Presented below are water quality standards that are in effect for Clean Water Act purposes.

EPA is posting these standards as a convenience to users and has made a reasonable effort to assure their accuracy. Additionally, EPA has made a reasonable effort to identify parts of the standards that are not approved, disapproved, or are otherwise not in effect for Clean Water Act purposes.

WATER QUALITY CONTROL PLAN

STATE OF CALIFORNIA

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JAMES M. STROCK, Secretary, Environmental Protection Agency

State Water Resources Control Board

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Central Coast Region

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If you wish to receive future amendments to the Water Quality Control Plan, Central Coast Basin, please complete the information requested below and return to:

Central Coast Regional Water Quality
Control Board
81 Higuera Street, Suite 200
San Luis Obispo, CA 93401-5427

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MAILING ADDRESS				
CITY		STATE		-

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TABLE OF CONTENTS

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

TABLE OF CONTENTS (continued)

Title Page

Chapter 5. PLANS AND POLICIES (continued)

TABLE OF CONTENTS (continued)

Title Page

Chapter 6. SURVEILLANCE AND MONITORING

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1. INTRODUCTION

I. FUNCTION OF THE WATER QUALITY CONTROL PLAN (BASIN PLAN)

The objective of this Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, is to show how the quality of the surface and ground waters in the Central Coast Region should be managed to provide the highest water quality reasonably possible. Water uses and water benefits vary. Water quality is an important factor in determining use and benefit. For example, drinking water has to be of higher quality than the water used to irrigate pastures. Both are legitimate uses, but the quality requirements for irrigation are different from those for domestic use. The plan recognizes such variations.

This Basin Plan lists the various water uses (Beneficial Uses, Chapter Two). Second, it describes the water quality which must be maintained to allow those uses (Water Quality Objectives, Chapter Three). Federal terminology is somewhat different, in that beneficial uses and water quality objectives are combined and the combination is called Water Quality Standards. Chapter Four, the Implementation Plan, then describes the programs, projects, and other actions which are necessary to achieve the standards established in this plan. Chapter Five, Plans and Policies, summarizes State Water Resources Control Board (State Board) and Regional Water Quality Control Board (Regional Board) plans and policies to protect water quality. Chapter Six describes statewide surveillance and monitoring programs as well as regional surveillance and monitoring programs.

The Regional Board implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally delegated National Pollutant Discharge Elimination System (NPDES) permits for discharges to surface water. Methods of treatment are not specified. When such discharges are managed so that: 1) they meet these requirements; 2) water quality objectives are met; and, 3) beneficial uses are protected, water quality is controlled.

The Basin Plan is also implemented by encouraging water users to improve the quality of their water supplies, particularly where the wastewater they discharge is likely to be reused. Public works or other projects which can affect water quality are reviewed and their impacts identified. Proposals which implement or help achieve the goals of the Basin Plan are supported; the Regional Board makes water quality control recommendations for other projects.

II. LEGAL BASIS AND AUTHORITY

California's Porter-Cologne Water Quality Control Act (1969), which became Division Seven ("Water Quality") of the State Water Code, establishes the responsibilities and authorities of the nine Regional Water Quality Control Boards (previously called Water Pollution Control Boards) and the State Water Resources Control Board (SWRCB). The Porter-Cologne Act names these Boards "... the principal State agencies with primary responsibility for the coordination and control of water quality" (Section 13001). Each Regional Board is directed to "...formulate and adopt water quality control plans for all areas within the region." A water quality control plan for the waters of an area is defined as having three components: beneficial uses which are to be protected, water quality objectives which protect those uses, and an implementation plan which accomplishes those objectives (Section 13050). Further, "such plans shall be periodically reviewed and may be revised" (13240). The federal Clean Water Act (Public Law 92-500, as amended) provides for the delegation of certain responsibilities in water quality control and water quality planning to

the states. Where the Environmental Protection Agency (EPA) and the SWRCB have agreed to such delegation, the Regional Boards implement portions of the Clean Water Act, such as the NPDES program and toxic substance control programs.

The Porter-Cologne and Clean Water Acts also describe how enforcement of waste discharge regulations is to be carried out. Enforcement tools available to the Regional Board range from simple letters to the discharger, through formal Regional Board order, and direct penalty assessments, to judicial abatement for civil and/or criminal penalties. Legally noticed public hearings are required for most actions, but some enforcement actions (e.g., Cleanup or Abatement Orders) have been delegated to staff to allow for a quicker response than regularly scheduled Regional Board meetings can provide.

III. THE CENTRAL COASTAL REGION

One of nine Regional Water Quality Control Boards in California, the Central Coast Regional Board has jurisdiction over a 300-mile long by 40-mile wide section of the State's central coast. Its geographic area encompasses all of Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara Counties as well as the southern one-third of Santa Clara County, and small portions of San Mateo, Kern, and Ventura Counties. Included in the region are urban areas such as the Monterey Peninsula and the Santa Barbara coastal plain; prime agricultural lands as the Salinas, Santa Maria and Lompoc Valleys; National Forest lands, extremely wet areas like the Santa Cruz mountains; and arid areas like the Carrizo Plain. Figure 1-1 shows the Central Coast Regional boundary. Some physical characteristics of the Region are listed below:

CENTRAL COAST REGION[1]

CHARACTERISTICS	NUMBER	MEASURE
Area of Region	-	11,274 square miles
Streams	Unknown	2,380 miles
Lakes	99	25,040 acres
Ground Water Basins	53	3,559 square miles
Mainland Coast	-	378 miles
Wetlands and Estuaries	59	8,387 acres
Areas of Special Biological Significance	9	236,826 acres

1 Water Quality Assessment for Water Years 1986 and 1987, Water Quality Monitoring Report No. 88-1 Water Quality, Division of Water Quality, State Water Resources Control Board, July, 1988.

Topographic features are dominated by a rugged seacoast and three parallel ranges of the Southern Coast Mountains. Ridges and peaks of these mountains, the Diablo, Gabilan and Santa Lucia Ranges, reach to 5,800 feet. Between these ranges are the broad valleys of the San Benito and Salinas Rivers. These Southern Coast Ranges abut the west to east trending Santa Ynez Mountains of the Transverse Ranges that parallel the southern exposed terraces of the Santa Barbara Coast.

This coastal area includes urbanized and agricultural areas along Monterey Bay, the rugged Big Sur Coast, Morro Bay with its famous rock, the sandy clam beds of Pismo Beach, and a varied coastline south to Point Conception and eastward along the terraces and recreational beaches which line the Santa Barbara Channel. The inland valleys and cities reflect an agricultural, oil, and tourism economy, as well as the early history of California expressed in the architectural styles of the famous Spanish missions which are found throughout this region.

The trend of the mountain ranges, relative to onshore air mass movement, imparts a marked climatic contrast between seacoast, exposed summits, and interior basins. Variations in terrain, climate, and vegetation account for a multitude of different landscapes. Seacliffs, sea stacks, white beaches, cypress groves, and redwood forests along the coastal strand contrast with the dry interior landscape of small sagebrush, short grass, and low chaparral.

In times past, the beaches and ocean waters offshore have been prolific producers of clams, crustaceans, and important sport and commercial

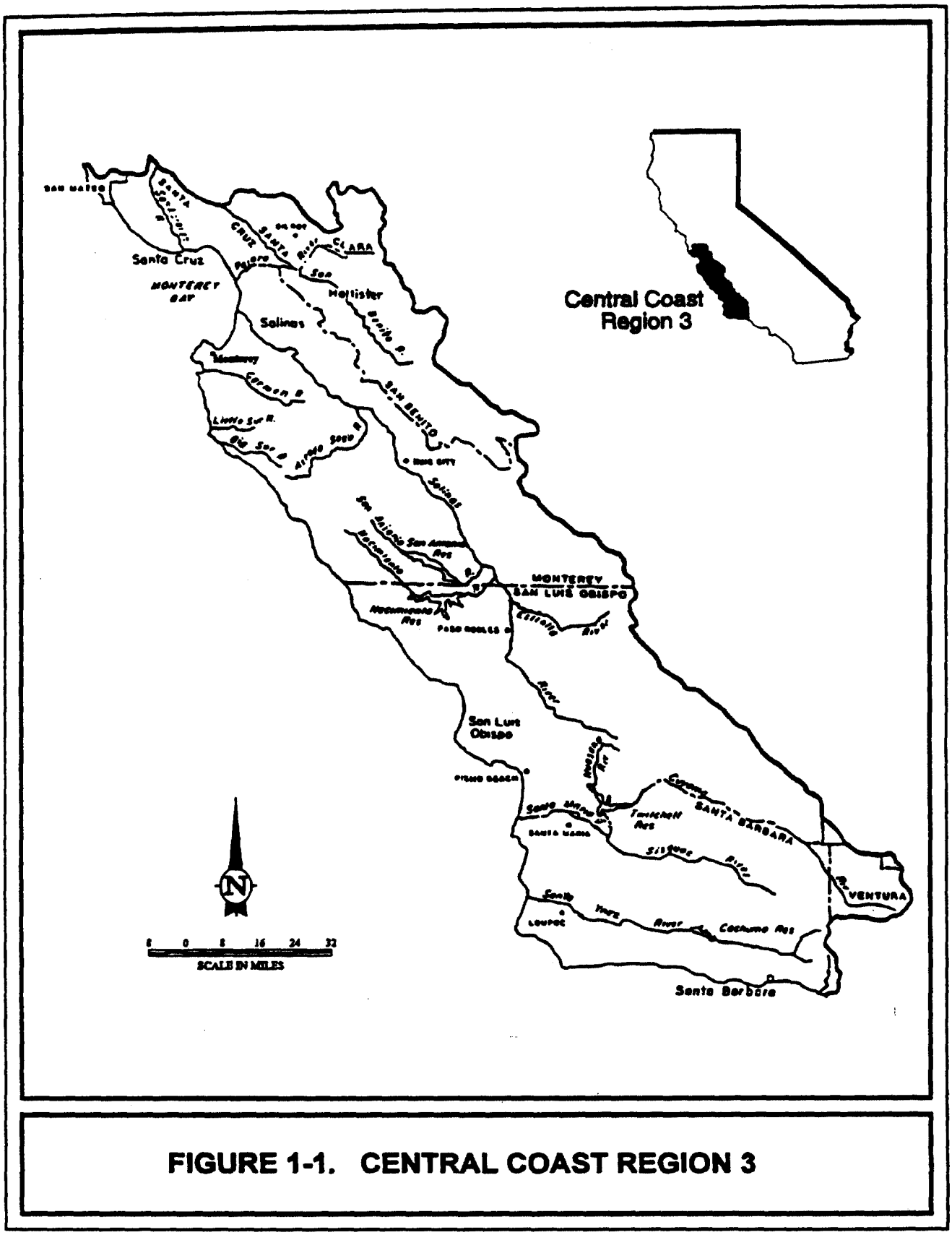


FIGURE 1-1. CENTRAL COAST REGION 3

Work then began in earnest on a complete Water Quality Control Plan, the 1975 Basin Plan, which has been the foundation of the Regional Board's planning operations since its adoption in 1975. Basin Plans were being developed statewide at that time under the direction of the State Water Resources Control Board (SWRCB). In this region, the prime contractors for basin planning were Brown and Caldwell Consulting Engineers; Water Resources Engineers, Inc.; and Yoder, Trottner, Orlob and Associates. Water quality objectives were based largely on existing water quality.

After adoption of the 1975 Basin Plan, some thirty-eight amendments were made to the Basin Plan. Management of those amendments became cumbersome and led to the need for a Basin Plan reprint which included all current amendments. This document is intended to fulfill that need.

VI. TRIENNIAL REVIEW AND BASIN PLAN AMENDMENT PROCEDURE

The federal Clean Water Act (Section 303(c)) requires states to hold public hearings for review of water quality standards at least once every three years. Water quality standards consist of beneficial use designations and water quality criteria (objectives) necessary to protect those uses. The Porter-Cologne Water Quality Control Act requires the entire Basin Plan to be reviewed periodically. While a major part of the review process consists of identifying potential problems, an important part of the review is the reaffirmation of those portions of the plan where no potential problems are identified.

At the conclusion of the triennial review public hearing, Regional Board staff prepares a priority list of potential problems to the Basin Plan that may result in amendments. Placing a potential problem on the priority list will only require the Regional Board staff to investigate the need for an amendment. It does not necessarily mean a revision of the water quality control plan will be made.

Other items completed after the public hearing include:

- Detailed workplans of each issue;
- Regional Board identification of issues that can be completed within existing resource allocations over a three-year period; and
- List of issues requiring additional resources to complete.

Once the triennial review process is complete, Regional Board staff begin investigating the issues in order of rank. After each investigation, staff determines the need for a Basin Plan amendment.

Basin Plan amendments can also occur for issues not identified during the triennial review. Amendments can occur for urgent issues to reflect new legislation.

Basin Plan amendment hearings are advertised in the public notice section of a newspaper circulated in areas affected by the amendment. Persons interested in a particular issue can also notify the Regional Board staff of their interest in being notified of hearings on that topic.

Basin Plan amendments do not become effective until approved by the State Board. Surface water standards also require the approval of the Environmental Protection Agency to become effective.

VI.A. CONTINUING PLANNING

The Basin Plan is a flexible tool which must be reviewed and revised regularly for it to adapt to changing conditions. "Continuing planning" allows this to occur. The following section prioritizes Regional Board tasks and resources. This ranked list is referred to as the "Triennial Review List" and is shown in Table 1-1.

Items listed were ranked in order of priority by the Regional Board on May 6, 1988 and July 8, 1988. Each item is followed by an estimate of staff time needed to complete the item (actual time and duration). For those items requiring contract funding,

estimated contract needs are identified following the description of each item. Resolution of these items may result in future Basin Plan amendments.

Table 1-1. 1988 Triennial Review Priority List

	Task	Estimated Time Staff Resources (Staff Years and Duration)
1.	Adopt water quality limited segments*	0.02 SY
2.	Reprint Basin Plan*	0.2 SY 1 year
3.	Incorporate Proposition 65 criteria as developed by State Board	0.2 SY 6 months
4.	Determine water quality monitoring needs*	0.4 SY
5.	Establish nutrient objectives for Pajaro River and Llagas Creek Contract $ = 40,000	0.3 SY 20 months
6.	Establish nutrient objectives for San Luis Obispo Creek Contract $ = 10,000	0.3 SY 20 months
7.	Establish additional toxic pollutant objectives as developed by the State Water Resources Control Board	0.1 SY 5 years
8.	Reevaluate Santa Maria Basin ground water quality objectives (including Nipomo Mesa and Valley) Contract $ = 20,000	0.3 SY 2 years
9.	Reevaluate discharge prohibition to Santa Maria River below Highway One Bridge Contract $ = 20,000	0.2 SY 2 years
10.	Revaluate Lompoc Plain Boron objective*	0.03 SY
11.	Incorporate State Board Ground Water Strategy and Develop Regional Ground Water Strategy	0.3 SY 3 years
12.	Reevaluate San Lorenzo River nitrate objective Contract $ = $30,000	0.4 SY 2 years
13.	Review on-site sewage disposal prohibition in San Lorenzo Valley Class I & II areas	0.2 SY
14.	Review beneficial uses for: Santa Barbara Harbor (shellfish), Goleta Slough (migration and spawning), San Luis Obispo Creek (municipal water supply), Lower Salinas River (all)	0.7 SY
15.	Develop Upper Salinas Valley ground water salt management plan Contract $ = 30,000	0.4 SY 1 year
16.	Adopt amendments for water bodies affected by toxics as required by Clean Water Act	0.2 SY
17.	Develop toxic control strategy	0.3 SY
18.		
a.	Develop beneficial uses for additional needed water bodies	0.2 SY
b.	Add "Preservation of Areas of Special Biological Significant" (BIOL) beneficial use to needed water bodies	0.06 SY
19.	Determine need for septic tank prohibition in Prunedale, San Lucas, Los Olivos, Ballard and other needed areas	1.0 SY
20.	Establish septic tank sludge policy	0.2 SY
21.	Establish residual repesterase policy	0.3 SY
22.	Establish Gilroy, Morgan Hill, San Martin ground water management plan	0.4 SY 8 months
23.	Establish nonpoint source runoff policy for sensitive watersheds (i.e. Elkhorn Slough)	0.5 SY 1 year
24.	Establish agriculture/ pesticide runoff policy	0.2 SY
25.	Establish greenhouse operations policy	0.1 SY
26.	Evaluate erosion/sedimentation problems in Santa Cruz County	0.4 SY
27.	Reevaluate vessel discharge policy	0.2 SY
28.	Reevaluate Santa Ynez ground water basin objective	0.3 SY 6 months
29.	Provide guidance for effluent limits in areas with high background concentrations (e.g. ground water nitrate exceeds objectives)	0.2 SY
30.	Establish suitable criteria for Waste Discharge Requirements (e.g. standardize rainfall event used to evaluate capacity)	0.2 SY
31.	Provide guidance for regulation of point source discharges in the vicinity of significant nonpoint source discharges	0.2 SY
32.	Review unionized ammonia objective for receiving waters	0.4 SY
33.	Reevaluate nonpoint source controls for urban and rural runoff	0.3 SY
34.	Establish storm water discharge policy	0.5 SY
35.	Review cumulative impact of Monterey Bay discharges. Determine need for policy	0.4 SY
36.	Establish policy for discharge of high temperature waters to ground water	0.2 SY
37.	Incorporate revised ground water basin boundary maps*	0.2 SY
38.	Review cumulative impact of future on-site disposal on Nipomo Mesa/Valley. Reevaluation of the Nipomo prohibition boundaries	0.4 SY
39.	Establish oil drilling mud policy	0.2 SY
40.	Establish Merro Basin ground water objectives	0.5 SY
41.	Establish ground water objectives for San Benito Basin Contract $ = 40,000	0.5 SY 2 years

Table 1-1. 1988 Triennial Review Priority List

42.	Establish ground water objectives for Price Canyon-Edna Valley Watershed Contract $ = $20,000	0.3 SY 18 months
43.	Establish offshore oil policy	0.1 SY
44.	Establish reclamation/conservation policy	0.05 SY
45.	Evaluate need for sewering Hidden Glen area of Scotts Valley	0.2 SY
46.	Review water contact recreation for San Miguel, Santa Rosa, and Santa Cruz Island	0.05 SY
47.	Update landfill policy to incorporate new State standards*	0.05 SY
48.	Update dairy waste policy to incorporate new State standards*	0.05 SY
49.	Delete Mission Canyon and Los Alamos prohibition areas*	0.05 SY

* These tasks accomplished by adoption of the Basin Plan

CHAPTER 2. PRESENT AND POTENTIAL BENEFICIAL USES

State policy for water quality control in California is directed toward achieving the highest water quality consistent with maximum benefit to the people of the State. Therefore, all water resources must be protected from pollution and nuisance that may occur as a result of waste discharges.

Establishing the beneficial uses to be protected in the Central Coastal Basin is a cornerstone of this comprehensive plan. Once uses are recognized, compatible water quality standards can be established as well as the level of treatment necessary to maintain the standards and ensure the continuance of the beneficial uses. This chapter will examine and identify historical, present, and potential beneficial uses in the Basin.

The remainder of this chapter summarizes current beneficial uses, describes anticipated future water demands characterizing future or potential water users, and lists the present and potential beneficial uses in tabular form.

I. PRESENT AND POTENTIAL BENEFICIAL USES

Beneficial uses are presented for inland surface waters by 13 sub-basins in Table 2-1. Beneficial uses for inland surface waters are arranged by hydrologic unit on pages II-2 through II-15. A map of the hydrologic units is shown in Figure 2-1 on page II-16. Beneficial uses are regarded as existing whether the water body is perennial or ephemeral, or the flow is intermittent or continuous. Beneficial uses of coastal waters are shown in Table 2-2 on page II-17.

Surface water bodies within the Region that do not have beneficial uses designated for them in Table 2-1 are assigned the following designations:

- Municipal and Domestic Water Supply
- Protection of both recreation and aquatic life.

Municipal and Domestic Water Supply is designated in accordance with the provisions of State Water Resources Control Board Resolution 88-63 is by reference, a part of this Plan. (A copy of this resolution is located in the appendix). These MUN designations in no way affect the presence or absence of other beneficial use designations in these water bodies.

Ground water throughout the Central Coastal Basin, except for that found in the Soda Lake Sub-basin, is suitable for agricultural water supply, municipal and domestic water supply, and industrial use. Ground water basins are listed in Table 2-3. A map showing these ground water basins is displayed in Figure 2-2 on page II-19.

II. BENEFICIAL USE DEFINITIONS

Beneficial uses for surface and ground waters are divided into the twenty four standard categories listed below. One of the principal purposes of this standardization is to facilitate establishment of both qualitative and numerical water quality objectives that will be compatible on a statewide basis.

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems including, but not limited to, drinking water supply. According to State Board Resolution No. 88-63, "Sources of Drinking Water Policy" all surface waters are considered suitable, or potentially suitable, for municipal or domestic water supply except where:

a. TDS exceeds 3000 mg/l (5000 uS/cm electrical conductivity);
b. Contamination exists, that cannot reasonably be treated for domestic use;
c. The source is not sufficient to supply an average sustained yield of 200 gallons per day;

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
BIG BASIN HYDROLOGIC UNIT																						
Lucerne Lake Estuary						X	X	X	X			X	X	X	X				X			X
Lucerne Lake	X	X				X	X	X	X							X			X			
Arroyo de los Frejoles Creek	X	X			X	X	X	X	X	X	X	X	X	X		X			X			
Arroyo de los Frejoles Reservoir	X	X			X	X	X	X	X	X						X	X		X			
Gazos Creek Lagoon/Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Gazos Creek	X	X			X	X	X	X	X		X	X				X			X			
Old Womans Creek	X					X	X	X	X		X	X	X						X			
Whitehouse Creek	X					X	X	X	X		X	X	X		X	X			X			
Cascade Creek Lagoon/Estuary						X	X	X	X		X	X	X	X	X				X			X
Cascade Creek	X	X			X	X	X	X	X		X	X	X	X		X			X			
Green Oaks Creek Lagoon/Estuary						X	X	X	X			X		X	X				X			X
Green Oaks Creek	X	X			X	X	X	X	X	X	X	X	X		X	X			X			
Ano Nuevo Creek	X	X			X	X	X	X	X		X	X	X	X	X	X			X			
Finney Creek	X	X				X	X	X	X				X		X	X			X			
Elliot Creek	X	X				X	X	X	X				X		X	X			X			
Waddell Creek Estuary					X	X	X	X	X		X	X	X	X	X				X			X
Waddell Creek (Main Stem)	X	X		X	X	X	X	X	X		X	X	X	X		X			X			
Waddell Creek, east branch	X				X	X	X	X	X		X	X	X	X		X			X			
Last Chance Creek	X	X			X	X	X	X	X		X	X		X					X			
Blooms Creek	X				X	X	X	X	X			X	X	X					X			
Sempervirens Creek	X				X	X	X	X	X		X	X	X						X			
Union Creek	X					X	X	X	X				X						X			
Sempervirens Res.	X					X	X	X	X				X			X			X			X
Opal Creek	X				X	X	X	X	X				X						X			
Rogers Creek	X					X	X	X	X				X						X			
Maddocks Creek	X					X	X	X	X				X						X			
Waddell Creek, west branch	X				X	X	X	X	X		X	X	X	X					X			
Kelley Creek	X				X	X	X	X	X										X			
Berry Creek	X				X	X	X	X	X										X			
Henry Creek	X				X	X	X	X	X				X						X			
Scott Creek Lagoon						X	X	X	X		X	X		X	X				X			X
Scott Creek	X	X		X	X	X	X	X	X		X	X		X		X			X			
Little Creek	X	X		X	X	X	X	X	X		X	X		X					X			
Big Creek (Ano Nuevo)	X	X		X	X	X	X	X	X		X	X		X				X	X			
Berry Creek	X				X	X	X	X	X				X						X			
Deadman Gulch Creek	X				X	X	X	X	X			X		X					X			
Boyer Creek	X				X	X	X	X	X			X						X	X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Mill Creek (Scott Creek)	X	X		X	X	X	X	X	X		X	X		X		X			X			
Mill Creek Res.	X					X	X	X	X	X	X	X				X	X		X			
Molino Creek	X	X			X	X	X	X	X						X	X			X			
San Vicente Creek	X	X	X	X	X	X	X	X	X		X	X		X	X	X			X			
Mill Creek (Bonnie Doon)	X				X	X	X	X	X		X	X							X			
Liddell Creek	X	X			X	X	X	X	X		X	X		X	X	X			X			
Liddell Creek, east branch	X	X		X	X	X	X	X	X		X	X							X			
Liddell Creek, west branch	X				X	X	X	X	X		X	X							X			
Laguna Creek Estuary					X	X	X	X	X		X	X		X	X				X			X
Laguna Creek	X	X		X	X	X	X	X	X		X	X		X		X			X			
Reggiardo Creek	X				X	X	X	X	X					X					X			
Majors Creek	X	X		X	X	X	X	X	X		X	X		X	X	X			X			
Baldwin Creek Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Baldwin Creek	X	X			X	X	X	X	X		X	X	X	X		X			X			
Wilder Creek Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Wilder Creek	X	X			X	X	X	X	X	X	X	X	X			X			X			
Cave Gulch	X				X	X	X	X	X	X									X			
Younger's Lagoon					X	X	X	X	X	X		X	X						X			X
Antonellis Pond					X	X	X	X		X	X	X		X					X			
Moore Creek	X	X			X	X	X	X	X	X		X	X			X			X			
Neary's Lagoon					X	X	X	X		X		X		X					X			
San Lorenzo River Estuary						X	X	X	X		X	X	X	X	X				X			X
San Lorenzo River	X	X		X	X	X	X	X	X		X	X	X	X		X			X			
Branciforte Creek	X	X			X	X	X	X	X		X	X							X			
Blackburn Gulch	X				X	X	X	X	X		X	X							X			
Tie Gulch	X				X	X	X	X	X		X	X							X			
Granite Creek	X			X	X	X	X	X	X		X	X							X			
Carbonera Creek	X	X		X	X	X	X	X	X		X	X							X			
Zayante Creek	X	X		X	X	X	X	X	X		X	X							X			
Bean Creek	X	X		X	X	X	X	X	X		X	X							X			
Mackenzie Creek	X				X	X	X	X	X		X	X							X			
Ruins Creek	X				X	X	X	X	X		X	X							X			
Lockhart Gulch Creek	X				X	X	X	X	X		X	X							X			
Mountain Charlie Gulch	X				X	X	X	X	X		X	X							X			
Lompico Creek	X	X			X	X	X	X	X		X	X							X			
Mill Creek (SLR)	X				X	X	X	X	X										X			
Newell Creek	X	X		X	X	X	X	X	X		X	X				X			X			
Loch Lomond Res.	X	X		X	X	X	X	X	X	X	X	X		X		X	X		X			X
Love Creek	X				X	X	X	X	X		X	X							X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Fritch Creek	X				X	X	X	X	X		X	X							X			
Smith Creek	X				X	X	X	X	X										X			
Spring Creek Gulch	X				X	X	X	X	X										X			
Bear Creek	X	X			X	X	X	X	X		X	X							X			
Connelly Gulch	X				X	X	X	X	X		X	X							X			
Shear Creek	X				X	X	X	X	X		X	X							X			
Deer Creek	X				X	X	X	X	X		X	X							X			
Hopkins Gulch	X				X	X	X	X	X		X	X							X			
Two Bar Creek	X				X	X	X	X	X		X	X							X			
Kings Creek	X				X	X	X	X	X		X	X	X						X			
Logan Creek	X				X	X	X	X	X		X	X							X			
Sleeper Gulch	X				X	X	X	X	X				X						X			
McDonald Gulch	X				X	X	X	X	X		X	X	X						X			
Spring Creek	X				X	X	X	X	X		X	X							X			
Boulder Creek	X	X			X	X	X	X	X		X	X							X			
Bracken Brae Creek	X				X	X	X	X	X					X					X			
Hare Creek	X				X	X	X	X	X		X	X		X					X			
Jamison Creek	X				X	X	X	X	X		X	X							X			
Peavine Creek	X				X	X	X	X	X		X	X							X			
Silver Creek	X				X	X	X	X	X		X	X							X			
Foreman Creek	X				X	X	X	X	X		X	X							X			
Malosky Creek	X				X	X	X	X	X		X	X							X			
Clear Creek	X				X	X	X	X	X		X	X							X			
Alba Creek	X				X	X	X	X	X		X	X							X			
Marshall Creek	X				X	X	X	X	X		X	X							X			
Manson Creek	X				X	X	X	X	X		X	X							X			
Fall Creek	X	X		X	X	X	X	X	X		X	X	X						X			
South Fall Creek	X	X			X	X	X	X	X		X	X	X						X			
Bennett Creek	X	X		X	X	X	X	X	X		X	X	X						X			
Bull Creek	X				X	X	X	X	X			X							X			
Shingle Mill Creek	X				X	X	X	X	X		X	X							X			
Gold Gulch Creek	X				X	X	X	X	X		X	X							X			
Woods Lagoon						X	X	X			X	X			X				X			X
Arana Gulch	X				X	X	X	X	X		X	X		X		X			X			
Schwan Lake						X	X	X		X		X	X	X					X			X
Corcoran Lagoon					X	X	X	X		X		X		X	X				X			X
Rodeo Creek Gulch (Doyle Gulch)	X	X		X	X	X	X	X	X			X				X			X			
Moran Lake					X	X	X	X		X		X							X			
Soquel Lagoon						X	X	X	X		X	X		X	X				X			X

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Soquel Creek	X	X		X	X	X	X	X	X		X	X	X			X			X			
Bates Creek	X					X	X	X	X		X	X	X						X			
Grover Gulch	X				X	X	X	X	X		X	X							X			
Soquel Creek, east branch	X			X	X	X	X	X	X		X	X							X			
Hinckley Creek	X	X		X	X	X	X	X	X		X	X	X						X			
Amaya Creek	X				X	X	X	X	X		X	X							X			
Soquel Creek, west branch	X				X	X	X	X	X		X	X							X			
Hester Creek	X				X	X	X	X	X		X	X							X			
Laurel Creek	X				X	X	X	X	X		X	X							X			
Burns Creek	X				X	X	X	X	X		X	X							X			
Moores Gulch	X				X	X	X	X	X		X	X							X			
Miners Creek	X				X	X	X	X	X		X	X							X			
Aptos Creek	X	X		X	X	X	X	X	X		X	X	X		X	X			X			
Valencia Creek	X				X	X	X	X	X		X	X							X			
Trout Gulch	X				X	X	X	X	X										X			
Bridge Creek	X	X				X	X	X	X		X	X	X						X			
Valencia Lagoon						X	X	X		X		X		X					X			
PAJARO RIVER HYDROLOGIC UNIT																						
Corralitos Lagoon						X	X	X	X										X			
Palm Beach Pond	X					X	X	X		X				X					X			
Pinto Lake	X	X			X	X	X	X		X		X							X			
Kelley Lake	X	X			X	X	X	X		X		X							X			
Drew Lake	X	X			X	X	X	X		X		X							X			
Tynan Lake	X	X			X	X	X	X		X		X							X			
Warner Lake	X	X			X		X	X											X			
Pajaro River Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Pajaro River	X	X		X	X	X	X	X	X	X	X	X				X			X			
San Benito River	X	X		X	X	X	X	X		X		X				X			X			
Bird Creek	X	X			X	X	X	X		X			X						X			
Pescadero Creek (S. Benito)	X	X			X	X	X	X	X	X	X	X							X			
Tres Pinos Creek	X	X		X	X	X	X	X		X		X							X			
Hernandez Reservoir	X	X			X	X	X	X		X		X				X	X		X			
Tequisquite Slough					X	X	X	X		X		X							X			
San Felipe Lake	X	X			X	X	X	X	X	X	X					X	X		X			
Pacheco Creek	X	X			X	X	X	X	X	X	X	X	X	X		X			X			
Pacheco Lake	X	X			X	X	X	X	X	X		X		X		X	X		X			
Llagas Creek (above Chesbro Res.)	X	X			X	X	X	X	X	X				X		X			X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Chesbro Reservoir	X	X			X	X	X	X		X	X	X		X		X	X		X			
Llagas Creek (below Chesbro Res.)	X	X		X	X	X	X	X	X	X	X	X		X					X			
Alamias Creek	X	X			X	X	X	X	X	X	X	X							X			
Live Oak Creek	X	X			X	X	X	X	X	X	X								X			
Little Llagas Creek	X	X			X	X	X	X		X									X			
Carnadero Creek	X				X	X	X	X	X	X	X			X					X			
Uvas Creek, downstream	X	X		X	X	X	X	X	X	X	X	X		X					X			
Uvas Res.	X	X			X	X	X	X		X		X		X		X	X		X			
Little Arthur Creek	X	X			X	X	X	X	X	X	X	X							X			
Bodfish Creek	X	X			X	X	X	X	X	X	X	X		X					X			
Black Hawk Canyon Creek	X					X	X	X		X	X	X		X					X			
Uvas Creek, upstream	X				X	X	X	X	X		X	X		X		X			X			
Little Uvas Creek	X	X			X	X	X	X		X									X			
Swanson Canyon Creek	X				X	X	X	X											X			
Alec Canyon Creek	X				X	X	X	X	X		X	X							X			
Croy Creek	X				X	X	X	X		X				X					X			
Eastman Canyon Creek	X	X			X	X	X	X		X									X			
Pescadero Creek	X	X			X	X	X	X	X		X	X	X						X			
Soda Lake							X	X		X				X					X			
Salsipuedes Creek	X	X			X	X	X	X	X		X	X							X			
Corralitos Creek	X	X		X	X	X	X	X	X	X	X	X							X			
Browns Creek	X	X		X	X	X	X	X	X	X	X	X							X			
Gamecock Creek	X				X	X	X	X	X		X	X							X			
Ramsey Gulch	X				X	X	X	X	X		X	X							X			
Redwood Creek	X					X	X	X	X		X	X							X			
Mormon Gulch	X				X	X	X	X	X										X			
Clipper Gulch	X				X	X	X	X	X										X			
Cookhouse Gulch	X				X	X	X	X	X										X			
Shingle Mill Gulch	X				X	X	X	X	X		X	X							X			
Rattlesnake Gulch	X				X	X	X	X	X										X			
Diablo Gulch Creek	X				X	X	X	X	X										X			
Eureka Gulch	X				X	X	X	X	X										X			
Rider Gulch Creek	X				X	X	X	X	X		X	X							X			
Watsonville Slough						X	X	X		X		X	X	X	X				X			X
Struve Slough						X	X	X		X		X	X	X	X				X			X
Hanson Slough						X	X	X		X		X	X	X	X				X			X
Harkins Slough						X	X	X		X		X	X	X	X				X			X
Gallighan Slough						X	X	X		X		X		X	X				X			X

