations of data that are often used. The Narrative WQO Policy does not add any new steps or considerations to the Regional Water Board’s adoption of permits, orders, or other regulatory actions. It simply articulates the logical, step-wise process that has been used for many years.

The addition of the groundwater toxicity objective will clarify that groundwater resources are to be protected for human and aquatic life beneficial uses and that toxicity can be caused by a single substance or the interaction of multiple substances. In the absence of a toxicity objective for groundwater, Regional Water Board staff has relied on alternative justifications and authority for establishing cleanup levels and permit limits to address toxic constituents of concern, such as the federal and state anti-degradation policies and State Water Board Order No. 92-49. Adopting a specific groundwater toxicity objective will provide a sounder and more transparent regulatory standard to address the cleanup of toxic substances in groundwater. However, it will not alter the limits in permits, orders, and other regulatory actions as compared to that which is currently produced by cleanup staff using alternative justifications.

The revision of the chemical constituents objective for surface water and groundwater also results in bringing the Basin Plan up to date with the Regional Water Board’s longstanding interpretation of the language. For example, the outdated numeric criteria in Table 3-2 are typically not used in permits, orders, or other regulatory actions. Instead, footnote 2 to Table 3-2 is interpreted to mean that any more stringent criteria appropriate for the protection of sensitive beneficial uses can be used when establishing a permit, order or other regulatory action. Similarly, the combination of footnote 2 and application of the groundwater toxicity objective for surface water, often lead staff to the development of numeric criteria that protect not only the MUN beneficial use, but other beneficial uses such as aquatic life and human consumption of aquatic organisms.

Besides the addition of the Narrative WQO Policy, narrative groundwater toxicity objective, and the revision of the chemical constituents objective for surface water and groundwater, the WQO Update Amendment removes other obsolete information and revises existing language consistent with current Regional Water Board practice. These changes will have no impact on how existing regulatory programs are implemented

The three tables in Appendix E provide examples of permits and orders that have been issued in recent years. These permits and orders reflect the existing and historic use of

the process and objectives as proposed for inclusion in the Basin Plan as described in this proposed amendment.

5.3 Analysis of Reasonable Alternatives to the Proposed Activity

As explained above, the proposed WQO Update Amendment will not cause any change to the existing regulatory programs, including how limits are established in permits, orders, and other regulatory actions. The Regional Water Board has determined that no fair argument exists that the proposed WQO Update Amendment could result in any reasonably foreseeable adverse environmental impacts.

5.4 Environmental Analysis of Compliance Methods

As explained above, the proposed WQO Update Amendment is designed only to update the Basin Plan so as to reflect the Board's interpretation of water quality objectives and add clarity and transparency to the existing practices with respect to establishing numeric limits in permits, orders, and other regulatory actions. There will be no change to the existing regulatory programs as they are currently implemented, including how limits are established in permits, orders, and other regulatory actions. As such, the Regional Water Board determines that no fair argument exists that there will be any new means of compliance necessary to meet established limits.

5.5 CEQA Environmental Checklist, Staff Determination, and Findings

An environmental checklist based on the Title 14¹⁴ checklist was utilized by staff to evaluate potential impacts to earth, air, water, plant life, animal life, noise, light, land use, natural resources, risk of upset, population, housing, transportation, public services, energy, utilities and services systems, human health, aesthetics, recreation, and archeological/historical concerns. As explained above, the WQO Update Amendment will cause no changes to existing regulatory programs, including how limits are established in permits, orders, and other regulatory actions. Therefore, the environmental checklist below reflects that the proposed project will have no impact on the environment.

5.5.1 Environmental Checklist Project-Specific Information

The following section presents the project-specific information that is required as part of the Environmental Checklist.

¹⁴ Cal. Admin. Code, tit. 14, Appendix G.

- Project Title:
Proposed *Amendment to the Water Quality Control Plan for the North Coast Region to Update Water Quality Objectives* (proposed WQO Update Amendment)
- Lead Agency Name and Address:
North Coast Regional Water Quality Control Board
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403
- Contact Person and Phone Number:
Lauren Clyde, (707) 576-2674
- Project Location:
The proposed WQO Update Amendment applies to the entire North Coast Region. See Section 2.1 of this staff report for more information on the North Coast Region.
- Description of the Project:
The project is the proposed *Amendment to the Water Quality Control Plan for the North Coast Region to Update Water Quality Objectives*. See Section 5.1 of this staff report for a full description of the project.

5.5.2 CEQA Environmental Checklist

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
I. AESTHETICS -- Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. 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 project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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 project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES -- Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
V. CULTURAL RESOURCES -- Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VI. GEOLOGY AND SOILS -- Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VII. GREENHOUSE GAS EMISSIONS -- Would the project:				

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
VIII. HAZARDS AND HAZARDOUS MATERIALS -- Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project 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 project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY -- Would the project:				
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING - Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XI. MINERAL RESOURCES -- Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XII. NOISE -- Would the project 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
e) For a project 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 project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIII. POPULATION AND HOUSING -- Would the project:				
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XIV. PUBLIC SERVICES				
a) Would the project 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:				
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XV. RECREATION				
a) Would the project 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVI. TRANSPORTATION/TRAFFIC -- Would the project:				
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
XVII. UTILITIES AND SERVICE SYSTEMS -- Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE				
a) Does the project 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

5.5.3 Preliminary Staff Determination

<input checked="" type="checkbox"/>	The proposed project COULD NOT have a significant effect on the environment, and, therefore, no alternatives or mitigation measures are proposed.
<input type="checkbox"/>	The proposed project MAY have a significant or potentially significant effect on the environment, and therefore alternatives and mitigation measures have been evaluated.

5.5.4 Discussion of Environmental Checklist Findings

I. AESTHETICS – Would the project:

a) Have a substantial adverse effect on a scenic vista?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a substantial adverse effect on any scenic vistas.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in substantial damage to any scenic resources.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in degradation of the existing visual character or quality of any sites or their surroundings.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a new source of substantial lighting or glare in a project area.

II. AGRICULTURE AND FOREST RESOURCES: In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. 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 project:

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?

ANSWER: No Impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

ANSWER: No Impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in conflict with existing zoning for agricultural use, or any Williamson Act contracts.

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))?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

ANSWER: No Impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO update Amendment will not result in the loss of forest land or conversion of forest land to non-forest use.

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?

ANSWER: No Impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in changes to 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.

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 project:

a) Conflict with or obstruct implementation of the applicable air quality plan?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in any conflict with or obstruction of the implementation of any applicable air quality plans.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in the violation of any air quality standard or contribute substantially to any existing or projected air quality violation.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

d) Expose sensitive receptors to substantial pollutant concentrations?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in exposing sensitive receptors to substantial pollutant concentrations.

e) Create objectionable odors affecting a substantial number of people?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in the creation of objectionable odors affecting a substantial number of people.

IV. BIOLOGICAL RESOURCES - Would the project:

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 (CDFG) or U.S. Fish and Wildlife Service (U.S. FWS)?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in 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 (CDFG) or U.S. Fish and Wildlife Service (U.S. FWS).

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or U.S. FWS.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in substantial interference 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.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in conflict with any local policies or ordinances protecting biological resources.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in conflict with the provisions of any adopted Habitat Conservation Plan, Natural Community Conservation Plan, or approved local, regional, or state habitat conservation plan..

V. CULTURAL RESOURCES: Would the project:

a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in substantial adverse change in the significance of a historical resource as defined in § 15064.5.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in directly or indirectly destroying a unique paleontological resource or site or unique geologic feature.

d) Disturb any human remains, including those interred outside of formal cemeteries?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in the disturbance of any human remains, including those interred outside of formal cemeteries.

VI. GEOLOGY AND SOILS - Would the project:

a) 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.

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving 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.

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

ii) Strong seismic ground shaking?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking.

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

iii) Seismic-related ground failure, including liquefaction?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction.

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
iv) Landslides?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in exposing people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Neither the proposed WQO Amendment nor the reasonably foreseeable means of compliance involve moving permanent structures or people into an area potentially subject to landslides.

b) Result in substantial soil erosion or the loss of topsoil?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in substantial erosion of soils or the loss of topsoil.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a project located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Thus, the proposed WQO Update Amendment will not result in a project that would 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.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a need to access to sewer systems or septic tanks, thus this question is not applicable.

VII. GREENHOUSE GAS EMISSIONS - Would the project:

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the generation of greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a conflict with any applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

VIII. HAZARDS AND HAZARDOUS MATERIALS - Would the project:

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in creating 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.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the emission of hazardous emissions or the handling of hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a project being located on a hazardous materials site.

e) For a project 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 project result in a safety hazard for people residing or working in the project area?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a safety hazard for people residing or working in the project area.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). Implementation of the proposed WQO Update Amendment will not result in a safety hazard for people residing or working in the project area.

g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in impairing implementation of or physical interference with an adopted emergency response plan or emergency evacuation plan.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in exposing 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.

IX. HYDROLOGY AND WATER QUALITY - Would the project:

a) Violate any water quality standards or waste discharge requirements?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the violation of any water quality standards or waste discharge requirements

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)?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the substantial depletion of 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.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in substantial alteration of 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.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a substantial alteration of the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or a substantial increase in the rate or amount of surface runoff in a manner which would result in flooding.

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the creation of or contribution to runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

f) Otherwise substantially degrade water quality?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a substantial degradation of water quality.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the placement of 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.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the placement of structures which would impede or redirect flood flows within a 100-year flood hazard area.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in exposing 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.

j) Cause inundation by seiche, tsunami, or mudflow?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in causing inundation by seiche, tsunami, or mudflow.

X. LAND USE AND PLANNING - Would the project:

a) Physically divide an established community?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the physical division of an established community.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in conflict with any applicable habitat conservation plan or natural community conservation plan.

XI. MINERAL RESOURCES - Would the project:

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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.

XII. NOISE - Would the project 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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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.

b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in the exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

e) For a project 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 project expose people residing or working in the project area to excessive noise levels?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in exposing people residing or working in the project area to excessive noise levels.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in exposing people residing or working in the project area to excessive noise levels, within the vicinity of a private airstrip.

XIII. POPULATION AND HOUSING - Would the project:

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)?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in inducing substantial population growth in an area, either directly or indirectly.

b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in displacing substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.

c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in displacing substantial numbers of people, necessitating the construction of replacement housing elsewhere.

XIV. PUBLIC SERVICES:

a) Would the project 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:

i) Fire protection?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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 fire protection services.

ii) Police protection?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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 police protection services.

iii) Schools?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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 schools or school services.

iv) Parks?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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 parks or park services.

v) Other public facilities?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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 public facilities or services thereof.

XV. RECREATION:

a) Would the project 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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in an increase of 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.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a requirement to construct or expand recreational facilities which might have an adverse physical effect on the environment. Nor will the proposed WQO Update Amendment result in any project which includes recreational facilities.

XVI. TRANSPORTATION/TRAFFIC - Would the project:

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in 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.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in conflict with any applicable congestion management program.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not 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.

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a substantial increase of hazards due to a design feature or incompatible uses.

e) Result in inadequate emergency access?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in inadequate emergency access.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

XVII. UTILITIES AND SERVICE SYSTEMS - Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in an exceedance of wastewater treatment requirements of the Regional Water Board.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a requirement to construct new water or wastewater treatment facilities or expand existing facilities, the construction of which could cause significant environmental effects. Nor with the proposed WQO Update Amendment result in a project which will result in construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a requirement to construct new storm water drainage facilities or expand existing facilities, the construction of which could cause significant environmental effects. Nor will the proposed WQO Update Amendment result in a project which will result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a requirement for new or expanded water supply entitlements.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline).

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline).

g) Comply with federal, state, and local statutes and regulations related to solid waste?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline).

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:

a) Does the project 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?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in a degradation of the quality of the environment, a substantial reduction in the habitat of a fish or wildlife species, a drop in fish or wildlife population to below self-sustaining levels, a threat to eliminate a plant or animal community, a reduction of the number or restriction of the range of a rare or endangered plant or animal, or the elimination of important examples of the major periods of California history or prehistory.

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

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in projects with individually limited impacts, that when taken cumulatively, result in a considerable impact.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

ANSWER: No impact.

DISCUSSION: The revisions to the Water Quality Objectives and the Implementation Plans chapters of the Basin Plan will not result in any environmental impacts beyond what is currently occurring under the Regional Water Board's regulatory programs (current baseline). The proposed WQO Update Amendment will not result in environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly.

5.6 Economic Analysis

The California Environmental Quality Act (CEQA) requires that a consideration of economic factors be included in an environmental analysis for regulations that require installation of pollution control equipment or a performance standard.

The adoption of the proposed WQO Update Amendment, described in Sections 3 and 4 of this staff report, will not change the way the Regional Water Board staff implement programs regulate discharges, including how limits are established in permits, orders, and other regulatory actions. There are no activities associated with implementation of the proposed WQO Update Amendment beyond what is currently required of dischargers or will be required of dischargers as part of the existing regulatory programs. Therefore, there will be no additional costs incurred as a result of the adoption of the proposed WQO Update Amendment.

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6. Antidegradation Analysis

This section of the staff report provides the regulatory analyses required to determine if the proposed WQO Update Amendment is consistent with federal and state antidegradation policies.

Both U.S. EPA and the State Water Board have adopted antidegradation policies as part of an approach to develop water quality standards and regulate the discharge of waste.

Clean Water Act Section 303(c) requires that states adopt and modify, as appropriate, water quality standards for surface waters that protect public health and welfare, enhance the quality of water, and serve the purposes of the Clean Water Act. A water quality standard defines the water quality goals of a waterbody by:

- Designating the use or uses to be made of the water (beneficial uses);
- Setting numeric and/or narrative water quality objectives necessary to protect those uses; and
- Preventing degradation of water quality through antidegradation provisions.¹⁵

Water quality objectives must be based on sound scientific rationale and protect the beneficial uses of the receiving water.¹⁶ Regional water boards must adopt water quality objectives that reasonably protect beneficial uses and prevent nuisance.¹⁷

The federal antidegradation policy requires that existing instream designated uses and the level of water quality necessary to protect the existing uses be maintained and protected.¹⁸ As defined in the federal policy,¹⁹ existing uses are those uses actually attained in the waterbody on or after November 28, 1975, whether or not they are included in the water quality standards. Where, however, the quality of the water exceeds levels necessary to support propagation of fish, shellfish, and wildlife, and recreation in and out of the water, that quality must be maintained and protected unless the state finds that:

1. Such activity is necessary to accommodate important economic or social development in the area in which the waters are located;
2. Water quality is adequate to protect existing beneficial uses fully; and

¹⁵ U.S. EPA, Guidance re: Antidegradation; regulatory interpretation of 40 C.F.R. § 131.12(a)(2), March 1994.

¹⁶ 40 C.F.R. § 131.11.

¹⁷ Wat. Code § 13241.

¹⁸ 40 C.F.R. § 131.12.

¹⁹ 40 C.F.R. § 131.3(e).

3. The highest statutory and regulatory requirements for all new and existing point source discharges and all cost-effective and reasonable best management practices for nonpoint source control are achieved.²⁰

The federal policy also requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in 1968 with adoption of the *Statement of Policy for Respect to Maintaining High Quality of Waters in California* (state Antidegradation Policy).²¹ The state Antidegradation Policy is considered to incorporate the federal Antidegradation Policy where the federal policy applies.²²

The state Antidegradation Policy expresses the State Water Board's intent that the quality of existing high quality waters be maintained to the maximum extent possible. The state antidegradation Policy, unlike the federal policy, applies to both groundwater and surface waters whose quality meets or exceeds (are better than) water quality objectives.