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
BOLSA NEUVA HYDROLOGIC UNIT																						
McClusky Slough					X	X	X	X		X		X		X					X			X
Elkhorn Slough						X	X	X	X	X	X	X	X	X	X		X		X	X		X
Los Carneros Creek	X					X	X	X	X		X	X		X		X			X			
Bennett Slough/Estuary						X	X	X	X	X		X	X	X	X				X			X
Parsons Slough						X	X	X	X			X	X	X	X				X			X
CARMEL RIVER HYDROLOGIC UNIT																						
Carmel River Estuary					X	X	X	X	X		X	X	X	X	X				X			X
Carmel River	X	X		X	X	X	X	X	X	X	X	X	X	X		X			X			
San Clemente Res.	X	X			X	X	X	X	X		X	X				X	X		X			
San Clemente Creek	X	X			X	X	X	X	X	X	X	X				X			X			
Pine Creek	X				X	X	X	X	X	X	X	X	X						X			
Los Padres Reservoir	X				X	X	X	X	X	X	X	X				X	X		X			
Cachagua Creek	X	X	X	X	X	X	X	X	X	X	X	X				X			X			
Finch Creek	X				X	X	X	X	X	X	X	X	X	X					X			
Tularcitos Creek	X	X			X	X	X	X	X	X	X	X							X			
Rana Creek	X				X	X	X	X	X	X	X	X							X			
Chupines Creek	X				X	X	X	X	X	X	X	X							X			
Black Rock Creek	X					X	X	X	X		X	X		X		X			X			
White Rock Lake	X					X	X	X	X	X	X	X					X		X			
SANTA LUCIA HYDROLOGIC UNIT																						
San Jose Creek Estuary						X	X	X	X		X	X	X	X	X				X			X
San Jose Creek	X	X			X	X	X	X	X	X	X	X	X			X			X			
Garrapata Creek	X					X	X	X	X		X	X		X	X	X			X	X		
Palo Colorado Canyon	X	X			X	X	X	X	X	X		X			X	X			X			
Rocky Creek	X					X	X	X	X	X	X	X			X	X			X			
Bixby Creek	X					X	X	X	X		X	X		X	X	X			X			
Mill Creek	X					X	X	X	X		X	X							X			
Little Sur River Estuary						X	X	X	X		X	X	X	X	X				X			X
Little Sur River	X	X			X	X	X	X	X		X	X	X	X		X			X			
Big Sur River Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Big Sur River	X	X			X	X	X	X	X	X	X	X	X	X		X			X			
Big Creek	X					X	X	X	X	X	X	X	X	X	X	X			X			
Devils Canyon Creek, south fork	X					X	X	X	X		X	X	X						X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Devils Canyon Creek, middle fork	X					X	X	X	X		X	X	X						X			
Devils Canyon Creek, north fork	X					X	X	X	X		X	X	X						X			
Big Creek, north fork	X					X	X	X	X				X						X			
Limekiln Creek	X	X			X	X	X	X	X		X	X	X	X	X	X			X			
Mill Creek (Cape San Martin)	X					X	X	X	X	X	X	X			X	X			X			
Willow Creek	X				X	X	X	X	X		X	X		X	X	X			X			
Salmon Creek	X					X	X	X	X		X	X		X	X	X			X			
SALINAS HYDROLOGIC UNIT																						
Moro Cojo Slough					X	X	X	X	X	X		X	X	X	X				X			X
Old Salinas River Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Tembladero Slough						X	X	X		X		X		X	X				X			X
Espinosa Lake						X	X	X		X									X			
Espinosa Slough						X	X	X		X									X			
Salinas Reclamation Canal						X	X	X		X									X			
Gabilan Creek	X	X			X	X	X	X		X		X							X			
Alisal Creek	X	X			X	X	X	X	X	X		X							X			
Blanco Drain						X	X	X		X									X			
Salinas River Refuge Lagoon (South)						X	X	X	X	X	X		X	X					X			X
Marina Pond #1					X	X	X	X	X			X	X	X					X			
Marina Pond #2					X	X	X	X	X				X	X					X			
Marina Pond #3					X	X	X	X	X				X	X					X			
Marina Pond #4/5					X	X	X	X	X				X	X					X			
Marina Pond #6					X	X	X	X	X				X	X					X			
Marina Pond #7					X	X	X	X	X			X	X	X					X			
Laguna Grande/Roberts Lake	X					X	X	X	X	X									X			
Del Monte Lake	X					X	X	X		X									X			
El Estero Lake	X				X	X	X	X	X	X		X							X			
Salinas River Lagoon (North)						X	X	X	X	X	X	X	X	X	X				X			X
Salinas River, dnstr of Spreckels Gage	X	X					X	X	X	X	X					X			X			
Salinas River, Spreckels Gage-Chualar	X	X	X	X	X	X	X	X	X	X	X								X			
Salinas Riv, Chualar-Nacimiento Riv	X	X	X	X	X	X	X	X	X	X	X	X		X					X			
Arroyo Seco River	X	X		X	X	X	X	X	X	X	X	X		X					X			
Abbott Lakes (The Lakes)	X				X	X	X	X	X	X		X					X		X			
Piney Creek	X					X	X	X	X		X	X							X			
Paloma Creek	X	X			X	X	X	X	X	X									X			
Tassajara Creek	X	X			X	X	X	X	X	X	X	X	X	X					X			
Santa Lucia Creek	X	X			X	X	X	X	X	X	X	X	X						X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Vaqueros Creek	X	X				X	X	X	X		X	X							X			
Reliz Creek	X	X			X	X	X	X	X		X	X							X			
Hames Creek	X	X			X	X	X	X		X									X			
San Antonio Riv., dwnstr frm Res.	X	X		X	X	X	X	X		X	X	X		X					X			
San Antonio Reservoir	X	X			X	X	X	X	X	X		X		X		X	X	X	X			
San Antonio Riv, upstm Frm Res.	X	X		X	X	X	X	X	X	X	X	X		X		X			X			
Pancho Rico Creek	X	X			X	X	X	X		X		X							X			
San Lorenzo Creek	X	X			X	X	X	X		X		X							X			
Chalone Creek	X	X			X	X	X	X		X		X							X			
Salinas R.,Nacimiento R.-S. Margarita Res.	X	X	X		X	X	X	X	X	X	X	X		X					X			
Nacimiento River, upstream of Res.	X	X			X	X	X	X	X	X		X		X		X			X			
Salmon Creek	X					X	X	X	X		X	X		X					X			
Nacimiento Reservoir	X	X			X	X	X	X	X	X		X		X		X	X		X			
Nacimiento River, dwnstr Res.	X	X		X	X	X	X	X	X	X	X	X		X					X			
Las Tablas Creek	X	X			X	X	X	X	X	X		X		X					X			
Las Tablas Creek, north fork	X	X			X	X	X	X	X			X		X					X			
Las Tablas Creek, south fork	X	X			X	X	X	X	X			X		X					X			
Franklin Creek	X	X			X	X	X	X											X			
San Marcos Creek	X	X			X	X	X	X		X									X			
Paso Robles Creek	X	X			X	X	X	X	X		X	X		X					X			
Jack Creek	X	X			X	X	X	X	X		X	X		X					X			
Santa Rita Creek	X	X		X	X	X	X	X	X	X	X	X		X					X			
Atascadero Creek	X	X			X	X	X	X	X			X		X					X			
Santa Margarita Reservoir (Lake)	X	X		X	X	X	X	X	X	X		X		X		X	X	X	X			
Salinas R., Reservoir-Headwaters	X	X			X	X	X	X	X		X	X				X			X			
Huerhuero Creek	X	X			X	X	X	X		X				X					X			
Vineyard Canyon Creek	X	X			X	X	X	X		X									X			
Big Sandy Creek	X	X			X	X	X	X		X			X	X					X			
Atascadero Lake	X				X	X	X	X	X	X		X					X		X			
ESTERO BAY HYDROLOGIC UNIT																						
San Carpoforo Creek Estuary						X	X	X	X		X	X	X	X	X				X			X
San Carpoforo Creek	X	X		X	X	X	X	X	X	X	X	X		X		X			X			
Estrada Creek	X	X			X	X	X	X	X	X									X			
Chris Flood Creek	X	X			X	X	X	X	X	X									X			
Wagner Creek	X	X			X	X	X	X	X	X									X			
Dutra Creek	X	X			X	X	X	X	X	X									X			
Arroyo de los Chinos	X	X			X	X	X	X	X	X				X	X	X			X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Arroyo de la Cruz Estuary						X	X	X	X		X	X	X	X	X				X			X
Arroyo de la Cruz Creek	X	X		X	X	X	X	X	X	X	X	X		X		X			X			
Burnett Creek	X	X			X	X	X	X	X	X	X	X		X					X			
Arroyo del Oso	X	X			X	X	X	X	X					X	X	X			X			
Arroyo del Corral	X	X			X	X	X	X	X	X	X	X		X	X	X			X			
Oak Knoll Creek	X	X			X	X	X	X	X	X				X	X	X			X			
Arroyo Laguna						X	X	X	X			X		X	X				X			X
Little Pico Creek Estuary						X	X	X	X		X	X	X	X	X				X			X
Little Pico Creek	X	X			X	X	X	X	X		X	X		X		X			X			
Pico Creek Estuary					X	X	X	X	X	X	X	X	X	X	X				X			X
Pico Creek	X	X			X	X	X	X	X	X	X	X	X	X		X			X			
Pico Creek, south fork	X	X			X	X	X	X	X		X	X		X					X			
Pico Creek, north fork	X	X			X	X	X	X	X		X	X		X					X			
San Simeon Creek Estuary					X	X	X	X	X		X	X	X	X	X				X			X
San Simeon Creek	X	X		X	X	X	X	X	X	X	X	X	X	X		X			X			
Steiner Creek	X	X			X	X	X	X	X	X	X	X		X					X			
Santa Rosa Creek Estuary					X	X	X	X	X	X	X	X	X	X	X				X			X
Santa Rosa Creek	X	X		X	X	X	X	X	X X	X	X	X		X		X			X			
Perry Creek	X	X			X	X	X	X	X					X					X			
Green Valley Creek	X	X			X	X	X	X	X	X				X					X			
Villa Creek	X	X			X	X	X	X	X		X	X		X	X	X			X			
Cayucos Creek	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X			
Old Creek, downstream	X	X			X	X	X	X		X				X	X	X			X			
Whale Rock Reservoir	X	X	X	X	X	X	X	X	X	X		X		X		X	X		X			
Old Creek, upstream	X	X	X	X	X	X	X	X	X	X		X		X		X			X			
Toro Creek	X	X			X	X	X	X	X	X	X	X		X	X	X			X			
Morro Creek	X	X			X	X	X	X	X	X	X	X		X	X	X			X			
Little Morro Creek	X	X			X	X	X	X	X		X	X		X					X			
Morro Bay Estuary				X		X	X	X	X		X	X	X	X	X				X	X		X
Chorro Creek	X	X			X	X	X	X	X	X	X	X	X	X		X			X			
Dairy Creek	X	X			X	X	X	X	X		X	X		X					X			
San Luisito Creek	X	X			X	X	X	X	X		X	X		X					X			
San Bernardo Creek	X	X			X	X	X	X	X		X	X		X					X			
Los Osos Creek	X	X			X	X	X	X	X	X	X	X		X		X			X			
Warden Lake Wetland		X			X	X	X	X		X		X		X					X			
Islay Creek	X	X			X	X	X	X	X		X	X	X	X	X	X			X			
Coon Creek	X	X			X	X	X	X	X		X	X	X	X	X	X			X			
Diablo Canyon Creek	X	X		X	X	X	X	X	X			X		X	X	X			X			
San Luis Obispo Creek Estuary (a)					X	X	X	X	X	X	X	X	X	X	X				X	X		X

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
S.L.O.Crk. above W. Marsh St.	X	X			X	X	X	X	X	X	X	X		X					X			
S.L.O.Crk. below W. Marsh St.	X	X			X	X	X	X	X	X	X	X				X			X			
Froom Creek	X					X	X	X						X					X			
Davenport Creek	X	X			X	X	X	X	X					X					X			
San Luis Obispo Creek, east fork	X	X			X	X	X	X	X		X	X		X					X			
Stenner Creek	X	X			X	X	X	X	X		X	X		X					X			
Brizziolari Creek	X	X			X	X	X	X	X		X	X		X					X			
Prefumo Creek	X	X			X	X	X	X	X		X	X		X		X			X			
Laguna Lake	X	X			X	X	X	X		X	X	X		X			X		X			
Pismo Creek Estuary					X	X	X	X	X		X	X	X	X	X				X			X
Pismo Creek	X	X		X	X	X	X	X	X	X	X	X	X	X		X			X			
Arroyo Grande Creek Estuary					X	X	X	X	X		X	X	X	X	X				X			X
Arroyo Grande Creek, downstream	X	X		X	X	X	X	X	X	X	X			X		X			X			
Oceano Lagoon						X	X	X		X		X	X	X					X			
Meadow Creek	X	X			X	X	X	X	X				X	X					X			
Pismo Marsh (Lake)					X	X	X	X		X			X	X					X			
Los Berros Creek	X	X			X	X	X	X	X		X			X					X			
Lopez Reservoir	X	X	X	X	X	X	X	X	X	X		X		X		X	X		X			
Arroyo Grande Creek, upstream	X	X	X	X	X	X	X	X	X	X	X	X		X					X			
Big Pocket Lake (Dunes Lakes)					X		X	X						X					X			
Willow Lake " "					X	X	X	X		X		X		X					X			
Pipeline Lake " "					X	X	X	X		X		X		X					X			
Celery Lake " "					X	X	X	X		X		X		X					X			
Hospital Lake " "					X	X	X	X		X		X		X					X			
Big Twin Lake " "					X	X	X	X		X		X		X					X			
Small Twin Lake " "						X	X	X		X		X		X					X			
Bolsa Chico Lake " "					X	X	X	X		X		X		X					X			
White Lake " "					X	X	X	X		X		X		X					X			
Mud Lake " "					X	X	X	X		X		X		X					X			
Black Lake " "					X	X	X	X		X		X		X					X			
Dune Lakes Marsh Area " "					X	X	X	X		X		X		X					X			
CARRIZO PLAIN HYDROLOGIC UNIT																						
San Diego Creek	X	X			X	X	X	X		X			X	X		X			X			
Soda Lake				X			X	X		X			X	X					X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
SANTA MARIA HYDROLOGIC UNIT																						
Oso Flaco Lake					X	X	X	X		X		X	X	X			X		X			
Oso Flaco Creek	X	X			X	X	X	X		X			X	X		X			X			
Santa Maria River Estuary					X	X	X	X		X	X	X	X	X	X				X			X
Santa Maria River	X	X		X	X	X	X	X	X	X	X			X		X			X			
Corralitos Canyon Creek	X	X				X	X	X											X			
Sisquoc River, downstream	X	X		X	X	X	X	X	X	X	X	X							X			
Sisquoc River, upstream	X				X	X	X	X	X		X	X	X	X					X			
Cuyama River, downstream	X	X			X	X	X	X		X				X					X			
Twitchell Reservoir	X	X			X		X	X		X				X		X			X			
Cuyama River, upstream	X	X	X	X	X	X	X	X	X	X		X		X		X			X			
Alamo Creek	X	X			X	X	X	X	X	X		X		X					X			
Huasna River	X	X			X	X	X	X		X				X					X			
Orcutt Creek	X	X			X	X	X	X	X					X	X	X			X			
SAN ANTONIO HYDROLOGIC UNIT																						
Shuman Canyon Creek	X	X				X	X	X		X		X			X	X			X			
Casmalia Canyon Creek	X	X				X	X	X		X		X							X			
San Antonio Creek Estuary					X	X	X	X	X	X	X	X	X	X	X				X			X
San Antonio Creek	X	X			X	X	X	X	X	X	X	X		X		X			X			
Barka Slough					X	X	X	X		X		X		X	X				X			X
SANTA YNEZ HYDROLOGIC UNIT																						
Santa Ynez River Estuary						X	X	X		X	X	X	X	X	X				X			X
Santa Ynez River, downstream	X	X	X	X	X	X	X	X	X	X	X	X		X		X			X			
Graves Wetland						X	X	X		X		X							X			
Lompoc Canyon	X	X		X	X	X	X	X		X									X			
La Salle Canyon Creek	X	X			X	X	X	X		X									X			
Sloans Canyon Creek	X				X	X	X	X		X									X			
San Miguelito Creek	X	X			X	X	X	X	X	X		X							X			
Salsipuedes Creek	X	X		X	X	X	X	X	X	X	X	X							X			
El Jaro Creek	X	X		X	X	X	X	X	X	X	X	X							X			
El Callejon Creek	X				X	X	X	X		X									X			
Llanito Creek	X				X	X	X	X		X									X			
Yrdisis Creek	X	X			X	X	X	X		X		X							X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Canada de la Vina	X	X			X	X	X	X		X									X			
Nojoqui Creek	X	X			X	X	X	X	X	X		X							X			
Alamo Pintado Creek	X	X		X	X	X	X	X		X									X			
Zaca Creek	X	X			X	X	X	X	X	X				X					X			
Zaca Lake	X					X	X	X	X	X		X		X					X			
Santa Rosa Creek	X	X			X	X	X	X	X	X	X	X							X			
Santa Rita Creek	X	X		X	X	X	X	X		X									X			
Davis Creek	X				X	X	X	X		X									X			
Santa Lucia Canyon Creek	X	X			X	X	X	X		X									X			
Oak Canyon Creek	X	X		X	X	X	X	X		X			X						X			
Hilton Creek	X	X			X	X	X	X	X		X	X							X			
Cachuma Reservoir	X	X	X		X	X	X	X	X	X		X		X		X	X		X			
Santa Ynez River, upstream	X	X	X	X	X	X	X	X	X	X	X	X		X		X			X			
Gibraltar Reservoir	X	X	X	X	X	X	X	X	X	X		X		X		X	X		X			
Jameson Reservoir	X	X	X		X	X	X	X	X	X		X		X		X	X		X			
Agua Caliente Canyon	X	X		X	X	X	X	X	X	X		X		X					X			
Mono Creek	X	X		X	X	X	X	X	X	X	X	X		X					X			
Indian Creek	X	X		X	X	X	X	X	X	X	X	X	X	X					X			
Santa Cruz Creek	X	X		X	X	X	X	X	X	X	X	X		X					X			
Cachuma Creek	X				X	X	X	X	X	X	X	X		X					X			
SOUTH COAST HYDROLOGIC UNIT																						
Canada Honda Creek Estuary						X	X	X	X	X	X	X	X	X	X				X			X
Canada Honda Creek	X	X			X	X	X	X	X	X	X	X		X		X			X			
Canada Agua Viva	X				X	X	X	X		X					X	X			X			
Water Canyon Creek	X				X	X	X	X		X			X		X	X			X			
Canada del Jolloru	X					X	X	X		X					X	X			X			
Jalama Creek Estuary						X	X	X		X	X	X	X	X	X				X			X
Jalama Creek	X	X			X	X	X	X		X		X				X			X			
Escondido Creek	X				X	X	X	X	X	X	X	X		X					X			
Gaspar Creek	X				X	X	X	X		X									X			
Espada Creek	X				X	X	X	X		X									X			
Wood Canyon Creek	X				X	X	X	X		X					X	X			X			
Canada del Cojo	X				X	X	X	X		X					X	X			X			
Barranca Honda	X	X			X	X	X	X		X				X	X	X			X			
Arroyo Bulito	X	X			X	X	X	X		X					X	X			X			
Canada de Santa Anita	X	X			X	X	X	X		X					X	X			X			
Canada del Sacate	X	X			X	X	X	X		X					X	X			X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Canada Alegria	X				X	X	X	X		X					X	X			X			
Canada del Agua Caliente	X	X			X	X	X	X	X	X					X	X			X			
Canada de la Gaviota	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X			
Canada San Onofre	X					X	X	X	X	X	X	X		X	X	X			X			
Canada del Molino	X					X	X	X		X				X	X	X			X			
Arroyo Hondo	X					X	X	X	X	X	X	X		X	X	X			X			
Arroyo Quenado	X	X				X	X	X	X		X	X		X	X	X			X			
Tajigas Creek	X	X			X	X	X	X	X	X	X	X		X	X	X			X			
Canada del Refugio	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X			
Canada del Capitan	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X			
Dos Pueblos Canyon Creek	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X			X			
Tecolote Creek	X	X	X	X	X	X	X	X	X	X	X	X		X	X	X			X			
Devereaux Ranch Lagoon						X	X	X		X	X	X	X	X	X				X			X
Devereaux Creek	X				X	X	X	X		X						X			X			
Goleta Point Marsh						X	X	X		X		X	X	X					X			
Goleta Slough/Estuary						X	X	X		X	X	X	X	X	X				X			X
Carneros Creek	X	X			X	X	X	X	X	X						X			X			
Tecolotito Creek	X				X	X	X	X	X	X	X					X			X			
Glen Anne Creek	X	X	X	X	X	X	X	X	X	X	X	X		X		X			X			
Los Carneros Wetland					X	X	X	X		X		X		X					X			
Los Carneros	X	X			X	X	X	X		X		X		X		X			X			
Atascadero Creek (SB)	X	X			X	X	X	X	X	X	X	X		X		X			X			
Maria Ygnacio Creek	X	X			X	X	X	X	X		X	X							X			
San Antonio Creek (S Barbara County)	X	X			X	X	X	X	X	X	X	X		X					X			
San Jose Creek (S Barbara County)	X	X			X	X	X	X	X	X	X	X		X		X			X			
Las Vegas Creek	X				X	X	X	X	X	X									X			
San Pedro Creek	X	X			X	X	X	X	X	X	X					X			X			
Las Palmas Creek	X				X	X	X	X		X									X			
Arroyo Burro Estuary						X	X	X		X		X			X				X			
Arroyo Burro Creek	X				X	X	X	X		X		X	X	X		X			X			
Mission Creek	X				X	X	X	X	X	X	X	X		X	X	X			X			
Rattlesnake Canyon	X				X	X	X	X	X	X	X	X							X			
Waste Slough					X	X	X	X		X		X							X			
Sycamore Creek	X	X			X	X	X	X	X	X	X	X		X	X	X			X			
Andree Clark Bird Refuge						X	X	X		X			X	X					X			X
San Ysidro Creek	X				X	X	X	X		X					X	X			X			
Romero Creek	X				X	X	X	X		X					X	X			X			
Toro Canyon Creek	X				X	X	X	X		X					X	X			X			
Arroyo Paredon	X	X			X	X	X	X		X	X	X		X	X	X			X			

Table 2-1. Identified Uses of Inland Surface Waters

Waterbody Names	MUN	AGR	PRO	IND	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	FRESH	NAV	POW	COMM	AQUA	SAL	SHELL
Carpinteria Marsh (El Estero Marsh)						X	X	X		X	X	X	X	X	X				X			
Santa Monica Creek	X	X			X	X	X	X	X	X		X	X			X			X			
Franklin Creek	X	X			X	X	X	X	X	X	X	X		X		X			X			
Carpinteria Creek	X	X			X	X	X	X	X	X	X	X	X	X	X	X			X			
Gobernador Creek	X				X	X	X	X	X	X		X							X			
Steer Creek	X					X	X	X	X	X	X	X							X			
Rincon Creek	X	X			X	X	X	X	X	X	X	X		X	X	X			X			
SANTA BARBARA CHANNEL HYDROLOGIC UNIT																						
SANTA ROSA ISLAND																						
Canada Lobos Creek	X	X				X	X	X		X			X	X					X			
Old Ranch Canyon Creek	X	X				X	X	X		X			X	X		X			X			
Arlington Canyon Creek	X	X				X	X	X		X			X	X					X			
Water Canyon Creek	X	X				X	X	X		X			X	X					X			
Cow Canyon Creek	X	X				X	X	X		X			X	X					X			
Clapp Springs	X	X				X	X	X		X			X	X					X			
Old Ranch Canyon Creek Estuaries		X				X	X	X		X			X	X	X				X			
Old Ranch House Canyon Creek	X	X				X	X	X		X			X	X		X			X			
Cherry Canyon Creek	X	X				X	X	X		X			X	X					X			
SANTA CRUZ ISLAND																						
Willow Canyon Creek	X					X	X	X		X			X	X					X			
Coches Prieto Canyon Creek	X					X	X	X		X			X	X					X			
Almos Anchorage Canyon Creek	X					X	X	X		X			X	X					X			
Canada del Puerta (Prisoner Harbor)	X					X	X	X		X			X	X					X			
Canada Larga Creek	X					X	X	X		X			X	X					X			
Upper Pozo Canyon Creek	X					X	X	X		X			X	X					X			
Sauces Canyon Creek	X					X	X	X		X			X	X					X			
Twin Harbors Canyon Ck, (E. Fork)	X					X	X	X		X			X	X					X			
Lady's Harbor Canyon Creek	X					X	X	X		X			X	X					X			
ESTRELLA RIVER HYDROLOGIC UNIT																						
Estrella River	X	X			X	X	X	X		X		X							X			
San Juan Creek	X	X			X	X	X	X		X				X					X			
Chalome Creek	X	X			X	X	X	X		X				X					X			
Little Chalome Creek	X	X			X	X	X	X		X				X					X			

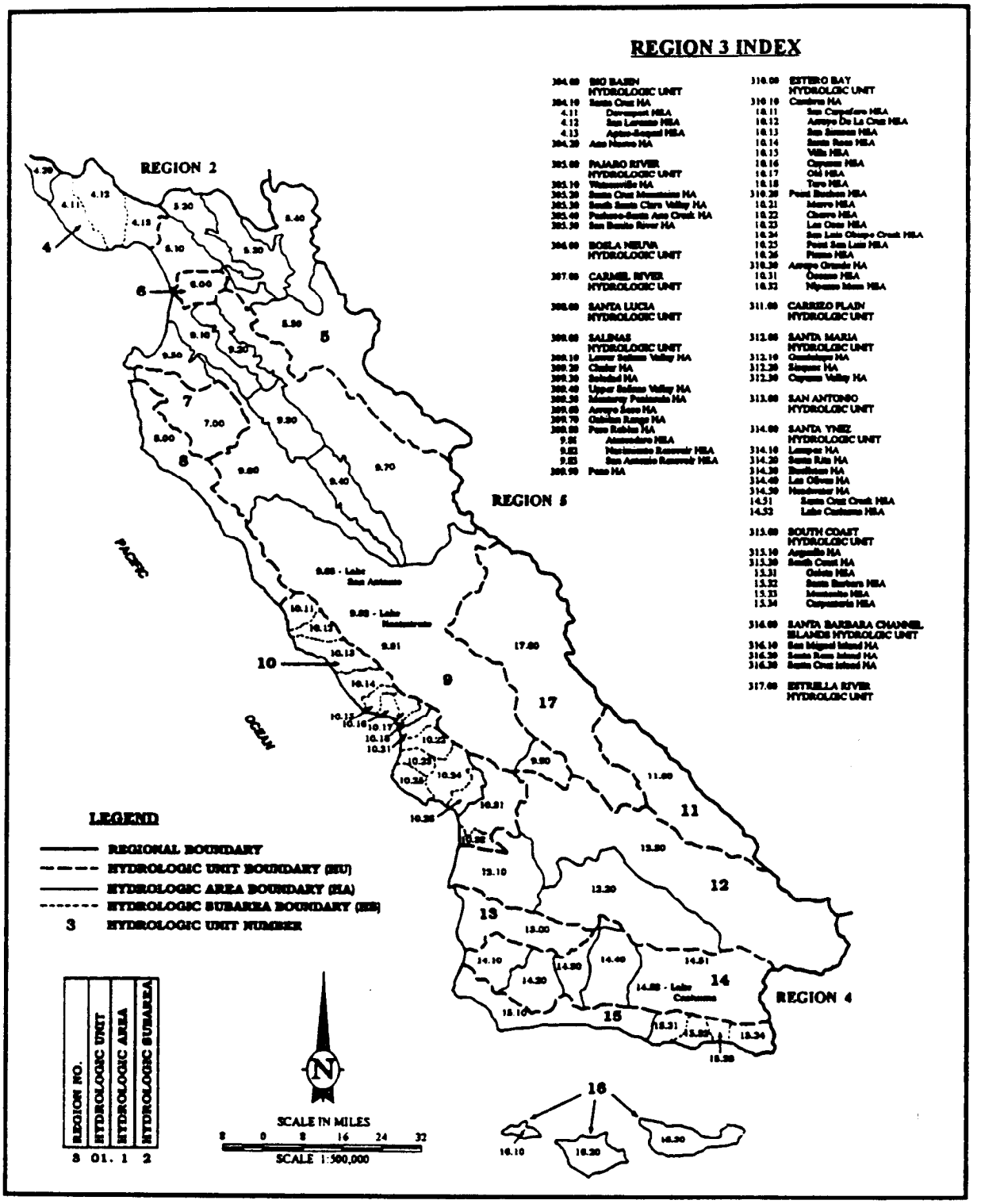


FIGURE 2-1. CENTRAL COAST HYDROLOGIC PLANNING AREA

TABLE 2-2. Existing and Anticipated Uses of Coastal Waters[a]

Coastal Water	REC-1	REC-2	IND	NAV	MAR	SHELL	COMM	RARE	ASBS	WILD
Pescadero Pt. to Pt. Ano Nuevo	E	E	E	E	E	E	E	E		E
Pt. Ano Nuevo to Soquel Pt.	E	E	E	E	E	E	E			E
Pt. Ano Nuevo and Island	E	E			E			E	E	E
Santa Cruz Harbor	E	E	E	E	E		E			
San Lorenzo Esturary	E	E		E	E	E	E			E
Soquel Pt. to Salinas River	E	E	E	E	E	E	E	E		E
Elkhorn Slough[b]	E	E			E	E	E	E		E
Moss Landing Harbor	E	E	E	E	E	E[c]	E	E		E
Salinas River to Pt. Pinos	E	E	E	E	E	E	E			E
Monterey Harbor	A	E	E	E	E	E	A	E		
Pacific Grove Marine Gardens	E	E			E		E	E	E	E
Hopkins Marine Life Refuge	E	E			E		E	E	E	E
Pt. Pinos to Pt. Piedras Blancas	E	E		E	E		E	E		E
Carmel Bay	E	E			E		E	E	E	E
Pt. Lobos State Reserve	E	E			E			E	E	E
Pt. Sur	E	E			E	E	E			E
Pfeiffer-Burns State Park	E	E			E			E	E	E
Ocean Area Surrounding Salmon Creek	E	E			E				E	E
Pt. Piedras Blancas to Pt. Estero	E	E		E	E	E	E	E		E
Estero Bay	E	E	E	E	E	E	E	E		E
Morro Bay	E	E	E	E	E	E	E	E		E
Pt. Buchon to Pt. San Luis	E	E	E	E	E	E	E			E
Pt. San Luis to Pt. Sal	E	E	E	E	E	E	E	E		E
Pt. Sal to Pt. Arguello	E	E		E	E	E	E			E
Pt. Arguello to Coal Oil Pt.	E	E	E	E	E	E	E			
Coal Oil Pt. to Rincon Pt.	E	E	E	E	E	E	E	E		E
Goleta Slough	E	E			E	E		E		E
Santa Barbara Harbor	E	E	E	E	E		E			
Beach Parks	E	E		E	E					
San Miguel Island	E	E		E	E	E	E	E	E	E
Santa Rosa Island	E	E		E	E	E	E		E	E
Santa Cruz Island	E	E		E	E	E	E	E	E	E
El Estero	E	E			E	E		E		E

[a] This table lists selected coastal segments. It is not a complete inventory for the Central Coast Region. Unlisted water bodies have implied beneficial use designations for protection of both recreation and aquatic life.

[b] Elkhorn Slough has been designated an ecological reserve by the California Department of Fish and Game, and recognized as a National Estuary Sanctuary by the Federal Government.