The state Antidegradation Policy requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The state Antidegradation Policy allows for the lowering of water quality only if the change:

- Is consistent with the maximum benefit to the people of the state;
- Will not unreasonably affect present and anticipated beneficial uses of waters; and
- Will not result in water quality less than that prescribed in applicable policies.

In addition, before any degradation of water quality is permitted, it must be shown that the discharge will be required to meet waste discharge requirements that result in best practicable treatment or control of the discharge necessary to assure that:

- Pollution or nuisance will not occur;
- The highest water quality consistent with maximum benefit to the people of the state is maintained.

Issues of antidegradation are considered by the Regional Water Board when issuing, reissuing, amending, or revising permits and orders if there is the potential for water quality degradation from the discharge. Antidegradation analyses are routinely prepared as part of the Regional Water Board's permit and order adoption process. As a general matter, Regional Water Board staff has considered compliance with the federal and state antidegradation policies as part of this proposed WQO Update

²⁰ 40 C.F.R. § 131.12.

²¹ State Water Board Resolution No. 68-16.

²² State Water Board Order WQO 86-17.

Amendment, as well, and determined that the WQO Update Amendment is consistent with both federal and state antidegradation policies.

The WQO Update Amendment itself does not directly authorize any discharges to either surface waters or groundwaters. The three principal elements of the WQO Update Amendment are: 1) the addition of a groundwater toxicity objective; 2) the revision of the chemical constituents objective to delete outdated chemical specific numeric objectives and update current regulatory practice; and 3) the adoption of a Narrative WQO Policy. The groundwater toxicity objective is a narrative objective, which is subject to Narrative WQO Policy when the objective is translated into numeric form for the purpose of permits, orders, and other regulatory actions. Similarly, the chemical constituents objective has been revised to delete chemical specific numeric objectives and replace it with a narrative objective to be translated into numeric limits using the Narrative WQO Policy. The Narrative WQO Policy requires consistency with federal and state antidegradation requirements on a case-by-case basis (Step 6). As such, the application of the Narrative WQO Policy will ensure that federal and state antidegradation policies are met when discharges are authorized pursuant to the groundwater toxicity objective or other narrative objectives contained in the Basin Plan.

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7. Water Quality Objectives Analysis

This section of the staff report provides the regulatory analyses required when water quality objectives and associated implementation plans are amended into the Basin Plan. California Water Code Section 13241 requires consideration of a variety of factors when establishing a new water quality objective. California Water Code Section 13241 identifies six factors that must be analyzed when establishing a new water quality objective. These factors include:

- Past, present, and probable beneficial uses of water;
- Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;
- Water quality conditions that could reasonably be achieved through the coordinated control of all factors that affect water quality in the area;
- Economic considerations;
- The need for developing housing within the region; and
- The need to develop and use recycled water.

As part of the adoption for the proposed WQO Update Amendment one new objective (narrative groundwater toxicity objective) and two revised objectives (chemical constituents objectives for surface water and groundwater) are proposed for incorporation into the Basin Plan. Therefore Regional Water Board staff has determined that an analysis pursuant to Section 13241 is required as part of the WQO Update Amendment. The analysis is presented below.

7.1 Past, Present, and Probable Beneficial Uses of Water in the North Coast Region

Existing and potential beneficial uses of waters in the North Coast Region are identified in the Basin Plan (Table 2-1). Surface water beneficial uses are identified for each hydrologic unit in the region. In addition, beneficial uses are identified for broad categories of waters including bays, estuaries, minor coastal streams, ocean waters, wetlands, and groundwaters. Regional water boards are required to protect beneficial uses of water²³ if they exist in a waterbody, even if they are not currently listed in Table 2-1 in the Basin Plan.²⁴

²³ Wat. Code § 13241.

²⁴ *City of Arcadia v. State Water Resources Control Bd.* (2010) 191 Cal. App. 4th 156, 170.

Groundwater beneficial uses identified in the North Coast Region (Table 2-1) include:

MUN	Municipal and Domestic Supply
AGR	Agricultural Supply
IND	Industrial Service Supply
PROC	Industrial Process Supply
AQUA	Aquaculture
CUL	Native American Cultural

Beneficial uses of surface water identified in the North Coast Region (Table 2-1) include:

MUN	Municipal and Domestic Supply
AGR	Agricultural Supply
IND	Industrial Service Supply
PRO	Industrial Process Supply
GWR	Groundwater Recharge
FRSH	Freshwater Replenishment
NAV	Navigation
POW	Hydropower Generation
REC-1	Water Contact Recreation
REC-2	Non-Contact Water Recreation
COMM	Commercial and Sport Fishing
WARM	Warm Freshwater Habitat
COLD	Cold Freshwater Habitat
ASBS	Preservation of Areas of Special Biological Significance
SAL	Inland Saline Water Habitat
WILD	Wildlife Habitat
RARE	Rare, Threatened or Endangered Species
MAR	Marine Habitat
MIGR	Migration of Aquatic Organisms
SPWN	Spawning, Reproduction, and/or Early Development
SHELL	Shellfish Harvesting
EST	Estuarine Habitat
AQUA	Aquaculture
CUL	Native American Culture
FLD	Flood Peak Attenuation / Flood Water Storage
WET	Wetland Habitat
WQE	Water Quality Enhancement
FISH	Subsistence Fishing

The groundwater and surface water beneficial uses identified in the Basin Plan adequately represent past, present, and probable future beneficial uses. Both the proposed groundwater toxicity objective and the chemical constituents objectives for surface waters and groundwater are designed to protect these beneficial uses. In particular, the Narrative WQO Policy describes the method by which these narrative

objectives are translated into numeric limits for permits, orders, and other regulatory actions in a manner sufficient to protect the most sensitive of the identified beneficial uses of a given waterbody. As such, the proposed objectives are fully protective of surface water and groundwater beneficial uses and reflect existing practices.

7.2 Environmental Characteristics of the Hydrographic Units

Adoption of the proposed WQO Amendment Objective will not negatively impact the hydrology or water quality of any surface waterbody or groundwater basin within the North Coast Region. Summary information on the surface water hydrological units and the groundwater basins in the region has been provided below for informational purposes.

The North Coast Hydrologic Region covers roughly 19,500 square miles, or more than 12 percent of California's land area. Mountain crests form the eastern boundary of the region while the Pacific Ocean shoreline forms the western boundary. All streams in the region empty into the Pacific Ocean. The regional Basin Plan divides the North Coast region into two natural drainage basins - the Klamath River Basin and the North Coastal Basin.

The Klamath River begins at Upper Klamath Lake in Oregon, then drains through the Klamath and Siskiyou mountains, ending at the Pacific Ocean about 20 miles south of Crescent City. Major California tributaries of the Klamath include the Shasta, Scott, Salmon, and Trinity rivers. The Klamath watershed management area is divided into three sub-basins: Lower Klamath, Middle Klamath, and Upper Klamath.

The Lower Klamath sub-basin covers 2,564 square miles and includes the Salmon River, Blue Creek, and Klamath River delta/estuary. The Middle Klamath sub-basin covers 2,850 square miles and includes both the Shasta and Scott rivers. The Upper Klamath sub-basin is partially located in California and includes the portion of the Klamath flowing into the state from Oregon. The primary sub-watershed within the California portion of the Upper Klamath sub-basin is the Lost River watershed, which covers about 1,689 square miles.

The Trinity River is the largest tributary to the Klamath River, having a drainage basin area of about 2,900 square miles. Annual precipitation within the basin averages 57 inches.

The North Coastal Basin is divided into four watershed management areas: Humboldt Bay, Eel River, Russian/Bodega, and North Coast. The Humboldt Bay watershed management area major river systems include the Mad River and Redwood Creek. Additional waterbodies include Humboldt Bay, Mad River Slough, and coastal lagoons. Precipitation in the basin ranges from 32 to 98 inches annually.

The Eel River and its tributaries comprise the third largest river system in California. Principal tributaries include the Middle, North, and South forks of the Eel River, Black

Butte River, and the Van Duzen River. The Eel River watershed management area encompasses roughly 3,684 square miles. In most of the alluvial valleys, surface water and groundwater are closely connected. For this reason, surface water withdrawals have a substantial effect on local groundwater supplies.

The Russian/Bodega watershed management area includes the Russian River and Bodega hydrologic units including Bodega Bay, Bodega Harbor, Salmon Creek, Americano Creek, and Stemple Creek watersheds. The Russian River hydrologic unit encompasses 1,485 square miles in Mendocino and Sonoma counties. Average annual precipitation ranges from 30 to 80 inches within the area. The Bodega hydrologic unit contains streams with headwaters in the Coast Range that enter the Pacific Ocean south of the Russian River. Annual precipitation between 32 and 42 inches is common in the watershed.

The North Coast watershed management area includes rivers not included in other watershed management areas. The major watersheds are the Smith, Bear, Mattole, Ten Mile, Noyo, Big, Albion, Navarro, Garcia, and Gualala rivers and Greenwood, Elk and Alder creeks.

There are a total of sixty-two groundwater basins and sub-basins in the North Coast Region. Regional Water Board staff has categorized the groundwater basins in the North Coast Region as “small,” “medium,” and “large.” The forty-six small basins make up seventy-two percent of the designated basins by number but only sixteen percent by area, while the six large basins are only nine percent by number but forty-nine percent by area. The large basins generally have deeper and more productive aquifers than the small basins, which means that the six large basins combined probably provide significantly more than half the water produced from all the groundwater basins in the region.

In contrast to groundwater basins, percolation areas are areas in which groundwater is transmitted primarily through fractures in bedrock. These areas cover about 92.5 percent of the region. Percolation areas include almost all of the high ground as well as some lower lying areas in the region.

As explained previously in this staff report, the overall purpose of the WQO Amendment Objective is to better align the Basin Plan with existing regulatory practice and to provide greater transparency regarding how the Regional Board selects limits for use in permits, orders, and other regulatory actions. As such, the WQO will only improve how the regulatory programs protect and restore water quality in the region.

7.3 Achievable Water Quality Conditions Through the Coordinated Control of Factors

Key pollution threats to groundwater and surface water in the region include industrial wastes, leaking petroleum tanks, septic leakage, urban and agricultural runoff, forestland and urban road runoff, and the disposal of waste to land and to surface

waters. In addition to protecting the beneficial uses of groundwaters identified in the Basin Plan, protection of groundwater resources is also an important component in the protection of a number of beneficial uses associated with surface waters, such as providing cold water habitat (COLD) from inflow of cold groundwater to streams during warm summer conditions.

If the proposed WQO Update Amendment is adopted, the process used to develop numeric limits for use in permits, cleanup orders, or other regulatory programs, as the Regional Water Board deems appropriate, will be the same as that currently used by the Regional Water Board. Resulting regulatory actions following the anticipated adoption of this amendment will yield requirements equivalent to, and equally achievable to, those that result from current regulatory practice.

7.4 Economic Considerations

As explained in more detail above, the primary purpose of the WQO Update Amendment is to align the Basin Plan more closely with existing Regional Water Board practice. The WQO Update Amendment will cause no changes to the existing regulatory programs, including how limits are derived in permits, orders, and other regulatory actions. There are no activities associated with implementation of the proposed WQO Update Amendment beyond what is currently required of dischargers or will be required of dischargers as part of the existing regulatory programs. Therefore, there will be no additional costs incurred as a result of the adoption of the proposed WQO Update Amendment.

7.5 Development of Housing Within the Region

The adoption of the proposed WQO Update Amendment will have no impact on the need for, or ability to develop, housing in the North Coast Region. The proposed amendment applies only to the protection of water quality in the Region. It could possibly indirectly improve the ability to develop housing to the extent it continues to protect groundwater and surface waters which are necessary to support drinking water supplies.

7.6 Need to Develop and Use Recycled Water

The adoption of the Proposed WQO Update Amendment will not adversely impact the ability to develop and use recycled water in the Basin. In addition, the Proposed WQO Update Amendment will not change the regulatory programs and limitations that are used by the Regional Water Board to protect groundwaters with the beneficial use municipal and domestic supply.

8. Compliance with Cal. Water Code Section 106.3

Cal. Water Code section 106.3 requires that the Regional Water Board consider the established policy of the state that every human being has the right to safe, clean,

affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes when the Regional Water Board adopts or establishes policies or regulations that impact these uses of water. This Basin Plan amendment promotes this policy by requiring discharges to meet, at a minimum, maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

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9. Public Participation Plan

This section of the staff report describes the efforts of the Regional Water Board to have successful, effective, and efficient public participation in the development of the proposed WQO Update Amendment. The efforts identified in this chapter have been carried out to identify interested stakeholders and to inform the public on development of the proposed WQO Update Amendment. Regional Water Board staff worked to solicit early public comments on this proposal. Stakeholders have included landowners, residents, business owners, special interest groups, governmental officials and staff, non-governmental organizations, and other interested parties.

The primary goals of stakeholder outreach efforts are as follows:

- To communicate and inform stakeholders about the proposed Basin Plan amendment, including the status of the development of the amendment, alternatives considered, implementation program options, potential environmental impacts, and other components of the Basin Plan amendment process.
- To solicit and receive relevant and timely input from stakeholders.

9.1 Stakeholder Involvement

Regional Water Board staff used a number of avenues to provide information and opportunities for continued public involvement in the proposed WQO Update Amendment. Whenever requested, staff meets with interested stakeholders to provide updates and receive comments on the proposed WQO Update Amendment. Regional Water Board staff meet with many of the stakeholder groups that are involved with water quality issues in the region in order to seek input and communicate the status of proposed amendments, including the WQO Update Amendment. When feasible, staff attends regular meetings of established stakeholder groups, or staff organizes separate ad hoc meetings. In the case of the proposed WQO Update Amendment, a number of cities and wastewater treatment consortiums have provided input. Staff will schedule individual meetings with these groups to discuss the changes to the proposed amendment that have resulted from public input on the draft.

An informational webpage is maintained with contact information, status updates, links to available documents, public notices of meetings and comment periods, and other opportunities for stakeholder involvement.

A CEQA scoping meeting introducing the goals of the proposed WQO Update Amendment was held in Santa Rosa, California on July 8, 2010. The purpose of the meeting was to present the goals of the project and receive input from the public on the possible environmental impacts of the project. In August 2011, a notice was sent to interested stakeholders (subscribers of the Basin Plan amendment email list) announcing the posting of the public participation plan on the Regional Water Board's website.

Staff conducted public workshops in Santa Rosa and Weaverville (November 3 and 8, 2011, respectively) to update the Regional Water Board and the public on the status of the proposed WQO Update Amendment. An additional public workshop was held during the Regional Water Board's March 15, 2012 meeting.

Following an initial 45-day public comment period in February and March 2012, appropriate revisions to the staff report, including the proposed WQO Update Amendment language and the environmental checklist and analyses (referred to as the substitute environmental documentation. A second public comment period for the revised documents will commence for 45-days prior to the Regional Water Board's consideration of the proposed amendment. Staff will respond to all written comments received during the comment period beginning on February 21, 2013 and ending on April 15, 2013.

The Response to Comments document will be posted on the Regional Water Board website, and made available to the public and Board members prior to the adoption hearing. Notices of public meetings, document availability, public comment periods, and other opportunities for stakeholder involvement are sent via e-mail to interested parties that have provided their e-mail address or signed up via the web-based email list subscription form. Hard copies are provided if requested by interested parties. As required by law, public notice of the Regional Water Board hearing to consider adoption of the proposed Basin Plan amendment will be printed in a newspaper of general circulation within the region.²⁵

9.2 Regional Water Board Adoption Hearing

Regional Water Board staff plan to present the proposed WQO Update Amendment to the Regional Water Board for adoption in June 2013. During the adoption hearing, the public will be provided an additional opportunity to comment on matters related to the proposed WQO Update Amendment before the Board makes a final determination.