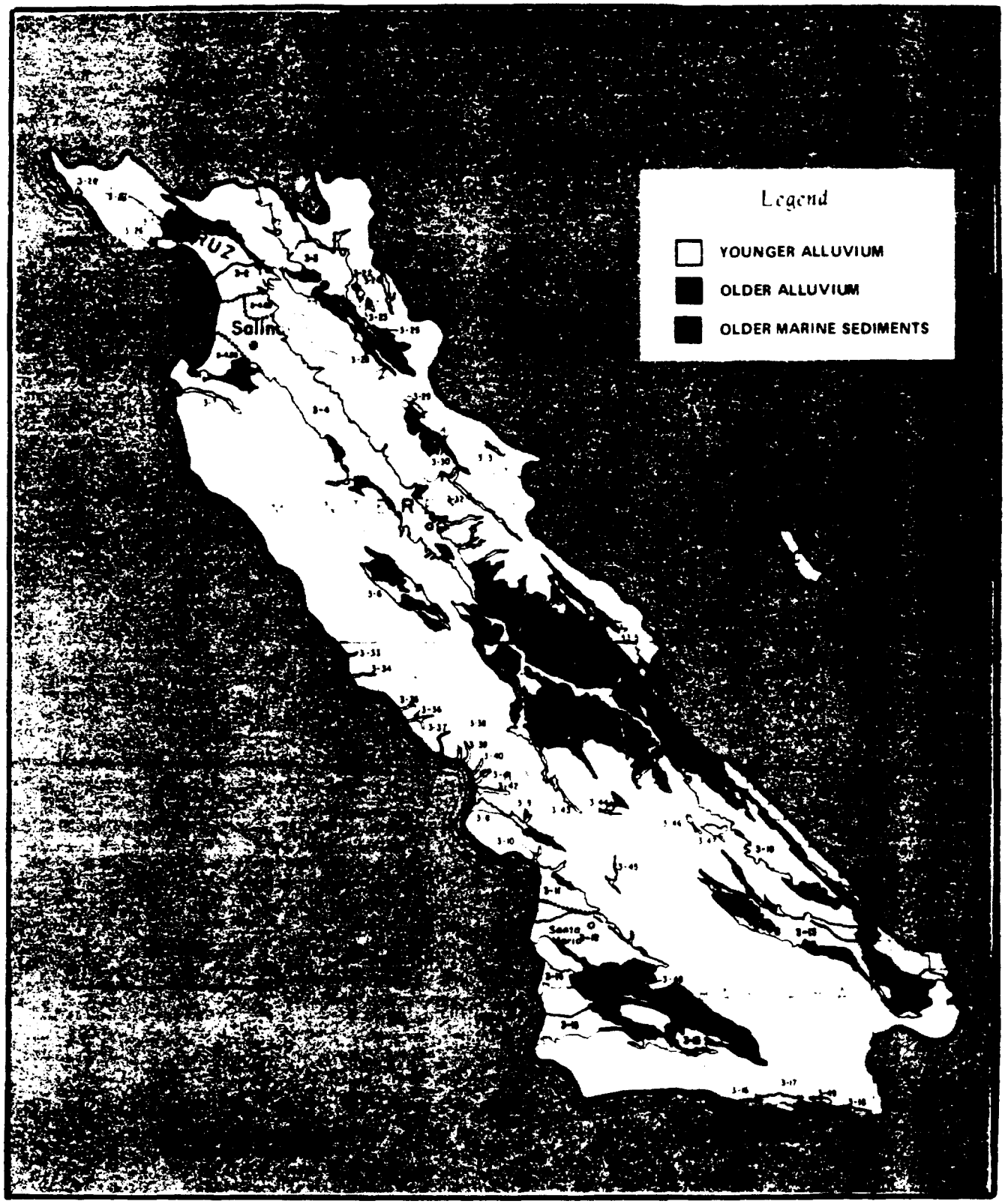
[c] Clamming is an existing beneficial use in the North Harbor and on the south side of the entrance channel to Elkhorn Slough (north of the Pacific Gas and Electric Cooling Water Intake). Presently, no shellfishing use occurs south of the Pacific Gas and Electric Intake.

NOTES: E = Existing beneficial water use
A = Anticipated beneficial water use

TABLE 2-3. Central Coastal Ground Water Basins*

Name	County
Ano Nuevo Area (3-20)	San Mateo
Arroyo de la Cruz Valley (3-34)	San Luis Obispo
Arroyo Grande Valley-Nipoma Mesa Area (3-11)	San Luis Obispo
Big Spring Area (3-47)	San Luis Obispo
Bitter Water Valley (3-30)	San Benito
Careaga Sand Highlands (3-48)	Santa Barbara
Carmel Valley (3-7)	Monterey
Carpinteria Basin (3-18)	Santa Barbara
Carrizo Plain (3-19)	San Luis Obispo
Cayucos Valley (3-38)	San Luis Obispo
Cholame Valley (3-5)	Monterey, San Luis Obispo
Chorro Valley (3-42)	San Luis Obispo
Corral de Tierra Area (3-4.10)	Monterey
Cuyama Valley (3-13)	Kern, San Luis Obispo, Santa Barbara, Ventura
Dry Lake Valley (3-29)	San Benito
Gilroy-Hollister Valley (3-3)	San Benito, Santa Clara
Goleta Basin (3-16)	Santa Barbara
Hernandez Valley (3-31)	San Benito
Huasna Valley (3-45)	San Luis Obispo
Langley Area (3-4.09)	Monterey
Lockwood Valley (3-6)	Monterey
Los Osos Valley (3-8)	San Luis Obispo
Montecito Area (3-49)	Santa Barbara
Morro Valley (3-41)	San Luis Obispo
Old Valley (3-39)	San Luis Obispo
Pajaro Valley (3-2)	Monterey, Santa Cruz
Paso Robles Basin (3-4.06)	Monterey, San Luis Obispo
Peach Tree Valley (3-32)	San Benito
Pismo Creek Valley (3-10)	San Luis Obispo
Pozo Valley (3-44)	San Luis Obispo
Quien Sabe Valley (3-24)	San Benito
Rafael Valley (3-46)	San Luis Obispo
Rinconada Valley (3-43)	San Luis Obispo
Salinas Valley (3-4)	Monterey
San Antonio Creek Valley (3-14)	Santa Barbara
San Benito River Valley (3-28)	San Benito
San Carpoforo Valley (3-33)	San Luis Obispo
San Luis Obispo Valley (3-9)	San Luis Obispo
San Simeon Valley (3-35)	San Luis Obispo
Santa Ana Valley (3-22)	San Benito
Santa Barbara Basin (3-17)	Santa Barbara
Santa Cruz Purisima Formation Highlands (3-21)	Santa Cruz
Santa Maria River Valley (3-12)	San Luis Obispo, Santa Barbara
Santa Rosa Valley (3-36)	San Luis Obispo
Santa Ynez River Valley (3-15)	Santa Barbara
Scotts Valley (3-27)	Santa Cruz
Seaside Area (3-4.08)	Monterey
Soquel Valley (3-1)	Santa Cruz
Toro Valley (3-40)	San Luis Obispo
Tres Pinos Creek Valley (3-25)	San Benito
Upper Santa Ana Valley (3-23)	San Benito
Villa Valley (3-37)	San Luis Obispo
West Santa Cruz Terrace (3-26)	Santa Cruz

* Basin number locations identified on Figure 2-2.


Legend
YOUNGER ALLUVIUM
OLDER ALLUVIUM
OLDER MARINE SEDIMENTS
Salinas

d. The water is in collection or treatment systems of municipal or industrial wastewaters, process waters, mining wastewaters, or storm water runoff; and
e. The water is in systems for conveying or holding agricultural drainage waters.

Agricultural Supply (AGR) - Uses of water for farming, horticulture, or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for range grazing.

Industrial Process Supply (PROC) - Uses of water for industrial activities that depend primarily on water quality (i.e., waters used for manufacturing, food processing, etc.).

Industrial Service Supply (IND) - Uses of water for industrial activities that do not depend primarily on water quality including, but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.

Ground Water Recharge (GWR) - Uses of water for natural or artificial recharge of ground water for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers. Ground water recharge includes recharge of surface water underflow.

Freshwater Replenishment (FRSH) - Uses of water for natural or artificial maintenance of surface water quantity or quality (e.g., salinity) which includes a water body that supplies water to a different type of water body, such as, streams that supply reservoirs and lakes, or estuaries; or reservoirs and lakes that supply streams. This includes only immediate upstream water bodies and not their tributaries.

Navigation (NAV) - Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels. This Board interprets NAV as, "Any stream, lake, arm of the sea, or other natural body of water that is actually navigable and that, by itself, or by its connections with other waters, for a period long enough to be of commercial value, is of sufficient capacity to float watercraft for the purposes of commerce, trade, transportation, and including pleasure; or any waters that have been declared navigable by the Congress of the United States" and/or the California State Lands Commission.

Hydropower Generation (POW) - Uses of water for hydropower generation.

Water Contact Recreation (REC-1) - Uses of water for recreational activities involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, swimming, wading, water-skiing, skin and scuba diving, surfing, white water activities, fishing, or use of natural hot springs.

Non-Contact Water Recreation (REC-2) - Uses of water for recreational activities involving proximity to water, but not normally involving body contact with water, where ingestion of water is reasonably possible. These uses include, but are not limited to, picnicking, sunbathing, hiking, beachcombing, camping, boating tidepool and marine life study, hunting, sightseeing, or aesthetic enjoyment in conjunction with the above activities.

Commercial and Sport Fishing (COMM) - Uses of water for commercial or recreational collection of fish, shellfish, or other organisms including, but not limited to, uses involving organisms intended for human consumption or bait purposes.

Aquaculture (AQUA) - Uses of water for aquaculture or mariculture operations including, but not limited to, propagation, cultivation, maintenance, or harvesting of aquatic plants and animals for human consumption or bait purposes.

Warm Fresh Water Habitat (WARM) - Uses of water that support warm water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.

Cold Fresh Water Habitat (COLD) - Uses of water that support cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife, including invertebrates.

Inland Saline Water Habitat (SAL) - Uses of water that support inland saline water ecosystems including, but not limited to, preservation or enhancement of aquatic saline habitats, vegetation, fish, or wildlife, including invertebrates. Soda Lake is a saline habitat typical of desert lakes in inland sinks.

Estuarine Habitat (EST) - Uses of water that support estuarine ecosystems including, but not limited to, preservation or enhancement of estuarine habitats, vegetation, fish, shellfish, or wildlife (e.g., estuarine mammals, waterfowl, shorebirds). An estuary is generally described as a semi-enclosed body of water having a free connection with the open sea, at least part of the year and within which the seawater is diluted at least seasonally with fresh water drained from the land. Included are water bodies which would naturally fit the definition if not controlled by tidegates or other such devices.

Marine Habitat (MAR) - Uses of water that support marine ecosystems including, but not limited to, preservation or enhancement of marine habitats, vegetation such as kelp, fish, shellfish, or wildlife (e.g., marine mammals, shorebirds).

Wildlife Habitat (WILD) - Uses of water that support terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, wildlife (e.g., mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources.

Preservation of Biological Habitats of Special Significance (BIOL) - Uses of water that support designated areas or habitats, such as established refuges, parks, sanctuaries, ecological reserves, or Areas of Special Biological Significance (ASBS), where the preservation or enhancement of natural resources requires special protection.

Rare, Threatened, or Endangered Species (RARE) - Uses of water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

Migration of Aquatic Organisms (MIGR) - Uses of water that support habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.

Spawning, Reproduction, and/or Early Development (SPWN) - Uses of water that support high quality aquatic habitats suitable for reproduction and early development of fish.

Shellfish Harvesting (SHELL) - Uses of water that support habitats suitable for the collection of filter-feeding shellfish (e.g., clams, oysters, and mussels) for human consumption, commercial, or sport purposes. This includes waters that have in the past, or may in the future, contain significant shellfisheries.

Areas of Special Biological Significance (ASBS) - are those areas designated by the State Water Resources Control Board as requiring protection of species or biological communities to the extent that alteration of natural water quality is undesirable.

The following areas have been designated Areas of Special Biological Significance in the Central Coastal Basin:

1. Ano Nuevo Point and Island, San Mateo County
2. Pacific Grove Marine Gardens Fish Refuge and Hopkins Marine Life Refuge, Monterey County
3. Point Lobos Ecological Reserve, Monterey County
4. Carmel Bay, Monterey County
5. Julia Pfeiffer Burns Underwater Park, Monterey County
6. Ocean area surrounding the mouth of Salmon Creek, Monterey County
7. Channel Islands, Santa Barbara County - San Miguel, Santa Rosa, Santa Cruz

An ASBS designation implies the following requirements:

Discharge of elevated temperature wastes in a manner that would alter water quality conditions from those occurring naturally will be prohibited.

Discharge of discrete, point source sewage or industrial process wastes in a manner that would alter water quality conditions from those occurring naturally will be prohibited.

Discharge of waste from nonpoint sources, including but not limited to storm water runoff, silt, and urban runoff, will be controlled to the extent practicable. In control programs for waste from nonpoint sources, Regional Boards will give high priority to areas tributary to ASBS.

Further information concerning ASBS areas can be found by reviewing Regional Board Policies in Chapter Five.

CHAPTER 3. WATER QUALITY OBJECTIVES

Section 13241, Division 7 of the California Water Code specifies that each Regional Water Quality Control Board shall establish water quality objectives which, in the Regional Board's judgement, are necessary for the reasonable protection of beneficial uses and for the prevention of nuisance.

Section 303 of the 1972 Amendments to the federal Water Pollution Control Act requires the State to submit to the Administrator of the U.S. Environmental Protection Agency (U.S. EPA) 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 beneficial uses enumerated in Chapter Two and water quality objectives contained in this chapter.

Water quality objectives contained herein are designed to satisfy all State and federal requirements.

As new information becomes available, the Regional Board will review the appropriateness of objectives contained herein. These objectives are subject to public hearing at least once during each three-year period following adoption of this plan for the purpose of review and modification as appropriate.

I. CONSIDERATIONS IN SELECTING WATER QUALITY OBJECTIVES

The aforementioned 1972 Amendments to the federal Water Pollution Control Act declare that a national goal is elimination of discharge of pollutants into navigable waters.

A prerequisite to water quality control planning is the establishment of a base or reference point. The base in this instance was various general and specific water quality criteria previously found acceptable for particular beneficial uses or selected sources of waste. Current technical guidelines, available historical data, and enforcement feasibility were given full consideration in formulating water quality objectives.

A distinction is made here between the terms "water quality objectives" and "water quality standards". Water quality objectives have been adopted by the State and, when applicable, extended as federal water quality standards. Water quality standards, previously mentioned in this chapter's introduction, pertain to navigable waters and become legally enforceable criteria when accepted by the U.S. EPA Regional Administrator.

Point and nonpoint water pollution sources described herein have the same meaning as defined in the federal Water Pollution Control Act. Point sources are waste loads from identifiable sources such as municipal discharges, industrial discharges, vessels, controllable storm waters, fish hatchery discharges, confined animal operations, and agricultural drains. Nonpoint sources are waste loads resulting from land use practices where wastes are not collected and disposed of in any readily identifiable manner. Examples include: urban drainage, agricultural runoff, road construction activities, mining, grassland management, logging and other harvest activities, and natural sources such as effects of fire, flood, and landslide. The distinction between point sources and diffuse sources is not always clear but generally applies to the practicality of waste load control.

Water quality objectives for the Central Coastal Basin satisfy State and federal requirements to protect waters for the beneficial uses in Chapter Two and are consistent with all existing statewide plans and policies.

II. WATER QUALITY OBJECTIVES

The water quality objectives which follow supersede and replace those contained in the 1967 Water Quality Control Policies; the Interim Water Quality Control Plan for the Central Coastal Basin adopted by the Regional Board in 1971, including all existing revisions; and the Water Quality Control Plan Report for the Central Coastal Basin, adopted by the Regional Board in 1974.

Controllable water quality shall conform to the water quality objectives contained herein. When other conditions cause degradation of water quality beyond the levels or limits established as water quality objectives, controllable conditions shall not cause further degradation of water quality.

Controllable water quality conditions are those actions or circumstances resulting from man's activities that may influence the quality of the waters of the State and that may be reasonably controlled.

Water quality objectives are considered to be necessary to protect those present and probable future beneficial uses enumerated in Chapter Two of this plan 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 implementation of this water quality control plan.

In setting waste discharge requirements, the Regional Board will consider the potential impact on beneficial uses within the area of influence of the discharge, the existing quality of receiving waters, and the appropriate water quality objectives. The Regional Board will make a finding of beneficial uses to be protected and establish waste discharge requirements to protect those uses and to meet water quality objectives.

Several water quality objectives listed herein originate from the California Code of Regulations, Title 22. If Title 22 concentrations are amended, Basin Plan objectives are automatically amended to correspond with the new regulations.

II.A. ANTI-DEGRADATION POLICY

Wherever the existing quality of water is better than the quality of water established herein as objectives, such existing quality shall be maintained unless otherwise provided 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 in the Appendix.

II.A.1. OBJECTIVES FOR OCEAN WATERS

The provisions of the State Board's "Water Quality Control Plan for Ocean Waters of California" (Ocean Plan), "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 in their entirety to affected waters of the basin. The Ocean and Thermal Plans shall also apply in their entirety to Monterey Bay and Carmel Bay. Copies of these plans are included verbatim in the Appendix.

In addition to provisions of the Ocean Plan and Thermal Plan, the following objectives shall also apply to all ocean waters, including Monterey and Carmel Bays:

Dissolved Oxygen

The mean annual dissolved oxygen concentration shall not be less than 7.0 mg/l, nor shall the minimum dissolved oxygen concentration be reduced below 5.0 mg/l at any time.

pH

The pH value shall not be depressed below 7.0, nor raised above 8.5.

Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

II.A.2. OBJECTIVES FOR ALL INLAND SURFACE WATERS, ENCLOSED BAYS, AND ESTUARIES

II.A.2.a. GENERAL OBJECTIVES

The following objectives apply to all inland surface waters, enclosed bays, and estuaries of the basin:

Color

Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses. Coloration attributable to materials of waste origin shall not be greater than 15 units or 10 percent above natural background color, whichever is greater.

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, that cause nuisance, or that adversely affect beneficial uses.

Floating Material

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

Suspended Material

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

Settleable Material

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

Oil and Grease

Waters shall not contain oils, greases, waxes, or other similar 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.

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.

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.

Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses.

Increase in turbidity attributable to controllable water quality factors shall not exceed the following limits:

1. Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20 percent.

2. Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU.

3. Where natural turbidity is greater than 100 JTU, increases shall not exceed 10 percent.

Allowable zones of dilution within which higher concentrations will be tolerated will be defined for each discharge in discharge permits.

pH

For waters not mentioned by a specific beneficial use, the pH value shall not be depressed below 7.0 or raised above 8.5.

Dissolved Oxygen

For waters not mentioned by a specific beneficial use, dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time. Median values should not fall below 85 percent saturation as a result of controllable water quality conditions.

Temperature

Temperature objectives for Enclosed Bays and Estuaries are as specified in the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" including any revisions thereto. A copy of this plan is included in the Appendix.

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

Toxicity

All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which 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, toxicity bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.

Survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality conditions, 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, latest edition. 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 numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances is encouraged.

The discharge of wastes shall not cause concentrations of unionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in receiving waters.

Pesticides

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

For waters where existing concentrations are presently nondetectable or where beneficial uses would be impaired by concentrations in excess of nondetectable levels, total identifiable chlorinated hydrocarbon pesticides shall not be present at concentrations detectable within the accuracy of analytical methods prescribed in Standard Methods for the Examination of Water and Wastewater, latest edition, or other equivalent methods approved by the Executive Officer.

Chemical Constituents

Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and other relevant local controls.

Other Organics

Waters shall not contain organic substances in concentrations greater than the following:

Methylene Blue Activated Substances	0.2 mg/l
Phenols	0.1 mg/l
PCB's	0.3 µg/l
Phthalate Esters	0.002 µg/l

Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life.

MUNICIPAL AND DOMESTIC SUPPLY (MUN)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Organic Chemicals

All inland surface waters, enclosed bays, and estuaries shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5 and listed in Table 3-1.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Article 4, Chapter 15, Section 64435, Tables 2 and 3 as listed in Table 3-2.

Phenol

Waters shall not contain phenol concentrations in excess of 1.0 µg/l.

Radioactivity

Waters shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Sections 64441 and 64443, Table 4.

AGRICULTURAL SUPPLY (AGR)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Dissolved Oxygen

Dissolved oxygen concentration shall not be reduced below 2.0 mg/l at any time.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents in amounts which adversely affect the agricultural beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Table 3-3.

In addition, waters used for irrigation and livestock watering shall not exceed concentrations for those chemicals listed in Table 3-4. Salt concentrations for irrigation waters shall be controlled through implementation of the anti-degradation policy to the effect that mineral constituents of currently or potentially usable waters shall not be increased. It is emphasized that no controllable water quality factor shall degrade the quality of any ground water resource or adversely affect long-term soil productivity.

Where wastewater effluents are returned to land for irrigation uses, regulatory controls shall be consistent with Title 22 of the California Code of Regulations and with relevant controls for local irrigation sources.

WATER CONTACT RECREATION (REC-1)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Table 3-1. Organic Concentrations Not to be Exceeded in Domestic or Municipal Supply

	Constituent	Maximum Contaminant Level (MCL), mg/l*
(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
	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
	Trichlorofluromethane	0.15
	1,1,2-Trichloro-1,2,2-Trifluoroethane	1.2
	Vinyl Chloride	0.0005
	*Xylenes	1.750

* MCL is for either a single isomer or the sum of the isomers.

Table 3-2. Inorganic and Fluoride Concentrations Not to be Exceeded in Domestic or Municipal Supply

Constituent	Limiting Concentration mg/l			
	Lower	Optimum	Upper	Maximum Contaminant Level
Temperature °F*	Fluoride			
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				Maximum Contaminant Level
Aluminum				1
Arsenic				0.05
Barium				1
Cadmium				0.010
Chromium				0.05
Lead				0.05
Mercury				0.002
Nitrate (as NO_3)				45
Selenium				0.01
Silver				0.05

*Annual Average of Maximum Daily Air Temperature, °F based on temperature data obtained for a minimum of five years.

Table 3-3. Guidelines for Interpretation of Quality of Water for Irrigation[a]

Problem and Related Constituent	Water Quality Guidelines		
	No Problem	Increasing Problems	Severe
Salinity[b]			
EC of irrigation water, mmho/cm	<0.75	0.75 - 3.0	>3.0
Permeability			
EC of irrigation water, mmho/cm	>0.5	<0.5	<0.2
SAR, adjusted[c]	<6.0	6.0 - 9.0	>9.0
Specific ion toxicity from root absorption[d]			
Sodium (evaluate by adjusted SAR)	<3	3.0 - 9.0	>9.0
Chloride			
me/l	<4	4.0 - 10	>10
mg/l	<142	142 - 355	>355
Boron, mg/l	<0.5	0.5 - 2.0	2.0 - 10.0
Specific ion toxicity from foliar absorption[e](sprinklers)			
Sodium			
me/l	<3.0	>3.0	--
mg/l	<69	>69	--
Chloride			
me/l	<3.0	>3.0	--
mg/l	<106	>106	--
Miscellaneous[f]			
NH4 - N, mg/l for sensitive crops	<5	5 - 30	>30
NO3 - N, mg/l for sensitive crops	<5	5 - 30	>30
HCO3 (only with overhead sprinklers)			
me/l	<1.5	1.5 - 8.5	>8.5
mg/l	<90	90 - 520	>520
pH	Normal range	6.5 - 8.4	--

a Interpretations are based on possible effects of constituents on crops and/or soils. Guidelines are flexible and should be modified when warranted by local experience or special conditions of crop, soil, and method of irrigation.

b Assumes water for crop plus needed water for leaching requirement (LR) will be applied. Crops vary in tolerance to salinity. Refer to tables for crop tolerance and LR. The mmho/cm x 640 = approximate total dissolved solids (TDS) in mg/l or ppm; mmho x 1,000 = micromhos.

c Adjusted SAR (sodium adsorption ratio) is calculated from a modified equation developed by U.S. Salinity Laboratory to include added effects of precipitation and dissolution of calcium in soils and related to CO_3 + HCO_3 concentrations.

To evaluate sodium (permeability) hazard: $Adjusted\ SAR = Na/[\sqrt{1/2\ (Ca + Mg)}][1 + (8.4 - pHc)]$.
Refer to Appendix for calculation assistance.

SAR can be reduced if necessary by adding gypsum. Amount of gypsum required (GR) to reduce a hazardous SAR to any desired SAR (SAR desired) can be calculated as follows:

$$GR = \left[\frac{2(Na)^2}{SAR^2 desired} - (Ca + Mg)\right] 234$$

Note: Na and Ca + Mg should be in me/l. GR will be in lbs. of 100 percent gypsum per acre foot of applied water.

d Most tree crops and woody ornamentals are sensitive to sodium and chloride (use values shown). Most annual crops are not sensitive (use salinity tolerance tables). For boron sensitivity, refer to boron tolerance tables.

e Leaf areas wet by sprinklers (rotating heads) may show a leaf burn due to sodium or chloride absorption under low humidity/high evaporation conditions. (Evaporation increases ion concentration in water films on leaves between rotations of sprinkler heads.)

f Excess N may affect production or quality of certain crops; e.g., sugar beets, citrus, avocados, apricots, etc. (1 mg/l NO_3 - N = 2.72 lbs. N/acre foot of applied water.) HCO_3 with overhead sprinkler irrigation may cause a white carbonate deposit to form on fruit and leaves.

Table 3-4. Water Quality Objectives for Agricultural Water Use

ELEMENT	Maximum Concentration (mg/l)[a]	
	Irrigation supply[b]	Livestock watering
Aluminum	5.0	5.0
Arsenic	0.1	0.2
Beryllium	0.1	--
Boron	0.75	5.0
Cadmium	0.01	0.05
Chromium	0.10	1.0
Cobalt	0.05	1.0
Copper	0.2	0.5
Fluoride	1.0	2.0
Iron	5.0	--
Lead	5.0	0.1[c]
Lithium	2.5[d]	--
Manganese	0.2	--
Mercury	--	0.01
Molybdenum	0.01	0.5
Nickel	0.2	--
Nitrate + Nitrite	--	100
Nitrite	--	10
Selenium	0.02	0.05
Vanadium	0.1	0.10
Zinc	2.0	25

a. Values based primarily on "Water Quality Criteria 1972" National Academy of Sciences-National Academy of Engineers, Environmental Study Board, ad hoc Committee on Water Quality Criteria furnished as recommended guidelines by University of California Agriculture Extension Service, January 7, 1974; maximum values are to be considered as 90 percentile values not to be exceeded.

b. Values provided will normally not adversely affect plants or soils; no data available for mercury, silver, tin, titanium, and tungsten.

c. Lead is accumulative and problems may begin at threshold value (0.05 mg/l).

d. Recommended maximum concentration for irrigation citrus is 0.075 mg/l.

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml.

NON-CONTACT WATER RECREATION (REC-2)

pH

The pH value shall neither be depressed below 6.5 nor raised above 8.3.

Bacteria

Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 2000/100 ml, nor shall more than ten percent of samples collected during any 30-day period exceed 4000/100 ml.

COLD FRESHWATER HABITAT (COLD)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5. Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

Temperature

At no time or place shall the temperature be increased by more than 5°F above natural receiving water temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

WARM FRESHWATER HABITAT (WARM)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5.

Changes in normal ambient pH levels shall not exceed 0.5 in fresh waters.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 5.0 mg/l at any time.

Temperature

At no time or place shall the temperature of any water be increased by more than 5°F above natural receiving temperature.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the limits listed in Table 3-5.

FISH SPAWNING (SPWN)

Cadmium

Cadmium shall not exceed .003 mg/l in hard water or .0004 mg/l in soft water at any time. (Hard water is defined as water exceeding 100 mg/l $CaCO_3$.)

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

Table 3-5 Toxic Metal Concentrations not to be Exceeded in Aquatic Life Habitats, mg/l[a,b]

	Freshwater (COLD, WARM)	
METAL	HARD (> 100 mg/l $CaCO_3$)	SOFT (< 100 mg/l $CaCO_3$)
Cadmium[c]	.03	.004
Chromium	.05	.05
Copper	.03	.01
Lead	.03	.03
Mercury[d]	.0002	.0002
Nickel[e]	.4	.1
Zinc	.2	.004

a. Based on limiting values recommended in the National Academy of Sciences-National Academy of Engineers "Water Quality Criteria 1972." Values are 90 percentile values except as noted in qualifying note "d."

b. Revision of Table 3-5 is currently in progress by the Regional Board.

c. Lower cadmium values not to be exceeded for crustaceans and waters designated SPWN are 0.003 mg/l in hard water and 0.0004 mg/l in soft water.

d. Total mercury values should not exceed 0.05 µg/l as an average value; maximum acceptable concentration of total mercury in any aquatic organism is a total B.O.D. burden of 0.5 µg/l wet weight.

e. Value cited as objective pertains to nickel salts (not pure metallic nickel).

MARINE HABITAT (MAR)

pH

The pH value shall not be depressed below 7.0 or raised above 8.5.

Changes in normal ambient pH levels shall not exceed 0.2 units.

Dissolved Oxygen

The dissolved oxygen concentration shall not be reduced below 7.0 mg/l at any time.

Chemical Constituents

Waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of limits listed in Table 3-6.

Table 3-6. Toxic Metal Concentrations Not to be Exceeded in Marine Habitats, mg/l[a]

METAL	MARINE (MAR)
Cadmium	.0002
Chromium	.05
Copper	.01
Lead	.01
Mercury[c]	.0001
Nickel[d]	.002
Zinc	.02

a. Based on limiting values recommended in the National Academy of Sciences-National Academy of Engineers "Water Quality Criteria 1972." Values are 90 percentile values except as noted in qualifying note "c."

b. Revision of Table 3-6 is currently in progress by the Regional Board.

c. Total mercury values should not exceed 0.05 µg/l as an average value; maximum acceptable concentration of total mercury in any aquatic organism is a total B.O.D. burden of 0.05 µg/l net weight.

d. Value cited as objective pertains to nickel salts (not pure metallic nickel).

SHELLFISH HARVESTING (SHELL)

Chromium

The maximum permissible value for waters designated SHELL shall be 0.01 mg/l.

Bacteria

At all areas where shellfish may be harvested for human consumption, the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30-day period exceed 230/100 ml for a five-tube decimal dilution test or 330/100 ml when a three-tube decimal dilution test is used.

II.A.3. WATER QUALITY OBJECTIVES FOR SPECIFIC INLAND SURFACE WATERS, ENCLOSED BAYS AND ESTUARIES

Certain water quality objectives have been established for selected surface waters; these objectives are intended to serve as a water quality baseline for evaluating water quality management in the basin. Median values, shown in Table 3-7 for surface waters, are based on available data.

It must be recognized that the median values indicated in Table 3-7 are values representing gross areas of a water body. Specific water quality objectives for a particular area may not be directly related to the objectives indicated. Therefore, application of these objectives must be based upon consideration of the surface and ground water quality naturally present; i.e., waste discharge requirements must adhere to the previously stated objectives and issuance of requirements must be tempered by consideration of beneficial uses within the immediate influence of the discharge, the existing quality of receiving waters, and water quality objectives. Consideration of beneficial uses includes: (1) a specific enumeration of all beneficial uses potentially to be affected by the waste discharge, (2) a determination of the relative importance of competing beneficial uses, and (3) impact of the discharge on existing beneficial uses. The Regional Board will make a judgment as to the priority of dominant use and minimize the impact on competing uses while not allowing the discharge to violate receiving water quality objectives.

Table 3-7. Surface Water Quality Objectives, mg/l[a]

Sub-Basin/Sub-Area	TDS	Cl	SO_4	B	Na
Santa Ynez					
Cachuma Reservoir	600	20	220	0.4	50
Solvang	700	50	250	0.4	60
Lompoc	1000	100	350	0.4	100
Santa Maria					
Cuyama River (Near Garey)	900	50	400	0.3	70
Sisquoc River (Near Garey)	600	20	250	0.2	50
Estero Bay					
Santa Rosa Creek	500	50	80	0.2	50
Chorro Creek	500	50	50	0.2	50
San Luis Obispo Creek	650	100	100	0.2	50
Arroyo Grande Creek	800	50	200	0.2	50
Salinas River					
Salinas River					
Above Bradley	250	20	100	0.2	20
Above Spreckles	600	80	125	0.2	70
Gabilan Tributary	300	50	50	0.2	50
Diablo Tributary	1200	80	700	0.5	150
Nacimiento River	200	20	50	0.2	20
San Antonio River	250	20	80	0.2	20
Carmel River	200	20	50	0.2	20
Monterey Coastal					
Big Sur River	200	20	20	0.2	20
Pajaro River					
at Chittenden	1000	250	250	1.0	200
San Benito River	1400	200	350	1.0	250
Llagas Creek	200	10	20	0.2	20
Big Basin					
Boulder Creek	150	10	10	0.2	20
Zayante Creek	500	50	100	0.2	40
San Lorenzo River					
Above Bear Creek	400	60	80	0.2	50
At Tait Street Check Dam	250	30	60	0.2	25

a Objectives shown are annual mean values. Objectives are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources.

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.

A specific monthly mean objective for Nitrate (as NO_3) of 0.25 mg/l shall apply to both the upper and lower San Lorenzo River to protect beneficial uses from adverse biostimulatory effects. Specific biostimulant objectives for other surface waters will be added to this section in tabular form once they are determined from further studies.

II.A.4. OBJECTIVES FOR GROUND WATER

II.A.4.a. GENERAL OBJECTIVES

The following objectives apply to all ground waters of the basin.

Tastes and Odors

Ground waters shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.

Radioactivity

Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal or aquatic life.

MUNICIPAL AND DOMESTIC SUPPLY (MUN)

Bacteria

The median concentration of coliform organisms over any seven-day period shall be less than 2.2/100 ml.