²⁵ 40 C.F.R. part 35.

Appendix A

This appendix contains the strikeout/underline copy version of the proposed changes to the Water Quality Objectives chapter (Chapter 3) of the Basin Plan.

3. WATER QUALITY OBJECTIVES

3.1 INTRODUCTION

~~The California Water Code, Division 7, Chapter 4, Section 13241 specifies that each The Regional Water Board is responsible for establishing water quality objectives (objectives), which in the Board's judgment are necessary for the reasonable protection of beneficial uses and the prevention of nuisance.¹ Objectives are expressed in narrative or numeric form. Objectives describe the physical, chemical, biological, bacteriological, and radiological qualities as well as other properties and characteristics of the state's water. Objectives are necessary to protect and support the beneficial uses of the state's waters, including uses associated with aquatic life, ecological functioning, and human health and welfare.~~

~~The federal Clean Water Act (33 U.S.C. § 303) requires the State to submit to the Administrator of the U.S. Environmental Protection Agency for approval all new or revised water quality standards which are established for surface and ocean waters. Under federal terminology, water quality standards consist of the beneficial uses enumerated in Table 2-1 and the water quality objectives contained in this section. The water quality objectives contained herein are designed to satisfy all state and federal requirements.~~

~~As new information becomes available, the Regional Water Board will review reviews the appropriateness of the objectives contained herein. These The Basin Plan, including these objectives will be, is subject to public hearing at least once during each three-year Triennial Review period following adoption of this Basin Plan to determineto evaluate the need for review and appropriate modification. The Triennial Review process is described in the Introduction to the Basin Plan (Chapter 1).~~

~~The water quality objectives contained herein are a compilation of objectives adopted by the State Water Board, and the Regional Water Board, and other state and federal agencies. Other water quality objectives and policies may apply that may be more stringent. Whenever several different objectives exist for the same water quality parameter, the strictest objective applies. In addition, the. The State Water Board Policy Withwith Respect to Maintaining High Quality Waters in California" also applies. The state policy incorporates the federal, commonly referred to as the state Antidegradation Policy, also applies. To protect beneficial uses where more than one objective exists for the same water quality parameter, the objective protective of the most sensitive beneficial use applies.~~

~~States are required to obtain US EPA approval of all new or revised water quality standards which are established for surface and ocean waters. Under federal~~

¹ Wat. Code § 13241.

terminology, water quality standards consist of the designated uses² of a waterbody, the water quality criteria³ necessary to protect those uses, and implementation of state and federal antidegradation policies. The beneficial uses contained in Chapter 2 and the water quality objectives contained in Chapter 3 are designed to satisfy all state and federal requirements for water quality standards.

3.2 CONTROLLABLE WATER QUALITY FACTORS

Controllable water quality factors shall conform to the water quality objectives contained herein. When other factors result in the degradation of water quality beyond the levels or limits established herein as water quality objectives, ~~then~~ controllable factors shall not cause further degradation of water quality. Controllable water quality factors are those actions, conditions, or circumstances resulting from ~~man's~~ human activities that may influence the quality of the waters of the ~~State~~ state and that may be reasonably controlled.

3.3 REGULATORY ACTIONS

One of the primary ways in which the Regional Water Board regulates controllable water quality factors is through permits, orders, and other regulatory actions imposing waste discharge limitations on site-specific and general categories of discharges and potential discharges. Water quality objectives form the basis for establishment of waste discharge the permits, orders and other regulatory actions that are subject to the Regional Water Board's authority. These permits, orders, and other regulatory actions include, but are not limited to, waste discharge requirements (including provisions required by federal law), waivers of waste discharge requirements, total maximum daily loads, waste discharge prohibitions, ~~or~~ and maximum acceptable cleanup levels.standards for all individuals and dischargers.

² Federal law uses the term "designated use" whereas state law uses the term "beneficial use."

³ Federal law uses the term "water quality criteria" whereas state law uses the term "water quality objectives."

~~These water quality objectives are considered to be necessary to protect those present and probable future beneficial uses enumerated in Table 2-1 and to protect existing high quality waters of the State. These objectives will be achieved primarily through the establishment of waste discharge requirements and through the implementation of this Basin Plan. The appropriate numeric water quality standards will be established in waste discharge orders.~~

~~The Regional Water Board, in setting waste discharge levels. When establishing requirements, in permits, orders and other regulatory actions, the Regional Water Board will consider, among other things, factors, the existing quality of receiving waters, the potential impact on beneficial uses of water within the area of influence of the discharge, the existing quality of receiving waters, or proposed discharge, and the appropriate water quality objectives. The Regional Water Board will make a finding as to the beneficial uses to be protected within the area of influence of the discharge and establish waste discharge requirements to protect those uses and to meet water quality objectives. Resolution Nos. 87-113, 89-131, and 92-135 describe the policy of the Regional Water Board regarding the specific types of waste discharge for which it will waive issuance of waste discharge requirements. These resolutions are included in the Appendix Section of this Plan.~~

Narrative water quality objectives describe, in narrative form the ambient water quality conditions necessary to protect beneficial uses. The process for interpreting narrative objectives when establishing numeric limits for a given activity is outlined in the *Policy for the Application of Narrative Water Quality Objectives* (Narrative Water Quality Objective Policy), contained in Chapter 4. The Regional Water Board uses this process when developing numeric limits in permits, and prohibitions cleanup orders, and other regulatory actions. The process in the Narrative Water Quality Objective Policy may also be useful in other contexts, but in no way limits the discretion of the Regional Water Board to apply objectives in a manner appropriate for a specific activity, project, or program.

In the issuance of cleanup and abatement orders and other regulatory actions related to cleanup of contaminated sites, the Regional Water Board requires the cleanup and abatement of discharges and threatened discharges to the extent feasible with attainment of naturally occurring background levels as the presumptive standard. Alternative cleanup levels may be authorized by the Regional Water Board if the discharger can demonstrate that it is infeasible to attain natural background levels and that the alternative cleanup level provides the maximum benefit to the people of the state, will not unreasonably affect beneficial uses of water, and will be compliant with other provisions of the Basin Plan. To authorize alternative levels of cleanup, the Regional Water Board relies on the provisions of the State Water Board *Policies and Procedures for the Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*, and the California Code of Regulations, Title 23, which can both be found at the State Water Board website.

3.4 GENERAL WATER QUALITY OBJECTIVES

The following ~~objective~~general water quality objectives shall apply to all waters of in the North Coast Region.

3.4.1 Antidegradation Policies

Whenever the existing quality of water is ~~better than~~exceeds the water quality objectives established herein, such existing high quality waters shall be maintained unless otherwise provided ~~for~~ by the provisions of the ~~State Water Resources Control Board Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California", including any revisions thereto. A copy of this policy is included verbatim in the Appendix Section of this Plan.~~State Water Resources Control Board (State Board) Resolution No. 68-16 contains the state Antidegradation Policy. It is titled the "Statement of Policy with Respect to Maintaining High Quality Waters in California and is commonly known as "Resolution 68-16."(state Antidegradation Policy).⁴ The State Water Board has interpreted Resolution No. 68-16the state Antidegradation Policy to incorporate the federal Antidegradation Policy where the federal policy applies. (State Board Order WQO 86-17). The federal policy is found at 40 CFR Section 131.12.applicable.⁵ The state and federal antidegradation policies are included as Appendices to the Basin Plancan be found at the State Water Board website.

The state Antidegradation Policy applies more comprehensively to water quality changes than the federal policy. In particular, the state ~~policy~~Antidegradation Policy applies to both groundwaters and surface waters ~~whose~~in which water quality meets or exceeds (is better than) water quality objectives. The state ~~policy~~Antidegradation Policy establishes two conditions that must be met before the quality of high quality waters may be lowered by waste discharges.

First, the state must determine that lowering the quality of high quality waters:

- Will be consistent with the maximum benefit to the people of the state;
- Will not unreasonably affect present and anticipated beneficial uses of such water; and
- Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in ~~Water Quality Control Plans~~water quality control plans).

Second, any activities that result in discharges to high quality waters are required to ~~a) meet;~~

⁴ State Water Board Resolution No. 68-16.

⁵ State Water Board Order WQO 86-17 at 15-19.

- Meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to avoid pollution or nuisance; and ~~b)~~ maintain
- Maintain the highest water quality consistent with the maximum benefit to the people of the state.

If such treatment or control results in a discharge that maintains the existing high water quality, then a less stringent level of treatment or control would not be in compliance with ~~68-16~~ the state Antidegradation Policy.

Likewise, the discharge could not be allowed under ~~Resolution 68-16~~ the state Antidegradation Policy if ~~a)~~ the:

- The discharge, even after treatment, would unreasonably affect beneficial uses; ~~or~~
- The discharge would not comply with applicable provisions of water quality control plans.

The federal Antidegradation Policy⁶ applies to surface waters regardless of the level of existing water quality. Where water quality is better than the minimum necessary to support instream existing or probable future beneficial uses of surface water, the federal policy requires that quality to be maintained and protected, unless the state finds, after ensuring public participation, that:

- Such activity is necessary to accommodate important economic or social development in the area in which the waters are located;
- Water quality is adequate to protect existing beneficial uses fully; and
- The highest statutory and regulatory requirements for all new and existing point source discharges and all cost-effective and reasonable best management practices for ~~non-point~~ nonpoint source control are achieved.

Under ~~this policy~~ the federal Antidegradation Policy, an activity that results in discharge would be prohibited if the discharge will lower the quality of surface waters that do not currently attain water quality standards.

Both the state and federal antidegradation policies acknowledge that an activity that results in a minor lowering of water quality ~~lowering~~, even if incrementally small, can result in a violation of antidegradation policies through cumulative effects, especially, ~~for example~~, when the waste is a cumulative, persistent, or bioaccumulative pollutant.

The state and federal antidegradation policies are enforceable independent of this Basin

⁶ 40 C.F.R. § 131.12.

~~Plan provision. The above summary of the state and federal antidegradation policies is provided merely for the convenience of the reader~~

3.5 WATER QUALITY OBJECTIVES FOR OCEAN WATERS

The provisions of the State Water Board's "*Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) and *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) and any revisions thereto shall apply to ocean waters within the North Coast Region. These plans can be found at the State Water Board website.

3.6 WATER QUALITY OBJECTIVES FOR INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES

Federal water quality criteria contained in the National Toxics Rule⁷ (NTR) and the California Toxics Rule⁸ (CTR) and any revisions thereto address human health and aquatic life protection and shall apply to inland surface waters, enclosed bays, and estuaries of the North Coast Region. NTR and CTR water quality criteria are implemented through the provisions of the State Water Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). This policy can be found at the State Water Board website.

In addition, the general water quality objectives, the site-specific objectives contained in Tables 3-1, 3-1a, and 3-1b, and the following objectives shall apply to inland surface waters, enclosed bays, and estuaries of the North Coast Region. Water quality objectives are in both narrative and numeric form. The Narrative Water Quality Objectives Policy (Chapter 4) describes the process by which narrative water quality objectives are translated into numeric limits in permits, orders, and other regulatory actions. The water quality objectives are presented below in alphabetical order.

3.6.1 Bacteria

The bacteriological quality of waters of the North Coast Region shall not be degraded beyond natural background levels. In no case shall coliform concentrations in waters of the North Coast Region exceed the following:

In waters designated for contact recreation (REC-1), the median fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed 50/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml (State Department of Health Services).

⁷ 40 C.F.R. § 131.36.

⁸ 40 C.F.R. § 131.38.

At all areas where shellfish may be harvested for human consumption (SHELL), the fecal coliform concentration throughout the water column shall not exceed 43/100 ml for a 5-tube decimal dilution test or 49/100 ml when a three tube decimal dilution test is used (National Shellfish Sanitation Program, *Manual of Operation*).

3.6.2 Biostimulatory Substances

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

3.6.3 Chemical Constituents

~~Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Division 4, Article 4, Section 64435 (Tables 2 and 3), and Section 64444.5 (Table 5), and listed in Table 3-2 of this Plan.~~

~~Waters designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts which cause nuisance or adversely affect such beneficial uses.~~

~~Numerical water quality objectives for individual waters are contained in Table 3-1, 3-1a, and 3-1b.~~

3.6.4 Color

Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.

3.6.5 Dissolved Oxygen

Dissolved oxygen concentrations shall conform to the limits listed in Table 3-1 and 3-1a. For waters not listed in Table 3-1 or 3-1a, and where dissolved oxygen objectives are not prescribed, the dissolved oxygen concentrations shall not be reduced below the following minimum levels at any time.:

- Waters designated WARM, MAR, or SAL5.0 mg/L
- Waters designated COLD6.0 mg/L
- Waters designated SPWN7.0 mg/L
- Waters designated SPWN during critical spawning and egg incubation periods9.0 mg/L

3.6.6 Floating Material

Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

3.6.7 Oil and Grease

Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.

3.6.8 Pesticides

Waters shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations in bottom sediments or aquatic life.

3.6.9 pH

The pH shall conform to those limits listed in Table 3-1. For waters not listed in Table 3-1 and where pH objectives are not prescribed, the pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.2 units in waters with marine habitat (MAR) or inland saline water habitat (SAL) beneficial uses nor 0.5 units within the range specified above in fresh waters with cold freshwater habitat (COLD) or warm freshwater habitat (WARM) beneficial uses.

3.6.10 Radioactivity

Waters shall not contain radionuclides in concentrations which are deleterious to human, plant, animal, or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or indigenous aquatic life.

~~Waters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64443, Table 4, and listed below:~~

MCL Radioactivity

<u>Constituent</u>	<u>Maximum Contaminant Level, pCi/L</u>
Combined Radium 226 and Radium 228.....	5
Gross Alpha particle activity..... — (including Radium 226 but excluding Radon and Uranium)	15
Tritium.....	20,000
Strontium 90.....	8
Gross Beta particle activity.....	50
Uranium.....	20

3.6.11 Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

3.6.12 Settleable Material

Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.

3.6.13 Suspended Material

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

3.6.14 Tastes and Odors

Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses.

3.6.15 Temperature

Temperature objectives for interstate waters associated with cold freshwater habitat (COLD), warm freshwater habitat (WARM), enclosed bays, and estuaries are as specified in the State Water Board *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California* (Thermal Plan) including any revisions thereto. The Thermal Plan is available at the State Water Board website.

In addition, the following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

At no time or place shall the temperature of any waters associated with cold freshwater habitat (COLD) be increased by more than 5°F above natural receiving water temperature.

At no time or place shall the temperature of intrastate waters associated with warm freshwater habitat (WARM) be increased more than 5°F above natural receiving water temperature.

Site-specific objectives for temperature in the Upper Trinity River are listed in Table 3-1b.

3.6.16 Toxicity

Waters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective shall be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same waterbody in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in *Standard Methods for the Examination of Water and Wastewater*, latest edition (American Public Health Association, et al.). As a minimum, compliance with this objective shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed. Where appropriate, additional numeric receiving water objectives for specific toxicants will be established. As sufficient data become available, source control of toxic substances may be required.

3.6.17 Turbidity

Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

3.7 WATER QUALITY OBJECTIVES FOR GROUNDWATERS

In addition to the general water quality objectives and the site-specific objectives contained in Table 3-1, the following objectives shall apply to groundwaters⁹ of the North Coast Region. The Narrative Water Quality Objectives Policy (Chapter 4) describes the process by which narrative water quality objectives are translated into numeric limits in permits, orders and other regulatory actions. The water quality objectives are presented in alphabetical order.

3.7.1 Bacteria

In groundwaters used for domestic or municipal supply (MUN), the median of the most probable number of coliform organisms over any 7-day period shall be less than 1.1 MPN/100 ml, less than 1 colony/100 ml, or absent (State Department of Health Services).