Organic Chemicals

Ground waters shall not contain concentrations of organic chemicals in excess of the limiting concentrations set forth in California Code of Regulations, Title 22, Chapter 15, Article 5.5, Section 64444.5, Table 5 and listed in Table 3-1.

Chemical Constituents

Ground waters shall not contain concentrations of chemical constituents in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 4, Section 64435, Tables 2 and 3.

Radioactivity

Ground waters shall not contain concentrations of radionuclides in excess of the limits specified in California Code of Regulations, Title 22, Chapter 15, Article 5, Section 64443, Table 4.

AGRICULTURAL SUPPLY (AGR)

Ground waters shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Table 3-3.

In addition, water used for irrigation and livestock watering shall not exceed the concentrations for those chemicals listed in Table 3-4. No controllable water quality factor shall degrade the quality of any ground water resource or adversely affect long-term soil productivity. The salinity control aspects of ground water management will account for effects from all sources.

II.A.5. OBJECTIVES FOR SPECIFIC GROUND WATERS

Certain water quality objectives have been established for selected ground waters; these objectives are intended to serve as a water quality baseline for evaluating water quality management in the basin. The median values for ground waters are shown in Table 3-8.

The restrictions specified for Table 3-7 are applicable to the values indicated in Table 3-8; i.e., the values are at best representative of gross areas only. Ground waters in the Upper Valley of the Salinas River Sub-basin have average Total Dissolved Solids (TDS) concentrations that range from 300 mg/l to over 3000 mg/l. Therefore, application of these objectives must be consistent with the objectives previously stated in this chapter and synchronously reflect the actual ground water quality naturally present. The Regional Board must afford full consideration to (1) present and probable future beneficial uses affected by the waste discharge, (2) competing beneficial uses, (3) degree of impact on existing beneficial uses, (4) receiving water quality, and (5) water quality objectives, before adjudging priority of dominant use and promulgating waste discharge requirements.

As part of the State's continuing planning process, data will be collected and numerical water quality objectives will be developed for those mineral constituents where sufficient information is presently not available for the establishment of such objectives.

Table 3-8. Median Ground Water Objectives, mg/l[a]

Sub-basin/Sub-Area	TDS	Cl	SO_4	B	Na	N_b
South Coast						
Goleta	1000	150	250	0.2	150	5
Santa Barbara	700	50	150	0.2	100	5
Carpinteria	700	100	150	0.2	100	7
Santa Ynez						
Santa Ynez	600	50	10	0.5	20	1
Santa Rita	1500	150	700	0.5	100	1
Lompoc Plain[f]	1250	250	500	0.5	250	2
Lompoc Upland[f]	600	150	100	0.5	100	2
Lompoc Terrace[f]	750	210	100	0.3	130	1
San Antonio Creek	600	150	150	0.2	100	5
Santa Maria[c]						
Upper Guadalupe[f]	1000[d]	165	500[d]	0.5	230	1.4[e]
Lower Guadalupe[f]	1000[d]	85	500[d]	0.2	90	2.0[e]
Lower Nipomo Mesa[f]	710	95	250	0.15	90	5.7[e]
Orcutt[f]	740	65	300	0.1	65	2.3[e]
Santa Maria[f]	1000[d]	90	510	0.2	105	8.0[e]
Cuyama Valley	1500	80	--	0.4	--	5
Soda Lake	•	•	•	•	•	•
Estero Bay						
Santa Rosa	700	100	80	0.2	50	5
Chorro	1000	250	100	0.2	50	5
San Luis Obispo	900	200	100	0.2	50	5
Arroyo Grande	800	100	200	0.2	50	10
Salinas River						
Upper Valley[f]	600	150	150	0.5	70	5
Upper Forebay[f]	800	100	250	0.5	100	5
Lower Forebay[f]	1500	250	850	0.5	150	8
180 foot Aquifer[f]	1500	250	600	0.5	250	1
400 foot Aquifer[f]	400	50	100	0.2	50	1
Paso Robles[g]						
Central Basin[f]	400	60	45	0.3	80	3.4
San Miguel[f]	750	100	175	0.5	105	4.5
Paso Robles[f]	1050	270	200	2.0	225	2.3
Templeton[f]	730	100	120	0.3	75	2.7
Atascadero[f]	550	70	85	0.3	65	2.3
Estrella[f]	925	130	240	0.75	170	3.2
Shandon	1390	430	1025[h]	2.8	730	2.3
Pajaro River						
Hollister	1200	150	250	1.0	200	5
Tres Pinos	1000	150	250	1.0	150	5
Llagas	300	20	50	0.2	20	5
Big Basin						
Near Felton	100	20	10	0.2	10	1
Near Boulder Creek	250	30	50	0.2	20	5

a Objectives shown are median values based on data averages; objectives are based on preservation of existing quality or water quality enhancement believed attainable following control of point sources.

b Measured as Nitrogen

c Basis for objectives is in the "Water Quality Objectives for the Santa Maria Ground Water Basin Revised Staff Report, May 1985" and February 1986, Staff Report.

d These are maximum objectives in accordance with Title 22 of the Code of Regulations.

e Ground water basin currently exceeds usable mineral quality.

f Ground water basin boundary map available in appendix.

g Basis for objectives is in the report "A Study of the Paso Robles Ground Water Basin to Establish Best Management Practices and Establish Salt Objectives", Coastal Resources Institute, June 1993.

h Standard exceeds California Secondary Drinking Water Standards contained in Title 22 of the Code of Regulations. Water quality standard is based upon existing water quality. If water quality degradation occurs, the Regional Board may consider salt limits on appropriate discharges.

CHAPTER 4. IMPLEMENTATION PLAN

A program of implementation to protect beneficial uses and to achieve water quality objectives is an integral component of this Basin Plan. The program of implementation is required to include, but is not limited to:

- A description of the nature of actions which are necessary to achieve the objectives, including recommendations for appropriate action by any entity, public or private.

- A time schedule for the actions to be taken.

- A description of surveillance to be undertaken to determine compliance with objectives.

Additional surveillance activities to determine compliance with objectives are described in Chapter 6, "Surveillance and Monitoring".

This chapter includes discussions of:

- Regional Water Quality Control Board Goals;

- General Control Actions and Related Issues;

- Waste Discharge Regulation;

- Hazardous Waste Compliance Issues; and

- Nonpoint Source Measures.

Detailed descriptions of waterbodies with their specific water quality problems and recommended control actions are included in the Region's Water Quality Assessment database and Fact Sheets.

This chapter is organized in the following manner:

I. Regional Water Quality Control Board Goals
II. General Control Actions and Related Issues
III. Control Actions under State Board Authority
IV. Control Actions to be Implemented by Other Agencies with Water Quality or Related Authority
V. Control Actions under Regional Board Authority
    A. Waste Discharge Restrictions
        1. Water Quality Certification
        2. National Pollutant Discharge Elimination System
        3. Waste Discharge Requirements
        4. Waivers
        5. Prohibitions and Prohibition Exemptions
        6. Enforcement Actions
        7. Best Management Practices
        8. Compliance Schedules
    B. Nonpoint Source Program
VI. Waste Discharge Program Implementation
    A. Effluent Limits
        1. Stream Disposal
        2. Estuarine Disposal
        3. Ocean Disposal
        4. Land Disposal
        5. Reclamation and Reuse
        6. Pretreatment Programs
        7. Sludge Treatment
    B. Municipal Wastewater Management Plans(arranged by hydrologic subarea)
    C. Industrial Wastewater Management
    D. Solid Waste Management
    E. Storm Water Management
    F. Bay Protection and Toxic Cleanup Program
    G. Military Installations
    H. Spills, Leaks, Investigations,and Cleanup Program
    I. Underground Tank Storage Tank Program
    J. Aboveground Petroleum Storage Tanks
    K. California Code of Regulations, Title 23, Chapter 15
        1. Solid and Liquid Waste Requirements (Landfills and Surface Impoundments)
        2. Wastewater Sludge (Septage Management)
        3. Mining Activities (Nonfuel Commodities)
        4. Other Industrial Activities
    L. Resource Conservation and Recovery Act (Subtitle D)
    M. Solid Waste Water Quality Assessment Test
VII. Hazardous Waste Compliance Issues
    A. Reportable Quantities of Hazardous Waste and Sewage Discharges
    B. Proposition 65
VIII. Nonpoint Source Measures
    A. Coastal Zone Act Reauthorization Amendments
    B. Urban Runoff Management
    C. Agricultural Water and Wastewater Management
    D. Individual, Alternative, and Community Disposal Systems
    E. Land Disturbance Activities

I. REGIONAL WATER QUALITY CONTROL BOARD GOALS

To insure that the water resources of the Central Coastal Basin are preserved for future generations of Californians, the California Regional Water Quality Control Board, Central Coast Region, determined it was desirable to establish certain planning goals. These goals pertain to utilization of the basin's water resources and guidelines for control of waste discharges, as follows:

1. Protect and enhance all basin waters, surface and underground, fresh and saline, for present and anticipated beneficial uses, including aquatic environmental values.

2. The quality of all surface waters shall allow unrestricted recreational use.

3. Manage municipal and industrial wastewater disposal as part of an integrated system of fresh water supplies to achieve maximum benefit of fresh water resources for present and future beneficial uses and to achieve harmony with the natural environment.

4 Achieve maximum effective use of fresh waters through reclamation and recycling.

5. Continually improve waste treatment systems and processes to assure consistent high quality effluent based on best economically achievable technology.

6. Reduce and prevent accelerated (man-caused) erosion to the level necessary to restore and protect beneficial uses of receiving waters now significantly impaired or threatened with impairment by sediment.

II. GENERAL CONTROL ACTIONS AND RELATED ISSUES

The Regional Water Quality Control Board (Regional Board) regulates the sources of water quality related problems which could result in actual or potential impairment or degradation of beneficial uses or degradations of water quality. The Regional Board regulates both point and nonpoint source discharge activities. A point source discharge generally originates from a single identifiable source, while a nonpoint source discharge comes from diffuse sources. To regulate the point and nonpoint sources, control actions are required for effective water quality protection and management. Such control actions are set forth for implementation by the State Water Resources Control Board (State Board), by other agencies with water quality or related authority, and by the Regional Board.

III. CONTROL ACTIONS UNDER STATE WATER RESOURCES CONTROL BOARD AUTHORITY

The State Board has adopted several water quality plans and policies which complement or may supersede portions of the Water Quality Control Plan. These plans and policies may include specific control measures. See Chapter Five, "Plans and Policies" for summaries of the most significant State Board plans and policies which do affect the Central Coast Region.

IV. CONTROL ACTIONS TO BE IMPLEMENTED BY OTHER AGENCIES WITH WATER QUALITY OR RELATED AUTHORITY

Water quality Management Plans prepared under Section 208 of the federal Water Pollution Water Control Act (Clean Water Act) have been prepared by various public agencies. These Section 208 plans, as well as other plans adopted by federal, State, and local agencies, may affect the Regional Board's water quality management and control activities. A summary of relevant water quality management plans is included in Chapter Five, "Plans and Policies".

V. CONTROL ACTIONS UNDER REGIONAL BOARD AUTHORITY

Control measures implemented by the Regional Board must provide for the attainment of this Basin Plan's beneficial uses and water quality objectives. These uses and objectives can be found in Chapters Two and Three, respectively. In addition the control measures must be consistent with State Board and Regional Board plans, policies, agreements, prohibitions, guidance, and other restrictions and requirements contained within this document.

To prevent water quality problems, waste discharge restrictions are often used. The waste discharge restrictions can be implemented through Water Quality Certification, National Pollutant Discharge Elimination System (NPDES) permits, waste discharge requirements/permits (WDRs), discharge prohibitions, enforcement actions, and/or "Best Management Practices".

V.A. WASTE DISCHARGE RESTRICTIONS

V.A.1. WATER QUALITY CERTIFICATION

Clean Water Act Section 401 Water Quality Certification gives the State extremely broad authority to review proposed federal activities in and/or affecting the Region's waters. The Regional Board can recommend to the State Board that it grant, deny, or condition certification of federal permits or licenses that may result in a discharge to "waters of the United States".

V.A.2. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)

NPDES permits are issued to regulate discharges of waste from point sources to "waters of the United States" including discharges of storm waters from urban separate storm sewer systems and certain categories of industrial activity. Waters of the United States are surface waters such as rivers, intermittent streams, dry stream beds, lakes, bays, estuaries, oceans, etc. The permits are authorized by Section 402 of the Clean Water Act and Section 13370 of the California Porter-Cologne Water Quality Control Act. The permit content and the issuance process are contained in 40 Code of Federal Regulations Part 122 and Chapter 9 of the California Code of Regulations. Regional Water Boards are authorized to take a variety of enforcement actions to obtain compliance with an NPDES permit. Enforcement actions the Regional Board may take are described below.

The U.S. Environmental Protection Agency (U.S. EPA) has approved the State's program to regulate discharges of waste water from point sources to "waters of the United States". The State , through the Regional Water Boards, issues the NPDES permits, reviews discharger self-monitoring reports,

performs independent compliance checking, and takes enforcement actions as needed.

NPDES permits are required to prescribe conditions of discharge which will ensure protection of beneficial uses of the receiving water. The Regional Board uses this Basin Plan, The Ocean Plan, and water quality control policies adopted by the State Board to develop permits for specific types of discharges or uses of waste water.

In addition to regulating discharges of waste water to surface waters, NPDES permits also require municipal sewage treatment systems to conduct pretreatment programs if their design capacity is greater than five million gallons per day. Smaller municipal treatment systems may be required to conduct pretreatment programs if there are significant industrial users of their systems. The pretreatment programs must comply with 40 Code of Federal Regulations Part 403. The pretreatment program is further described under separate heading in the "Waste Discharge Regulation" Section further in this chapter.

V.A.3. WASTE DISCHARGE REQUIREMENTS (WDRs)

The California Porter-Cologne Water Quality Control Act authorizes Regional Boards to regulate discharges to protect ground and surface water quality. Regional Boards issue WDRs in accordance with Section 13263 of the California Porter-Cologne Water Quality Control Act. Regional Boards are required to review WDRs periodically based on the complexity and threat to water quality. WDRs seek to protect the beneficial uses of ground and surface water. Regional Boards issue WDRs, review self-monitoring reports submitted by the discharger, perform independent compliance checking, and take necessary enforcement action. The California Porter-Cologne Water Quality Control Act authorizes Regional Boards to issue enforcement actions (see below) ranging from orders requiring relatively simple corrective action to monetary penalties in order to obtain compliance with WDRs.

V.A.4. WAIVERS

Regional Boards may waive issuance of WDRs pursuant to California Porter-Cologne Water Quality Control Act Section 13269 if the Regional Board determines that such waiver is in the public interest. The requirement to submit a Report of Waste Discharge can also be waived. WDRs can be waived for a specific discharge or types of discharges. A waiver of WDRs is conditional and may be terminated at any time by the Regional Board. Regional Boards may delegate their power to waive WDRs to the Regional Board Executive Officer in accordance with policies adopted by the Regional Board and approved by the State Board. The Regional Board's general policy regarding waivers is described in Chapter Five, "Plans and Policies". Regional Boards may not waive NPDES permits.

V.A.5. PROHIBITIONS AND PROHIBITION EXEMPTIONS

The Regional Board can prohibit specific types of discharges to certain areas (California Porter-Cologne Water Quality Control Act Section 13243). These discharge prohibitions may be revised, rescinded, or adopted as necessary. Discharge prohibitions are described in pertinent sections of Chapter Four, "Implementation Plan" and Chapter Five, "Plans and Policies" in the Regional Board Discharge Prohibition Section. Prohibitions can be found by referring to the Table of Contents.

V.A.6. ENFORCEMENT ACTIONS

To facilitate water quality problem remediation or Basin Plan violation remediation, the Regional Board can use different types of enforcement measures. These measures can include:

Notice of Violation

A Notice of Violation is a letter formally advising the discharger that the facility is in noncompliance and

that additional enforcement actions may be necessary, if appropriate actions are not taken.

Time Schedule

A Time Schedule (California Porter-Cologne Water Quality Control Act Section 13300) is a time schedule for specific actions a discharger shall take to correct or prevent violations of requirements. A Time Schedule is issued by the Regional Board for situations in which the Regional Board is reasonably confident that the problem will be corrected.

Cleanup or Abatement Order

A Cleanup or Abatement Order (California Porter-Cologne Water Quality Control Act Section 13304) is an order requiring a discharger to clean up a waste or abate its effects or, in the case of a threatened pollution or nuisance, take other necessary remedial action. A Cleanup or Abatement Order can be issued by the Regional Board or by the Regional Board Executive Officer. Cleanup or Abatement Orders are issued for situations when action is needed to correct a problem caused by regulated or unregulated discharges which are creating or threatening to create a condition of pollution or nuisance. A Cleanup or Abatement Order is also used by the Regional Board to establish the acceptable level of cleanup.

Cease and Desist Order

A Cease and Desist Order (California Porter-Cologne Water Quality Control Act Section 13301) is an order requiring a discharger to comply with Waste Discharge Requirements or prohibitions according to a time schedule. If the violation is threatening water quality, a Cease and Desist Order can be used to require appropriate remedial or preventative action. A Cease and Desist Order is issued by the Regional Board when violations of requirements or prohibitions are threatened, are occurring, or have occurred and probably will continue in the future. Issuance of a Cease and Desist Order requires a public hearing.

Administrative Civil Liabilities

Administrative Civil Liabilities (monetary liabilities or fines) may also be imposed administratively by the Regional Board after a public hearing.

State Attorney General Referral

State Attorney General referral is used under certain circumstances. Enforcement actions may be referred to either the General or District Attorney.

V.A.7. BEST MANAGEMENT PRACTICES

Property owners, managers, or other dischargers may implement "Best Management Practices" to protect water quality. (Implementation and enforcement of Best Management Practices are discussed below under the "Nonpoint Source Measures" section of this chapter). The term "Best Management Practices" is used in reference to control measures for nonpoint source water pollutants and is analogous to the terms "Best Available Technology/Best Control Technology" used for control of point source pollutants. The U.S. EPA (40 Code of Federal Regulations Section 103.2[m]) defines Best Management Practices as follows:

> "Methods, measures, or practices selected by an agency to meet its nonpoint source control needs. Best Management Practices include, but are not limited to structural and nonstructural controls and operation and maintenance procedures. Best Management Practices can be applied before, during, and after pollution producing activities to reduce or eliminate the introduction of pollutants into receiving waters."

U.S. EPA regulations (40 Code of Federal Regulations Section 103.6[b][4][i]) provide that Basin Plans:

> "...shall describe the regulatory and nonregulatory programs, activities, and Best Management Practices which the agency has selected as the means to control nonpoint source pollution where necessary to protect or achieve approved water uses. Economic, institutional, and technical factors shall be considered in a continuing process of identifying control needs and evaluating and modifying the Best Management Practices as necessary to achieve water quality goals."

Best Management Practices fall into two general categories:

1. Source controls which prevent a discharge or threatened discharge.

These may include measures such as recycling of used motor oil, fencing stream banks to prevent livestock entry, fertilizer management, street cleaning, revegetation and other erosion controls, and limits on total impervious surface coverage. Because the effectiveness of Best Management Practices is often uncertain, source control is generally preferable to treatment. It is also often less expensive.

2. Treatment controls which remove pollutants from a discharge before it reaches surface or ground waters.

Examples include infiltration facilities, oil/water separators, and constructed wetlands.

Several important points about Best Management Practices must be emphasized;

- Best Management Practices are not officially considered "best" practices for use in California unless they have been certified by the State Board.

- The use of Best Management Practices does not necessarily ensure compliance with effluent limitations or with receiving water objectives. Because nonpoint source control has been a priority only since the 1970's, the long-term effectiveness of some Best Management Practices has not yet been documented. Some source control Best Management Practices (e.g., waste motor oil recycling) may be 100 percent effective if implemented properly. Monitoring and evaluation of Best Management Practice effectiveness is an important part of nonpoint source control programs.

- The selection of individual Best Management Practices must take into account specific site conditions (e.g., depth to ground water, quality of runoff, infiltration rates). Not all Best Management Practices are applicable at every location. High ground water levels may preclude the use of runoff infiltration facilities, while steep slopes may limit the use of wet ponds.

- To be effective, most Best Management Practices must be implemented on a long term basis. Structural Best Management Practices(e.g., wet ponds and infiltration trenches) require periodic maintenance, and may eventually require replacement.

- The "state-of-the-art" for Best Management Practices design and implementation is expected to change over time. The State planning process will include periodic review and update of Best Management Practices certifications.

General information on recommended nonpoint source management practices is provided under different water quality problem categories throughout this chapter. For detailed information on the design, implementation, and effectiveness of specific Best Management Practices, the reader should consult the appropriate Best Management Practices Handbook for the project type or location.

V.A.8. COMPLIANCE SCHEDULES

The California Porter-Cologne Water Quality Control Act (Section 13242[b]) requires a Basin Plan's implementation program for achieving water quality objectives to include a "time schedule for the actions to be taken". Regional Board prohibitions are effective upon adoption, unless specifically mentioned otherwise. The Regional Board issues discharge permits. Each includes an effective date. (Often compliance is effective upon Regional Board adoption). Waste discharge permits for construction projects generally require implementation of Best Management Practices during and immediately after construction. Long-term maintenance of permanent Best Management Practices is expected. Regional Board enforcement orders for specific problems also generally include compliance schedules.

The 1975 Basin Plans included recommendations that specific studies be carried out by specific dates on community wastewater collection and treatment facilities needs in certain areas of the Central Coast Region. These plans also recommended that some communities construct specific facilities by the given dates. Most of these schedules were not met. Because expected year-to-year changes in availability of and priorities for funding will ensure that long term schedules are unrealistic, this Basin Plan does

not include such recommendations. Priorities are set on a short term basis for studies through the State Board's use of the Clean Water Strategy ranking system various grant programs, and for facilities construction through the State Board Division of Clean Water Programs needs assessment process for loans and grants. Once funding is allocated, completion schedules are set through the contract process.

V.B. NONPOINT SOURCE PROGRAM

Nonpoint source pollution has been identified as a major cause of water pollution throughout the United States, and the California Central Coast Region is no exception. Nonpoint sources of water pollution are generally defined as sources which are diffuse (spread out over a large area). These sources are not as easily regulated or controlled as are point sources. Nonpoint source pollution is caused by land use activities or anthropomorphic activities. Deposition of pollutants may occur in lakes, rivers, wetlands, coastal waters, or ground waters.

In order to address the nonpoint source pollution problem nationwide, the U.S. Congress incorporated Section 319 into the 1987 amendments to the Clean Water Act. By amending the Clean Water Act, Congress shifted the federal emphasis from nonpoint source pollution planning and problem identification to a new nonpoint source action program. Section 319 of the federal Clean Water Act required each state to develop a State Nonpoint Source Management Program describing the measures the State would take to address nonpoint sources of pollution. In November 1988, the State Water Resources Control Board adopted a Nonpoint Source Management Plan which outlined steps to initiate the systematic management of nonpoint sources in California. For effective management of nonpoint sources the Management Plan required:

- An explicit long-term commitment by the State Board and Regional Boards;
- More effective coordination of existing State Board and Regional Board nonpoint source related programs;
- Greater use of Regional Board regulatory authority coupled with nonregulatory Regional Board programs;
- Stronger links between the local, State, and federal agencies which have authority to manage nonpoint sources; and
- Development of new funding sources.

The 1988 State Board Nonpoint Source Management Plan advocates three approaches for addressing nonpoint source management:

1. Voluntary implementation of Best Management Practices

Property owners or managers may volunteer to implement Best Management Practices. Implementation could occur for economic reasons and/or through awareness of environmental benefits.

2. Enforcement of Best Management Practices

Although the California Porter-Cologne Water Quality Control Act constrains Regional Boards from specifying the manner of compliance with water quality standards, there are two ways in which Regional Boards can use their regulatory authorities to encourage implementation of Best Management Practices.

First, the Regional Board may encourage Best Management Practices by waiving adoption of waste discharge requirements on condition that discharges comply with Best Management Practices. Alternatively, the Regional Board may enforce Best Management Practices indirectly by entering into management agency agreements with other agencies which have the authority to enforce Best Management Practices.

The Regional Board will generally refrain from imposing effluent requirements on discharges that are implementing Best Management Practices in accordance with a waiver of waste discharger requirements, and approved Management Agency Agreements, or other State or Regional Board formal action.

3. Adoption of Effluent Limitations

The Regional Board can adopt and enforce requirements on the nature of any proposed or existing waste discharge, including discharges from

nonpoint sources. Although the Regional Board is precluded from specifying the manner of compliance with waste discharge limitations, in appropriate cases, limitations may be set at a level which, in practice, requires implementation of Best Management Practices.

Not all of the categories of nonpoint source pollution follow this three-tiered approach. For example, silviculture activities on non-federal lands are administered by the California Department of Forestry. The State Board has entered into a Management Agency Agreement with California Department of Forestry which allows the Regional Boards to review and inspect timber harvest plans and operations for implementation of Best Management Practices for protection of water quality.

The Regional Board approach to addressing or regulating categories of nonpoint source pollution is discussed in various sections throughout this chapter.

VI. WASTE DISCHARGE PROGRAM IMPLEMENTATION

Water Quality Control Plans to regulate wasteloads in the Central Coastal Basin have been developed to insure protection of beneficial uses of water described in Chapter Two, as well as water quality objectives described in Chapter Three.

VI.A. EFFLUENT LIMITS

Effluent limitations for disposal of wastes are based on water quality objectives for the area of effluent disposal and applicable State and federal policies and effluent limits. Water quality objectives and policies are based on beneficial uses established for receiving waters. Decisions in treatment process selection are discussed for four general disposal modes considered: stream disposal; estuarine disposal; ocean disposal; and land disposal. There is no discussion provided for disposal to lakes or confined sloughs since these water bodies are protected by discharge prohibitions. Separate discussions of treatment for wastewater reclamation and reuse and sludge processing and disposal are also provided.

Management Principles and Regional Board Policies contained in Chapter Five should be reviewed for further information concerning discharge to surface waters.

VI.A.1. STREAM DISPOSAL

Most streams in the Central Coastal Basin are ephemeral in character. During summer months, there is little or no flow in stream channels. In several instances, flow during the dry season is composed of irrigation runoff or, in a very few cases, wastewater treatment plant effluent. Usually, these flows infiltrate into the stream bed a short distance downstream of discharges. In such instances, the concept of receiving water assimilative capacity has little meaning. Disposal of wastewater in ephemeral streams must be accomplished in a manner that safeguards public health and prevents nuisance conditions. Where possible, discharges should be beneficial as stream flow augmentation. When recharge of a useful ground water basin occurs through stream channel recharge, impacts on ground water quality must be considered.

There are a few streams in the basin which flow on a year-round basis and support an inland fishery. Disposal of wastewater to such streams requires that essentially all oxygen demanding substances and toxicity be removed.

Principal factors governing treatment process selection for stream disposal are federal effluent limits, State public health regulations, and water quality requirements for beneficial use protection. As a minimum, secondary treatment, as defined by the Environmental Protection Agency (EPA), is required in all cases. Where rapid percolation occurs, conventional secondary treatment is currently adequate. EPA guidelines for best practicable treatment would also apply in these cases. Where water contact recreational use is to be protected, the

California Department of Health Services (DOHS) recommends coagulation, filtration, and disinfection providing a median coliform MPN of 2.2/100 ml. Detoxification is required where fishery protection is a concern. Detoxification would include effluent limits for identified toxicants, pursuant to Section 307 of the federal Water Pollution Control Act. Source control of specific toxicants may be necessary to comply with the Act.

VI.A.2. ESTUARINE DISPOSAL

Water quality objectives applying to estuaries are contained in Chapter Three.

Receiving waters considered estuaries are one of two groups: (1) shallow waters of an open bay, and (2) confined tidal estuaries or lagoons. Flushing action is usually present in a shallow open bay and natural dispersion and dilution is available on a limited scale. In confined waters, flushing action is limited or nonexistent except during high stream inflow or storms. Since these shorelines frequently are heavily developed and waters are extensively used, requirements for wastewater disposal into such areas are the most stringent of any for marine receiving waters. The "Water Quality Control Policy for Enclosed Bays and Estuaries of California," adopted by the State Water Resources Control Board, prohibits discharge of waste to most enclosed bays and estuaries in the State, unless the discharge will enhance water quality.

Water quality objectives in Chapter Three prevent discharges that could raise natural nutrient levels to an extent that nuisance algal blooms or other aquatic growths occur. Excessive eutrophication in coastal estuaries of California often is characterized by floating and stranded mats of green marine seaweeds Enteromorpha and Ulva. These algae generally grow on mud or other substrates in estuarine water and can produce nuisance conditions along shorelines. These algae have a high sulfur content and emit foul smelling hydrogen sulfide and mercaptans during decomposition. Caution should be given in determining control measures for estuaries, as many of the seasonal algal growths that occur on mud flats are natural and may not be significantly affected by waste discharges in the watershed. Where eutrophication problems are apparent, secondary treatment with denitrification, or phosphorus removal and disinfection should be provided prior to discharge.

VI.A.3. OCEAN DISPOSAL

Water quality objectives applicable to ocean waters are contained in Chapter Three.

Federal guidelines for secondary treatment apply to ocean discharges. The State Water Resources Control Board's Water Quality Control Plan for Ocean Waters of California (Ocean Plan) establishes effluent limits achievable by alternative processes, such as advanced primary treatment. The Ocean Plan contains water quality objectives, requirements for effluent quality and management of waste discharges, and discharge prohibitions (including Areas of Special Biological Significance). Effluent quality requirements establish limitations for grease and oil, solids, turbidity, pH, and toxicity. Limits are also established for heavy metals, chlorine residual, various chlorinated pesticides, PCBs, toxaphene and radioactivity outside the zone of initial dilution.

For municipal discharges, the Clean Water Act allows waiver of secondary treatment standards on a case-by-case basis. Secondary treatment waivers are further discussed as they apply to specific discharges in the following section on Municipal Wastewater Management. If full secondary treatment is required but funding is inadequate, treatment levels should be achieved through staged construction. Ocean Plan objectives can be achieved as an interim measure. Secondary treatment must be added later if a waiver is not issued, or if receiving water monitoring indicates additional treatment is necessary to protect ocean waters. Industrial wastewater management is discussed later in this chapter.

VI.A.4. LAND DISPOSAL

To protect ground water resources, the Regional Board allows few waste discharges to land. Those that are permitted are closely regulated under existing laws and regulations to maintain and to protect ground water quality and beneficial uses.

Disposal of waste to land in the Central Coast Region is regulated by California Code of Regulations, Title 23, Chapter 15; the federal Resource Conservation and Recovery Act; the Toxic Pits Cleanup Act; the Porter-Cologne Water Quality Control Act; and State Health Department Regulations. Types of land disposal operations being regulated by the Central Coast Region include landfills, surface impoundments, septage and sludge disposal, mining operations, confined animal facilities, and some oil field exploration and production facilities.

California Code of Regulations, Title 23, Chapter 15

All land disposal operations are regulated by Chapter 15. Formerly called Subchapter 15, this is the most significant regulation used by the Regional Board in regulating hazardous and nonhazardous waste treatment, storage, and disposal. These regulations include very specific siting, construction, monitoring, and closure requirements for all existing and new waste treatment, storage, and disposal facilities. Chapter 15 requires operators to provide assurances of financial responsibility for initiating and completing corrective action for all known or reasonably foreseeable releases from waste management units. Detailed technical criteria are provided for establishing water quality protection programs, and corrective action programs are mandated for releases from waste management units.

Resource Conservation and Recovery Act

The State implements Resource Conservation and Recovery Act's Subtitle C (Hazardous Waste Regulations for Treatment, Storage, and Disposal) through the Department of Toxic Substances Control and the Regional Boards. In August 1992, the U.S. EPA formally delegated the Act program implementation authority to Department of Toxic Substances Control. As described above, regulation of hazardous waste discharges is also included in California Code of Regulations, Title 23, Chapter 15. (Chapter 15 monitoring requirements were also amended in August 1991 so as to be equivalent to Act requirements). These will be implemented through the adoption of Waste Discharge Requirements for hazardous waste sites covered by the Act. The discharge requirements will then become part of a State Resource Conservation and Recovery Act permit issued by Department of Toxic Substances Control.

Federal regulations required by Resource Conservation and Recovery Act Subtitle D have been adopted for Municipal Solid Waste landfills (40 Code of Federal Regulations Parts 257 & 258). The California Integrated Waste Management Board is the State lead agency for Subtitle D implementation. The State Board and the California Integrated Waste Management Board received U.S. EPA State program approval. Delegation of authority for the State Board to implement Subtitle I (Underground Storage Tanks) will occur after U.S. EPA approval of the State's program application. (The Underground Storage Tank Section is discussed later in this chapter).

Toxic Pits Cleanup Act

The Toxic Pits Cleanup Act of 1984 required all impoundments containing liquid hazardous wastes or free liquids containing hazardous waste be retrofitted with a liner/leachate collection system, or dried out by July 1, 1988. Impoundments "dried out" were closed to remove all contaminants and/or to stabilize any residual contamination.

VI.A.4.a. WASTEWATER DISPOSAL

Principal factors affecting treatment process selection for land disposal are the nature of soils and ground waters in the disposal areas and, where irrigation is involved, the nature of crops. Wastewater characteristics of particular concern are total salt content, nitrate, boron, pathogenic organisms, and toxic chemicals. Where percolation alone is considered, the nature of underlying ground waters is of particular concern. Treatment processes should be tailored to insure that local ground waters are not degraded.

Nitrate removal is required in many cases where percolation is to usable ground water basins. Percolation basins operated in alternating wet and dry cycles can provide significant nitrogen removal through nitrification/denitrification processes in the soil column. Finer textured soils are more effective than coarse soils. Nitrate removal would not necessarily be required, and secondary treatment

may be adequate where recharge is for other purposes such as prevention of seawater intrusion or where soil percolation constraints do not require further treatment. Monitoring in the immediate vicinity of the disposal site is required in either case. Where the need for nitrate removal is not clear, removal could be considered at a possible future stage depending on monitoring results. Where well controlled irrigation is practiced, nitrate problems in the dry season will be controlled. Vegetative uptake will utilize soluble nitrates which would otherwise move into ground water under a percolation operation. Demineralization techniques or source control of total dissolved solids may be necessary in some inland areas where ground waters have been or may be degraded. Presence of excessive salinity, boron, or sodium could be a basis for rejection of crop irrigation with effluent.

State Health Department regulations, described in Title 22 of the California Code of Regulations, stipulate disinfection levels required for specific crops. In some cases, such as pasture for milking animals, the California Code of Regulations requires oxidation with disinfection to a median number of coliform organisms of 23 MPN/100 ml. Environmental Protection Agency guidelines for secondary treatment do not apply to land disposal cases. However, municipal treatment facilities must provide effective solids removal and some soluble organics removal for percolation bed operations and for reduction of nuisance in wastewater effluent irrigation operations. Disinfection requirements are dictated by the disposal method. Oxidation ponds may be cost-effective in some remote locations and may be equivalent to secondary treatment.

VI.A.5. RECLAMATION AND REUSE

Water shortages in California are resulting in increased demand for reclamation. Reclamation and reuse is encouraged where feasible and beneficial. Where practicable, land disposal by spray irrigation shall be accomplished by proper reclamation techniques rather than by over-irrigation. This will aid water shortages and maximize nutrient removal.

Treatment process selection for reclamation of wastewater is dependent upon the intended reuse. Where irrigation reuse or ground water recharge is intended, treatment requirements will depend on conditions described under land disposal. Clearly, the nature of the crop to be irrigated, soil percolation, and water characteristics are important considerations. Title 22 of the California Code of Regulations provides wastewater reclamation criteria to regulate specific uses of reclaimed water. Where reuse is extended to water contact recreation, secondary treatment with coagulation, filtration, and disinfection is required. Where golf course irrigation is practiced, this level of treatment minus coagulation and filtration may be adequate. More stringent measures may be necessary with increased risk of public exposure (for example, residents adjacent to fairways). However, where more complete reclamation is envisioned, such as creation of recreational lakes for fishing, swimming, and water skiing, nutrient removal may also be required to minimize algae growths and to encourage fish propagation. Comparable treatment may also be needed for industrial water supplies used for cooling and uses where algae growth in transfer channels or cooling towers is of concern. Nitrogen removal and demineralization processes may also be necessary for selected reclamation projects as discussed under land disposal.

To meet the increased demand for reclamation, existing regulations contained in the California Code of Regulations, Title 22, are being expanded. California Code of Regulations, Title 22, are hereby incorporated as applicable reclamation requirements.

Dual water systems may be feasible in some instances. Reclaimed wastewater should be investigated as an alternative water source for toilets.

Management Principles contained in Chapter Five should be reviewed for further reclamation information. This section is located after the "Recommended State Water Resources Control Board Actions" section.

VI.A.6. PRETREATMENT PROGRAMS

State and federal regulations require certain municipalities to develop and administer pretreatment programs to control the discharge of industrial wastes to the treatment plant. All municipal plants discharging to navigable waters with design flows greater than 5.0 mgd are required to develop and implement a pretreatment program. Other municipalities may be required to develop a pretreatment program if circumstances warrant such a program. The Environmental Protection Agency has established specific industrial subcategories of industries which discharge certain quantities or concentrations of pollutants to municipal systems. Pretreatment is required to meet effluent standards established for each industrial category. The objectives of a pretreatment program are to: (1) prevent introduction of pollutants into publicly-owned treatment works which will interfere with treatment operations and/or use or disposal of municipal sludge, (2) prevent introduction of pollutants into publicly owned treatment works which will pass through treatment works or be incompatible with treatment techniques, (3) increase feasibility of recycling and reclaiming municipal and industrial wastewaters and sludges, and (4) enforce applicable EPA Categorical Standards.

A pretreatment program must include: (1) a local pretreatment ordinance, (2) a use permit system, (3) a program of monitoring and inspection to insure compliance with the ordinance and use permit, and (4) an enforcement program sufficient to obtain compliance with provisions of the ordinance or use permit. Pretreatment programs are further discussed as they apply to specific dischargers in the section on Municipal Wastewater Management.

Municipalities required to comply with federal pretreatment regulations in the Central Coast Region are:

City of Santa Cruz,
Cities of Gilroy/Morgan Hill,
City of Watsonville,
Monterey Regional Wastewater Treatment Plant,
City of Salinas Industrial Plant,
City of San Luis Obispo,
City of Santa Maria,
City of Lompoc, and
City of Santa Barbara

VI.A.7. SLUDGE TREATMENT

Sludge management is a difficult aspect of wastewater treatment. The methods used for sludge disposal or reuse tend to determine the sludge processing methods. Major goals of sludge treatment include pathogen destruction, vector attraction reduction, odor reduction, moisture removal, and contaminant removal. Treated sludge is commonly referred to as "Biosolids."

Solids removed during wastewater treatment include grit, primary sludge, and biological sludges. Grit is typically removed in a grit chamber and is usually inert and easily dewatered, so landfilling is usually the preferred management option. Primary sludges are generally solids that readily float or sink, whereas biological sludges are suspended organic materials and necessitate biological treatment (e.g., trickling filter, activated sludge, or oxidation pond) to float or sink. Polymers are widely used to increase settling and thickening efficiencies and to reduce chemical sludge handling problems. Primary and biological sludges are usually combined prior to final treatment. Anaerobic digestion and lagoon stabilization are common sludge treatment methods, but methods which can render sludge pathogen and odor free, such as lime stabilization, composting, thermophylic aerobic digestion, and heat treatment, are becoming increasingly popular. Public acceptance of beneficial sludge uses, such as spreading on farm land and reclamation of strip mines, may be improved by advanced sludge treatment technologies.

Sludge treatment methods are evolving as disposal is discouraged and beneficial reuse is encouraged. Ocean disposal of sludge is prohibited by the California Ocean Plan. Landfilling of sludge is generally allowed if the sludge is nonhazardous and meets specific moisture content requirements. Sludge may be disposed in Class I and Class II waste management units, but this practice is uncommon

due to its high cost. Disposal of sludge is becoming less attractive as landfill capacity decreases,recycling mandates (Assembly Bill 939) must be met, and society becomes aware that sludge can be a valuable resource as a soil amendment/fertilizer.

VI.B. MUNICIPAL WASTEWATER MANAGEMENT

Municipal wastewater conveyance, treatment, and disposal facilities recommended for the Central Coastal Basin are described in the following pages. Recommended plans for municipal facilities are described in geographic sequence by hydrographic units. Hydrographic units are identified in Chapter Two, Figure 2-1. Numbers in parentheses throughout the chapter refer to design capacity unless otherwise stated. Pretreatment programs and modifications to secondary treatment are discussed as part of the recommended plan where applicable. Further discussion of these topics can be found under the subheadings "Ocean Disposal" and "Pretreatment Programs" at the beginning of this chapter.

Further specific municipal management information can be found in the Management Principles section of Chapter Five. General municipal wastewater management information is also included in the State Water Resources Control Board Plans and Policies section, Discharge Prohibitions section, Control Actions section and Regional Board Policies section.

VI.B.1. BIG BASIN HYDROLOGIC UNIT

The Big Basin Hydrologic Unit includes discharges from the City of Santa Cruz and the City of Scotts Valley, in addition to unsewered areas and several small waste dischargers. Table 4-1 displays summarized Big Basin Hydrologic Unit dischargers.

Table 4-1. Big Basin Hydrologic Unit Summarized Municipal Dischargers

Davenport County Sanitation District
California Department of Parks and Recreation - Big Basin State Park
California Department of Forestry - Ben Lomond Conservation Facility
City of Santa Cruz
City of Scotts Valley
Santa Cruz County Service Area No. 7 - Boulder Creek Golf and Country Club
Santa Cruz County Service Area No. 10 - Rolling Woods Subdivision
San Lorenzo Valley Water District - Bear Creek Estates
Big Basin Woods
Santa Cruz County Service Area No. 5 - Sand Dollar Beach and Canon del Sol
Santa Cruz County Service Area No. 20 - Trestle Beach
Individual Septic Tank Systems

The City of Santa Cruz operates a wastewater collection, primary treatment, and ocean disposal system with a capacity of 21 mgd. Sewerage service is provided to the City of Santa Cruz, Santa Cruz County Sanitation District (SCCSD), and the City of Scotts Valley. The SCCSD serves East Cliff, Capitola, Aptos, and Seacliff areas. The recommended plan for the City is to upgrade the existing treatment plant at Neary's Lagoon to secondary level treatment. A new outfall was completed in 1988. The new outfall is 12,250 feet long terminating in 100 feet of water about one mile offshore. It replaces a 2,000 foot outfall which was a source of many complaints due to its proximity to the shore water-contact recreation area.

Mitigation measures to offset environmental impacts to Neary's Lagoon and an adjacent park must be resolved before the plant can proceed. The City has implemented a pretreatment program affecting the City of Santa Cruz, and Santa Cruz County Sanitation District.

Wastewaters from sewered areas of the City of Scotts Valley are transported to Scotts Valley's secondary treatment plant. Effluent is transported through a land outfall to the City of Santa Cruz marine outfall for disposal to the Pacific Ocean. A recommended plan for Scotts Valley includes: (1) increasing wastewater treatment capacity from 0.65

mgd to 0.95 mgd, (2) providing reclaimed water to Pasatiempo Golf Course and other green belt areas for irrigation purposes, and (3) transporting excess wastewater through the Scotts Valley land outfall to the City of Santa Cruz ocean outfall. An alternative plan is to transport raw wastewater through the Scotts Valley land outfall to the Santa Cruz wastewater treatment plant for treatment and disposal through the ocean outfall. Local water agencies (Scotts Valley Water District and San Lorenzo Valley Water District) may benefit from reclamation efforts and should be involved in reuse planning.

Davenport County Sanitation District (DCSD) was created in 1979 to provide sewer and water services to the Davenport-Newtown area located on the coast north of Santa Cruz. Davenport-Newtown area has interceptors and an aerated wastewater lagoon on property owned by Lone Star Industries. Disposal is through evaporation/ percolation and industrial reuse. DCSD is responsible for wastewater collection, treatment, and disposal.

The State Department of Parks and Recreation is responsible for Big Basin State Park facilities (.04 mgd). Discharge provides stream flow augmentation. The wastewater treatment plant includes secondary treatment with sand filtration and coagulation. This stream discharge qualifies as an acceptable wastewater reclamation project. The discharge is upstream from a popular swimming hole, so this plan emphasizes the need to enhance water quality and protect beneficial uses in Waddell Creek. The Department of Parks and Recreation must correct wastewater system deficiencies in order to protect public health and the beneficial uses of Waddell Creek and tributaries.

The recommended plan for the Ben Lomond Conservation Facility is to retain the existing septic tank, evaporation/percolation ponds, and spray field. Existing facilities are adequate so long as operation and maintenance are effective.

Wastewater management in San Lorenzo Valley (SLV) is provided by three community treatment and disposal facilities (Bear Creek Estates, Big Basin Woods, and Boulder Creek Golf and Country Club). Remaining areas are served by individually owned septic tank and soil absorption systems. Bear Creek Estates uses septic tank treatment with disposal to a soil absorption system. This facility is the responsibility of San Lorenzo Valley Water District and Bear Creek Estates.

The recommended plan for Big Basin Woods Subdivision is to retain the existing extended aeration treatment facility with leachfield disposal, presently operating at approximately ten percent of total capacity (.35 mgd). Flow from County Service Area No. 7 has been diverted to Big Basin Woods' leachfield during equipment repair periods. Leachfield capacity is adequate to serve both Big Basin Woods and CSA No. 7. Existing facilities are adequate so long as operation and maintenance are effective. This plan will be implemented by Big Basin Sanitation Company, Big Basin Woods Subdivision, and the San Lorenzo Valley Water District.

The recommended plan for Boulder Creek Golf and Country Club is to retain the existing activated sludge treatment facility with leachfield disposal and add filtration for golf course irrigation. Existing facilities are adequate so long as operation and maintenance are effective. Operation and maintenance of the system is the responsibility of the Santa Cruz County Department of Public Works. This plan will be implemented by Santa Cruz County Service Area No. 7 through Santa Cruz County Department of Public Works and San Lorenzo Valley Water District.

Rolling Woods Subdivision, Santa Cruz County Service Area No. 10, provides treatment with a redwood bark biofilter and disposes treated effluent through percolation pits. This facility should be replaced with an interceptor that would convey wastes to the City of Santa Cruz for treatment and disposal.

Individually owned septic tank leachfield systems in the San Lorenzo Valley are being studied closely to identify problem areas and determine the suitability of these problem areas for the continued use of septic systems. Alternatives will be proposed and evaluated to reduce septic system problems and to respond to this Plan's discharge prohibition in certain areas of the valley. Specific design criteria for conventional and modified septic systems will be developed as part of on-going county studies.

Dischargers in the Aptos-Soquel area include Santa Cruz County Service Area No. 5 (Sand Dollar Beach and Canon del Sol), SCCSA No. 20 (Trestle Beach), and Monterey Bay Academy. Flows from Aptos and East Cliff are conveyed through interceptors and pumping stations for treatment at the City of Santa Cruz Wastewater Treatment Plant.

The recommended plan for SCCSA No. 5 is to retain the existing extended aeration package treatment plant and disposal to seepage pits. Wastewater treatment and disposal at Canon del Sol will be by the same methods as Sand Dollar Beach. Facilities will be adequate so long as operation and maintenance are effective. This plan will be implemented by SCCSA No. 5 through Santa Cruz County Department of Public Works.

Wastewater treatment at Trestle Beach (SCCSA No. 20) will be provided by an extended aeration package treatment plant with disposal to seepage pits. This plan will be implemented by SCCSA No. 20 through the Santa Cruz County Department of Public Works. It is recommended that CSA No. 5 and No. 20 be connected to regional collection systems when service is extended to adjacent areas.

The recommended plan for the Monterey Bay Academy is to retain the existing settling pond with disposal to a series of evaporation-percolation ponds.

VI.B.2. PAJARO RIVER HYDROLOGIC UNIT

Summarized municipal dischargers in the Pajaro River Hydrologic Unit include the City of Gilroy/ Morgan Hill, City of Hollister, City of San Juan Bautista and the City of Watsonville. Table 4-2 displays dischargers summarized for the Pajaro River Hydrologic Unit.

Table 4-2. Pajaro River Hydrologic Unit Summarized Municipal Dischargers

Unsewered San Martin
City of Gilroy/Morgan Hill
San Benito County Facilities
Sunnyslope County Water District
Tres Pinos County Water District
City of Hollister
City of San Juan Bautista
City of Watsonville

The Gilroy area includes the unsewered San Martin area and the City of Gilroy's advanced primary treatment and land disposal facilities serving the Cities of Gilroy and Morgan Hill. The Cities are currently attempting to develop facilities to resolve disposal capacity deficiencies. Primary treatment provided via two oxidation ponds with surface aeration. Effluent disposal is to a series of evaporation/percolation ponds. Wastewater reclamation facilities were constructed in 1977 to alleviate water shortages during drought conditions. When reclamation facilities are in use (seasonally), primary effluent is provided further treatment in an aeration pond. Effluent is then screened, chlorinated, and pumped through nine miles of distribution pipe to various users (for irrigation purposes). The reclamation system's economics have not been favorable. Industrial flows of 6.3 mgd are treated and disposed of in a separate series of sedimentation, oxidation, and percolation ponds.

The recommended plan for the Gilroy-Morgan Hill wastewater treatment facilities is to continue geohydrological assessments to determine impacts of continued effluent disposal by percolation at the Gilroy site. If beneficial uses of surface and ground waters are not adequately protected, other treatment and/or disposal methods must be used. Disposal will continue to be by percolation, evaporation and reclamation. Before a discharge to surface waters is considered, the City will be required to evaluate feasible land disposal options. If current percolation practices are not causing receiving water problems, feasibility of existing disposal area expansion should be considered. The Cities are also evaluating stream disposal. Currently, the Cities of Gilroy and Morgan Hill are responsible for collection, treatment, and disposal of wastewater. They are also responsible for operating the wastewater reclamation facilities. Santa Clara Valley Water District is responsible for

administrative tasks for the reclamation system. In addition, the Cities of Gilroy and Morgan Hill have implemented a pretreatment program since 1983.

Individual on-site systems are used for sewage disposal in the San Martin area. Twenty percent of the area's wells exceed the nitrate drinking water objective. This is a significant problem since this area serves as the sole recharge area for the Santa Clara Valley. Methods of providing a water supply that is free of excessive nitrate concentration should be investigated and implemented. Nitrate loadings from various sources should be calculated for the area to determine the contribution from various sources. The need for on-site system restrictions should be determined.

Small discharges (less than 0.10 mgd) in the Hollister area include flows from San Benito County Facilities, Sunnyslope County Water District, and Tres Pinos County Water District. City of Hollister wastewater is treated at the City of Hollister Wastewater Treatment Facilities (1.2 mgd). San Juan Bautista wastewater is treated at the City of San Juan Bautista Wastewater Treatment Facilities (0.15 mgd).

The recommended plan for Tres Pinos is to retain the existing evaporation/percolation ponds. The recommended plan for San Benito County Hospital Facilities and Sunnyslope County Water District is to study the feasibility of constructing interceptors to the Hollister facilities or consolidating into a single subregional system. Existing facilities consisting of aerated pond treatment followed by land disposal to evaporation/percolation ponds may be maintained if project level studies determine this to be the more feasible method of wastewater treatment and disposal. Sunnyslope County Water District owns and operates a wastewater treatment and disposal system serving approximately 300 homes in Ridgemark Estates subdivision located approximately 2-1/2 miles south-east of Hollister. Wastewater is treated in two aerated ponds and disposed of in evaporation/percolation ponds. Effluent may be used in the future to irrigate a golf course.

The recommended plan for the City of Hollister is to retain the existing advanced primary treatment facilities and percolation ponds which started operating in 1979. The Hollister industrial system is to be maintained separately to receive seasonal flows from the spinach and tomato processing operations. The recommended plan for the City of San Juan Bautista is development of a land disposal system. The City currently discharges secondary effluent to a drainage ditch tributary to Pajaro River.

Land disposal of wastewaters in the Hollister region must be monitored carefully to assure ground water quality is protected. Source control of salt must be stressed to reduce effluent salinity to levels acceptable for disposal to local ground waters.

Wastewaters in the Watsonville area are transported to regional treatment facilities in the City of Watsonville with a design capacity of 13.4 mgd. Collection, primary treatment, and disposal to Monterey Bay are provided for the City of Watsonville, and the local sewering entities of Freedom County Sanitation District, Pajaro County Sanitation District and Salsipuedes Sanitary District. The City submitted an application to EPA for waiver of secondary treatment requirements and the Regional Board has approved a waiver permit. Project level studies determined ocean disposal to be the most feasible method of waste disposal. Ocean outfall improvements and a phased approach to secondary treatment are included in Watsonville's Clean Water Grant Project. If a waiver from secondary treatment is granted, the project will provide advanced primary treatment. Local sewering entities retain ownership and direct responsibility for wastewater collection and transport systems up to the point of discharge to interceptors owned and operated by Watsonville. The City is implementing a pretreatment program and the Regional Board has approved a waiver permit.

VI.B.3. CARMEL RIVER HYDROLOGIC UNIT

Summarized municipal dischargers in the Carmel River Hydrologic Unit include Carmel Sanitary District. Table 4-3 displays dischargers summarized for the Carmel River Hydrologic Unit.

Table 4-3. Carmel River Hydrologic Unit Summarized Municipal Dischargers

Carmel Sanitary District
Carmel Valley Sanitation District
Village Green
White Oaks
Carmel Valley Ranch
Carmel Highlands Inn
Carmel Sanitary Association

The Carmel Sanitary District operates a secondary wastewater treatment plant with ocean disposal serving Carmel-by-the-Sea, Del Monte Forest, and a few adjacent areas. The outfall system terminates within a portion of Carmel Bay that is designated an Area of Special Biological Significance (ASBS). The District is developing a reclamation project for irrigation of Monterey Peninsula Golf Courses. A high concentration of golf courses in a water short area makes reclamation particularly desirable and attractive.

Carmel Valley Sanitation District operates three facilities in Carmel Valley. These include community septic tank/subsurface disposal systems at Village Green and White Oaks and a tertiary type treatment plant with golf course reclamation at Carmel Valley Ranch. No changes are recommended unless public health or water quality problems develop. Should the need arise for specific septic system maintenance in Carmel Valley, local agencies should be considered for management responsibilities.

Comprehensive studies to determine the feasibility of establishing separate treatment plants have been completed for the Carmel Valley area. These studies conclude that on-site septic systems should remain operational until further ground water monitoring data shows sewers are necessary. Wastewater treatment and reuse on the Carmel Valley Ranch Golf Course provides an optimal way of managing waste generated in the area.

Carmel Highlands wastewaters should continue to be treated in on-site wastewater systems except at the Highlands Inn and the Carmel Highlands Sanitary Association. Both of these systems will continue to discharge treated secondary quality effluent to the Pacific Ocean.

VI.B.4. SANTA LUCIA HYDROLOGIC UNIT

The U.S. Navy's Point Sur wastewater facilities and the State Department of Parks and Recreation Pfeiffer Big Sur State Park facilities are the only significant facilities in this hydrologic unit. Ocean discharge from the U. S. Navy is being discontinued and is being replaced with a subsurface land disposal system. The subsurface land disposal system at Pfeiffer Big Sur State Park also seems adequate. If expansion to this facility is considered or if ground or surface water degradation from this discharge is detected, other means of disposal, such as reclamation, are recommended.

VI.B.5. SALINAS RIVER HYDROLOGIC UNIT

The extensive Salinas River Hydrologic Unit includes the Monterey Peninsula and southern coastal area of Monterey Bay, the City of Salinas, agricultural and small urban centers of the Salinas Valley, and recreational developments in the upper watersheds. Major dischargers in the Salinas River Hydrologic Unit include the Monterey Regional Water Pollution Agency (MRWPCA). Table 4-4 displays dischargers summarized below for the Salinas River Hydrologic Unit.

Table 4-4. Salinas River Hydrologic Unit Summarized Municipal Dischargers

Monterey Regional Water Pollution Control Agency (MRWPCA)
U. S. Army Fort Hunter Liggett
California Army National Guard - Camp Roberts
King City
City of Paso Robles
City of Atascadero
San Luis Obispo County Service Area No. 7A Oak Shores
San Luis Obispo County Service Area No. 19 Heritage Ranch Development

The recommended plan for the Monterey Peninsula-Salinas area calls for consolidation of

Monterey Peninsula, Salinas, Castroville, and other Monterey Bay municipal wastewater flows into a regional wastewater treatment plant and outfall. Discharge is to central Monterey Bay outside the prohibition zone described in Chapter 5 "Discharge Prohibitions" under "Waters Subject to Tidal Action." Upon completion of the regional plant, wastewater treatment plants in Monterey, Salinas (2), Castroville, and Fort Ord will be taken out of service. The Monterey Regional Water Pollution Control Agency (MRWPCA) was established to manage and implement regional consolidation.

It is recommended MRWPCA implement wastewater reclamation. MRWPCA plans to provide reclaimed water to the Castroville Irrigation Project which involves irrigating food crops in the Castroville area with water reclaimed at the regional plant blended with water diverted from the Salinas River.

New major residential developments proposed within the service area of the Regional Project should connect to the regional system unless studies can show that water quality and public health concerns can be properly mitigated. Sewerage feasibility studies and aerial ground water studies should continue in this sub-basin to assure that adequate sewage treatment and disposal capabilities are maintained for both existing and proposed development.

Recommended plans for Salinas Valley communities, the U. S. Army's Fort Hunter Liggett, the California Army National Guard's Camp Roberts, and recreational areas in the upper watershed involve separate wastewater treatment and disposal facilities.

Dischargers along the Salinas River should remain as separate treatment facilities with land disposal to evaporation/percolation systems and land application (irrigation) systems where possible. Disposal should be managed to provide maximum nitrogen reduction (e.g., through crop irrigation or wet and dry cycle percolation). Facility expansions shall include means for nitrogen reduction. Shallow ground water monitoring at these facilities will determine if additional improvements are necessary. King City should consider expanding its service area to include Pine Canyon if development continues in that area.

The City of Paso Robles owns and operates a secondary treatment plant (4.9 mgd) utilizing trickling filtration followed by oxidation ponds. Disposal is by evaporation and percolation from the oxidation ponds and by discharging from the last pond to the Salinas River channel. Use of reclaimed water should be investigated and implemented, if feasible. A reduction of inorganic salt in the effluent would increase its desirability to potential users. A report, "Water Quality in the Paso Robles Area," published by the California Department of Water Resources in 1981 made water quality control recommendations, including a recommendation for more stringent control of total dissolved solids and sodium in the City's wastewater treatment plant discharge. A Regional Board Salt Balance Study is planned to further define the need and methods of salt reduction.

The City of Paso Robles also owns and operates the wastewater facility serving the California Youth Authority and Paso Robles Airport Wastewater treatment plant (0.10 mgd). Disposal is to a series of oxidation-percolation ponds located adjacent to Huerhuero Creek. Wastewater reclamation uses should be investigated. An effluent pump exists at the plant in case wastewater reclamation potential develops. The City is planning an interceptor sewer to eliminate this facility and provide all treatment and disposal at its main City facility.

The City of Atascadero (1.67 mgd) owns and operates a wastewater collection, treatment, and disposal system serving part of the City. Pond treatment is provided followed by land disposal to percolation ponds and by irrigation of a golf course. San Luis Obispo County Health Department has documented public health problems and water quality problems arising from failing on-site sewage disposal systems in areas within the City. The City was sewered in the most significant problem areas, but additional sewering is needed.

Dischargers in the Nacimiento Reservoir area include San Luis Obispo County Service Area No. 7A, Oak Shores Development (0.1 mgd); and, San Luis Obispo County Service Area No. 19, Heritage Ranch Development (0.40 mgd). Wastewater facilities for the Oak Shores Development consist of two aerated treatment ponds and spray disposal. Part of the collection system is located below the spillway elevation of Nacimiento Reservoir. This has been a

source of excessive infiltration in the past and the problem has been corrected. This area should be watched closely as reservoir level rises and wastewater flows increase to insure infiltration and/or exfiltration do not reoccur. Major expansion of wastewater facilities is expected in the future. As the development grows, new disposal facilities should be relocated well away from Nacimiento Lake.

Wastewater at Heritage Ranch is treated in aerated lagoons at the development. Discharge is to a holding pond, filtered, and then discharged to a drainageway located outside the Nacimiento Reservoir watershed.

Camp Roberts is a U. S. Army installation that is leased by the California National Guard as a major training site. Wastewater flows that vary from 3000 gpd in winter to nearly 1.0 mgd in summer are treated to secondary levels prior to disposal in a series of percolation/evaporation ponds located near the Salinas River. The facility was upgraded in 1980 and there are no additional recommendations.

Dischargers in the San Antonio Reservoir watershed include Monterey County's Department of Parks and Recreation and the U.S. Army's Fort Hunter Liggett. There are no recommended changes to facilities operated by the Monterey County Department of Parks and Recreation. The U.S. Army, Fort Hunter Liggett operates wastewater treatment facilities located adjacent to the San Antonio River. The recommended plan is to maintain the existing facilities with improvement of the spray disposal area.

VI.B.6. ESTERO BAY HYDROLOGIC UNIT

Municipal wastewater management plans for the Estero Bay Hydrologic Unit are described for each of these four areas: North Coast, Morro Bay, San Luis Obispo Creek, and South County Regions. Table 4-5 displays dischargers summarized below.

Table 4-5. Estero Bay Hydrologic Unit Summarized Dischargers

Cambria Community Services District
San Simeon Acres Community Services District
City of Morro Bay and Cayucos Sanitary District
California Men's Colony
Los Osos septic tank/leachfield systems
City of San Luis Obispo
Avila Beach County Water District
San Luis Obispo County Service Area No. 18- Country Club Estates
City of Pismo Beach
South San Luis Obispo County Sanitation District
Lopez Recreation Area Wastewater Treatment Plant

Dischargers in the North San Luis Obispo Coast include Cambria Community Services District (1.0 mgd) and San Simeon Acres Community Services District (0.2 mgd).

Secondary treatment facilities at Cambria have a design capacity of 1.0 mgd and include a land outfall and spray irrigation system for effluent disposal, and an effluent holding reservoir. Excess effluent that cannot be spray-irrigated is pumped to the reservoir for later land disposal or discharged during wet weather through a sand filter bed to Van Gordon Creek. The District is evaluating land disposal improvements. Implementation of this plan is the responsibility of Cambria Community Services District.

San Simeon Acres Community Services District owns and operates a secondary treatment (activated sludge) plant with design capacity of 0.2 mgd. Wastewater visitor complex generated at Hearst Castle and within the community is treated and discharged to the Pacific Ocean through an ocean outfall. The recommended plan is to retain the treatment plant.

Dischargers in the Morro Bay area include the City of Morro Bay and Cayucos Sanitary District (2.1 mgd), California Men's Colony (CMC) (1.2 mgd), and Los Osos- Baywood septic tank leachfield systems.

The City of Morro Bay and the Cayucos Sanitary District jointly own treatment facilities with ocean outfall disposal. Wastewater is being treated by a newly constructed plant and discharged through a newly constructed ocean outfall. In order to

maximize plant capacity and meet Ocean Plan requirements, part of the effluent receives primary treatment only and part receives secondary treatment. Primary and secondary quality effluents are blended before disposal to the Pacific Ocean in compliance with a secondary treatment waiver.

Recently renovated wastewater treatment facilities at California Men's Colony also serve the California National Guard Camp, Cuesta College, the County Educational Center, and the County Operational Facility. Secondary treatment with coagulation/filtration, and subsequent disposal to Chorro Creek (stream flow augmentation) are provided. Effluent is also used to irrigate fodder crops on nearby lands owned by California State Polytechnic University.

Development on small lots in Los Osos-Baywood has resulted in one of the most densely populated areas without public sewers on the central coast. Septic tank effluent is discharged in predominantly sandy soil over a ground water basin which is the sole source of water for the area. Some shallow wells have approached and exceeded the public health maximum nitrate concentration limit. The County of San Luis Obispo conducted a Clean Water Grant funded study of this situation. Study findings resulted in a Basin Plan Prohibition of discharges effective November 1, 1988. The County has not implemented the recommended project of sewering the area. (A new septic system discharge prohibition now exists for the area).

Dischargers in the San Luis Obispo Creek area include the City of San Luis Obispo (5.1 mgd), Avila Beach County Water District (0.1 mgd), and San Luis Obispo County Service Area (CSA) No. 18, Country Club Estates (0.12 mgd).

The City of San Luis Obispo wastewater treatment facilities serve as a regional plant for the City and certain proximal unincorporated county areas. Trickling filters provide secondary treatment before disposal to San Luis Obispo Creek. Infiltration and inflow in the wastewater collection system causes excessive wet weather flows and intermittent discharges to San Luis Obispo Creek of partially treated wastewater. The recommended plan for San Luis Obispo is improving the collection and treatment facilities capacity to eliminate these discharges. The City's Wastewater Management Plan should be implemented to provide treatment necessary to comply with stringent permit requirements.

The small community of Avila Beach is served by a small advanced primary trickling filter wastewater treatment facility owned and operated by the Avila Beach County Water District. Design capacity of the plant was originally 0.18 mgd, but was downgraded in 1986 to 0.1 mgd as the NPDES permit was revised to include secondary treatment standards for tickling filters. Current average flow is only 0.07 mgd. Wastewater disposal is through an ocean outfall to the Pacific Ocean. Additional treatment and/or outfall modification will be necessary as flow increases. Oceanographic studies would be required to determine appropriate modifications (e.g., lengthen the outfall and add a multiport diffuser).

Country Club Estates (CSA No. 18) is a small subdivision in South San Luis Obispo County that historically relied on septic tank systems for wastewater treatment and disposal. A septic tank system performance survey completed in January, 1981, identified significant public health hazards from numerous failing septic tank systems in the subdivision. The septic systems were replaced in 1988 by a small secondary treatment plant (0.12 mgd) with effluent disposal via golf course irrigation at the San Luis Obispo Golf and Country Club.

Dischargers in the South San Luis Obispo County Region include the City of Pismo Beach (1.2 mgd), South San Luis Obispo County Sanitation District (3.0 mgd) (serving the City of Arroyo Grande, City of Grover City, and Ocean Community Services District), and Lopez Recreation Area wastewater treatment plant (0.10 mgd). These dischargers provide secondary treatment of wastewater through three separate facilities. Pismo Beach has a land outfall to the South San Luis Obispo County Sanitation District ocean outfall. Plant reliability improvements were made in 1987. Future treatment plant enlargements should provide duplicate process units for improved operation and maintenance. A long range solids management plan must be developed and implemented.

South San Luis Obispo County Sanitation District disposes of secondary effluent through an ocean outfall to the Pacific Ocean. The District has enlarged its facilities to 3.0 mgd and changed from activated sludge to fixed film reactor. A long range

solids management plan is also needed for this plant.