3.7.2 Chemical Constituents

Groundwaters shall not contain chemical constituents at concentrations that adversely affect beneficial uses. Numeric objectives for certain chemical constituents for individual groundwaters are contained in Table 3-1.

3.7.3 Radioactivity

Groundwaters shall not contain radionuclides at concentrations that adversely affect beneficial uses.

3.7.4 Tastes and Odors

Groundwaters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

3.7.5 Toxicity

Groundwaters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, humans or aquatic life (if associated with a beneficial use) or that adversely impact one or more beneficial uses. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

⁹ Groundwater is defined as subsurface water in soils and geologic formations that are fully saturated all or part of the year.

3.8 COMPLIANCE WITH WATER QUALITY OBJECTIVES

~~The Regional Water Board recognizes that immediate compliance with new effluent and/or receiving water NPDES permit limitations based on new, revised or newly interpreted water quality objectives or prohibitions adopted by the Regional Water Board or the State Water Resources Control Board, or with new, revised or newly interpreted water quality criteria promulgated by the U.S. Environmental Protection Agency (USEPA)⁴⁰, may not be technically and/or economically feasible⁴¹ in all circumstances.~~

~~Where the Regional Water Board determines that it is infeasible for an existing discharger⁴² to immediately comply with NPDES permit effluent limitations or where appropriate, receiving water limitations, specified to implement new, revised or newly interpreted water quality objectives, criteria or prohibitions; issuance of a schedule of compliance⁴³ may be appropriate.~~

~~Similarly, immediate compliance may not be technically and/or economically feasible for existing non-NPDES dischargers that, under new interpretation of law, are newly required to comply with new NPDES permitting requirements. Issuance of a schedule of compliance may be appropriate in these circumstances as well, to comply with effluent and/or receiving water limitations specified to implement objectives, criteria, or prohibitions that are adopted, revised, or reinterpreted after July 1, 1977, and that were not included in the non-NPDES permit.~~

~~Any schedule of compliance shall require achievement of the effluent limitations and/or receiving water limitations within the shortest feasible period of time, taking into account the factors identified in Chapter 4 for the implementation of schedules of compliance. All schedules of compliance will be limited to the time frames set out in Chapter 4.~~

The Regional Water Board recognizes that in issuing a permit, order or other regulatory action, immediate compliance with water quality objectives may not be technically and/or economically feasible in all circumstances. In such cases, the Regional Water Board, in a duly noticed public hearing, may issue a time schedule, as appropriate. Any time schedule shall require attainment of the limitations contained in the permit, order or other regulatory action and/or receiving water limitations within the shortest feasible time

⁴⁰ New, revised, or newly interpreted water quality objectives, criteria, or prohibitions means: 1) objectives as defined in Section 13050(h) of Porter-Cologne; 2) criteria as promulgated by the USEPA; or 3) prohibitions as defined in the Water Quality Control Plan for the North Coast Region that are adopted, revised, or newly interpreted after November 29, 2006. Objectives and criteria may be narrative or numeric.

⁴¹ Technical and economic feasibility shall be determined consistent with State Board Resolution No. 92-49.

⁴² Existing discharger as defined in the State "Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," (CTR-SIP) means: any discharger (non-NPDES or NPDES) that is not a new discharger. An existing discharger includes an increasing discharger (i.e., an existing facility, with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its existing permitted discharge after November 29, 2006). A new discharger includes any building, structure, facility, or installation from which there is, or may be, a discharge of pollutants, the construction of which commenced after November 29, 2006.

⁴³ Schedule of compliance: as defined in Section 502 (17) of the Clean Water Act, means: a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation, other limitation, prohibition, or standard.

period, taking into account, where appropriate, the factors identified in the State Water Board Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits,¹⁴ which can be found at the State Water Board website.

3.8.3 Monitoring and Reporting

Monitoring and reporting programs are specified in the permits, orders, and other regulatory actions of the Regional Water Board. Monitoring and reporting includes, but is not limited to, a description of the sampling and analytical methods, monitoring locations, and monitoring and reporting schedule necessary to determine compliance with the provisions of the permit, order, or other regulatory action, or the requirements of the Basin Plan. Where appropriate, the Standard Methods for the Examination of Water and Wastewater, latest edition (American Public Health Association, et al.) generally applies.

¹⁴ State Water Board Resolution No. 2008-0025.

TABLE 3-1. SITE-SPECIFIC WATER QUALITY OBJECTIVES FOR THE NORTH COAST REGION

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Lost River HA												
Clear Lake Reservoir & Upper Lost River	300	200			5.0		8.0	9.0	7.0	60	0.5	0.1
Lower Lost River	1000	700			5.0		-	9.0	7.0	-	0.5	0.1
Other Streams	250	150			7.0		8.0	8.4	7.0	50	0.2	0.1
Tule Lake	1300	900			5.0		-	9.0	7.0	400	-	-
Lower Klamath Lake	1150	850			5.0		-	9.0	7.0	400	-	-
Groundwaters ⁴	1100	500			-		-	8.5	7.0	250	0.3	0.2
Butte Valley HA												
Streams	150	100			7.0		9.0	8.5	7.0	30	0.1	0.0
Meiss Lake	2000	1300			7.0		8.0	9.0	7.5	100	0.3	0.1
Groundwaters ⁴	800	400			-		-	8.5	6.5	120	0.2	0.1
Shasta Valley HA												
Shasta River	800	600			7.0		9.0	8.5	7.0	220	1.0	0.5
Other Streams	700	400			7.0		9.0	8.5	7.0	200	0.5	0.1
Lake Shastina	300	250			6.0		9.0	8.5	7.0	120	0.4	0.2
Groundwaters ⁴	800	500			-		-	8.5	7.0	180	1.0	0.3
Scott River HA												
Scott River	350	250			7.0		9.0	8.5	7.0	100	0.4	0.1
Other Streams	400	275			7.0		9.0	8.5	7.0	120	0.2	0.1
Groundwaters ⁴	500	250			-		-	8.0	7.0	120	0.1	0.1
Salmon River HA												
All Streams	150	125			9.0		10.0	8.5	7.0	60	0.1	0.0

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ²	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Middle Klamath River HA												
Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs	425	275			Footnote 12		Footnote 12	8.5	7.0	60	0.3	0.2
Klamath River below Iron Gate Dam	350	275			Footnote 12		Footnote 12	8.5	7.0	80	0.5	0.2
Other Streams	300	150			7.0		9.0	8.5	7.0	60	0.1	0.0
Groundwaters ⁴	750	600			-		-	8.5	7.5	200	0.3	0.1
Applegate River HA												
All Streams	250	175			7.0		9.0	8.5	7.0	60	-	-
Upper Trinity River HA												
Trinity River	200	175			7.0		10.0	8.5	7.0	80	0.1	0.0
Other Streams	200	150			7.0		10.0	8.5	7.0	60	0.0	0.0
Trinity Lake & Lewiston Reservoir	200	150			7.0		10.0	8.5	7.0	60	0.0	0.0
Hayfork Creek												
Hayfork Creek	400	275			7.0		9.0	8.5	7.0	150	0.2	0.1
Other Streams	300	250			7.0		9.0	8.5	7.0	125	0.0	0.0
Ewing Reservoir	250	200			7.0		9.0	8.0	6.5	150	0.1	0.0
Groundwaters ⁴	350	225			-		-	8.5	7.0	100	0.2	0.1
S.F. Trinity River HA												
S.F. Trinity River	275	200			7.0		10.0	8.5	7.0	100	0.2	0.0
Other Streams	250	175			7.0		9.0	8.5	7.0	100	0.0	0.0
Lower Trinity River HA												
Trinity River	275	200			8.0		10.0	8.5	7.0	100	0.2	0.0
Other Streams	250	200			9.0		10.0	8.5	7.0	100	0.1	0.0
Groundwaters ⁴	200	150			-		-	8.5	7.0	75	0.1	0.1
Lower Klamath River HA												
Klamath River	300 ⁵	200 ⁵			Footnote 12		Footnote 12	8.5	7.0	75 ⁵	0.5 ⁵	0.2 ⁵
Other Streams	200 ⁵	125 ⁵			8.0		10.0	8.5	6.5	25 ⁵	0.1 ⁵	0.0 ⁵

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ²	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Groundwaters ⁴	300	225			-		-	8.5	6.5	100	0.1	0.0
Illinois River HA												
All Streams	200	125			8.0		10.0	8.5	7.0	75	0.1	0.0
Winchuck River HU												
All Streams	200 ⁵	125 ⁵			8.0		10.0	8.5	7.0	50 ⁵	0.0 ⁵	0.0 ⁵
Smith River HU												
Smith River-Main Forks	200	125			8.0		11.0	8.5	7.0	60	0.1	0.1
Other Streams	150 ⁵	125 ⁵			7.0		10.0	8.5	7.0	60 ⁵	0.1 ⁵	0.0 ⁵
Smith River Plain HSA												
Smith River	200 ⁵	150 ⁵			8.0		11.0	8.5	7.0	60 ⁵	0.1 ⁵	0.0 ⁵
Other Streams	150 ⁵	125 ⁵			7.0		10.0	8.5	6.5	60 ⁵	0.1 ⁵	0.0 ⁵
Lakes Earl & Talawa	-	-			7.0		9.0	8.5	6.5	-	-	-
Groundwaters ⁴	350	100			-		-	8.5	6.5	75	1.0	0.0
Crescent City Harbor	-	-										
Redwood Creek HU												
Redwood Creek	220 ⁵	125 ⁵	115 ⁵	75 ⁵	7.0	7.5	10.0	8.5	6.5			
Mad River HU												
Mad River	300 ⁵	150 ⁵	160 ⁵	90 ⁵	7.0	7.5	10.0	8.5	6.5			
Eureka Plain HU												
Humboldt Bay	-	-	-	-	6.0	6.2	7.0	8.5	Footnote 6			

Eel River HU												
Eel River	375 ⁵	225 ⁵	275 ⁵	140 ⁵	7.0	7.5	10.0	8.5	6.5			
Van Duzen River	375	175	200	100	7.0	7.5	10.0	8.5	6.5			
South Fork Eel River	350	200	200	120	7.0	7.5	10.0	8.5	6.5			
Middle Fork Eel River	450	200	230	130	7.0	7.5	10.0	8.5	6.5			
Outlet Creek	400	200	230	125	7.0	7.5	10.0	8.5	6.5			
Cape Mendocino HU												

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Bear River	390 ⁵	255 ⁵	240 ⁵	150 ⁵	7.0	7.5	10.0	8.5	6.5			
Mattole River	300 ⁵	170 ⁵	170 ⁵	105 ⁵	7.0	7.5	10.0	8.5	6.5			
Mendocino Coast HU												
Ten Mile River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Noyo River	185 ⁵	150 ⁵	120 ⁵	105 ⁵	7.0	7.5	10.0	8.5	6.5			
Jug Handle Creek	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Big River	300 ⁵	195 ⁵	190 ⁵	130 ⁵	7.0	7.5	10.0	8.5	6.5			
Albion River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Navarro River	285 ⁵	250 ⁵	170 ⁵	150 ⁵	7.0	7.5	10.0	8.5	6.5			
Garcia River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Gualala River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Russian River HU												
(upstream) ⁷	320	250	170	150	7.0	7.5	10.0	8.5	6.5			
(downstream) ⁸	375 ⁵	285 ⁵	200 ⁵	170 ⁵	7.0	7.5	10.0	8.5	6.5			
Laguna de Santa Rosa	-	-	-	-	7.0	7.5	10.0	8.5	6.5			

Bodega Bay	-	-	-	-	6.0	6.2	7.0	8.5	Footnote 6			
Coastal Waters ⁹	-	-	-	-	Footnote 10	Footnote 10	Footnote 10	Footnote 11	Footnote 11			

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²

¹ Waterbodies are grouped by hydrologic unit (HU), hydrologic area (HA), or hydrologic subarea (HSA).

² 50% upper and lower limits represent the 50 percentile values of the monthly means for a calendar year. 50% or more of the monthly means must be less than or equal to an upper limit and greater than or equal to a lower limit.

³ 90% upper and lower limits represent the 90 percentile values for a calendar year. 90% or more of the values must be less than or equal to an upper limit and greater than or equal to a lower limit.

⁴ Value may vary depending on the aquifer being sampled. This value is the result of sampling over time, and as pumped, from more than one aquifer.

⁵ Does not apply to estuarine areas.

⁶ pH shall not be depressed below natural background levels.

⁷ Russian River (upstream) refers to the mainstem river upstream of its confluence with Laguna de Santa Rosa.

⁸ Russian River (downstream) refers to the mainstem river downstream of its confluence with Laguna de Santa Rosa.

⁹ The State Water Board Ocean Plan applies to all North Coast Region coastal waters.

¹⁰ Dissolved oxygen concentrations shall not at any time be depressed more than 10 percent from that which occurs naturally.

¹¹ pH shall not be changed at any time more than 0.2 units from that which occurs naturally.

¹² The Site-Specific Objectives (SSOs) for dissolved oxygen (DO) have been recalculated for the mainstem Klamath River and are presented separately in Table 3-1a.

- No waterbody specific objective available.

TABLE 3-1a. SITE-SPECIFIC OBJECTIVES (SSOs) FOR DISSOLVED OXYGEN (DO) IN THE MAINSTEM KLAMATH RIVER¹

Location ²	Percent DO Saturation Based On Natural Receiving Water Temperatures ³	Time Period
Stateline to the Scott River	90%	October 1 through March 31
	85%	April 1 through September 30
Scott River to Hoopa	90%	Year round
Downstream of Hoopa-California boundary to Turwar	85%	June 1 through August 31
	90%	September 1 through May 31
Upper and Middle Estuary	80%	August 1 through August 31
	85%	September 1 through October 31 and June 1 through July 31
	90%	November 1 through May 31
Lower Estuary	For the protection of estuarine habitat (EST), the dissolved oxygen content of the lower estuary shall not be depressed to levels adversely affecting beneficial uses as a result of controllable water quality factors.	

¹ States may establish site specific objectives equal to natural background (USEPA, 1986. Ambient Water Quality Criteria for Dissolved Oxygen, EPA 440/5-86-033; USEPA Memo from Tudor T. Davies, Director of Office of Science and Technology, USEPA Washington, D.C. dated November 5, 1997). For aquatic life uses, where the natural background condition for a specific parameter is documented, by definition that condition is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans (Davies, 1997). These DO objectives are derived from the T1BSR run of the Klamath TMDL model and described in Tetra Tech, December 23, 2009 *Modeling Scenarios: Klamath River Model for TMDL Development*. They represent natural DO background conditions due only to non-anthropogenic sources and a natural flow regime.

² These objectives apply to the maximum extent allowed by law. To the extent that the State lacks jurisdiction, the Site Specific Dissolved Oxygen Objectives for the Mainstem Klamath River are extended as a recommendation to the applicable regulatory authority.

³ Corresponding DO concentrations are calculated as daily minima, based on site-specific barometric pressure, site-specific salinity, and natural receiving water temperatures as estimated by the T1BSR run of the Klamath TMDL model and described in Tetra Tech, December 23, 2009. *Modeling Scenarios: Klamath River Model for TMDL Development*. The estimates of natural receiving water temperatures used in these calculations may be updated as new data or method(s) become available. After opportunity for public comment, any update or improvements to the estimate of natural receiving water temperature must be reviewed and approved by Executive Officer before being used for this purpose.

TABLE 3-2

INORGANIC, ORGANIC, AND FLUORIDE CONCENTRATIONS NOT TO BE EXCEEDED IN DOMESTIC OR MUNICIPAL SUPPLY^{1, 2}

LIMITING CONCENTRATION IN MILLIGRAMS PER LITER

Constituent	Lower	Optimum	Upper	Maximum Contaminant Level, mg/L
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Fluoride³

53.7 and below	0.9	1.2	1.7	2.4
53.8 to 58.3	0.8	1.1	1.5	2.2
58.4 to 63.8	0.8	1.0	1.3	2.0
63.9 to 70.6	0.7	0.9	1.2	1.8
70.7 to 79.2	0.7	0.8	1.0	1.6
79.3 to 90.5	0.6	0.7	0.8	1.4

Inorganic Chemicals

* Aluminum				1.0
Arsenic				0.05
Barium				1.0
Cadmium				0.01
Chromium			0.05	
Lead				0.05
Mercury				0.002
Nitrate-N (as NO ₃)				45.
Selenium				0.01
Silver				0.05

Organic Chemicals

(a) Chlorinated Hydrocarbons

Endrin				0.0002
Lindane				0.004
Methoxychlor				0.1
Toxaphene				0.005

(b) Chlorophenoxys

2,4-D				0.1
2,4,5-TP (Silvex)				0.01

(c) Synthetics

Atrazine				0.003
Bentazon				0.018
Benzene				0.001
Carbon Tetrachloride				0.0005
Carbofuran				0.018
Chlordane				0.0001

TABLE 3-2 (CONTINUED)

INORGANIC, ORGANIC, AND FLUORIDE CONCENTRATIONS NOT TO BE EXCEEDED IN DOMESTIC OR MUNICIPAL SUPPLY^{1,2}

LIMITING CONCENTRATION IN MILLIGRAMS PER LITER	
Constituent	Maximum Contaminant Level, mg/L
(c) Synthetics (cont'd.)	
1,2-Dibromo-3-chloropropane	0.0002
1,4-Dichlorobenzene	0.005
1,1-Dichloroethane	0.005
1,2-Dichloroethane	0.0005
cis-1,2-Dichloroethylene	0.006
trans-1,2-Dichloroethylene	0.01
1,1-Dichloroethylene	0.006
1,2-Dichloropropane	0.005
1,3-Dichloropropene	0.0005
Di(2-ethylhexyl)phthalate	0.004
* Ethylbenzene	0.680
Ethylene Dibromide	0.00002
Glyphosate	0.7
Heptachlor	0.00001
Heptachlor epoxide	0.00001
Molinate	0.02
Monochlorobenzene	0.030
Simazine	0.010
1,1,2,2-Tetrachloroethane	0.001
Tetrachloroethylene	0.005
* Thiobencarb	0.07
1,1,1-Trichloroethane	0.200
1,1,2-Trichloroethane	0.032
Trichloroethylene	0.005
Trichlorofluoromethane	0.15
1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2
Vinyl Chloride	0.0005
* Xylenes ⁴	1.750

¹ Values included in this table have been summarized from California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Sections 64435 (Tables 2 and 3) and 64444.5 (Table 5).

² The values included in this table are maximum contaminant levels for the purposes of groundwater and surface water discharges and cleanup. Other water quality objectives (e.g., taste and odor thresholds or other secondary MCLs) and policies (e.g., State Water Board "Policy With Respect to Maintaining High Quality Waters in California") that are more stringent may apply.

³ Annual Average of Maximum Daily Air Temperature, °F Based on temperature data obtained for a minimum of five years. The average concentration of fluoride during any month, if added, shall not exceed the upper concentration. Naturally occurring fluoride concentration shall not exceed the maximum contaminant level.

⁴ Maximum Contaminant Level is for either a single isomer or the sum of the isomers.

* Constituents marked with an * also have taste and odor thresholds that are more stringent than the MCL listed. Taste and odor thresholds have also been developed for other constituents not listed in this table.

WATER QUALITY OBJECTIVES FOR GROUNDWATERS

General Objectives

Tastes and Odors

~~Groundwaters shall not contain taste or odor producing substances in concentrations that cause nuisance or adversely affect beneficial uses.~~

~~Numeric water quality objectives have been developed by the State Department of Health Services and U.S. EPA. These numeric objectives, as well as those available in the technical literature, are incorporated into waste discharge requirements and cleanup and abatement orders as appropriate.~~

Bacteria

~~In groundwaters used for domestic or municipal supply (MUN), the median of the most probable number of coliform organisms over any 7-day period shall be less than 1.1 MPN/100 ml, less than 1 colony/100 ml, or absent (State Department of Health Services).~~

Radioactivity

~~Groundwaters used for domestic or municipal supply (MUN) shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 5, Section 64443, Table 4 and listed in Table 3-2 of this Plan.~~

Chemical Constituents

~~Groundwaters used for domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Division 4, Chapter 15, Article 4, Section 64435 Tables 2 and 3, and Section 64444.5 (Table 5) and listed in Table 3-2 of this Plan.~~

~~Groundwaters used for agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use.~~

~~Numerical objectives for certain constituents for individual groundwaters are contained in Table 3-1. As part of the state's continuing planning process, data will be collected and numerical water quality objectives will be developed for those mineral and nutrient constituents where sufficient information is presently not available for the establishment of such objectives.~~

COMPLIANCE WITH WATER QUALITY OBJECTIVES

~~The Regional Water Board recognizes that immediate compliance with new effluent and/or receiving water NPDES permit limitations based on new, revised or newly interpreted water quality objectives or prohibitions adopted by the Regional Water Board or the State Water Resources Control Board, or with new, revised or newly interpreted water quality criteria promulgated by the U.S. Environmental Protection Agency (USEPA)¹⁵, may not be technically and/or economically feasible¹⁶ in all circumstances.~~

~~Where the Regional Water Board determines that it is infeasible for an existing discharger¹⁷ to immediately comply with NPDES permit effluent limitations or where appropriate, receiving water limitations, specified to implement new, revised or newly interpreted water quality objectives, criteria or prohibitions; issuance of a~~

~~schedule of compliance⁴⁸ may be appropriate.~~

~~Similarly, immediate compliance may not be technically and/or economically feasible for existing non-NPDES dischargers that, under new interpretation of law, are newly required to comply with new NPDES permitting requirements. Issuance of a schedule of compliance may be appropriate in these circumstances as well, to comply with effluent and/or receiving water limitations specified to implement objectives, criteria, or prohibitions that are adopted, revised, or reinterpreted after July 1, 1977, and that were not included in the non-NPDES permit.~~

~~Any schedule of compliance shall require achievement of the effluent limitations and/or receiving water limitations within the shortest feasible period of time, taking into account the factors identified in Chapter 4 for the implementation of schedules of compliance. All schedules of compliance will be limited to the time frames set out in Chapter 4.~~

**TABLE 3-1b. SITE-SPECIFIC OBJECTIVES FOR TEMPERATURE
IN THE UPPER TRINITY RIVER**

Location/River Reach	Daily Average Not to Exceed	Time Period
Lewiston Dam to Douglas City Bridge	60°F	July 1 – September 14
	56°F	September 15 – October 1
Lewiston Dam to confluence of North Fork Trinity River	56°F	October 1 - December 31

Appendix B

This appendix contains the strikethrough/underline version of the proposed changes to the Implementation Plans chapter (Chapter 4) of the Basin Plan.

Note to Readers:

- *The following provides existing and new language for Chapter 4 - Implementation Plans (Implementation Policies and Action Plans). Revisions to the Chapter are shown in strikethrough and underline format. Proposed deletions to the original Basin Plan language are shown in ~~strikethrough~~. Proposed additions are indicated by underlining. Formatting changes, such as deletion of extra spaces, reformatting of paragraphs and tables, additions of bullets, etc., are not necessarily reflected in strikethrough/underline format.*

4. IMPLEMENTATION POLICIES AND ACTION PLANS

INTRODUCTION

This chapter presents the implementation policies and action plans designed to achieve compliance with water quality objectives and protect beneficial uses of the Klamath River Basin and North Coast Regional Basin. The following measures shall be taken with respect to actual and potential point and nonpoint sources of water quality degradation.

REGIONWIDE POLICIES

Policy for the Application of Narrative Water Quality Objectives

This Policy for the Application of Narrative Water Quality Objectives describes the steps that the North Coast Regional Water Quality Control Board (Regional Water Board) takes when developing numeric limits in NPDES permits and establishing cleanup levels for contaminated surface waters and groundwaters. The process in this policy may also be useful in other contexts, but in no way limits the discretion of the Regional Water Board to apply objectives in a manner appropriate for a specific activity, project, or program.

Step 1. Determine the beneficial uses of the waterbody or waterbodies in question. The designated beneficial uses of specific waterbodies and categories of waterbodies are contained in Table 2-1 in Chapter 2 of the Basin Plan. All existing beneficial uses of a waterbody, whether designated or not, must be protected.

Step 2. For each beneficial use determined in Step 1, identify the applicable narrative water quality objectives. Applicable narrative water quality objectives are those that are designed to protect the identified beneficial uses and are contained or referenced in Chapter 3.

Step 3. For each applicable narrative water quality objective, identify the relevant scientific information necessary to translate the narrative objective into appropriate and protective numeric limits. Relevant scientific information can include site specific data (for example hydrogeologic data); water quality assessments or studies; numeric water quality criteria, standards, or guidelines developed and published by governmental and non-governmental agencies and organizations¹ and relevant peer-reviewed scientific literature. From time to time, the Regional or State Water Board compiles readily available

¹Established governmental and non-governmental agencies and organizations include, but are not limited to: California State Water Resources Control Board, California Department of Health, California Office of Environmental Health Hazard Assessment, California Department of Toxic Substances Control, University of California Cooperative Extension, California Department of Fish and Game, U.S. EPA, U.S. Food and Drug Administration, National Academy of Sciences, U.S. Fish and Wildlife Service, the Food and Agricultural Organization of the United Nations and the World Health Organization.

scientific information relevant to a specific narrative objective or objectives and makes it publically available².

Step 4. For each narrative water quality objective of concern, select the most appropriate and protective numeric limit or limits. The most appropriate and protective numeric limit or limits are the one or ones that when implemented ensure protection of the beneficial uses, attainment of the water quality objectives, prevention of nuisance, and protection of high quality waters. Primary and secondary Maximum Contaminant Levels are the presumptive numeric criteria for the protection of waters providing the MUN beneficial use, unless more stringent criteria are necessary to support a beneficial use.

Step 5. Where control of a given parameter or constituent of concern is necessary for the protection of multiple beneficial uses, the numeric limit designed to protect the most sensitive beneficial use will be selected. Where multiple toxic pollutants exist or have the potential to exist together in water, the potential for synergistic or cumulative toxic effects also exists. On a case by case basis, the Regional Water Board will evaluate available receiving water and effluent data to determine whether there is a reasonable potential for interactive or cumulative toxicity. Pollutants which are carcinogens or which manifest their toxic effects on the same organ systems or through similar mechanisms will generally be considered to have potentially additive toxicity. The potential for synergistic, cumulative and/or additive toxicity will be considered when selecting numeric limits.

Step 6. Identify all applicable policies and regulations which require further modification of the selected numeric limits or levels and revise the regulatory thresholds accordingly.

POINT SOURCE MEASURES

Waste Discharge Prohibitions

Klamath River Basin

North Coast Basin

Schedules of Compliance

The Regional Water Board recognizes that in issuing a permit, order or other regulatory action, immediate compliance with water quality objectives may not be technically and/or economically feasible in all circumstances. In such cases, the Regional Water Board, in a duly noticed public hearing, may issue a time schedule, as appropriate. Any time schedule shall require attainment of the limitations contained in the permit, order or

² For example, the State Water Board has compiled numeric water quality thresholds from the literature for over 860 chemical constituents in a document entitled *A Compilation of Water Quality Goals*. A searchable *Water Quality Goals* database is accessible on the State Water Board website. The Regional Water Board has compiled water quality thresholds from the literature for sediment-related indices and published them in a peer-reviewed report entitled *Desired Salmonid Freshwater Habitat Conditions for Sediment-Related Indices* (July 2006). This document can be found on the Regional Water Board website.

other regulatory action and/or receiving water limitations within the shortest feasible time period.

The Regional Water Board may establish a schedule of compliance³ in a National Pollution Discharge Elimination System (NPDES) permit under the following specific circumstances.⁴ The issuance of a permit containing a compliance schedule will be in accordance with the State Water Board *Policy for Compliance Schedules in NPDES Permits*⁵ and will result in discharge compliance with applicable requirements of the Clean Water Act (CWA).

- ~~1) Where an existing discharger⁶ has demonstrated, to the Regional Water Board's satisfaction, that it is infeasible to achieve immediate compliance with effluent and/or receiving water limitations specified to implement new, revised, or newly interpreted water quality objectives, criteria, or prohibitions.⁷~~
- ~~2) Where a discharger is required to comply with Total Maximum Daily Loads (TMDLs) adopted as a single permitting action,⁸ and demonstrates that it is infeasible to achieve immediate compliance with effluent and/or receiving water limits that are specified to implement new, revised or newly interpreted objectives, criteria, or prohibitions.~~

~~The schedule of compliance shall include a time schedule for completing specific actions (including interim effluent limits) that demonstrate reasonable progress toward attaining~~

³ Schedules of compliance for Non-NPDES Waste Discharge Requirements (WDRs) are independently authorized by state law, and will continue to be adopted on a case-by-case basis.

⁴ Schedules of compliance for CTR criteria are independently authorized and governed by 40 CFR 122.47 and 131.38, and the State "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California" (CTR-SIP). This amendment is intended to supplement, not supercede, these provisions required by the CTR-SIP. All CTR limits must be consistent with the CTR-SIP and applicable federal rules.

⁵ State Water Board Resolution No. 2008-0025.