The Lopez Recreation Area treatment facilities serve County facilities adjacent to Lopez Lake. Lopez Lake serves as a municipal water supply for downstream coastal communities. It is recommended land disposal of wastes be continued. Ground water quality monitoring should be used to provide warning of any potential ground water problems downstream of the disposal area. Implementation of this plan is the responsibility of the County of San Luis Obispo.

VI.B.7. CARRIZO PLAIN HYDROLOGIC UNIT

There are no municipal sewerage systems in the Carrizo Plain Hydrologic Unit; recommended practices for individual disposal systems will pertain to this area.

VI.B.8. SANTA MARIA RIVER HYDROLOGIC UNIT

The municipal wastewater management plans for the Santa Maria Valley and the Cuyama Valley are described separately for the City of Guadalupe, the City of Santa Maria, the Laguna County Sanitation District, Nipomo, and the New Cuyama wastewater treatment plant.

It is recommended that separate wastewater treatment and disposal/reclamation facilities be maintained by the City of Guadalupe (0.5 mgd), the City of Santa Maria (7.8 mgd), and the Laguna County Sanitation District (3.2 mgd). Discharge will be to land in each case.

The City of Guadalupe provides primary treatment followed by mechanically aerated lagoons. An unincorporated neighborhood known as the Gularte Tract is located adjacent to Guadalupe. A lift station and interceptor have been constructed to transport Gularte's wastewater to the City's collection system. The recommended plan for Guadalupe is to complete additional storage ponds and disposal facilities to insure containment of wastewaters during wet weather and accommodate planned growth and to continue effluent discharge to land. Use of reclaimed water to irrigate nearby pasture lands is encouraged and should be maximized. Implementation of this plan is the responsibility of the City of Guadalupe. The County of Santa Barbara will be responsible for wastewater collection and transport systems for Gularte Tract up to the point of discharge to interceptors owned and operated by Guadalupe.

The City of Santa Maria provides wastewater collection, treatment, and disposal services to the City of Santa Maria, Santa Maria Airport District, and part of Laguna County Sanitation District. Biological secondary treatment is provided with disposal to percolation ponds and irrigation lands. The recommended plan for Santa Maria is to retain the existing treatment and disposal facilities. Since the Santa Maria ground water basin is in a state of adverse dissolved solids balance, it is imperative that quantities of total dissolved solids, sodium, chloride, nitrogen, and nitrogen compounds be kept to a minimum by implementing a strict source control ordinance. Additional measures -- importing better quality water, drilling new wells, partial desalting, etc. - may be required in the future to provide a suitable water supply for the area. Laguna County Sanitation District retains ownership and direct responsibility for wastewater collection and transport systems up to the point of discharge into interceptors owned and operated by the City of Santa Maria.

A secondary wastewater treatment plant owned and operated by Laguna County Sanitation District treats most of the wastewater generated within the District. Wastewater is discharged to approximately 2,250 acres of private lands located adjacent to the facility. The landowners and the County have a 30-year agreement for irrigation of fodder, fiber, and seed crops. The recommended plan for Laguna is to improve plant performance and increase capacity through a staged construction plan. Enough land is available to allow expansion and continue reclamation. Recommended improvements include increasing capacity and reliability of the Orcutt Lift Station, increasing sludge drying bed area, and expanding effluent, pumping, storage, and conveyance facilities. Funding of future

improvements and plant expansions would be through connection and user charges. Laguna County Sanitation District is responsible for implementation of the recommended plan. Impact of salts must be minimized by implementing a strict source control ordinance and discharging to areas outside the main ground water recharge area.

Failing individual on-site sewage disposal systems in the community of Nipomo resulted in a treatment facility being completed in 1987. Treatment is by aerated lagoons and disposal is by percolation beds. Sewer service is provided to downtown Nipomo and County operated systems of Nipomo Palms, Black Lake Estates and Galaxy Subdivisions. The recommended plan is to extend the sewer system to small lot areas as growth allows.

Existing facilities at the New Cuyama Wastewater Treatment Plant provide primary treatment of wastewater, with some aeration. Effluent is chlorinated before discharge to Salisbury Creek. The recommended plan for New Cuyama is to study existing facilities, determine future needs of the community, and, since water is in short supply, explore wastewater reclamation alternatives. Cuyama Community Services District is the responsible party for wastewater and water supply facilities in New Cuyama. It is recommended that exploratory wells be drilled to find a higher quality water supply. If a lower salt content water is not available, the existing water supply should be partially demineralized.

VI.B.9. SAN ANTONIO CREEK HYDROLOGIC UNIT

Los Alamos Community Services District owns and operates a wastewater treatment and disposal facility to serve the Los Alamos community. Wastewater (0.1 mgd) is treated in mechanically aerated ponds and discharged to disposal ponds and a spray reclamation area.

VI.B.10. SANTA YNEZ RIVER HYDROLOGIC UNIT

Municipal wastewater management plans for the Santa Ynez River Hydrologic Unit are described below. Table 4-6 displays dischargers discussed below.

Table 4-6. Santa Ynez River Hydrologic Unit Summarized Municipal Dischargers

City of Lompoc
Mission Hills Community Services District
Vandenberg Air Force Base
U. S. Department of Justice, Bureau of Prisons
Buellton Community Services District
City of Solvang
Cachuma County Sanitation District

Parts of Lompoc Valley ground water basin are in a state of adverse salt balance because of municipal and agricultural discharges. It is imperative that impacts of point source waste discharges to land be reduced by continuing to implement strict salt limitations, source control programs, and other salt management practices.

The City of Lompoc operates a secondary treatment facility (5.0 mgd) and discharges treated effluent to Santa Ynez River. The City also provides service to Vandenberg Village Community Services District and sewered areas of Vandenberg Air Force Base. The recommended plan for Lompoc is to control mineral concentrations in the effluent by enforcing strict limits on discharges to the sewer system and to continue to implement a pretreatment program. Implementation of this plan is the responsibility of the City of Lompoc. Vandenberg Air Force Base and Vandenberg Village Community Services District retain ownership and direct responsibility for wastewater collection and transport systems up to the point of discharge into the wastewater treatment plant and/ or interceptors owned and operated by the City of Lompoc.

In 1980, the Mission Hills Community Services District (0.4 mgd) was formed, assuming ownership and responsibility for water supply and sewage disposal in Mission Hills. The District expanded and

upgraded its La Purisima Plant and eliminated the Rucker Road Plant. Wastewater is treated in mechanically aerated ponds and discharged to a series of evaporation/percolation ponds and reclamation areas. Separate water reclamation requirements were adopted for Mission Belle Dairy as a primary user of reclaimed water for pasture and fodder crop irrigation.

There are isolated areas of Vandenberg Air Force Base that are not served by the Base's collection system. Separate treatment and disposal systems exist to serve these areas. Due to the isolation of these systems, it is recommended that they be retained. Efficient operation and maintenance of these systems will protect public health and water quality.

The United States Department of Justice, Bureau of Prisons, owns and operates existing facilities at the U.S. Penitentiary (0.6 mgd) which provide secondary treatment of wastewater. Treated wastewater is reclaimed for irrigation of forage crop land.

It is recommended that facilities be maintained separately at Buellton Community Services District (0.65 mgd), City of Solvang (1.0 mgd), and Cachuma County Sanitation District (0.22 mgd). Secondary treatment prior to land disposal coupled with a strict source control program will be necessary to protect local ground waters in these three areas.

The City of Solvang operates a secondary wastewater treatment facility to serve the City and Santa Ynez Community Services District with effluent disposal to evaporation/percolation ponds. Since the disposal ponds are located in a flood-prone area, it is imperative that sufficient disinfection capacity be available to disinfect effluent during wet weather. Expansion of capacity should be considered for ongoing growth in areas adjacent to present City and District boundaries. Implementation of this plan is the responsibility of both the City of Solvang and Santa Ynez Community Services District. Need for, and feasibility of providing, sewerage facilities for the Los Olivos-Ballard areas should be investigated by the County of Santa Barbara. Treatment and disposal service for this area be contracted with the City of Solvang.

The recommended plan for Cachuma County Sanitation District is to continue to treat and dispose of wastewater in percolation ponds and spray fields outside the Cachuma Reservoir watershed. Since ground waters downgradient from the spray field are used for domestic water supply, sampling of the nearest downgradient well is recommended to insure that water supply quality is not adversely affected by the discharge.

VI.B.11. SOUTH COAST HYDROLOGIC UNIT

Summarized municipal wastewater treatment and disposal agencies in the South Coast Hydrologic Unit are described separately for the Goleta Sanitary District (9.7 mgd), City of Santa Barbara (11.0 mgd), Montecito Sanitary District (1.5 mgd), Summerland Sanitary District (0.20 mgd), and, Carpinteria Sanitary District (2.0 mgd) wastewater treatment plants.

Goleta Sanitary District operates a wastewater collection system within the District and a treatment and ocean disposal system to provide service to Goleta Sanitary District, Isla Vista Sanitary District, University of California at Santa Barbara, Santa Barbara Municipal Airport, and facilities of Santa Barbara County. EPA granted the District a waiver from secondary treatment requirements. The waiver permit limits flow to 7.9 mgd provided mass emission rates do not exceed limits based on a flow of 7.3 mgd. In order to meet EPA's conditions and Ocean Plan criteria, part of the effluent receive primary treatment only and part receives secondary treatment. Primary and secondary effluent are blended before disposal to the Pacific Ocean. The District implements a pretreatment program. Isla Vista Sanitary District, University of California at Santa Barbara, Santa Barbara Municipal Airport, and Santa Barbara County retain ownership and direct responsibility for wastewater collection and transport systems up to the point of discharge into interceptors owned and operated by Goleta Sanitary District. A long range solids management plan is needed to assure sludge disposal needs are met.

The recommended plan for the City of Santa Barbara is to retain El Estero Wastewater Treatment Plant, with disposal to the Pacific Ocean, along with implementation of the City of Santa Barbara wastewater reclamation project. The City could consider implementing a cost-effective composting program to reduce transportation costs. The City implements a pretreatment program and also provides service to an unincorporated community in Mission Canyon located above the City.

The recommended plan for Montecito Sanitary District is to continue secondary treatment with disposal to the Pacific Ocean.

The recommended plan for Summerland Sanitary District is to expand and upgrade existing facilities to insure reliable plant operations and to accommodate planned growth. Recommended improvements are addition of standby power, dual processes, and continuous monitoring of total chlorine residual.

The recommended plan for Carpinteria Sanitary District is to retain existing secondary treatment facilities with disposal to the Pacific Ocean.

VI.C. INDUSTRIAL WASTEWATER MANAGEMENT

In general, the alternatives available to industrial discharges are the following: (1) ocean discharge and compliance with the State Ocean Plan, the State Thermal Plan and Public Law 92-500; (2) containment of nonsaline and non-toxic wastes on land; (3) reinjection of oil and gas production brines; (4) inland surface water discharge, if other alternatives are proved infeasible; and, (5) abandonment of the treatment facility and connection to a publicly owned treatment works. In most cases, alternatives will be limited by standards of performance and pretreatment standards being developed by EPA. It should also be noted that federal guidelines will be subject to regional considerations such as important fishery resources or wildlife areas which could necessitate making regional industrial discharge requirements more stringent than national performance standards.

Specific effluent limitations are being promulgated for existing industrial waste discharges together with standards of performance and pretreatment standards of performance for new sources pursuant to sections 304(b), 306 (b), and 307(b), of the federal Water Pollution Control Act. Effluent limitations were being circulated for comment by the EPA. Waste source categories of particular interest in the basin which will be covered by those sections of the federal law include:

Meat product and rendering processing

Dairy product processing

Canned and preserved fruits and vegetables processing

Canned and preserved seafood processing

Cement Manufacturing

Feedlots

Electroplating

Beet sugar processing

Petroleum production and refining

Steam electric power plants

Leather tanning and finishing

Further information pertaining to industrial discharges can be found in the Management Principles and Control Actions Section of Chapter 5. The State Water Resources Control Board Plans and Policies Section, Discharge Prohibition Section, and Regional Board Policies Section are likely to apply (depending on site specific circumstances).

VI.D. SOLID WASTE MANAGEMENT

The protection and maintenance of water resources requires consideration and regulation of solid waste management practices. This section discusses present and future solid waste production, existing disposal practices and their effect on water quality, and proposed plans for solid waste disposal within the study area.

Land disposal is regulated by the California Code of Regulations, Title 23, Chapter 15 (Chapter 15). In the vernacular of Chapter 15, wastes are classified as either hazardous waste, designated waste, nonhazardous solid waste, or inert waste. Waste Management Units (WMUs) are classified as either Class I, II or III depending on the type of waste to be disposed of in the unit. Class I WMUs have the most restrictive siting criteria and must be constructed to provide optimum conditions for isolation of wastes from waters of the State. A double liner and a leachate collection and removal system (LCRS) is required for all Class I units. Class II WMUs also have relatively restrictive siting and construction standards and are designed to totally isolate wastes from the environment. Double liners and LCRSs are typically, but not always, required for Class II units. Class III WMUs must be sited and constructed such that no impairment of beneficial uses of surface or ground water beneath or adjacent to the site occurs. Siting and construction standards for Class III units are the least restrictive of the three, but the requirements are still considerable.

Wastes are considered hazardous if they meet the criteria defined in CCR Title 22, Section 66300. Examples of wastes that are considered hazardous include: waste solvents, waste pesticides, and waste electroplating solutions, to name a few. Hazardous wastes must be discharged only at Class I WMU.

Wastes are classified as designated if, under ambient conditions at the WMU, they may be released in concentrations in excess of applicable water quality objectives or cause degradation of waters of the State. Some examples of designated waste include, wet sewage treatment plant sludge, oil field wastes, and some drilling muds. Designated wastes must be disposed of only at Class I WMU's, or at Class II WMU's which are approved for that particular type of waste.

Nonhazardous solid wastes consist of the more typical household and industrial wastes including: trash, rubbish, ashes, demolition and construction wastes, discarded home and industrial appliances, manure, and vegetable or animal solid or semi-solid wastes provided they do not meet the criteria mentioned above for hazardous or designated wastes. Nonhazardous solid waste may be disposed of at any classified WMU, but normally it is disposed of only at Class III WMUs to conserve the diminishing volume in the few operating Class I and Class II WMUs.

Inert waste does not contain hazardous waste or soluble pollutants at concentrations in excess of applicable water quality objectives and does not contain significant quantities of decomposable waste. Some examples of inert wastes include: broken up concrete rubble and excess clean earth fill. Inert wastes do not necessarily need to be disposed of at classified waste management units (i.e., Class I, II or III), but waste discharge requirements may be issued for the discharge at the discretion of the Regional Board.

There are 28 authorized active waste disposal sites regulated by the Central Coast Regional Board. Of the 28 sites, 26 are Class III landfills, with one Class I landfill, and one Class II surface impoundment. Additional information regarding a specific waste management unit can be found in the respective County Waste Management Plan in which the unit is located.

In recent years, data indicates municipal solid waste landfills may be having a greater impact on water resources than was previously anticipated. Legislation was passed in 1984 which requires all owners of active, inactive, or former landfills to initiate a study to determine if the landfilling operation has had an impact on waters of the State. Approximately 150 sites are evaluated per year throughout the State, with approximately nine sites per year coming from the Central Coastal Region. Further studies and/or corrective actions are initiated at all sites impacting State waters.

A recent report from the Assembly Office of Research has documented California's dwindling remaining landfill capacity. In general, remaining landfill capacity within the Central Coastal Region is higher than most areas of the State. However, the ratio of landfill closures to landfill expansions or opening of new landfills within the region for the last five years is approximately 4:1. This ratio will probably remain the same or increase with the more stringent regulatory requirements and the time consuming permitting process required for siting of new waste management units. In order to avoid a landfill capacity crisis similar to the situation on the East Coast, our solid waste handling and disposal practices should be reevaluated and a more environmentally sound management practice should be developed.

The Toxic Pits Cleanup Act of 1984 (TPCA) declares that discharges of liquid hazardous wastes or hazardous wastes containing free liquids into lined or unlined impoundments pose a serious threat to the quality of the waters of the State. Therefore, the legislature enacted TPCA as Article 9.5 (Surface Impoundments) of Chapter 6.5 (Hazardous Waste Control) of Division 20 of the California Health and Safety Code with the intent of insuring that existing surface impoundments were either made safe or were closed.

The effect of TPCA was to prohibit discharge (defined to include storage) of liquid hazardous wastes and hazardous wastes containing free liquids to surface impoundments, which did not satisfy specific construction and monitoring standards, by June 30, 1988, or December 31, 1988, depending on the location and characteristics of the impoundment. TPCA allows specific exemptions with varying application and granting deadlines. However, on and after January 1, 1989, all discharge of liquid hazardous wastes and of hazardous wastes containing free liquids to surface impoundments which had not been granted exemptions, and which did not meet specific construction and monitoring standards, was prohibited. There is a rare set of circumstances which may exempt a surface impoundment from the January 1, 1989, deadline.

TPCA is fulfilling its goal of reducing the threat of liquid hazardous wastes to the waters of the State.

VI.D.1. SOLID WASTE DISCHARGE PROHIBITIONS

Discharge is prohibited as follows:

1. Any Class I solid waste material to any location other than Class I solid waste disposal site.

2. Any Class II solid waste materials to any location other than Class I or II solid waste disposal sites.

3. Solid wastes shall not be discharged to rivers, streams, creeks, or any natural drainage ways or flood plains of the foregoing.

VI.E. STORM WATER MANAGEMENT

Storm water runoff can be a significant pollution source. The United States Environmental Protection Agency (U.S. EPA) estimates that at least 33% of all contamination in lakes and estuaries and 10% of all river contamination are caused by storm water runoff. Sources of pollution include runoff from industrial facilities, construction sites, and urban municipalities.

Federal regulations (40 Code of Federal Regulations 122.26) require certain industrial facility owners and/or operators to obtain storm water discharge permits. The specific types of facilities that need coverage is dependent upon the facility's Standard Industrial Classification Code. The program is primarily directed at manufacturing facilities, oil and gas extraction facilities, transportation maintenance facilities (trucking and mass transit), and construction sites (with greater than five acres of land disturbance). In addition, municipalities with populations greater than 100,000 must participate in a municipal storm water permitting program.

In August and September 1992, the State Water Resources Control Board (State Board) adopted the statewide General Construction Activity Storm Water

Permit and amended the statewide General Industrial Activities Storm Water Permit. The statewide permits expire five years after adoption. At that time, Regional Boards will most likely adopt Region specific General Permits.

The storm water program objectives include identification and elimination of pollutant contact with storm water by implementation of Best Management Practices. To obtain coverage under a General Permit, an applicant (i.e., those facilities required under 40 Code of Federal Regulations 122.26) must submit a Notice of Intent and the appropriate fee. The Notice of Intent is an agreement accepting the discharge specifications and monitoring requirements of the General Permit.

General Industrial Permit Requirements include the development of a Storm Water Pollution Prevention Plan and storm water runoff monitoring. The Storm Water Pollution Prevention Plan is a facility specific document which includes: a site description, facility processes, pollutant sources, storm water management system, employee education and training program, and measures proposed to eliminate non-storm water discharges. Minimum monitoring and reporting requirements include: sampling and analysis of four pollutant indicator parameters, wet and dry weather storm water conveyance system inspections, and annual reporting. The Regional Board can recommend additional monitoring parameters based on the presence of specific pollutant sources.

The Construction Permit has similar requirements regarding development of a storm water pollution prevention plan, but mainly deals with reducing pollutant sources associated with erosion and sediment transfer and chemicals used at construction sites. The monitoring requirements are less stringent and no sampling is required.

Annual monitoring reports required by the Industrial permit are due July 1 of each year. Sampling results and annual report information will be used to prioritize Regional Board staff education and enforcement efforts and to develop future group general permits. Compliance is measured through implementation of pollution prevention Best Management Practices, reduction in pollutant loadings, and accurate and timely report submittal.

VI.F. BAY PROTECTION AND TOXIC CLEANUP PROGRAM

The State Water Resources Control Board (State Board) established the Bay Protection and Toxic Cleanup Program in response to legislation enacted in 1989 (Chapter 269; Senate Bill 475 Torres) which added Chapter 5.6, Sections 13390 through 13396, to the California Porter-Cologne Water Quality Control Act. The Bay Protection and Toxic Cleanup Program is a statewide program that is coordinated with the California Department of Fish and Game and California Environmental Protection Agency's Office of Environmental Health Hazard Assessment. The Water Code requires the State and Regional Water Quality Control Boards to do the following to attain the goals of the Bay Protection and Toxic Cleanup Program:

1. Develop and maintain a program to identify toxic hot spots, plan for their cleanup or mitigation, and amend Water Quality Control Plans/Policies to abate toxic hot spots;

2. Formulate and adopt a Water Quality Control Plan for enclosed bays and estuaries;

3. Review and, if necessary, revise Waste Discharge Requirements to conform to the Plan;

4. Develop a database of toxic hot spots;

5. Develop an ongoing monitoring and surveillance program;

6. Develop sediment quality objectives;

7. Develop criteria for assessment and priority ranking of toxic hot spots; and

8. Fund the program through fees on point and nonpoint dischargers. (California Code of Regulations, Title 17, Section 2236, authorizes the fee program).

Funds for the Bay Protection and Toxic Cleanup Program will come from user fees, as proposed by State Board staff. User fees have been drafted for the following:

1. All NPDES and WDR dischargers to the ocean, bays, or estuaries;

2. Counties or cities which operate a storm drain system which discharges to the ocean, a bay, or estuary;

3. Dischargers of agricultural drainage to the ocean, bays, or estuaries;

4. Boat construction and repair facilities;

5. Boat marinas and recreational facilities;

6. Operators of commercial harbors and ports; and

7. Operators of dredging discharges.

The fees are based on threat to water quality, as defined by the Waste Discharge System (WDS) ranking system (threat to water quality and complexity criteria).

The Central Coast Regional Board has identified 17 potential toxic hot spots to be addressed under this program. These 17 sites are identified in the Appendix. An assessment/monitoring plan has been developed for potential toxic hot spots. Potential hot spots are ranked according to threat to beneficial uses. The assessment/monitoring plan includes the following:

1. Definition of the extent of degradation;

2. Analysis of existing point and nonpoint discharges in the area;

3. Identification of contaminant sources; and

4. Development of options for removing the threat to beneficial uses, including consideration of additional effluent limits on point and nonpoint discharges and actual cleanup.

VI.G. MILITARY INSTALLATIONS

Military installations throughout the country include some of the largest and most complex contamination problems. In 1987, President Reagan signed into law Executive Order No. 12580 directing all federal facilities to investigate and remediate areas of environmental contamination. As a result, the U.S. Department of Defence has assumed responsibility for investigation and remediation at military bases. Certain environmental restoration projects involving hazardous materials and wastes from past military activities are being addressed through what is known as the U.S. Department of Defense Program. Although U.S. Department of Defense has assumed environmental restoration responsibility, the Regional Board is an active oversight participant.

From its inception, the Regional Board has been involved with a variety of military installation activities. Since 1990, this Regional Board has been actively and extensively involved in U.S. Department of Defense Program investigations and remedial activities at numerous military facilities within its jurisdiction. Active military installations in the Region addressed by the U.S. Department of Defense Program (current as of 1993) include Fort Ord, Presidio of Monterey, Monterey Naval Post Graduate School, Fort Hunter Liggett, Camp Roberts, Estero Bay Defense Fuel Supply Point, and Vandenburg Air Force Base. Fort Ord is unique since it is a closing base and has been identified as a federal superfund site. Four formerly used defense sites in the Region undergoing U.S. Department of Defense remediation (as of 1993) include: Camp San Luis Obispo - California National Guard, Camp San Luis Obispo - San Luis Obispo County, Paso Robles Airport, and Santa Barbara Airport. Potentially additional military facilities can be added to the U.S. Department of Defense Program.

Program Background

Decades of intense military activities have generated significant quantities of hazardous waste. As a result of insufficient internal control, improper handling and disposal practices, and inadequate regulation, military installations are now considered one of the

Nation's most significant environmental polluters. Pollution problems are exacerbated by the large base size, the complex and varying missions, as well as routine personnel changes and inconsistent regulation and control. Many bases are actually small to midsize, totally contained communities providing complete services for base operations. Services vary from base to base, but range from aircraft, vehicle, or shop maintenance and repair facilities to laundry services, photo shops, gas stations, and other typical municipal services (e.g., utilities, streets, water supply, sewerage, and solid waste disposal).

Past waste disposal practices in both government and private industries were insufficient to protect public health and the environment. Environmental laws and regulation developed in the 1970s addressed many deficiencies, but federal operations, especially the military, remained inadequately addressed. The military was adamant that sovereign immunity protected them from State and local environmental regulation. Enforcement actions to force the military to comply with State and federal regulation were often protracted or disregarded. In 1976, U.S. Department of Defense developed its Installation-Restoration Program to help identify, investigate, and cleanup contamination from past operations. Due to funding and timing, Program activities were initiated at most military facilities in the early 1980s.

In 1980, the federal Comprehensive, Environmental Response, Compensation, and Liability Act (CERCLA), which is also referred to as "Superfund" was enacted to address cleanup of hazardous substance disposal and spill sites. The Superfund Amendments and Reauthorization Act was enacted in 1986 to enhance hazardous waste cleanup. The Superfund Amendments and Reauthorization Act, in part, mandated the Defense Environmental Restoration Program specifically to address cleanups at U.S. Department of Defense facilities. The Defense Environmental Restoration Program included an Inland Restoration Program as a component. To carry out required environmental restoration at its military facilities, U.S. Department of Defense established the Defense Environmental Restoration Account as the funding mechanism.

Executive Order No. 12580 was enacted in 1987 to intensify investigation and remediation of environmental problems. The Executive Order directed all federal agencies to ensure environmental restoration. To comply with this Executive Order, U.S. Department of Defense has assumed lead responsibility to cleanup military bases throughout the world. California has the largest number of active military bases covered by the military cleanup plan.

As a result of Executive Order No. 12580 and growing public awareness, U.S. Department of Defense is now actively pursuing environmental restoration at military facilities. U.S. Department of Defense has demonstrated its restoration sincerity by providing oversight reimbursement to the State. The Defense/State Memorandum of Agreement signed by U.S. Department of Defense and State of California officials, provides State oversight cost reimbursement to a maximum of one percent (1%) of the total cleanup cost. The Memorandum of Agreement requires preparation and administration of a cooperative agreement between the State and Corp of Engineers to verify funding and services for remedial responses. The Memorandum of Agreement lists specific sites for which the State will receive federal funding for its oversight and regulatory involvement. In California, Regional Boards and the Department of Toxic Substances Control share State regulatory responsibility and reimbursement dollars allocated to the U.S. Department of Defense Program.

To ensure proper regulatory compliance and environmental restoration, Executive Order No. 12580 requires all federal agencies to complete cleanup pursuant to "Superfund." This means cleanups at all military installations must comply with the stringent federal CERCLA requirements, whether or not the base is a listed Superfund site. The Act requires federal facilities which are placed on the Superfund National Priorities List by the U.S. Environmental Protection Agency (U.S. EPA), to conduct cleanup following the National Contingency Plan and U.S. EPA procedures and standards. In this Region, Fort Ord is the only currently listed U.S. Department of Defense Superfund National Priority List site.

In addition to following federal CERCLA requirements, Superfund National Priority List sites must be conducted pursuant to agreements called Federal Facility Agreements. These agreements are

between the federal agency owning the base (e.g., Department of the Army at Fort Ord) and the U.S. EPA. The agreements may include certain State agencies. The Fort Ord Federal Facility Agreement includes the Regional Board and Department of Toxic Substances Control as signatories.

By federal law non-Superfund military sites must cleanup hazardous waste releases pursuant to federal Comprehensive, Environmental Response, Compensation, and Liability Act requirements and to State laws. Federal non-Superfund facilities may enter into a State compliance agreement. Such an agreement is called a Federal Facility Site Remediation Agreement. At Vandenburg Air Force Base (a non-Superfund site), a Federal Facility Site Remediation Agreement was signed by the Department of the Air Force, the Regional Board, and Department of Toxic Substances Control in June 1991. Both Federal Facility Agreements and Federal Facility Site Remediation Agreements identify roles, responsibilities, dispute resolution procedures, and schedules.

By signing an agreement (Federal Facility Agreement and Federal Facility Site Remediation Agreement), and following federal CERCLA requirements, site remediation is modified from typical State procedures. The modification eliminates the need for State and local permits and enforcement action. Generally, Waste Discharge Requirements, Cleanup of Abatement Orders, and local agency permits are not imposed. Such provisions were included to ensure compliance with stringent federal cleanup standards, while limiting permit and enforcement involvement by local or State Agencies. In some parts of the Country, local and State involvement slowed or obstructed cleanup efforts.

The federal CERCLA (Section 121) does require compliance with State and federal laws and regulations which are more stringent than the CERCLA, and which are necessary to ensure site-specific environmental and public health protection. This compliance process is referred to as "Applicable" or "Relevant and Appropriate" requirements, because it allows consideration of either "Applicable" or "Relevant and Appropriate" requirements pursuant to State or federal law and regulations. At Superfund sites, U.S. EPA has final authority to approve "Applicable" or "Relevant and Appropriate" requirements. At non-Superfund sites, the lead State agency is responsible to ensure "Applicable" or "Relevant and Appropriate" requirements are identified.

Federal Comprehensive, Environmental Response, Compensation, and Liability Act (Superfund) Response Process

Although cleanup pursuant to the federal CERCLA is quite complex, it was developed with the intent of simplifying regulatory requirements in a uniform manner and expediting environmental cleanup and restoration. The Act, although similar, is significantly more complex than the Regional Board's typical cleanup procedures pursuant to the California Porter-Cologne Water Quality Control Act. Following is a very simplified summary of the basic "Superfund" response process.

Many initial past military installation investigations included a Preliminary Assessment/Site Inspection. The Preliminary Assessment is an assessment based on existing, readily available information. The Preliminary Assessment attempts to evaluate the magnitude of a potential hazard and identify the source and nature of hazard release. The Site Inspection includes a site visit and possibly sample collection, soil borings, and well installation. The Site Inspection is intended to better characterize the problem and determine the need for further action. Often, information from the Preliminary Assessment/Site Inspection is used to place a site on the Superfund list.

Once a site has been Superfund listed, or has been identified as requiring remedial activities, more in-depth characterization is required. The next phase of remedial activities-site characterization is called the Remedial Investigation/Feasibility Study. The Remedial Investigation is the mechanism for collecting detailed site data to define fully the nature and extent of contamination. During the Remedial Investigation, treatability studies may be conducted to evaluate available treatment technologies in support of remedy selection. The Feasibility Study focuses on developing and screening specific remedial alternatives. The Feasibility Study goal is to identify preferred cleanup alternatives. The Remedial Investigation/Feasibility Study includes risk assessment, identifies "Applicable" or "Relevant and Appropriate" requirements, and develops cleanup goals.

The next phase is the Proposed Plan, which presents the preferred cleanup alternatives and allows public input. After public comments are considered, a Record of Decision is prepared at Superfund sites. The Record of Decision establishes cleanup levels and discharge standards and is based, in part, on identified "Applicable" or "Relevant and Appropriate" requirements. When the Record of Decision is complete and acceptable, the selected remedy is administratively approved by the military department, U.S. EPA, and the State (Regional Boards and Department of Toxic Substances Control). The final cleanup levels are established and "frozen" in the Record of Decision. Agencies that signed the Federal Facility Agreements also sign the Final Record of Decision. At non-Superfund sites in California, the typical document establishing the cleanup levels and discharge standards is called the Remedial Action Plan. The Remedial Action Plan is signed by the agencies that signed the Federal Facility Site Remediation Agreement. Decision Documents are used sometimes to identify cleanup levels for individual sites at non-Superfund installations. Agencies and the public can petition U.S. EPA to change the Record of Decision levels (or the State to change the Remedial Action Plan), if substantial evidence is available demonstrating that an established cleanup level is not protective of human health and the environment.

Once the Record of Decision (or Remedial Action Plan) is signed, Remedial Design plans are prepared to implement the Record of Decision. Remedial Action, the long-term remediation, begins when Remedial Design and construction are complete. Operation and maintenance, including monitoring, evaluate long term performance and ensure that the Remedial Action is carried out as intended. Long term remediation (e.g., ground water cleanup) continues until conditions of the Record of Decision (or Remedial Action Plan) have been met. Remediation progress must be evaluated at least every five years.

The federal CERCLA includes the Removal Action process to allow remediation of small/limited areas of contamination or time critical cleanups. A Removal Action may be undertaken at any time to address problems that do not require a full scale remediation project. Removal Actions are short term activities that remove immediate threats to public health or that can be implemented in a timely manner. Generally, Removal Actions are limited to $2 million and are completed in twelve months or less (e.g., removal and proper disposal of a small volume of surface soil contamination).

It is worthy to note that environmental assessment is addressed during the Remedial Investigation/Feasibility Study process. All military installations must comply with the National Environmental Policy Act by preparing an Environmental Impact Statement or Finding of No Significant Impact. An Environmental Impact Statement is similar to an Environmental Impact Report and a Finding of No Significant Impact is similar to a Negative Declaration in California. In California, National Environmental Policy Act compliance may not be sufficient to address all environmental impacts; thus, environmental assessment must also comply with the California Environmental Quality Act.