⁶ ~~Existing discharger is defined in the State "Policy for Implementation of Toxic Substance Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California," (CTR-SIP) as any discharger (non-NPDES or NPDES) that is not a new discharger. An existing discharger includes an increasing discharger (i.e., an existing facility with treatment systems in place for its current discharge that is or will be expanding, upgrading, or modifying its existing permitted discharge after November 29, 2006). A new discharger includes any building, structure, facility, or installation from which there is, or may be, a discharge of pollutants, the construction of which commenced after November 29, 2006.~~

⁷ ~~New, revised, or newly interpreted water quality objectives, criteria, or prohibitions means: 1) objectives as defined in Section 13050(h) of Porter-Cologne; 2) criteria as promulgated by the United States Environmental Protection Agency (USEPA); or 3) prohibitions as defined in the *Water Quality Control Plan for the North Coast Region* that are adopted, revised, or newly interpreted after November 29, 2006. Objectives and criteria may be narrative or numeric.~~

⁸ ~~"Single permitting actions" means those where the Regional Board incorporates the requirements to implement a TMDL through one NPDES permit. These actions would not require a Basin Plan amendment, but would require a technical staff report to support the permit requirements and any permit specified compliance schedule. Furthermore, the USEPA would still be required to approve the TMDL under the federal CWA Section 303(d).~~

~~the effluent and/or receiving water limitations, water quality objectives, criteria, or prohibitions. The schedule of compliance shall contain interim limits and a final compliance date based on the shortest feasible time required to achieve compliance (determined by the Regional Water Board at a public hearing after considering the factors identified below).~~

~~Schedules of compliance in NPDES permits for existing NPDES permittees shall be as short as feasible, but in no case exceed the following:~~

- ~~— Up to five years from the date of permit issuance, re-issuance, or modification that establishes effluent and/or receiving water limitations specified to implement new, revised, or newly interpreted objectives, criteria, or prohibitions. A permittee can apply for up to a five-year extension, but only where the conditions of the schedule of compliance have been fully met, and sufficient progress toward achieving the objectives, criteria, or prohibitions has been documented.~~
- ~~— In no case shall a schedule of compliance for these dischargers exceed ten years from the effective date of the initial permit that established effluent and/or receiving water limitations specified to implement new, revised, or newly interpreted objectives, criteria, or prohibitions.~~

~~TMDL-derived effluent and/or receiving water limitations that are specified to implement new, revised, or newly interpreted water quality objectives, criteria, or prohibitions that are adopted as a single permitting action:~~

- ~~— In this scenario, schedules of compliance shall require compliance in the shortest feasible period of time, but may extend beyond ten years from the date of the permit issuance.~~

~~To document the need for and justify the duration of any such schedule of compliance, a discharger must submit the following information, at a minimum. The Regional Water Board will review the information submitted to determine if a schedule of compliance is appropriate.~~

~~For all applicants:~~

- ~~• A written request, and demonstration, with supporting data and analysis, that it is technically and/or economically infeasible⁹ to achieve immediate compliance with newly adopted, revised or newly interpreted water quality objectives, criteria or prohibitions.~~
- ~~• Results of diligent efforts to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream.~~
- ~~• Documentation of source control efforts currently underway or completed, including compliance with any pollution prevention programs that have been established.~~

⁹ ~~Technical and economic feasibility shall be determined consistent with State Board Order 92-49.~~

- ~~A proposed schedule for additional source control measures or waste treatment.~~
- ~~The highest discharge quality that is technically and economically feasible to achieve until final compliance is attained.~~
- ~~A demonstration that the proposed schedule of compliance is as short as technically and economically feasible.~~
- ~~Data demonstrating current treatment facility performance to compare against existing permit effluent limits, as necessary to determine which is the more stringent interim limit to apply if a schedule of compliance is granted.~~
- ~~Additional information and analyses, to be determined by the Regional Water Board on a case-by-case basis.~~

Appendix C

This appendix contains the clean copy version of the proposed changes to the Water Quality Objectives chapter (Chapter 3) of the Basin Plan.

3. WATER QUALITY OBJECTIVES

3.1 INTRODUCTION

The Regional Water Board is responsible for establishing water quality objectives (objectives), which in the Board's judgment are necessary for the reasonable protection of beneficial uses and the prevention of nuisance.¹ Objectives are expressed in narrative or numeric form. Objectives describe the physical, chemical, biological, bacteriological, and radiological qualities as well as other properties and characteristics of the state's water. Objectives are necessary to protect and support the beneficial uses of the state's waters, including uses associated with aquatic life, ecological functioning, and human health and welfare.

As new information becomes available, the Regional Water Board reviews the appropriateness of the objectives contained herein. The Basin Plan, including these objectives, is subject to public hearing at least once during each Triennial Review period to evaluate the need for review and appropriate modification. The Triennial Review process is described in the Introduction to the Basin Plan (Chapter 1).

The water quality objectives contained herein are a compilation of objectives adopted by the State Water Board and the Regional Water Board. Other water quality objectives and policies may apply that may be more stringent. The State Water Board *Policy with Respect to Maintaining High Quality Waters in California*, commonly referred to as the state Antidegradation Policy, also applies. To protect beneficial uses where more than one objective exists for the same water quality parameter, the objective protective of the most sensitive beneficial use applies.

States are required to obtain US EPA approval of all new or revised water quality standards which are established for surface and ocean waters. Under federal terminology, water quality standards consist of the designated uses² of a waterbody, the water quality criteria³ necessary to protect those uses, and implementation of state and federal antidegradation policies. The beneficial uses contained in Chapter 2 and the water quality objectives contained in Chapter 3 are designed to satisfy all state and federal requirements for water quality standards.

3.2 CONTROLLABLE WATER QUALITY FACTORS

Controllable water quality factors shall conform to the water quality objectives contained herein. When other factors result in the degradation of water quality beyond the levels or

¹ Wat. Code § 13241.

² Federal law uses the term "designated use" whereas state law uses the term "beneficial use."

³ Federal law uses the term "water quality criteria" whereas state law uses the term "water quality objectives."

limits established as water quality objectives, controllable factors shall not cause further degradation of water quality. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the state and that may be reasonably controlled.

3.3 REGULATORY ACTIONS

One of the primary ways in which the Regional Water Board regulates controllable water quality factors is through permits, orders, and other regulatory actions imposing waste discharge limitations on site-specific and general categories of discharges and potential discharges. Water quality objectives form the basis for the permits, orders and other regulatory actions that are subject to the Regional Water Board's authority. These permits, orders, and other regulatory actions include, but are not limited to, waste discharge requirements (including provisions required by federal law), waivers of waste discharge requirements, total maximum daily loads, waste discharge prohibitions, and maximum acceptable cleanup levels. When establishing requirements in permits, orders and other regulatory actions, the Regional Water Board will consider, among other factors, the existing quality of receiving waters, the potential impact on beneficial uses of water within the area of influence of the discharge or proposed discharge, and the appropriate water quality objectives.

Narrative water quality objectives describe, in narrative form the ambient water quality conditions necessary to protect beneficial uses. The process for interpreting narrative objectives when establishing numeric limits for a given activity is outlined in the *Policy for the Application of Narrative Water Quality Objectives* (Narrative Water Quality Objective Policy), contained in Chapter 4. The Regional Water Board uses this process when developing numeric limits in permits, cleanup orders, and other regulatory actions. The process in the Narrative Water Quality Objective Policy may also be useful in other contexts, but in no way limits the discretion of the Regional Water Board to apply objectives in a manner appropriate for a specific activity, project, or program.

In the issuance of cleanup and abatement orders and other regulatory actions related to cleanup of contaminated sites, the Regional Water Board requires the cleanup and abatement of discharges and threatened discharges to the extent feasible with attainment of naturally occurring background levels as the presumptive standard. Alternative cleanup levels may be authorized by the Regional Water Board if the discharger can demonstrate that it is infeasible to attain natural background levels and that the alternative cleanup level provides the maximum benefit to the people of the state, will not unreasonably affect beneficial uses of water, and will be compliant with other provisions of the Basin Plan. To authorize alternative levels of cleanup, the Regional Water Board relies on the provisions of the State Water Board *Policies and Procedures for the Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*, and the California Code of Regulations, Title 23, which can both be found at the State Water Board website.

3.4 GENERAL WATER QUALITY OBJECTIVES

The following general water quality objectives shall apply to all waters in the North Coast Region.

3.4.1 Antidegradation Policies

Whenever the existing quality of water exceeds the water quality objectives established herein, such existing high quality waters shall be maintained unless otherwise provided for by the provisions of the State Water Board *Statement of Policy with Respect to Maintaining High Quality of Waters in California* (state Antidegradation Policy).⁴ The State Water Board has interpreted the state Antidegradation Policy to incorporate the federal Antidegradation Policy where the federal policy is applicable.⁵ The state and federal antidegradation policies can be found at the State Water Board website.

The state Antidegradation Policy applies more comprehensively to water quality changes than the federal policy. In particular, the state Antidegradation Policy applies to both groundwaters and surface waters in which water quality meets or exceeds (is better than) water quality objectives. The state Antidegradation Policy establishes two conditions that must be met before the quality of high quality waters may be lowered by waste discharges.

First, the state must determine that lowering the quality of high quality waters:

- Will be consistent with the maximum benefit to the people of the state;
- Will not unreasonably affect present and anticipated beneficial uses of such water; and
- Will not result in water quality less than that prescribed in state policies (e.g., water quality objectives in water quality control plans).

Second, any activities that result in discharges to high quality waters are required to:

- Meet waste discharge requirements that will result in the best practicable treatment or control of the discharge necessary to avoid pollution or nuisance; and
- Maintain the highest water quality consistent with the maximum benefit to the people of the state.

If such treatment or control results in a discharge that maintains the existing high water quality, then a less stringent level of treatment or control would not be in compliance with the state Antidegradation Policy.

⁴ State Water Board Resolution No. 68-16.

⁵ State Water Board Order WQO 86-17 at 15-19.

Likewise, the discharge could not be allowed under the state Antidegradation Policy if:

- The discharge, even after treatment, would unreasonably affect beneficial uses; or
- The discharge would not comply with applicable provisions of water quality control plans.

The federal Antidegradation Policy⁶ applies to surface waters regardless of the level of existing water quality. Where water quality is better than the minimum necessary to support existing or probable future beneficial uses of surface water, the federal policy requires that quality to be maintained and protected, unless the state finds, after ensuring public participation, that:

- Such activity is necessary to accommodate important economic or social development in the area in which the waters are located;
- Water quality is adequate to protect existing beneficial uses fully; and
- The highest statutory and regulatory requirements for all new and existing point source discharges and all cost-effective and reasonable best management practices for nonpoint source control are achieved.

Under the federal Antidegradation Policy, an activity that results in discharge would be prohibited if the discharge will lower the quality of surface waters that do not currently attain water quality standards.

Both the state and federal antidegradation policies acknowledge that an activity that results in a minor lowering of water quality, even if incrementally small, can result in a violation of antidegradation policies through cumulative effects, especially when the waste is a cumulative, persistent, or bioaccumulative pollutant.

The state and federal antidegradation policies are enforceable independent of this Basin Plan provision.

3.5 WATER QUALITY OBJECTIVES FOR OCEAN WATERS

The provisions of the State Water Board *Water Quality Control Plan for Ocean Waters of California* (Ocean Plan) and *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California* (Thermal Plan) and any revisions thereto shall apply to ocean waters within the North Coast Region. These plans can be found at the State Water Board website.

⁶ 40 C.F.R. § 131.12.

3.6 WATER QUALITY OBJECTIVES FOR INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES

Federal water quality criteria contained in the National Toxics Rule⁷ (NTR) and the California Toxics Rule⁸ (CTR) and any revisions thereto address human health and aquatic life protection and shall apply to inland surface waters, enclosed bays, and estuaries of the North Coast Region. NTR and CTR water quality criteria are implemented through the provisions of the State Water Board's *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (SIP). This policy can be found at the State Water Board website.

In addition, the general water quality objectives, the site-specific objectives contained in Tables 3-1, 3-1a, and 3-1b, and the following objectives shall apply to inland surface waters, enclosed bays, and estuaries of the North Coast Region. Water quality objectives are in both narrative and numeric form. The Narrative Water Quality Objectives Policy (Chapter 4) describes the process by which narrative water quality objectives are translated into numeric limits in permits, orders and other regulatory actions. The water quality objectives are presented in alphabetical order.

3.6.1 Bacteria

The bacteriological quality of waters of the North Coast Region shall not be degraded beyond natural background levels. In no case shall coliform concentrations in waters of the North Coast Region exceed the following:

In waters designated for contact recreation (REC-1), the median fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed 50/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml (State Department of Health Services).

At all areas where shellfish may be harvested for human consumption (SHELL), the fecal coliform concentration throughout the water column shall not exceed 43/100 ml for a 5-tube decimal dilution test or 49/100 ml when a three tube decimal dilution test is used (National Shellfish Sanitation Program, *Manual of Operation*).

3.6.2 Biostimulatory Substances

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

⁷ 40 C.F.R. § 131.36.

⁸ 40 C.F.R. § 131.38.

3.6.3 Chemical Constituents

Waters shall not contain chemical constituents at concentrations that cause nuisance or adversely affect beneficial uses.

Tables 3-1, 3-1a, and 3-1b contain waterbody specific numeric water quality objectives for certain chemical constituents.

3.6.4 Color

Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses.

3.6.5 Dissolved Oxygen

Dissolved oxygen concentrations shall conform to the limits listed in Table 3-1 and 3-1a. For waters not listed in Table 3-1 or 3-1a, and where dissolved oxygen objectives are not prescribed, the dissolved oxygen concentrations shall not be reduced below the following minimum levels at any time:

- Waters designated WARM, MAR, or SAL5.0 mg/L
- Waters designated COLD6.0 mg/L
- Waters designated SPWN7.0 mg/L
- Waters designated SPWN during critical spawning and egg incubation periods9.0 mg/L

3.6.6 Floating Material

Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.

3.6.7 Oil and Grease

Waters shall not contain oils, greases, waxes, or other materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.

3.6.8 Pesticides

Waters shall not contain any individual pesticide or combination of pesticides in concentrations that adversely affect beneficial uses. There shall be no bioaccumulation of pesticide concentrations in bottom sediments or aquatic life.

3.6.9 pH

The pH shall conform to those limits listed in Table 3-1. For waters not listed in Table 3-1 and where pH objectives are not prescribed, the pH shall not be depressed below 6.5 nor raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.2 units in waters with marine habitat (MAR) or inland saline water habitat (SAL) beneficial uses nor 0.5 units within the range specified above in fresh waters with cold freshwater habitat (COLD) or warm freshwater habitat (WARM) beneficial uses.

3.6.10 Radioactivity

Waters shall not contain radionuclides in concentrations which are deleterious to human, plant, animal, or aquatic life, nor which result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or indigenous aquatic life.

3.6.11 Sediment

The suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

3.6.12 Settleable Material

Waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affect beneficial uses.

3.6.13 Suspended Material

Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses.

3.6.14 Tastes and Odors

Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance or adversely affect beneficial uses.

3.6.15 Temperature

Temperature objectives for interstate waters associated with cold freshwater habitat (COLD), warm freshwater habitat (WARM), enclosed bays, and estuaries are as specified in the State Water Board *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays of California* (Thermal Plan) including any revisions thereto. The Thermal Plan is available at the State Water Board website.

In addition, the following temperature objectives apply to surface waters:

The natural receiving water temperature of intrastate waters shall not be altered unless it can be demonstrated to the satisfaction of the Regional Water Board that such alteration in temperature does not adversely affect beneficial uses.

At no time or place shall the temperature of any waters associated with cold freshwater habitat (COLD) be increased by more than 5°F above natural receiving water temperature.

At no time or place shall the temperature of intrastate waters associated with warm freshwater habitat (WARM) be increased more than 5°F above natural receiving water temperature.

Site-specific objectives for temperature in the Upper Trinity River are listed in Table 3-1b.

3.6.16 Toxicity

Waters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective shall be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Water Board.

The survival of aquatic life in surface waters subjected to a waste discharge, or other controllable water quality factors, shall not be less than that for the same waterbody in areas unaffected by the waste discharge, or when necessary for other control water that is consistent with the requirements for "experimental water" as described in *Standard Methods for the Examination of Water and Wastewater*, latest edition (American Public Health Association, et al.). As a minimum, compliance with this objective shall be evaluated with a 96-hour bioassay.

In addition, effluent limits based upon acute bioassays of effluents will be prescribed. Where appropriate, additional numeric receiving water objectives for specific toxicants will be established. As sufficient data become available, source control of toxic substances may be required.

3.6.17 Turbidity

Turbidity shall not be increased more than 20 percent above naturally occurring background levels. Allowable zones of dilution within which higher percentages can be tolerated may be defined for specific discharges upon the issuance of discharge permits or waiver thereof.

3.7 WATER QUALITY OBJECTIVES FOR GROUNDWATERS

In addition to the general water quality objectives and the site-specific objectives contained in Table 3-1, the following objectives shall apply to groundwaters⁹ of the North Coast Region. The Narrative Water Quality Objectives Policy (Chapter 4) describes the process by which narrative water quality objectives are translated into numeric limits in permits, orders and other regulatory actions. The water quality objectives are presented in alphabetical order.

3.7.1 Bacteria

In groundwaters used for domestic or municipal supply (MUN), the median of the most probable number of coliform organisms over any 7-day period shall be less than 1.1 MPN/100 ml, less than 1 colony/100 ml, or absent (State Department of Health Services).