Regional Board Responsibility

The federal Clean Water Act and the California Porter-Cologne Water Quality Control Act give the Regional Board regulatory responsibility and authority to protect water quality, including waters within and beneath federal lands. The primary role of the Regional Board and its staff, relative to military installations (U.S. Department of Defense Program) is to ensure that waters of the State are adequately protected. Involvement includes review and direction of all investigation and remediation documents, site visits to guide field activities, and oversight to ensure that cleanup/remediation is carried out properly to protect beneficial uses of water resources. Identification of "Applicable" or "Relevant and Appropriate" requirements and direction on cleanup level establishment require considerable involvement by the Regional Board and its staff.

Typically, the U.S. EPA is the lead regulatory agency at Superfund sites (e.g., Fort Ord). The Regional Board and Department of Toxic Substances Control are responsible State agencies. In the past, at non-Superfund sites (all other military installations in the Region) either the Regional Board or Department of Toxic Substances Control has been the lead regulatory agency. At military installations where water quality and public health is threatened or impacted due to the release of hazardous

substances, the Regional Board and Department of Toxic Substances Control may have overlapping jurisdiction. A Memorandum of Understanding exists between the State Water Resources Control Board, the Regional Boards, and Department of Toxic Substances Control specifying roles and responsibilities in hazardous waste cleanups where overlap may occur. In September 1993, the California Environmental Protection Agency requested the overall State "lead" become Department of Toxic Substance Control's responsibility. This transition should not impact the basic responsibilities. In general, Regional Boards have primary regulatory responsibility for water and soils directly related to water quality protection. Department of Toxic Substances Control has primary regulatory responsibility for public health protection, soil (where waters are not involved), air, and hazardous waste treatment and storage.

In this Region, the Regional Board has been the lead State agency at six of the currently active (1993) U.S. Department of Defense facilities (Vandenberg Air Force Base, Estero Bay Defense Fuel Supply Point, Camp Roberts, Fort Hunter Liggett, Monterey Naval Post-Graduate School, and Presidio of Monterey). These sites are shown in Figure 4-1. The lead may be shared with Department of Toxic Substances Control at Fort Hunter Liggett, since there are several federal Resource Conservation and Recovery Act sites requiring investigation. In California, U.S. EPA has authorized Department of Toxic Substances Control to implement Resource Conservation and Recovery Act program compliance.

Agreements have been signed only at Fort Ord and Vandenberg Air Force Base in this Region. The Federal Facility Agreements for Fort Ord identifies the Regional Board as a support agency since the U.S. EPA is the lead regulatory agency. The current Federal Facility Site Remediation Agreement identifies the Regional Board as the lead agency at Vandenberg Air Force Base. Agreements could be negotiated at other military installations, or re-negotiated when they currently exist, if and when it becomes necessary to clarify roles and responsibilities. Changes are being considered in California to streamline regulatory processes associated with military installation cleanup, particularly at closing bases. The California Environmental Protection Agency has recently designated (September 1993) Department of Toxic Substances Control as the overall State lead at military installations. This designation will impact program activities, roles, and responsibilities.

VI.H. SPILLS, LEAKS, INVESTIGATIONS AND CLEANUP PROGRAM

The Spills, Leaks, Investigations, and Cleanup program was established to allow Regional Boards to address water quality problems and potential problems resulting from discharges not covered by other State programs. Investigations and cleanups of Spills, Leaks, Investigations, and Cleanup program sites proceed as described in State Board Resolution No. 92-49 explained in the "Hazardous Waste Compliance Issues" section later in this chapter.

Spill, Leak, and Complaint Responses

Regional Board staff responds to complaints of nuisance conditions (e.g., odors from sewage treatment plants) and discharges or threatened discharges of substances which may impact ground and/or surface water quality. Complaints are followed up as soon as feasible. Proper response to a complaint includes the following:

* Completion of a Central Coast Region spill report form.

* Notification to other responsible agencies, or interested parties, as needed.

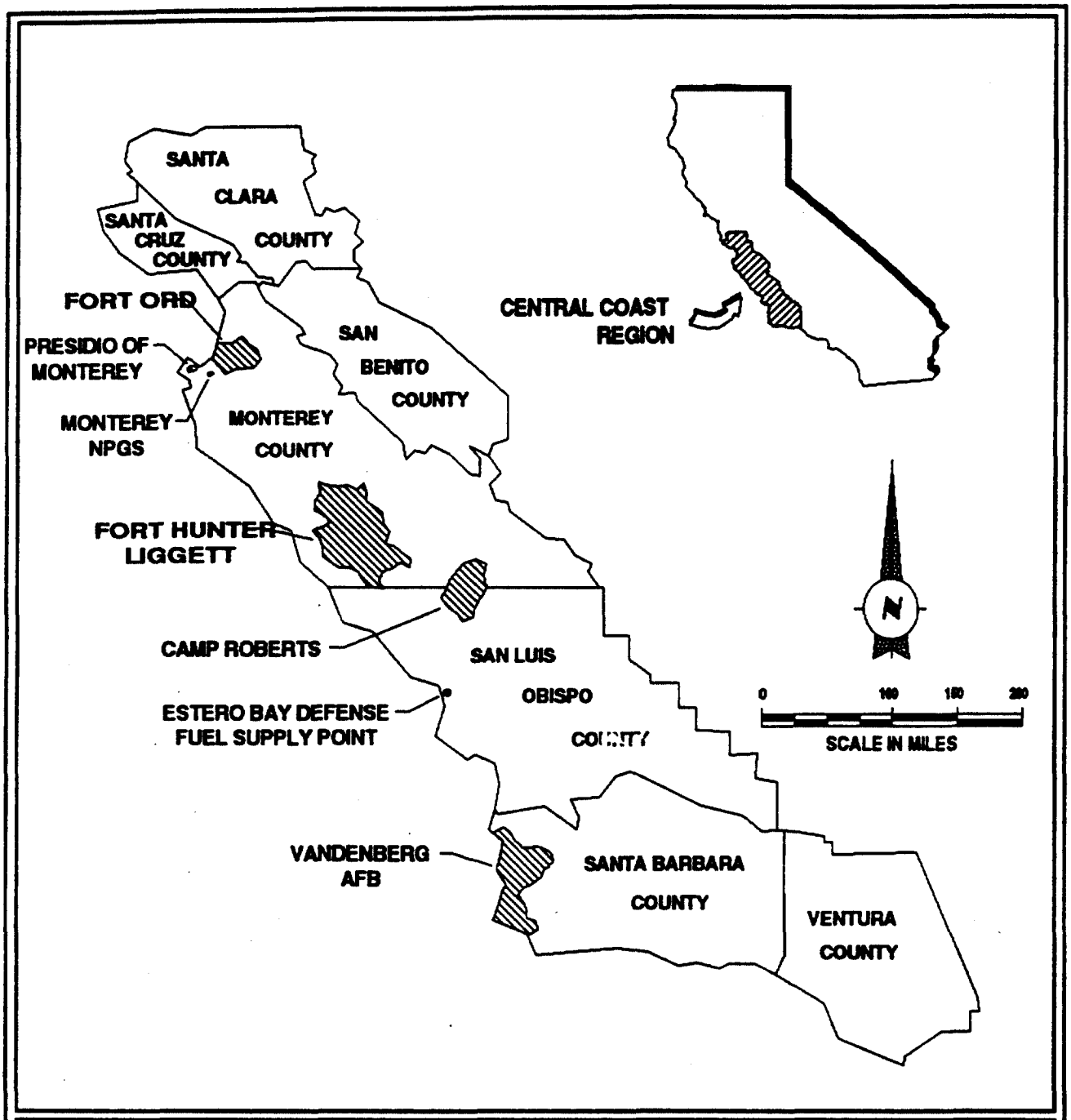


FIGURE 4-1. ACTIVE MILITARY INSTALLATIONS IN THE CENTRAL COAST REGION

- Site inspection to determine validity of the complaint and to assess the situation, including determination of responsible party/parties.

- Written follow-up as needed (letters, cleanup or abatement orders, and/or waste discharge requirements).

- Except in cases where anonymity is requested, notification to complainant of findings and subsequent actions, if any.

Except for a discharge in compliance with waste discharge requirements, any person who causes or permits any reportable quantity of hazardous substance or sewage to be discharged in or on any waters of the State, or discharged or deposited where it is or probably will be discharged into or on any waters of the State, shall, as soon as possible, notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan. The person shall also immediately notify the State Board or the appropriate Regional Board of the discharge (California Porter-Cologne Water Quality Control Act Section 13271).

Similarly any person who discharges any oil or petroleum product under the above stated conditions shall, as soon as possible, notify the Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan. Immediate notification of an appropriate agency of the federal government, or of the appropriate Regional Board (in accordance with the reporting requirements set under California Porter-Cologne Water Quality Control Act Section 13267 or 13383) shall satisfy the oil spill notification requirements of this paragraph (California Porter-Cologne Water Quality Control Act Section 13272).

The Regional Board staff will assist other agencies and work cooperatively at large-scale hazardous material releases resulting from surface transportation accidents. The Regional Board staff's role is primarily to provide immediate, on-site technical assistance concerning water quality in order to minimize the potential damage to the public health and safety, and the environment. In cases of railroad incidents, Regional Board staff will work with other agencies pursuant to the Office of Emergency Services Railroad Accident Prevention and Immediate Deployment Plan. Specifically, Regional Board staff are required to:

- Provide information on existing downstream beneficial uses and potential impacts from released substances.

- Provide toxicity information about released substances.

- Set up water sediment monitoring program.

- Collect water samples or provide technical assistance for others to collect samples.

- Coordinate available resources and equipment.

VI.I. UNDERGROUND STORAGE TANK PROGRAM

In 1981, citizens of Santa Clara County determined the cause of numerous birth defects to be polluted ground water. The source of pollution was traced to underground storage tanks leaking chlorinated solvents. This revelation prompted the San Francisco Bay Regional Water Quality Control Board to investigate numerous other underground storage tanks, the majority of which were found to be leaking. The Santa Clara County Fire Chiefs Association then sponsored a task force which developed, in 1982, a Model Hazardous Material Storage Permit Ordinance. The Ordinance addressed materials regulated, secondary containment, permits, inspections, and so forth.

Recognizing the problem was a statewide problem, the Legislature passed the initial State underground storage tank law in 1983, and numerous counties and cities followed with local ordinances to regulate underground storage of hazardous materials. The State law contains a sunset provision with a termination date of January 1, 1998.

Since 1985, over 21,000 leaking tank sites have been reported statewide and over 1250 have been reported within the Central Coast Region. Of the reported cases, approximately 90% are petroleum

product cases and one-third have impacted ground water. As one might expect, Regions with the larger cities (thus more gasoline stations) have the largest number of reported leaks. The same holds true in the Central Coast Region. Santa Barbara County has almost fifty percent of the cases in this Region (up from 37% a few years ago) and San Benito County has only four percent; Monterey County has about twenty percent.

The Health and Safety Code gives both Regional Boards and local agencies authority to oversee investigation and cleanup of leaky Underground Petroleum Storage Tank sites. The California Code of Regulations, Title 23, Chapter 16, Article 11 requires local agencies to oversee leak reporting and tank closures. Two agencies within the Central Coast Region, Santa Clara and Santa Barbara Counties, also provide oversight for cleanup of leaky Tank sites under a Local Oversight Program contract with the State Board.

Unauthorized releases from underground tanks are reported to the Regional Board by local agencies or private parties. Generally, investigation and cleanup of leaky Underground Petroleum Storage Tank sites is shared between the Regional Board and local agencies. Typically the Regional Board oversees cases involving impact to surface and ground water and local agencies oversee impacts to soil. However, in some circumstances the Regional Board oversees both soil and ground water cleanup, and, in Santa Barbara and Santa Clara Counties, Local Oversight Programs oversee both soil and ground water cleanup.

Investigations and cleanup of leaky Tanks are carried out in a manner similar to investigations and cleanups in the Spills, Leaks, Investigations, and Cleanup Program mentioned earlier.

To assist responsible parties to pay for cleanups and to meet federal financial responsibility requirements, the State has established a Tank Cleanup Fund. Money for the fund is generated by a fee paid for each gallon of petroleum delivered to Tanks. Owners and operators of Tanks may draw upon the fund after paying for the initial $10,000 in cleanup costs. The Fund will pay up to $990,000 per cleanup.

Underground Petroleum Storage Tank regulations regarding construction, monitoring, repair, release reporting, and corrective action are found in the California Code of Regulations, Title 23, Division 3, Chapter 16. Regulations regarding the State's Underground Petroleum Storage Tank Cleanup fund are found in California Code of Regulations, Title 23, Division 3, Chapter 18, and regulations regarding underground testers are found in California Code of Regulations Title 23, Division 3, Chapter 17.

VI.J. ABOVEGROUND PETROLEUM STORAGE TANKS

Above ground petroleum storage tanks and associated piping leaks have been found to cause impacts to surface and ground water. Prior to 1990, above ground tank sites were regulated by the United States "Environmental Protection Agency Regulations on Oil Pollution Prevention", 40 Code of Federal Regulations Section 112, as amended. On January 1, 1990, the Above Ground Petroleum Storage Act became effective as Chapter 6.67 (commencing with Section 25270), Division 20, of the Health and Safety Code and amendment to Section 3106 of the Public Resources Code. The regulations require:

* Regional Boards to inspect above ground storage tanks used for crude oil and its fractions;

* Owners or operators of tank facilities to prepare and initiate a spill prevention control and countermeasure plan in accordance with Part 112, Subchapter D, Chapter I, Title 40 of the Code of Federal Regulations by January 1, 1991 and any required monitoring program within 180 days later;

* Tank facility owners or operators to report releases of crude oil and its fractions in excess of one barrel; and

* Owners or operators of tank facilities to submit a storage statement and appropriate filing fee every two years.

The Above Ground Petroleum Storage Act provides for recovery of cost incurred by Regional Board staff for oversight of above ground tank site cleanups.

VI.K. CALIFORNIA CODE OF REGULATIONS, TITLE 23, CHAPTER 15

The California Code of Regulations, Title 23, Chapter 15 (Chapter 15) contains minimum, prescriptive standards for proper management of applicable wastes. Landfills, surface impoundments, septage and sludge disposal, mining operations, confined animal facilities, and some oil field exploration and production facilities are regulated according to Chapter 15. Regional Boards may impose more stringent requirements to accommodate regional and/or site-specific conditions. Factors affecting site specific considerations include: depth to ground water, permeability of underlying soils, geologic structure, importance of underlying ground water uses, waste characteristics, ability to remediate leaks, adequacy of the monitoring system, proximity of beneficial uses such as aquatic life, and others.

Dischargers may propose engineering alternatives to the construction or prescriptive standards contained in Chapter 15 if they can show the prescriptive standard is not feasible (i.e., too difficult or costly to implement, or not likely to perform adequately under the given circumstances). The proposed alternative must be able to provide equivalent management of the waste, and must not be less stringent than the prescribed standards.

Discharges to land which may be exempt from Chapter 15 are listed in the Basin Plan Waiver Policy in Chapter Five.

Wastes fall into four categories under the current classification system. These four categories are: Hazardous, Designated, Non-Hazardous, and Inert, and are defined in Article 2 of Chapter 15. Hazardous and Designated wastes can often be generated by the same source and may differ only by their concentrations of given constituents.

Wastes must be disposed of differently depending on their liquids content and the waste category into which they fall. A table containing the Summary of Waste Management Strategies for Discharge of Waste to Land is provided in the appendix.

Receiving water monitoring is required at all waste management units. Article 5 discusses the monitoring requirements for the various classes of waste management units, and describes the progressive phases of monitoring.

The routine ground water monitoring conducted during the entire compliance period of a project's life is referred to as "detection monitoring". If a release (leak) is detected during the course of detection monitoring, an "evaluation monitoring" program must be established. If the evaluation monitoring verifies the presence of a leak, a decision must be made as to whether the release represents a significant enough threat to water quality and the environment to warrant corrective action. If the leak is a significant water quality threat, a "corrective action program" must be established, including monitoring of the effectiveness of corrective action, and conducted until the problem has been successfully corrected.

Vadose zone monitoring must be conducted at all waste management units where feasible. Article 5 discusses the minimum requirements for an acceptable vadose zone monitoring program.

Special requirements for confined animal facilities are discussed in Article 6 of Chapter 15 and in Chapter 5 of this Basin Plan. These facilities are also subject to other portions of Chapter 15 as applicable.

Under Chapter 15, mining waste discharges are only subject to the requirements of Article 7, or other portions of Chapter 15 as referenced by Article 7. (Mining wastes are also subject to regulation under the Surface Mining and Reclamation Act, Public Resources Code Title 14, Division 2, Chapter 9).

Discharges of hazardous and nonhazardous waste, and the waste management units at which the wastes are discharged (e.g., landfills, surface impoundments), are regulated by the Regional Board through Waste Discharge Requirements to properly contain the wastes, and to ensure effective monitoring is undertaken to protect water resources

of the Region. These waste discharges are also concurrently regulated by other State and local agencies. Local agencies implement the State's solid waste management programs as well as local ordinances governing the siting, design, and operation of solid waste disposal facilities (usually landfills) with the concurrence of the California Integrated Waste Management Board.

The California Integrated Waste Management Board also has direct responsibility for review and approval of plans for closure and post-closure maintenance of solid waste landfills. The Department of Toxic Substance Control issues permits for all hazardous waste management, treatment, storage, and disposal facilities. The State Board, Regional Boards, California Integrated Waste Management Board, and Department of Toxic Substances Control have entered into Memorandums of Understanding to coordinate their respective roles in the concurrent regulation of these discharges.

The laws and regulations governing both hazardous and nonhazardous solid waste disposal have been revised and strengthened in recent years.

An inactive waste management unit can still pose a threat to water quality. In fact, due to the nature of some wastes and the characteristics of some disposal sites, sometimes water quality problems do not become evident until years after a site has closed. Therefore, Chapter 15 requires all waste management units have a plan for acceptable closure procedures and post-closure maintenance and monitoring.

VI.K.1. SOLID AND LIQUID WASTE REQUIREMENTS (LANDFILLS AND SURFACE IMPOUNDMENTS)

Solid wastes are usually disposed of in a landfill or Solid Waste Disposal Site. A landfill, as defined in Chapter 15, is a waste management unit at which waste is discharged in or on land for disposal. A landfill may be classified as Class I, II, or III, depending on the type of waste being accepted, but the term "landfill" typically refers to a Class III municipal solid waste landfill which accepts only inert or non-hazardous, municipal solid waste. Class I units are for hazardous wastes, Class II units are for designated wastes, and Class III landfills are for nonhazardous wastes as defined in Chapter 15, Article 3. Landfills are an integral component of many communities in the Central Coast Region. Hazardous and/or designated solid wastes must be disposed of in Class I or II landfills or waste piles, respectively, also referred to as Resource Conservation and Recovery Act or non-Resource Conservation and Recovery Act solid waste management units.

Liquid wastes may not be disposed of to Class III waste management units. Rather, liquid wastes must be discharged to Class I or II surface impoundments, depending on the waste classification.

Discharges from solid and liquid waste management units can impact both ground and surface waters. The receiving water most likely to be at risk from a waste management unit is the ground water beneath the site. Precipitation or runoff may enter the unit and contact the waste, percolate through it, and travel to ground water, carrying constituents of the waste with it to the vadose zone or ground water beneath the unit. Solid waste may contain enough free liquids to form a leachate which can migrate to ground water. Vapors may migrate from a waste management unit into the soils and ground water below the unit. Gases forming in a closed waste management unit may pressurize the unit and force contaminants into the ground water. A liquid waste impoundment may leak its content into the soils and ground water beneath the unit. Liquids may exit a waste management unit and travel to nearby surface waters. Uncontained solid waste may also be transported to surface waters by wind.

The Regional Board regulates all the active waste management units and some of the closed units in the Region under Waste Discharge Requirements which contain pertinent Chapter 15 regulations. Some of the applicable requirements include:

1. Waste management units must be sited in locations where they will not extend over a known Holocene fault, other areas of rapid geologic change or into areas with inadequate separation from ground water.

2. Waste management units must be constructed to minimize (Class III) or prevent (Class I and II) the possibility of leachate contacting ground water. The probability of accomplishing this goal may be improved by siting the unit in an area where the depth to ground water is very great or where natural geologic features will provide containment. A Class III waste management unit is required to have a composite clay and synthetic liner with a leachate collection and removal system, in accordance with federal Subtitle D requirements. New Class I and II units must also be lined. A discharger may propose engineered alternatives to the Chapter 15 and Subtitle D containment requirements, but the alternatives must provide equal or greater protection to the receiving waters at the site, per Article One.

3. To minimize or prevent the formation of leachate, solid waste management units shall be covered periodically (typically daily) with soil or other approved materials. The importance of effective interim cover is illustrated by recent improvements to some landfill interim covers which resulted in an apparent cessation of ground water degradation. Rainwater surface flow from offsite should be prevented from entering a waste management unit and contacting the wastes in the unit.

4. The potential receiving waters shall be monitored. A waste management unit shall have sufficient ground water monitoring wells at appropriate locations and depths to yield ground water samples from the uppermost water bearing strata with continued saturation at depth, to provide the best assurance of the earliest possible detection of a release from the waste management unit. Perched ground water zones shall also be monitored. Background monitoring should be conducted for at least one year prior to opening a new waste management unit.

   Chapter 15 requires vadose zone monitoring at all new sites and at any existing site, unless it can be shown to the satisfaction of the Regional Board no vadose zone monitoring devices would work at the site, or that installation of vadose zone monitoring devices would require unreasonable dismantling or relocating of permanent structures.

5. All operating waste management units must have an approved closure/post-closure monitoring and maintenance plan and their operators must provide the Regional Board with assurance sufficient funds are irrevocably committed to ensure the site will be properly reclaimed and maintained.

6. The operator of a waste management unit must obtain and maintain assurances of financial responsibility for known and foreseeable releases from the unit.

VI.K.2. WASTEWATER SLUDGE/SEPTAGE MANAGEMENT

Wastewater sludge (biosolids) is a by-product of wastewater treatment. Treated domestic sludge is now referred to as biosolids to encourage using this material for fertilizer and soil amendment. Raw sludge usually contains 93 to 99.5 percent water with the balance being solids present in the wastewater and added to or cultured by wastewater treatment processes. Most Publically Owned Treatment Works treat the sludge prior to ultimate use or disposal. Normally, this treatment consists of dewatering and/or digestion.

Treated and untreated sludges may contain high concentrations of heavy metals, organic pollutants, pathogens, and nitrates. Improper storage and disposal of municipal sludges on land can result in degradation of ground and surface water. Therefore, sludge handling and disposal must be regulated.

Septage and grease are usually considered liquid waste, so landfill disposal is usually restricted. Septage, the residual solids periodically pumped from septic tanks, is commonly applied to farm land as fertilizer. Grease waste is usually recycled, but grease trap pumpings are commonly rejected by grease recyclers. Grease and septage usually must be disposed in a Class I or II waste management unit.

The Regional Board will regulate disposal of sludge and septage pursuant to Chapter 15 and Department

of Health Services standards for sludge management.

Sludge containing less than 50% solids by weight may be placed in a Class III landfill (see section on Chapter 15) if it can meet the following requirements, otherwise it must be placed in a Class II surface impoundment:

1. The landfill is equipped with a leachate collection and removal system;

2. The sludge must contain at least 20 percent solids if primary sludge, or at least 15 percent solids if secondary sludge, mixtures of primary and secondary sludges, or water treatment sludge; and

3. A minimum solids-to-liquid ratio of 5:1 by weight must be maintained to ensure that the co-disposal will not exceed the initial moisture-holding capacity of the nonhazardous solid waste. The Regional Board may require that a more stringent solids-to-liquid ratio be maintained, based on site-specific conditions.

4. Non-hazardous sludge containing greater than 50% solids by weight is generally considered solid waste.

Beneficial reuse of sludge/septage is increasing in popularity. Sludges and septage, (including composted, liquid, dewatered and dried sludges) have been successfully used as a soil amendment/fertilizer on farmland, orchards, forest lands, pasture, land reclamation projects (e.g., strip mines and landfills), parks and home gardens. As the concentrations of heavy metals has dropped in municipal sludge, and as advanced sludge treatment methods are utilized, the public's acceptance of beneficial reuse projects has improved. However, improper land application of sludge/septage can cause significant odor nuisance, attract flies, contain high levels of pathogens and heavy metals, and be aesthetically offensive due to the presence of plastics.

Currently, regulation of sludge and septage management projects is under the jurisdiction of the Regional Board. Handling and disposal of sludge/septage can be regulated under Chapter 15 of Title 23, California Code of Regulations and California Department of Toxic Substance Control Standards for hazardous waste management. If sludge is used beneficially, the project may be exempted from Chapter 15, but the Regional Board may issue waste discharge requirements.

The U.S. Environmental Protection Agency (U.S. EPA) has promulgated a policy of promoting those municipal sludge management practices that provide for the beneficial use of sludge and septage while maintaining or improving environmental quality and protecting public health. On February 19, 1993, the U.S. EPA published final sewage sludge regulations in 40 Code of Federal Regulations 503. The 503 regulations are intended to assure that use and disposal of sewage sludges and septage comply with federal sludge use and disposal criteria developed by the U.S. EPA. The State Board or the California Integrated Waste Management Board may develop a State sludge management program consistent with the U.S. EPA's policy and criteria for land application, surface disposal, and incineration of sludge to seek federal authorization to implement the 40 Code of Federal Regulations 503 sludge regulations.

VI.K.3. MINING ACTIVITIES (NONFUEL COMMODITIES)

The Central Coast has had a rich and varied mining history. Currently extracted products include asbestos, decomposed granite, diatomite, dimension stone, dolomite, gypsum, limestone, sand and gravel, shale, specialty sand and stone. The hundreds of inactive metal mines and prospects appear to be the worst polluters though. Mercury, used partly to amalgamate gold ore, was mined from the Little Bonanza deposit, San Luis Obispo County, as early as 1862. The Buena Vista Mine, which ceased production in 1970 or 1971, is believed to have been the last mercury producer in the Central Coast Region. Chromite deposits have been mined in San Luis Obispo County since about 1870. By 1944, and probably until the demise of production possibly 20 years ago, San Luis Obispo County produced more chromite than any other California county. Other products mined or prospected for historically include gold, silver, manganese,

magnesium, antimony, copper, nickel, iron, barite, coal, feldspar, gemstones, biotite, molybdenum, peat, phosphate, sodium sulfate, sulfur, titanium, uranium, zircon, and possibly platinum.

The extent of environmental degradation by all mining ventures is not yet known. Active operations are regulated individually pursuant to the California Code of Regulations, Chapter 15, the Porter-Cologne Water Quality Control Act, the California Surface Mining and Reclamation Act and/or the federal Clean Water Act (including the NPDES permit program). About 25 active mines currently hold Waste Discharge Requirements and/or NPDES surface water discharge permits and a few operations have been granted waivers. Chapter 15 land disposal requirements are imposed as required.

Inactive operations with responsible parties fall under the same purview, as warranted. Inactive mines, with or without responsible parties (those without are considered abandoned) may be remediated as federal Superfund sites pursuant to federal Comprehensive, Environmental Response, Compensation, and Liability Act, or as State Board Cleanup and Abatement Account sites. Low interest loans or government or academic grants may, in rare cases, be applied to inactive mine remediation.

Mines are subject to the Resource Conservation and Recovery Act, although comprehensive regulations have not yet been written. If hazardous constituents are present, Resource Conservation and Recovery Act, Subtitle C, and California Code of Regulations Title 22 may apply to active and inactive sites.

VI.K.4. OTHER INDUSTRIAL ACTIVITIES

Cement Industry -- Concrete manufacturing operations generate two significant types of solid waste, kiln dust and "off-specification" concrete. The first, kiln dust, is classified as a designated waste under Title 22 and is typically disposed of in Class II or III landfills operated by the concrete manufacturers. The second waste, "off-spec" concrete, is generated in much greater quantities and, while classified as a hazardous waste due to its very high pH (often ranging from 12.5 to 13.5 pH units), is frequently dumped on-site at the concrete plants and spread.

Cement batch plants generate large quantities of liquid and semi-solid wastes from rinsing of cement trucks and/or cement covered equipment. This waste, referred to as "washout" is very alkaline (pH may be as high as 12.5 in fresh cement), is high in total dissolved solids, and may contain assorted heavy metals. Washout may also contain various air-entrainment additives or other chemicals.

The Regional Board regulates cement kiln dust disposal and all ready mix cement plants where water quality could be impacted. Wastewater from cement batch plants is considered to be a designated waste, and may need to be discharged to a lined impoundment, if site-specific characteristics (e.g., soil type, depth to ground water, ground water quality, etc.) will not protect ground water from degradation. The Regional Board will consider, on a case-by-case basis, the need to line cement wastewater ponds. Solid or semi-solid wastes should be deposited in landfills or other legal points of disposal unless the discharger can demonstrate the waste will not pose a threat to water quality if deposited onsite.

Asphalt production -- Asphalt batch plants generally involve mixing heavy long chain hydrocarbons with aggregates. Occasionally other hydrocarbon sources (diesel and gasoline contaminated soil) are mixed with asphalt as a beneficial reuse. Diesel fuel and other solvents are used to clean equipment and as "lubricants" to prevent asphalt from sticking to equipment. Large quantities of these materials are generally stored on-site. Water quality can be significantly degraded if these materials reach water courses. Waste control measures are fairly straightforward at such sites. Petroleum products should be stored in tanks, and the tanks placed in lined holding areas. If spillage to soil occurs, contaminated soils should be scraped up, stored on a liner, and incorporated into asphalt as soon as possible. A berm (or other runoff control) should be placed downgradient from earthen material stockpiles.

Oil Field Exploration and Production Facilities -- Oil exploration and production is a thriving business in the Central Coast Region. Although drilling muds

are exempt from Resource Conservation and Recovery Act, Oil Exploration and Production Operations are often subject to the requirements of Chapter 15 because they represent a threat to water quality. Due to the significant Chapter 15 workload, remote oil operations may not reach the top of the regulatory priority list. The Interstate Oil and Gas Compact Commission recently recommended:

> "The review team recommends State Board obtain the resources necessary to fully discharge its responsibilities...seek adequate resources from the legislature or use some other mechanism to enable Regional Boards to process applications for WDRs in a timely manner...One option is to remove or raise the statutory cap on discharger fees so that State Board may restructure its fee system to improve its equity and cure substantial resource shortcomings."

The Interstate Oil and Gas Compact Commission also commended the Central Coast Regional Board for having a road spreading policy. This policy, Resolutions No. 73-05 and 89-04, is located in the appendix.

VI.L. RESOURCE CONSERVATION RECOVERY ACT (SUBTITLE D)

Policy for Regulation of Discharges of Municipal Solid Waste

On June 17, 1993, the State Water Resources Control Board (State Board) adopted Resolution 93-62, entitled Policy For Regulations Of Discharges Of Municipal Solid Waste. A copy of this policy is available in the appendix.

The Policy implements the State Board's regulations governing the discharge of waste to land, California Code of Regulations, Title 23, Chapter 15 (23 California Code of Regulations Section 2510 et seq., "Chapter 15"), and implements those water quality related portions of the federal regulations governing the discharge of municipal solid waste at landfills (40 Code of Federal Regulations Section 258.1 et seq., "federal municipal solid waste regulations") that are not addressed by Chapter 15. The federal municipal solid waste regulations apply to all landfills that receive waste on or after October 9, 1991; the majority of the federal provisions become effective on October 9, 1993 (federal deadline).

The Policy directs Regional Boards to revise-or adopt, as appropriate-prior to the Federal Deadline, the waste discharge requirements (WDRs) for each landfill subject to the federal municipal solid waste regulations. The revised WDRs must implement those regulations in the manner described in the Policy and must implement the Chapter 15 regulations as well.

Landfills are subject to Subtitle D in California beginning October 9, 1993 or October 9, 1995 depending on landfill size and whether it is within one mile of a drinking water intake.

These federal regulations apply to municipal solid waste landfills (Class III landfills, under Chapter 15). The Subtitle D regulations outline the classification of municipal landfills, siting criteria, design criteria, operation procedures, water quality monitoring parameters and standards, closure and post-closure care requirements, and financial assurance guidelines similar to Chapter 15. U.S. EPA considers Subtitle D to be minimum standards for landfill operation. States may have equal or more stringent requirements, but may not have less stringent requirements. If a state's landfill regulation program meets U.S. EPA's approval, that state may apply to become an U.S. EPA "approved state" for landfill regulation.

California received Subtitle D approval in October 1993 and will be able to consider engineering alternatives to certain provisions of Subtitle D.

VI.M. SOLID WASTE WATER QUALITY ASSESSMENT TEST

In 1984, California Porter-Cologne Water Quality Control Act Section 13273 was adopted to require operators (and/or owners) of active and inactive solid waste disposal sites to perform a Solid Waste Assessment Test investigation. About 150 sites per year are to be analyzed statewide. The State Board has approved a statewide ranked list including 2,242 sites in 15 ranks. It has prioritized all sites on the basis of the potential threat to water quality and has established schedules for Investigation Workplan (Workplan) and Solid Waste Assessment Test report's submittals. The Central Coast Region's 15 ranks include 131 sites. Test reports are due the first day of July each year, depending on their ranking. Rank One sites were due July 1, 1987.

If monitoring information conclusively demonstrates hazardous waste is migrating, or has migrated to State waters, the site owner/operator may request a waiver of the Test reporting requirements pursuant to Water Code Section 13273(c). Waiver requests are usually requested within 120 days of the notification date. Water Code Section 13273.1 allows the site operator to request an exemption from Test reporting requirements by submitting a Solid Waste Assessment Questionnaire. Questionnaires may be submitted if a site contains less than 50,000 cubic yards of waste and is not known nor suspected of containing hazardous substances, other than household hazardous wastes. Based on this Questionnaire, the Regional Board may exempt the Operator from all or part of the Solid Waste Assessment reporting requirements.