3.7.2 Chemical Constituents

Groundwaters shall not contain chemical constituents at concentrations that cause nuisance or adversely affect beneficial uses. Numeric objectives for certain chemical constituents for individual groundwaters are contained in Table 3-1.

3.7.3 Radioactivity

Groundwaters shall not contain radionuclides at concentrations that adversely affect beneficial uses.

3.7.4 Tastes and Odors

Groundwaters shall not contain taste- or odor-producing substances in concentrations that cause nuisance or adversely affect beneficial uses.

3.7.5 Toxicity

Groundwaters shall not contain toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in, humans or aquatic life (if associated with a beneficial use) or that adversely impact one or more beneficial uses. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

⁹ Groundwater is defined as subsurface water in soils and geologic formations that are fully saturated all or part of the year.

3.8 COMPLIANCE WITH WATER QUALITY OBJECTIVES

The Regional Water Board recognizes that in issuing a permit, order or other regulatory action, immediate compliance with water quality objectives may not be technically and/or economically feasible in all circumstances. In such cases, the Regional Water Board, in a duly noticed public hearing, may issue a time schedule, as appropriate. Any time schedule shall require attainment of the limitations contained in the permit, order or other regulatory action and/or receiving water limitations within the shortest feasible time period, taking into account, where appropriate, the factors identified in the State Water Board *Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits*,¹⁰ which can be found at the State Water Board website.

3.8.3 Monitoring and Reporting

Monitoring and reporting programs are specified in the permits, orders, and other regulatory actions of the Regional Water Board. Monitoring and reporting includes, but is not limited to, a description of the sampling and analytical methods, monitoring locations, and monitoring and reporting schedule necessary to determine compliance with the provisions of the permit, order, or other regulatory action, or the requirements of the Basin Plan. Where appropriate, the *Standard Methods for the Examination of Water and Wastewater*, latest edition (American Public Health Association, et al.) generally applies.

¹⁰ State Water Board Resolution No. 2008-0025.

TABLE 3-1. SITE-SPECIFIC WATER QUALITY OBJECTIVES FOR THE NORTH COAST REGION

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Lost River HA												
Clear Lake Reservoir & Upper Lost River	300	200			5.0		8.0	9.0	7.0	60	0.5	0.1
Lower Lost River	1000	700			5.0		-	9.0	7.0	-	0.5	0.1
Other Streams	250	150			7.0		8.0	8.4	7.0	50	0.2	0.1
Tule Lake	1300	900			5.0		-	9.0	7.0	400	-	-
Lower Klamath Lake	1150	850			5.0		-	9.0	7.0	400	-	-
Groundwaters ⁴	1100	500			-		-	8.5	7.0	250	0.3	0.2
Butte Valley HA												
Streams	150	100			7.0		9.0	8.5	7.0	30	0.1	0.0
Meiss Lake	2000	1300			7.0		8.0	9.0	7.5	100	0.3	0.1
Groundwaters ⁴	800	400			-		-	8.5	6.5	120	0.2	0.1
Shasta Valley HA												
Shasta River	800	600			7.0		9.0	8.5	7.0	220	1.0	0.5
Other Streams	700	400			7.0		9.0	8.5	7.0	200	0.5	0.1
Lake Shastina	300	250			6.0		9.0	8.5	7.0	120	0.4	0.2
Groundwaters ⁴	800	500			-		-	8.5	7.0	180	1.0	0.3
Scott River HA												
Scott River	350	250			7.0		9.0	8.5	7.0	100	0.4	0.1
Other Streams	400	275			7.0		9.0	8.5	7.0	120	0.2	0.1
Groundwaters ⁴	500	250			-		-	8.0	7.0	120	0.1	0.1
Salmon River HA												
All Streams	150	125			9.0		10.0	8.5	7.0	60	0.1	0.0

TABLE 3-1. SITE-SPECIFIC WATER QUALITY OBJECTIVES FOR THE NORTH COAST REGION (CONTINUED)

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Middle Klamath River HA												
Klamath River above Iron Gate Dam including Iron Gate & Copco Reservoirs	425	275			Footnote 12		Footnote 12	8.5	7.0	60	0.3	0.2
Klamath River below Iron Gate Dam	350	275			Footnote 12		Footnote 12	8.5	7.0	80	0.5	0.2
Other Streams	300	150			7.0		9.0	8.5	7.0	60	0.1	0.0
Groundwaters ⁴	750	600			-		-	8.5	7.5	200	0.3	0.1
Applegate River HA												
All Streams	250	175			7.0		9.0	8.5	7.0	60	-	-
Upper Trinity River HA												
Trinity River	200	175			7.0		10.0	8.5	7.0	80	0.1	0.0
Other Streams	200	150			7.0		10.0	8.5	7.0	60	0.0	0.0
Trinity Lake & Lewiston Reservoir	200	150			7.0		10.0	8.5	7.0	60	0.0	0.0
Hayfork Creek												
Hayfork Creek	400	275			7.0		9.0	8.5	7.0	150	0.2	0.1
Other Streams	300	250			7.0		9.0	8.5	7.0	125	0.0	0.0
Ewing Reservoir	250	200			7.0		9.0	8.0	6.5	150	0.1	0.0
Groundwaters ⁴	350	225			-		-	8.5	7.0	100	0.2	0.1
S.F. Trinity River HA												
S.F. Trinity River	275	200			7.0		10.0	8.5	7.0	100	0.2	0.0
Other Streams	250	175			7.0		9.0	8.5	7.0	100	0.0	0.0
Lower Trinity River HA												
Trinity River	275	200			8.0		10.0	8.5	7.0	100	0.2	0.0
Other Streams	250	200			9.0		10.0	8.5	7.0	100	0.1	0.0
Groundwaters ⁴	200	150			-		-	8.5	7.0	75	0.1	0.1

TABLE 3-1. SITE-SPECIFIC WATER QUALITY OBJECTIVES FOR THE NORTH COAST REGION (CONTINUED)

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Lower Klamath River HA												
Klamath River	300 ⁵	200 ⁵			Footnote 12		Footnote 12	8.5	7.0	75 ⁵	0.5 ⁵	0.2 ⁵
Other Streams	200 ⁵	125 ⁵			8.0		10.0	8.5	6.5	25 ⁵	0.1 ⁵	0.0 ⁵
Groundwaters ⁴	300	225			-		-	8.5	6.5	100	0.1	0.0
Illinois River HA												
All Streams	200	125			8.0		10.0	8.5	7.0	75	0.1	0.0
Winchuck River HU												
All Streams	200 ⁵	125 ⁵			8.0		10.0	8.5	7.0	50 ⁵	0.0 ⁵	0.0 ⁵
Smith River HU												
Smith River-Main Forks	200	125			8.0		11.0	8.5	7.0	60	0.1	0.1
Other Streams	150 ⁵	125 ⁵			7.0		10.0	8.5	7.0	60 ⁵	0.1 ⁵	0.0 ⁵
Smith River Plain HSA												
Smith River	200 ⁵	150 ⁵			8.0		11.0	8.5	7.0	60 ⁵	0.1 ⁵	0.0 ⁵
Other Streams	150 ⁵	125 ⁵			7.0		10.0	8.5	6.5	60 ⁵	0.1 ⁵	0.0 ⁵
Lakes Earl & Talawa	-	-			7.0		9.0	8.5	6.5	-	-	-
Groundwaters ⁴	350	100			-		-	8.5	6.5	75	1.0	0.0
Crescent City Harbor	-	-										
Redwood Creek HU												
Redwood Creek	220 ⁵	125 ⁵	115 ⁵	75 ⁵	7.0	7.5	10.0	8.5	6.5			
Mad River HU												
Mad River	300 ⁵	150 ⁵	160 ⁵	90 ⁵	7.0	7.5	10.0	8.5	6.5			
Eureka Plain HU												
Humboldt Bay	-	-	-	-	6.0	6.2	7.0	8.5	Footnote 6			

TABLE 3-1. SITE-SPECIFIC WATER QUALITY OBJECTIVES FOR THE NORTH COAST REGION (CONTINUED)

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Eel River HU												
Eel River	375 ⁵	225 ⁵	275 ⁵	140 ⁵	7.0	7.5	10.0	8.5	6.5			
Van Duzen River	375	175	200	100	7.0	7.5	10.0	8.5	6.5			
South Fork Eel River	350	200	200	120	7.0	7.5	10.0	8.5	6.5			
Middle Fork Eel River	450	200	230	130	7.0	7.5	10.0	8.5	6.5			
Outlet Creek	400	200	230	125	7.0	7.5	10.0	8.5	6.5			
Cape Mendocino HU												
Bear River	390 ⁵	255 ⁵	240 ⁵	150 ⁵	7.0	7.5	10.0	8.5	6.5			
Mattole River	300 ⁵	170 ⁵	170 ⁵	105 ⁵	7.0	7.5	10.0	8.5	6.5			
Mendocino Coast HU												
Ten Mile River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Noyo River	185 ⁵	150 ⁵	120 ⁵	105 ⁵	7.0	7.5	10.0	8.5	6.5			
Jug Handle Creek	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Big River	300 ⁵	195 ⁵	190 ⁵	130 ⁵	7.0	7.5	10.0	8.5	6.5			
Albion River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Navarro River	285 ⁵	250 ⁵	170 ⁵	150 ⁵	7.0	7.5	10.0	8.5	6.5			
Garcia River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Gualala River	-	-	-	-	7.0	7.5	10.0	8.5	6.5			
Russian River HU												
(upstream) ⁷	320	250	170	150	7.0	7.5	10.0	8.5	6.5			
(downstream) ⁸	375 ⁵	285 ⁵	200 ⁵	170 ⁵	7.0	7.5	10.0	8.5	6.5			
Laguna de Santa Rosa	-	-	-	-	7.0	7.5	10.0	8.5	6.5			

TABLE 3-1. SITE-SPECIFIC WATER QUALITY OBJECTIVES FOR THE NORTH COAST REGION (CONTINUED)

Waterbody ¹	Specific Conductance (micromhos) @ 77°F		Total Dissolved Solids (mg/L)		Dissolved Oxygen (mg/L)			Hydrogen Ion (pH)		Hardness (mg/L)	Boron (mg/L)	
	90% Upper Limit ³	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²	Min	90% Upper Limit ³	50% Upper Limit ²	Max	Min	50% Upper Limit ²	90% Upper Limit ³	50% Upper Limit ²
Bodega Bay	-	-	-	-	6.0	6.2	7.0	8.5	Footnote 6			
Coastal Waters ⁹	-	-	-	-	Footnote 10	Footnote 10	Footnote 10	Footnote 11	Footnote 11			

- ¹ Waterbodies are grouped by hydrologic unit (HU), hydrologic area (HA), or hydrologic subarea (HSA).
- ² 50% upper and lower limits represent the 50 percentile values of the monthly means for a calendar year. 50% or more of the monthly means must be less than or equal to an upper limit and greater than or equal to a lower limit.
- ³ 90% upper and lower limits represent the 90 percentile values for a calendar year. 90% or more of the values must be less than or equal to an upper limit and greater than or equal to a lower limit.
- ⁴ Value may vary depending on the aquifer being sampled. This value is the result of sampling over time, and as pumped, from more than one aquifer.
- ⁵ Does not apply to estuarine areas.
- ⁶ pH shall not be depressed below natural background levels.
- ⁷ Russian River (upstream) refers to the mainstem river upstream of its confluence with Laguna de Santa Rosa.
- ⁸ Russian River (downstream) refers to the mainstem river downstream of its confluence with Laguna de Santa Rosa.
- ⁹ The State Water Board Ocean Plan applies to all North Coast Region coastal waters.
- ¹⁰ Dissolved oxygen concentrations shall not at any time be depressed more than 10 percent from that which occurs naturally.
- ¹¹ pH shall not be changed at any time more than 0.2 units from that which occurs naturally.
- ¹² The Site-Specific Objectives (SSOs) for dissolved oxygen (DO) have been recalculated for the mainstem Klamath River and are presented separately in Table 3-1a.
- No waterbody specific objective available.

TABLE 3-1a. SITE-SPECIFIC OBJECTIVES (SSOs) FOR DISSOLVED OXYGEN (DO) IN THE MAINSTEM KLAMATH RIVER¹

Location ²	Percent DO Saturation Based On Natural Receiving Water Temperatures ³	Time Period
Stateline to the Scott River	90%	October 1 through March 31
	85%	April 1 through September 30
Scott River to Hoopa	90%	Year round
Downstream of Hoopa-California boundary to Turwar	85%	June 1 through August 31
	90%	September 1 through May 31
Upper and Middle Estuary	80%	August 1 through August 31
	85%	September 1 through October 31 and June 1 through July 31
	90%	November 1 through May 31
Lower Estuary	For the protection of estuarine habitat (EST), the dissolved oxygen content of the lower estuary shall not be depressed to levels adversely affecting beneficial uses as a result of controllable water quality factors.	

¹ States may establish site-specific objectives equal to natural background (U.S. EPA, 1986. Ambient Water Quality Criteria for Dissolved Oxygen, EPA 440/5-86-033; U.S. EPA Memo from Tudor T. Davies, Director of Office of Science and Technology, U.S. EPA Washington, D.C. dated November 5, 1997). For aquatic life uses, where the natural background condition for a specific parameter is documented, by definition that condition is sufficient to support the level of aquatic life expected to occur naturally at the site absent any interference by humans (Davies, 1997). These DO objectives are derived from the T1BSR run of the Klamath TMDL model and described in Tetra Tech, December 23, 2009 *Modeling Scenarios: Klamath River Model for TMDL Development*. They represent natural DO background conditions due only to non-anthropogenic sources and a natural flow regime.

² These objectives apply to the maximum extent allowed by law. To the extent that the State lacks jurisdiction, the Site Specific Dissolved Oxygen Objectives for the Mainstem Klamath River are extended as a recommendation to the applicable regulatory authority.

³ Corresponding DO concentrations are calculated as daily minima, based on site-specific barometric pressure, site-specific salinity, and natural receiving water temperatures as estimated by the T1BSR run of the Klamath TMDL model and described in Tetra Tech, December 23, 2009. *Modeling Scenarios: Klamath River Model for TMDL Development*. The estimates of natural receiving water temperatures used in these calculations may be updated as new data or method(s) become available. After opportunity for public comment, any update or improvements to the estimate of natural receiving water temperature must be reviewed and approved by Executive Officer before being used for this purpose.

**TABLE 3-1b. SITE-SPECIFIC OBJECTIVES FOR TEMPERATURE
IN THE UPPER TRINITY RIVER**

Location/River Reach	Daily Average Not to Exceed	Time Period
Lewiston Dam to Douglas City Bridge	60°F	July 1 – September 14
	56°F	September 15 – October 1
Lewiston Dam to confluence of North Fork Trinity River	56°F	October 1 - December 31

Appendix D

This appendix contains the “clean” version of the proposed changes to the Implementation Plans chapter (Chapter 4) of the Basin Plan.

4. IMPLEMENTATION POLICIES AND ACTION PLANS

INTRODUCTION

This chapter presents the implementation policies and action plans designed to achieve compliance with water quality objectives and protect beneficial uses of the North Coast Region. The following measures shall be taken with respect to actual and potential point and nonpoint sources of water quality degradation.

REGIONWIDE POLICIES

Policy for the Application of Narrative Water Quality Objectives

This *Policy for the Application of Narrative Water Quality Objectives* describes the steps that the North Coast Regional Water Quality Control Board (Regional Water Board) takes when developing numeric limits in NPDES permits and establishing cleanup levels for contaminated surface waters and groundwaters. The process in this policy may also be useful in other contexts, but in no way limits the discretion of the Regional Water Board to apply objectives in a manner appropriate for a specific activity, project, or program.

Step 1. Determine the beneficial uses of the waterbody or waterbodies in question. The designated beneficial uses of specific waterbodies and categories of waterbodies are contained in Table 2-1 in Chapter 2 of the Basin Plan. All existing beneficial uses of a waterbody, whether designated or not, must be protected.

Step 2. For each beneficial use determined in Step 1, identify the applicable narrative water quality objectives. Applicable narrative water quality objectives are those that are designed to protect the identified beneficial uses and are contained or referenced in Chapter 3.

Step 3. For each applicable narrative water quality objective, identify the relevant scientific information necessary to translate the narrative objective into appropriate and protective numeric limits. Relevant scientific information can include site specific data (for example hydrogeologic data); water quality assessments or studies; numeric water quality criteria, standards, or guidelines developed and published by governmental and non-governmental agencies and organizations¹ and relevant peer-reviewed scientific literature. From time to time, the Regional or State Water Board compiles readily available

¹Established governmental and non-governmental agencies and organizations include, but are not limited to: California State Water Resources Control Board, California Department of Health, California Office of Environmental Health Hazard Assessment, California Department of Toxic Substances Control, University of California Cooperative Extension, California Department of Fish and Game, U.S. EPA, U.S. Food and Drug Administration, National Academy of Sciences, U.S. Fish and Wildlife Service, the Food and Agricultural Organization of the United Nations and the World Health Organization.

scientific information relevant to a specific narrative objective or objectives and makes it publically available².

Step 4. For each narrative water quality objective of concern, select the most appropriate and protective numeric limit or limits. The most appropriate and protective numeric limit or limits are the one or ones that when implemented ensure protection of the beneficial uses, attainment of the water quality objectives, prevention of nuisance, and protection of high quality waters. Primary and secondary Maximum Contaminant Levels are the presumptive numeric criteria for the protection of waters providing the MUN beneficial use, unless more stringent criteria are necessary to support a beneficial use.

Step 5. Where control of a given parameter or constituent of concern is necessary for the protection of multiple beneficial uses, the numeric limit designed to protect the most sensitive beneficial use will be selected. Where multiple toxic pollutants exist or have the potential to exist together in water, the potential for synergistic or cumulative toxic effects also exists. On a case by case basis, the Regional Water Board will evaluate available receiving water and effluent data to determine whether there is a reasonable potential for interactive or cumulative toxicity. Pollutants which are carcinogens or which manifest their toxic effects on the same organ systems or through similar mechanisms will generally be considered to have potentially additive toxicity. The potential for synergistic, cumulative and/or additive toxicity will be considered when selecting numeric limits.

Step 6. Identify all applicable policies and regulations which require further modification of the selected numeric limits or levels and revise the regulatory thresholds accordingly.

POINT SOURCE MEASURES

Waste Discharge Prohibitions

Klamath River Basin

North Coast Basin

Schedules of Compliance

The Regional Water Board recognizes that in issuing a permit, order or other regulatory action, immediate compliance with water quality objectives may not be technically and/or economically feasible in all circumstances. In such cases, the Regional Water Board, in a duly noticed public hearing, may issue a time schedule, as appropriate. Any time schedule shall require attainment of the limitations contained in the permit, order or

² For example, the State Water Board has compiled numeric water quality thresholds from the literature for over 860 chemical constituents in a document entitled *A Compilation of Water Quality Goals*. A searchable *Water Quality Goals* database is accessible on the State Water Board website. The Regional Water Board has compiled water quality thresholds from the literature for sediment-related indices and published them in a peer-reviewed report entitled *Desired Salmonid Freshwater Habitat Conditions for Sediment-Related Indices* (July 2006). This document can be found on the Regional Water Board website.

other regulatory action and/or receiving water limitations within the shortest feasible time period.

The Regional Water Board may establish a schedule of compliance³ in a National Pollution Discharge Elimination System (NPDES) permit under specific circumstances.⁴ The issuance of a permit containing a compliance schedule will be in accordance with the State Water Board *Policy for Compliance Schedules in NPDES Permits*⁵ and will result in discharge compliance with applicable requirements of the Clean Water Act (CWA).

³ Schedules of compliance for Non-NPDES Waste Discharge Requirements (WDRs) are independently authorized by state law, and will continue to be adopted on a case-by-case basis.

⁴ ~~Schedules of compliance for CTR criteria are independently authorized and governed by 40 CFR 122.47 and 131.38, and the State "Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California" (CTR-SIP). This amendment is intended to supplement, not supercede, these provisions required by the CTR-SIP. All CTR limits must be consistent with the CTR-SIP and applicable federal rules.~~

⁵ State Water Board Resolution No. 2008-0025.

Memorandum

To: WQO Update Amendment File

From: Lauren Clyde, Sanitary Engineering Associate, Project Manager

Date: 2/21/2013

Re: Narrative WQO Policy – Compliance with Antidegradation Requirements

Staff is removing Table 3-2 and replacing it with the revised narrative chemical constituents objective and the proposed Narrative WQO Policy (Policy). The Policy complies with the federal and state Anti-degradation Polices and anti-backsliding. It is very difficult to compare the existing values, which we don't use anyhow in permits, with the values that will be based on the narrative process. The Narrative translation policy requires staff identify the most protective and appropriate criteria, however this is not always CTR criteria. The following information is presented as additional information to demonstrate how staff has been implementing the process laid out in the Narrative WQO Policy for many years. The proposed WQO Amendment only serves to make this process clear and transparent.

Of the 126 priority pollutants included in the National Toxics Rule (NTR) and the California Toxics Rule (CTR), only 27 are included in Table 3-2. A comparison of these values (see Tables 1 through 3 in Appendix E) indicated the need to look more closely a few constituents to ensure that no backsliding would occur based on the current levels present in Table 3-2. These constituents are endrin, monochlorobenzene, silver, lead, and fluoride. Staff analyzed information regarding these constituents to in order to determine if backsliding under the Antidegradation Policies could be a potential issue.

The MCL values for Endrin and monochlorobenzene presented in Table 3-2 are lower than those more recently established under Title 22 to protect drinking water supplies. However, based on a review of the Water Quality Goals online database, it is apparent that when determining a numeric limit that would be protective of the most sensitive use, a number would be chosen that would be more protective than the current MCLs and thus meet antidegradation requirements.

Sliver currently has an MCL of 0.1 mg/L (100 ug/l or ppb). An earlier MCL included in Table 3-2 is 0.05 mg/l or ppm. Therefore, there will be no relaxation or backsliding as the levels which would protect the most sensitive beneficial use present in the Water Quality Goals document are lower than those levels present in Table 3-2.

Lead has been listed in Table 3-2 since the 1975 version of the Basin Plan. The MCL for lead listed in Table 3-2 is currently 0.05 mg/L. However, Title 22 does not currently contain an MCL for lead. There are no levels listed in the Water Quality Goals document which would be used by staff that would allow backsliding. For example, the US EPA Primary MCL is 15 ug/L. (or .015 mg/L).

Fluoride MCLs currently listed in Table 3-2 are dependent on the average annual maximum daily air temperature. These levels in Table 3-2 range from 0.6 to 2.4 mg/L). Title 22 no longer specifies temperature dependent MCLs for fluoride. Rather, a single MCL value of 2000 mg/L has been set for fluoride and is contained in the Title 22 section pertaining to inorganic chemical MCLs.

It is staff's professional judgment that the limits established under the proposed Narrative WQO Policy will ensure that a discharge does not degrade water quality. The process presented in the proposed Narrative WQO Policy will result in staff recommending a value that is protective of the most sensitive beneficial use of water (e.g., municipal and domestic supply, aquatic-resource related beneficial uses). This approach will ensure that no degradation will occur which unreasonably affects the most sensitive beneficial use.

Table 1: Example NPDES Permits 2004-2012

Constituent	Basin Plan Table 3-2	Units	Class	NPDES R1-2004-0009 FortBragg Ocean	NPDES R1-2004-0027 Forestville	NPDES R1-2004-0036 Arcata	NPDES R1-2004-0038 Graton	NPDES R1-2004-0064 Healdsburg	NPDES R1-2004-0075 TuleLake	NPDES R1-2004-0111 Healdsburg	NPDES R1-2005-0084 Healdsburg	NPDES R1-2005-0096 FortBragg Ocean	NPDES R1-2006-0001 Crescent City Ocean
Carbon Tetrachloride	0.0005	mg/L	VOC										
Di(2-ethylhexyl)phthalate	0.004	mg/L	SOC						0.0018				
Heptachlor Epoxide	0.00001	mg/L	SOC										
Mercury	0.002	mg/L	Inorganic										
Xylenes	1.750	mg/L	VOC										
Lead	0.05	mg/L	Inorganic										
Silver	0.05	mg/L	Inorganic										
Aluminum	1.0	mg/L	Inorganic										
Arsenic	0.05	mg/L	Inorganic										
Cadmium	0.01	mg/L	Inorganic										
Copper	N/A	mg/L	Inorganic	0.053	0.00091	0.0057	0.00091	0.022		0.028	0.03	0.512	
Cyanide	N/A	mg/L	Inorganic	0.051		0.001			0.00426			0.204	
Nickel	N/A	mg/L	Inorganic										
Zinc	N/A	mg/L	Inorganic		0.00924	0.095	0.00924						2.2
2,3,7,8-TCDD (Dioxin)	N/A	mg/L	SOC			2.8E-11							
Ethylbenzene	0.68	mg/L	VOC										
Methyl-tert-butyl ether (MTBE)	N/A	mg/L	VOC										
Toluene	N/A	mg/L	VOC										

GW - applies 64444.5 as a groundwater limitation

SW - applies the more stringent value between Table 3-2 and MCL to surface water based upon constituents contained in Table 3-2

Table 1: Example NPDES

Constituent	NPDES R1-2006-0004 Cloverdale	NPDES R1-2006-0020 Scotia	NPDES R1-2006-0021 Rio Dell	NPDES R1-2006-0045 Santa Rosa	NPDES R1-2006-0049 Ukiah	NPDES R1-2007-0007 Fortuna	NPDES R1-2007-0013 Windsor	NPDES R1-2008-0038 Ferndale	NPDES R1-2008-0039 McKinleyville	NPDES R1-2009-0003 Russian River CSD	NPDES R1-2009-0036 Ferndale	NPDES R1-2010-0003 College of the Redwoods
Carbon Tetrachloride	0.00025	GW	GW			SW	GW	SW	SW	SW	SW	0.00025
Di(2-ethylhexyl)phthalate		GW	GW			SW	GW	SW	SW	SW	SW	SW
Heptachlor Epoxide		GW	GW			SW	GW	0.0000001	SW	SW	0.0000001	SW
Mercury	0.00005					SW		0.00005	SW	SW	0.00005	SW
Xylenes		GW	GW			SW	GW	SW	SW	SW	SW	SW
Lead		GW	GW	0.00054		SW		0.0012	0.00006	SW	0.0012	0.00054
Silver						SW			SW	SW	SW	0.00048
Aluminum						SW			SW	1	SW	SW
Arsenic						SW			SW	SW	SW	SW
Cadmium			0.004			SW			SW	SW	SW	SW
Copper	0.0009		0.027	0.0027		0.0062	0.00072	0.0004	0.00041	0.00072	0.0004	0.0022
Cyanide	0.0085			0.00305							SW	
Nickel				0.016				0.026			0.026	0.014
Zinc		1						0.072			0.036	
2,3,7,8-TCDD (Dioxin)		GW	GW				GW	1.3E-11			0.000000013	1.3E-08
Ethylbenzene		GW	GW			SW	GW	SW	SW	SW	SW	SW
Methyl-tert-butyl ether (MTBE)		GW	0.013				GW	SW	SW		SW	
Toluene		GW	GW				GW	SW			SW	

GW - applies 64444.5 as a groundw

SW - applies the more stringent val

Table 1: Example NPDES

Constituent	NPDES R1-2010-0017 Willits	NPDES R1-2010-0019 SonomaWestHoldings	NPDES R1-2101-0034 Healdsburg	NPDES R1-2011-0028 Treated Groundwater Cleanups - Applies SW to all as well	NPDES R1-2011-0046 Redway	NPDES R1-2012-0012 Forestville	NPDES R1-2012-0016 Graton	Notes
Carbon Tetrachloride	SW	SW	SW		0.00025	SW	SW/GW	
Di(2-ethylhexyl)phthalate	SW	SW	SW		SW/GW	SW	SW/GW	
Heptachlor Epoxide	SW	SW	SW		SW/GW	SW	SW/GW	
Mercury	SW	SW	SW		SW/GW	SW	SW/GW	
Xylenes	SW	SW	SW		SW/GW	SW	SW/GW	MCL is for either a single isomer or the sum of the isomers.
Lead	SW	SW	SW		SW/GW	SW	SW/GW	
Silver		SW	SW	0.00001	SW/GW	SW	SW/GW	
Aluminum		SW	SW	1.0	SW/GW	SW	SW/GW	MCL in Title 22 Table 64431-A is "1.". SMCL in Title 22 Table 64449-A is "0.2"
Arsenic		SW	3.367	0.010	SW/GW	SW	SW/GW	
Cadmium		0.0018	SW	0.00007	SW/GW	SW	SW/GW	
Copper		0.006	SW	0.000		0.001		
Cyanide	0.0043	0.0043	SW	0.005		0.004	0.004	
Nickel		0.037	2.32	0.001				
Zinc		0.052		0.002				
2,3,7,8-TCDD (Dioxin)	SW			0.000				
Ethylbenzene	SW	SW		0.001	SW/GW	SW	SW/GW	
Methyl-tert-butyl ether (MTBE)	SW			0.0005				MCL in Title 22 Table 64444-A is "0.013". SMCL in Title 22 Table 64449-A is "0.005".
Toluene	SW			0.001				

GW - applies 64444.5 as a groundw

SW - applies the more stringent val

Table 2: Example Cleanup and Abatement Orders (CAOs) 1998 - 2010

Constituent	Basin Plan Table 3-2 (or Radioactivity Objective)	Units	Class	CAO Order R1-98-68	CAO Order R1-2000-66	CAO Order R1-2001-26 Groundwater	CAO Order R1-2001-26 Freshwater	CAO Order R1-2001-26 EB&E	CAO Order R1-2003-0131 Groundwater	CAO Order R1-2003-0131 Surface Water	CAO Order R1-2008-0068 Groundwater	AO Order R1-2010-0061 Groundwater
Arsenic	0.05	mg/L	Inorganic	0.005		0.0001	0.150	0.036	0.150	0.150		
Cadmium	0.01	mg/L	Inorganic	0.005					9.2E-05	.0008 to .0022		
Copper	N/A	mg/L	Inorganic	1		0.17	.0027 to .009 (depending on CaCO ₃)	0.0031	0.17	.0027 to .009 (depending on CaCO ₃)		
Nickel	N/A	mg/L	Inorganic	0.1					0.001	.016 to .052 (depending on CaCO ₃)		
Zinc	N/A	mg/L	Inorganic	5		2.1	.036 to .120 (depending on CaCO ₃)	0.081	2	.036 to .120 (depending on CaCO ₃)		
2,3,7,8-TCDD (Dioxin)	N/A	mg/L	SOC						1.3E-11	1.4E-11		2.7E-10
Ethylbenzene	0.68	mg/L	VOC	0.029	0.029	0.029			0.029	29	0.029	0.0032
Methyl-tert-butyl ether (MTBE)*	N/A	mg/L	VOC		0.005						0.005	0.005
Toluene	N/A	mg/L	VOC	0.042	0.042	0.042			0.042	200	0.042	0.042

*MCL in Title 22 Table 64444-A is "0.013".
SMCL in Title 22 Table 64449-A is "0.005".