Solid Waste Assessment Test reports are required to contain:

1. An analysis of the surface and ground water on, under, and within one mile of the solid waste disposal site to provide a reliable indication whether there is any leakage of hazardous waste.

2. A chemical characterization of the soil-pore liquid in those areas which are likely to be affected if the solid waste disposal site is leaking, as compared to geologically similar areas near the solid waste disposal site which have been affected by leakage or waste discharge (Porter-Cologne §13273[b]).

3. A finding whether hazardous waste is leaching into surface or ground water on, under, and within one mile of the disposal site.

If hazardous waste has migrated, the Regional Board must notify the Department of Health Services and the Integrated Waste Management Board, and take appropriate remedial action (Porter-Cologne §13273[e]).

More than eighty percent of Test sites (mostly unlined) evaluated in all climates and geologic terrain in California have been found to impact ground water quality as part of the Solid Waste Assessment Test program.

From the beginning, the Test program was supported by the California General Fund. In recent years, agencies with programs with such funding have been under increasing pressure to find alternative funding or face elimination. These pressures resulted in the Test Program being understaffed and, in the summer of 1991, eliminated. At that time, almost 200 Test Reports had been accepted and reviewed by the Regional Water Boards. However, a backlog of nearly 300 additional Test Reports had been submitted and had not been reviewed. The Central Coast Region had reviewed and accepted 29 reports, however 14 were backlogged.

In 1992, the Legislature adopted Assembly Bill 3348 (Eastin) which allocated $2,500,000 from the Integrated Waste Management Board's "Solid Waste Disposal Site Cleanup and Maintenance Account" to the State and Regional Boards to fund the review of the above backlog. This law restricted these funds to the review of Solid Waste Assessment Reports from Ranks One through Five only and required the work be in accordance with a Memorandum of Understanding between the Regional Boards and the California Integrated Waste Management Board. This Memorandum of Understanding was signed by the Executive Directors of the two agencies in January 1993.

VII. HAZARDOUS WASTE COMPLIANCE ISSUES

The Regional Board obtains information regarding hazardous waste discharge through two reporting programs. These programs are "Reportable Qualities of Hazardous Waste and Sewage Discharges" and the "Proposition 65" program. These mechanisms are discussed below:

VII.A. REPORTABLE QUANTITIES OF HAZARDOUS WASTE AND SEWAGE DISCHARGES

California Porter-Cologne Water Quality Control Act Section 13271 requires the State Board and the Department of Health Services to adopt regulations establishing reportable quantities for substances listed as hazardous wastes or hazardous materials pursuant to Section 25140 of the Health and Safety Code. Reportable quantities are those which should be reported because they may pose a risk to public health or the environment if discharged to ground or surface water.

Similarly, the State Board was required to adopt regulations establishing reportable quantities for sewage. These requirements for reporting the discharge of sewage and hazardous materials do not supersede waste discharge requirements or water quality objectives.

The regulations for reportable quantities adopted by the State Board are included in Subchapter 9.2 of the California Code of Regulations.

VII.B. PROPOSITION 65

The Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) went into effect January 1, 1987. Proposition 65 is found in the Health and Safety Code, Section 25249.5, et seq.. It prohibits discharges of chemicals known to the State to cause cancer or reproductive toxicity to a potential source of drinking water, with certain exceptions. The Governor is required to publish a list of such chemicals. The list must be updated yearly. The current list is found in 22 California Code of Regulations, Section 12000.

Section 25180 of the Health and Safety Code requires designated governmental employees to disclose information to the local Board of Supervisors and local health officer regarding an illegal discharge of hazardous waste if the discharge is likely to cause substantial injury to the public. A designated employee is one who is required to sign a conflict of interest statement. Any designated employee who knowingly or intentionally fails to report information, as required by Proposition 65, is subject to fines and imprisonment (Section 25180.7). The following information should be reported:

- Discharge type
- How discharge was discovered
- Location of discharge
- Probable discharger
- Possible contacts
- Concentration of contaminant in soil and/or water.

VIII. NONPOINT SOURCE MEASURES

The State Nonpoint Source Management Plan initiated development of specific program objectives to be implemented at the State and Regional level. Currently, Regional Board staff are implementing the following State Board program objectives:

A. Control of Nonpoint Source pollution (urban runoff; agriculture; land disturbance activities such as road construction/maintenance, land construction, timber harvesting, and mining; hydrologic modification; and individual disposal systems). These activities include outreach, education, public participation, technical assistance, financial assistance, interagency coordination, demonstration projects, and regulatory activities such as imposing septic tank area prohibitions.

B. Preparation of contracts for projects selected for grant funding. Regional Board staff also participate in these projects by providing technical assistance and publicizing their results.

C. Implementation of the 1990 Coastal Zone Act Reauthorization Amendments, as developed by the State Board and the California Coastal Commission. This shall be an enforceable Nonpoint Source Management Program to control land use and anthropomorphic activities impacts that have a significant affect on coastal waters. (Further discussion of the Amendments is provided later.)

D. Initiation of nonpoint source watershed pilot programs.

Using State program objectives, Regional Board staff developed task-specific workplans to address nonpoint sources of pollution. For the Central Coastal Region, the following tasks are managed and implemented by the Nonpoint Source Program staff:

Task 1: Water Quality Assessment

Regional Board staff reviewed and updated the nonpoint source portion of the Water Quality Assessment and prepared water body fact sheets. (The Water Quality Assessment and water body fact sheets are discussed in Chapter Six.)

Task 2: Watershed Studies/Planning

Three impaired watersheds (Morro Bay Watershed, San Luis Obispo Creek Watershed, and San Lorenzo River Watershed) have been targeted for intensive activity. Major activities for San Luis Obispo Creek watershed include:

1. Develop a Demonstration "Total Maximum Daily Load" model.
2. Create a "San Luis Obispo Creek Riparian Task Force".
3. Implement a riparian corridor restoration project.
4. Identify major nonpoint pollutants and sources.
5. Develop a watershed management program.

For Morro Bay watershed, the activities include:

1. Develop a long term monitoring program to assess water quality improvements associated with the implementation of nonpoint source pollution control measures.
2. Develop funding for the long term monitoring program.
3. Implement a sediment reduction program using best management practices.
4. Participate in the Morro Bay Task Force.

For San Lorenzo River watershed, the activities include:

1. Develop a detailed assessment of Nonpoint Source impacts in the watershed.
2. Develop a wastewater management plan for on/off-site wastewater disposal.

3. Develop of a nutrient objective for the river.

4. Conduct experimental on-site wastewater treatment to reduce nitrogen discharge into the environment.

Task 3: Outreach Program

Staff meets regularly with individuals and local government agencies to promote education and solutions on Nonpoint Source problems. Additionally, the use of grant and loan resources to correct Nonpoint Source problems is emphasized during outreach activities.

Specific outreach activities include participation on the San Luis Obispo Creek Riparian Task Force, Morro Bay Task Force, and various 319(h)/205(j)/Basin Planning Technical Advisory Committees, and development of grant applications with local agencies.

Task 4: Project Tracking and Participation

Regional Board staff prepare contracts, coordinate with project proponents, track project progress, review and approve invoices, and provide technical support for Nonpoint Source grant funded projects.

VIII.A. COASTAL ZONE ACT REAUTHORIZATION AMENDMENTS

In November 1990, Congress enacted Section 6217 of the Coastal Zone Act Reauthorization Amendments to help address the problem of nonpoint source pollution in coastal waters. Section 6217 requires that coastal states with federally approved coastal management programs develop Coastal Nonpoint Pollution Control Programs. The legislative history indicates that the central purpose of section 6217 is to strengthen the links between federal and State coastal zone management and water quality programs in order to enhance efforts to manage land use activities that degrade coastal beneficial uses. The State coastal zone management agency designated under Section 306 of the Amendments and nonpoint source management agency designated under section 319 of the Clean Water Act will have a dual and co-equal role and responsibility in developing and implementing the coastal nonpoint program.

The program gives the U.S. Environmental Protection Agency (U.S. EPA) and the National Oceanic and Atmospheric Administration joint authority to approve programs developed by the State to address 6217 requirements.

The State agencies chosen to develop California's Coastal Nonpoint Pollution Control Program are the State Board and the Coastal Commission. The statute requires that the State program be "coordinated closely with State and local water quality plans and programs." This means that the State's nonpoint source programs under Sections 208 and 319 of the Clean Water Act and the coastal program must be examined to determine if they comprehensively address land use activities and anthropomorphic effects that have a significant effect on coastal waters. In addition, the State agencies are charged with developing a coordinated program that:

- identifies categories of nonpoint sources that adversely impact coastal waters;

- describes management measures to be implemented;

- identifies the land uses and critical coastal areas that will require more stringent or additional management measures;

- describes the State-developed additional management measures to be implemented in critical areas;

- documents the authorities the State will use to implement both the guidance and additional management measures, including designation of a lead agency for each source category and/or subcategory; and

- sets forth a schedule to achieve full implementation of the guidance management measures within three years of program approval by U.S. EPA and National Oceanic and

Atmospheric Administration, and full implementation of additional management measures within six years of program approval.

The Coastal Commission and the State Board staff have been working on a strategy to develop the required Coastal Nonpoint Pollution Control Program plan. Recently, the State Board directed staff to review and revise the statewide Nonpoint Source Management Plan to include a strong coastal component. Revision of the Plan is intended to satisfy the requirements of Section 6217 within the existing framework of current nonpoint source activities.

On a Regional Board level, staff has been involved with the statewide program since 1991. A pilot project, "The New Coastal Nonpoint Pollution Control Program using the Morro Bay Watershed as a Model" was performed to assess the feasibility of establishing the Coastal Nonpoint Pollution Control Program in California. Regional Board staff supplied technical information and reviewed reports. Concerted planning and implementation efforts on target coastal watersheds such as Morro Bay will be major accomplishments to satisfy Coastal Nonpoint Pollution Control Program requirements. As the program goes statewide, Regional Board staff will attend technical advisory committee meetings and will work closely with staff of the State Board and other Regional Boards, as well as staff of other relevant local, State, and federal agencies to develop a workable Coastal Nonpoint Pollution Control Program.

Wastewater originating from nonpoint sources includes those from urban runoff, agricultural activities, on-site sewage disposal systems, and land disturbance activities. Management of these types of nonpoint source discharges are discussed in the following section. The Regional Board will be developing management practices for marinas and recreational boating; hydromodification facilities; and wetlands, riparian areas, and vegetated treatment systems at a future date.

VIII.B. URBAN RUNOFF MANAGEMENT

The effect of urban runoff on receiving water quality is a problem which has only recently come to be recognized. Most of the work up to the present has centered on characterizing urban runoff: concentrations of various constituents have been measured, attempts to relate these to such factors as land use type and rainfall intensity have been made, and studies concerning the amounts of these constituents present on street surfaces have been conducted. It appears that considerable quantities of contaminants, heavy metals in particular, may enter the receiving waters through urban runoff. The federal Water Pollution Control Act Amendments of 1972 stress future "control of treatment of all point and nonpoint sources of pollution." Thus the federal government has concluded that nonpoint sources, such as urban runoff, are indeed deleterious to the aquatic environment and that measures should be taken to control such emissions.

There are four basic approaches to controlling pollution from urban runoff: (1) prevent contaminants from reaching urban land surfaces, (2) improve street cleaning and cleaning of other areas where contaminants may be present, (3) treat runoff prior to discharge to receiving waters, and (4) control land use and development. Which approach or combination of approaches is most effective or economical has not yet been studied extensively. Thus only the basic characteristics of each approach can be discussed. In addition to these direct approaches, measures to reduce the volume of runoff from urban areas are also available.

VIII.B.1. SOURCE CONTROLS

The first approach, which emphasizes source control, has many aspects. Tough effective air pollution laws can probably aid in reducing the amount of certain materials deposited on the land. An obvious example is lead in automobile exhaust emissions. Effective anti-litter ordinances and

campaigns can aid in reducing floatable materials washed to surface waters. These materials are objectionable primarily from an aesthetics viewpoint, although water fowl can be affected by plastics. New construction techniques may reduce emissions to receiving waters. Erosion can be decreased by seeding, sodding, or matting excavated areas as quickly as practicable. Construction in certain critical areas can be limited to the dry season. Stockpiling of excavated material can be regulated to minimize erosion. Control of chlorinated hydrocarbon pesticide usage would reduce the amounts found on urban land surfaces and thus reduce the amounts washed to natural waters.

VIII.B.2. STREET CLEANING

The second approach to reducing pollution from urban runoff involves improving street cleaning techniques. Generally, street cleaning as presently practiced is intended to remove large pieces of litter which are aesthetically objectionable. The removal of fine material which may account for most of the important contaminants is minimal. It may be possible to design mechanical sweepers to remove a greater fraction of the fine material. Alternatively, vacuum-type street cleaners could produce better results.

In addition to streets, sidewalks and roofs contribute large amounts of runoff. Controlling contaminants present on these surfaces would be more difficult and would be up to individuals. Advertising campaigns would probably be unproductive and legislation would be unworkable except perhaps in specific, localized situations. Therefore, contaminant removal will probably be limited to street surfaces.

In many areas, streets are cleaned by flushing with water from a tank truck. If catch basins are present, this material may be trapped in them. If catch basins do not exist, the material will be simply washed to the storm sewers where subsequent rainfall will carry them to surface waters. Where catch basins are regularly cleaned out, they can be effective in removing materials during runoff. Where they are allowed to fill up with material, they add to the pollution loading during a storm by discharging septic material. In any case, catch basins usually exist in older urban areas and have a rather low efficiency in removing contaminants from storm water.

VIII.B.3. TREATMENT

The third approach to reducing the effects of urban runoff on receiving water quality involves collecting and treating the runoff. Physical or physical-chemical treatment would be required; the intermittent nature of storm flows precludes biological treatment. Examples of possible treatment processes are simple sedimentation, sedimentation with chemical clarification, and dissolved air flotation. In addition to cost, a principal problem with this approach is collection. Present storm sewerage systems generally drain to open creeks and rivers or directly to tidal waters. Even if treatment facilities were located at various sites in the Basin, a massive collection system would have to be built.

The economic question of "treatment vs. transport" would have to be studied with specific regard to storm water runoff. Local sewage treatment plants abandoned in favor of regional facilities could possibly be utilized in such a program. One method of cutting down the peak flow capacity required is to provide storage volume in the collection system.

Solutions to the problem of preventing water quality degradation by urban runoff are only in the earliest stages of development and consist mostly of plausible hypothesis on how to deal with the problem. Therefore, it is not possible at this time to present a definite plan with regard to this subject. It is probable that research and study which up to now has emphasized defining and characterizing the problem, will turn to developing methods of control. The federal Water Pollution Control Act Amendments of 1972 state specifically that the EPA is authorized to conduct and assist studies "which will demonstrate a new or improved method of preventing, reducing, and eliminating the discharge into any waters of pollutants from sewers which carry storm water..." Considerable progress will be made during the next few years.

Information should be collected and studied so that a workable plan can be implemented in the future.

VIII.B.4. CONTROL OF URBANIZATION

A fourth approach is to encourage controls on urbanization which will either reduce the volume of runoff or at least not cause runoff to increase as a result of urban growth. The usual pattern is that increased urbanization leads to higher runoff coefficients, reflecting the many impervious surfaces associated with development. Roof drains to storm sewers, paved parking lots and streets, installation of storm sewers, filling of natural recharge areas, and increased efficiency in realigned and resurfaced stream channels all are characteristics of urban growth. Development near streams and on steep slopes is deleterious to water resources; it is less disruptive to develop the lower portions of a watershed than the headwater areas, both from the standpoint of the length of channel affected and the extent of channel enlargement necessary to convey storm water. Use of porous pavements and less reliance on roof connections to storm drains and more emphasis on local recharge would reduce the peak volume of runoff from storms. Areal mass emissions of urban drainage constituents should be quantified. Urban planning should be more cognizant of land constraints to permit greater natural recharge where possible and feasible and to discourage intensive development of steep land particularly in headwater areas.

VIII.C. AGRICULTURAL WATER AND WASTEWATER MANAGEMENT

Agricultural wastewaters and the effect of agricultural operations are a result of land use practices; controls should ultimately be developed from land use plans. Controls are required to minimize adverse effects from agricultural practices. The following discussion is confined to recommended improvements in practices and to the scope of federal-state permit programs which will regulate certain agricultural activities. The discussion of practices is limited here to animal confinement and irrigation practices. Although PL 92-500 defines a confined animal operation as a point source, this plan presents it in the traditional manner of dispersed nonpoint sources. Pesticide use and limits on fertilizer applications are not specifically considered; these materials are covered by appropriate water quality objectives.

VIII.C.1. FEDERAL-STATE PERMITS GOVERNING AGRICULTURAL OPERATIONS

Dischargers of wastes are managed in part by the NPDES permit program. Any person proposing to discharge waste that could affect the quality of the waters of the State must file a report of waste discharge with the appropriate regional board. The Regional Board will prescribe discharge requirements. The requirements implement water quality control plans and take into consideration beneficial uses to be protected.

Public Law 92-500 directed the Environmental Protection Agency to set up a permit system for all dischargers. Agriculture is specifically considered and permits are required for:

1. Feed lots with 1,000 or more slaughter steers and heifers.
2. Dairies with 700 head or more, including milkers, pregnant heifers, and dry mature cows, but not calves.
3. Swine facilities with 2,500 or more swine weighing 55 pounds or more.
4. Sheep feedlots with 10,000 head or more.

5. Turkey lots with 55,000 birds, unless the facilities are covered and dry.

6. Laying hens and broilers, with continuous flow watering, and 100,000 or more birds.

7. Laying hens and broilers, with liquid manure handling systems, and 30,000 or more birds.

8. Irrigation return flow from 3,000 or more continuous acres of land when conveyed to navigable waters from one or more point sources.

The law also provides that the State may administer its own permit program if EPA determines such program is adequate to carry out the objective of the Law. On March 26, 1973, this authority was transferred from the EPA to the State of California for waters within the State. Thus, the Regional Board issues discharge requirements to the agricultural operations covered under the aforementioned guidelines. The State may require discharge permits from any discharger, regardless of size.

VIII.C.2. ANIMAL CONFINEMENT OPERATIONS

Animal confinements such as feedlots and dairy corrals present a surface runoff problem during wet winter flows. Runoff water passes through hillside operations to sometimes contribute manure loads to the surface streams. Stockpiled manure may also add to the problem. Disposing of washwater and manures from dairies in such a manner that ground waters are not degraded can be a problem. Most dairies have some associated land for waste disposal. The land is devoted to crops and pasture and its assimilative capacity will depend upon the size, crop, crop yield, and the season. During intensive growth periods, crops can utilize more nutrients than in slow growth period. Small dairies with adequate crop land in close proximity may be able to use washwaters year round as a source of nutrients. Large dairies with smaller acreage will view the slurry wastes as a disposal problem, not a resource. Thus, there theoretically exists a threshold size for waste disposal. Regulations to achieve this size would be impractical and unenforceable. Crop land is expensive in the basin and would be difficult to acquire. However, a combination of crop patterns and pasture land best suited for each size operation should be determined and the dairymen should be encouraged to follow such a pattern. Where acreage is not available, mutually advantageous agreements between the dairymen and a neighbor cultivator could be formed for disposal of dairy wastes.

Sumps, holding ponds, and reservoirs holding manure wastes should be protected from flood flows. No pipes, drains or ditches from the milk barn should be allowed to drain in or near a stream channel.

Specific Regional Board policies pertaining to animal confinement operations can be found under "Control Actions" in Chapter Five.

VIII.C.3. IRRIGATION OPERATIONS - NEED FOR SALT MANAGEMENT

Salts originate by dissolution of the more soluble portions of rocks and soil particles in rain water (weathering). Such salts are transported in solution, but are concentrated in soils, waters, and so-called salt sinks due to evaporation from soil and water surfaces and transpiration (use) by crops (plants). This removal of water by evaporation or transpiration leaves salts behind. Salts are concentrated by each successive evaporative loss of water. In time, accumulations of salt can go from no- problem to extreme-problem levels unless some controls are applied.

For irrigated agriculture to continue production into the foreseeable future, this problem of gradual accumulation of salts in soils and waters must be faced and kept under control at acceptable levels. Otherwise, production will decline even under the best management, and no added amount of good management will be able to continue production of the quantities of food crops needed. In most of California's water basins, the rate of export or removal of salts from the basin will need to be

increased to more closely match or exceed the rate of salt accumulation. For each basin, not only do the rates of import and export of salts need to be in reasonably close balance, but the balance must also be maintained at a sufficiently low level of salinity to meet the quality demands of the various designated beneficial uses. This is often referred to as maintenance of a "favorable salt balance."

The rate of water quality degradation within a basin which results from inadequate salt exports is slow. It may be so slow that the need for control of salts is believed to be far into the future and of no concern to present planning. However, just as degradation may be a slow process, correction of a critical basin-wide salinity problem is also an extremely slow process. Good planning, now, to control this long-term, slow degradation of our soil and water resources seems the better course of action, rather than to wait until the problem becomes critical. Decisions made, or not made, now can be critical to control in the future.

Agriculture's need for salt management is both for on-farm management and for off-farm (basin- wide) management. The absolute need for discharge of salts by agriculture will create conflicts with other water users -even other agricultural water users.

Compromises and trade-offs will be necessary to reconcile these conflicts; however, necessary motivation for change in management at the farm level will need to be tied to dollars and the economic consequences of "no- change." If required agricultural management changes for essential pollution control result in added costs to the farmer, he has the same hard choices of any other businessman:

1. Absorb the cost with reduced profit

2. Pass on the cost in increased prices to consumers

3. Accept some form of public subsidy to off-set cost

4. Go out of business

5. Change crops grown

In coastal higher rainfall areas, irrigated agriculture could probably continue almost indefinitely, since irrigation would be used primarily during dry summer periods to supplement winter rainfall. Rainfall would be sufficient to flush salts through soils and provide adequate recharge and outflow from the underground water basin toward the ocean for salt control. There is more cause for concern in the drier inland areas such as the Salinas River Sub-basin and in the naturally mineralized ground water areas such as the Santa Maria Valley.

VIII.C.4. IMPROVED SALT MANAGEMENT TECHNIQUES

A concept of minimal degradation should be considered in some areas, but this will need to be coupled with management of the surface and ground water supplies to minimize and correct the effects of degradation that may occur. If complete correction is not possible, improved management will delay the time when salts reach critical levels. Several options available to correct degradation through improved salt management follow.

Improved irrigation efficiency would reduce both potential and actual pollutants in the water moving from surface to ground. Improved efficiency would also reduce total quantities of salts leaching to the water table and cut down on withdrawals or diversions from the limited water supply. Present statewide efficiency of water use may average 50 to 60 percent, but individual uses will vary from an estimated low of 30 percent where water is plentiful and inexpensive to a high of 95 percent where water quantity is limited and/or the price is high.

Implementation of the Leaching Requirement reported by U. S. Salinity Laboratory, Riverside, will help improve efficiency of irrigation. Other research data by this same laboratory has been reported on the effects of low leaching fractions in reduction of salt loads leaching to water tables. The new data offers real incentives to agriculture to improve irrigation efficiency in the form of real dollars saved by the farmer. Real water saved by agriculture can then be used for dilution, recharge, or nonagricultural uses. True, the salts moving to the water table under these low leaching fractions will be more concentrated, but due to low solubilities of

certain salts, a progressive precipitation and removal from solution occurs as the salt concentration in the percolating soil solution rises. As the concentration rises, considerable portions of the low solubility salts come out of solution, e.g., the relatively insoluble lime, dolomite, and slightly soluble gypsum.

With these low leaching fractions, salt load to the underground may be reduced as much as 50 percent in some cases. Sodium salts (sodium chloride, and sulfate) are not affected, so in relation to calcium and magnesium salts these sodium salts in the percolating waters increase. The compounds which precipitate are deposited in the lower root zone or below and cause no problem to agriculture except for a few specialized situations which are correctable (lime induced chlorosis). The increased proportions of sodium salts (higher SAR) will not reduce permeabilities of subsoils since salinity remains high enough to continue normal permeabilities of subsoils. The higher sodium (SAR) reaching water tables may reduce hardness slightly, but is not expected to be a problem to users of the underground waters.

Crop production can continue into the foreseeable future in the low rainfall areas if the minimal degradation that almost inevitably will occur is offset (a) by recharge and replenishment of the underground which will furnish dilution water for the added salts and (b) by drainage or removal of degraded waters at a sufficient rate to maintain low salt levels and achieve a satisfactory balance between salts coming into the basin and salts leaving the basin.

To help in recharge and dilution, additional winter runoff can be stored in surface reservoirs for later use for either surface stream or underground water quantity/quality enhancement or maintenance, e.g., Nacimiento and Twitchell reservoirs. Possible future reservoirs may be located on the Arroyo Seco and Carmel rivers. Or winter runoff could be used directly for ground water recharge to enhance flushing and flow-through dilution of salts and pollutants.

Drainage wells which discharge to drains leading to salt sinks are a possibility in removing salty waters, but these have had only limited success in draining high water table areas. However, they might be well adapted to ground water quality maintenance. Such wells could be drilled and operated to recover the salty top layers of water tables where salts are believed to accumulate as a layer of poorer quality water over the better quality deeper layers. Since most of the movement within water tables is thought to be horizontal and downslope, and vertical mixing is relatively slow, the possibility of recovering polluted upper layers of water tables should be explored as a quality maintenance tool or rejuvenation procedure for degraded water supplies.

Underdrains (tile systems) can aid in both water and salt management. Perched water tables intercept percolating salts, nutrients, and other pollutants and offer real possibilities as an aid in management and protection of the overall water quality of a basin. A "perched" water table is held up and separated from deeper aquifers by a relatively impermeable barrier (soil, rock, hardpan). This barrier often protects the deeper waters from pollution by preventing leakage of polluted waters from above. Perched water tables exist in portions of several basins. Salts and nutrients collected in these perched water tables may be tapped by underdrains (tile systems) and transported through the basin drainage system to disposal sites.

Basin-wide or area-wide drainage systems will be needed in order to move unusable wastewaters to acceptable temporary or permanent disposal sites (salt sinks). On- farm drainage problems will normally be solved at individual farmer expense because of the economics involved--the cost is not prohibitive and the costs of "not-solving" the problem (reduced yields, changing cropping patterns, or going out of business) are unacceptable. The off- farm part of drainage, however, is too big for individual farmers to solve, and some form of collective, organized large scale action is needed. The off- farm problems include collection of discharges, rights-of-way for conveyance, building and maintenance of a drainage system, disposal site acquisition, and management for compliance with discharge requirements.

Acceptable temporary or permanent salt disposal sites (salt sinks) must be designated and used. The Pacific Ocean is the only acceptable sink for most of the Central Coastal Basin; however, Soda Lake and certain highly mineralized ground water basins may be acceptable. To be able to remove salts as required to maintain a low salinity level in any one basin, there must be some other basin or site that will accept the salts. These acceptor areas are

known as salt sinks. Without acceptable salt sinks, salt management becomes a long-term losing battle and a frustrating exercise in futility.

Other salt inputs to a basin can be reduced by improved management of other salt sources such as fertilizer, animal wastes, and soil amendments. Regulation may be required but an appreciable improvement can be expected by education of farmers to better understand and better utilize existing information and guidelines. A salt routing approach could be used in areas such as Pancho Rico Creek to permit discharge of highly mineralized wastewater during periods of high flow.

VIII.C.5. MUSHROOM FARM OPERATIONS

Mushroom farm operations present surface or ground water problems if not properly managed.

VIII.C.5.a. TYPICAL MUSHROOM FARM OPERATION

Compost is needed as a growing base medium to produce mushrooms. Typically compost is produced on-site from straw, horse manure, cottonseed meal, or other organic matter. During composting, the organic material breaks down into a useable protein source for mushrooms. Water, added to assist the composting process, is constantly leaching through compost piles. Once compost is ready for use, it is placed in mushroom growing trays. After mushroom harvesting, steaming and fumigation sterilize the growing house and spent compost. Spent compost is then removed to "spent compost storage areas" and marketed as a soil additive or disposed of in some other manner.

VIII.C.5.b. TYPES OF WASTES DISCHARGED

Composting operations are typically carried out on concrete composting slabs. Compost is frequently sprayed with water. Excess water typically drains into a sump. Normally, excess water is recycled by pumping it back to spray the pile. In summer very little runoff or leachate is produced from composting. During the rainy season the sump collects more runoff from the compost slab than is recycled. Discharge to drainage ways or containment sumps may result.

When mushroom beds are irrigated, excess water drains from concrete floors to drainage ways or disposal sumps. This water contains peat moss, soluble substances from beds, salt from salt pans (used to "sanitize" the footwear of persons entering the cultivating room), and whatever is on the floor, such as pesticide residues and mushroom stems, at the time the floor is washed.

Steam is used for tray sterilization and to heat and sterilize growing houses. Prior to entering boilers, water is softened and treated with an organic or inorganic corrosion and scale inhibitors. Salt is used as a water softener regenerant. Discharge of water softener regenerant and boiler blowdown to drainage ways or disposal sumps may occur.

Solid wastes consisting of pesticide bags, mushroom roots and stumps, cardboard boxes, spent compost, and general debris are generated by mushroom farms.

Some of the disinfectants, fungicides, and pesticides being sprayed on the floor, walls, and mushrooms are occasionally washed off during washdown of the facility. Generally, pesticides used in this business have a relatively short life.

VIII.C.5.c. POSSIBLE WATER QUALITY PROBLEMS

Compost leachate and irrigation/ washwater is high in biochemical oxygen demand (BOD). BOD is

generally considered high if the concentration exceeds 30 mg/l, but this can vary from situation to situation. If discharged to surface waters, these wastes may depress dissolved oxygen to a critical level, and provide a nutrient source for undesirable aquatic growth. Improper disposal may also cause impacts on ground water. Nitrates are a particular concern.

Discharges of water softener regenerant and boiler blowdown may degrade surface and ground waters if improperly disposed. These wastes are high in Total Dissolved Solids, Sodium, and Chloride concentrations. Boiler blow-down may also contain organic or inorganic corrosion and scale inhibitors which could present toxicity problems if improperly disposed. Solid wastes can be a problem if improperly disposed.

Disinfectants, fungicides, and pesticides do not appear to present water quality problems based on inspections and limited sampling. These biocides can be a problem if handled improperly. Surface water runoff entering mushroom farm operations can become contaminated if runoff contacts any of the sources described above.

VIII.C.5.d. ADDITIONAL CONCERNS

Wastes can create a nuisance. Public health can be jeopardized if vectors develop among solid wastes. Further, odors resulting from storage of wastes can become offensive and may obstruct the free use of neighboring property.

VIII.C.5.e. RECOMMENDATIONS

1. Spent irrigation/washwater and compost leachate may be reused to spray compost piles.

2. Spent irrigation/washwater, compost leachate, and contaminated surface water runoff should be collected for treatment, storage, and disposal in lined ponds, unless shown by geohydrologic analysis that ground water will not be affected. If needed, aeration should be provided to stabilize organic substances and prevent odor problems. Dissolved oxygen of 1.0 mg/l or more is recommended for storage ponds.

3. Mushroom farm wastes, excluding water softener regenerant, may be used to irrigate farm crops during dry weather months. When salt is properly handled, the sodium and chloride content of these waters should be suitable for this purpose. The discharger must demonstrate to the Regional Board that irrigation water will not degrade beneficial water uses.

4. When irrigation is utilized, application rates and irrigation practices should be suitable to the crops irrigated.

5. Water softener regenerant and boiler blowdown should be disposed of separately from spent irrigation/washwater. Since its volume is small and concentration of pollutants is high, it is best to evaporate the liquid on a lined drying bed, or provide a documented test by a registered Engineer or laboratory that the soils permeability in the disposal area is 10^{-6} cm/sec or less. Two drying beds should be used for the purpose of holding salt/regenerant liquid and boiler blowdown waste. Discharges to beds are alternated to allow sufficient drying time.

6. Drying bed residue from any disposal pond should be disposed at a suitable solid waste disposal site.

7. As an alternative, water softener regenerant and boiler blowdown can be hauled in liquid form to a suitable disposal site, or discharged to the ocean through a suitable outfall.

8. Chemical alternatives for sanitizing footwear to replace salt pans should be investigated by farm operators.

9. If used, salt sanitation pans should be at least 4 inches deep and elevated to prevent contact between salt and water. Salt solution should remain in pans until disposed. Spent salt

should be dumped into a sealed container and disposed at a suitable site.

10. Solid waste should be routinely collected and disposed at a suitable site.

VIII.C.5.f. PROHIBITIONS

The following activities are prohibited at mushroom farms:

1. Discharge of inadequately treated waste, including leachate, high BOD, high nutrient waste, and contaminated surface water runoff to drainage ways, surface waters, and ground waters.

2. Discharge of untreated water softener regenerant and boiler blowdown waste in a manner that pollutes any non-saline surface or ground water.

3. Discharge and/or storage of waste, including spent compost, in a manner promoting nuisance and vector development.

4. Disposal of sludges, salt residues, pesticide residues, and solid waste in a manner not accepted by the Regional Board.

VIII.C.6. RANGE MANAGEMENT

Rangeland is the most extensive land use type in California, accounting for more than 40 million acres of the State's 101 million acres. As most of the rangelands are located between forested areas and major river systems, nearly all surface waters in the State flow through rangelands. Thus, rangeland activities can greatly impact water quality. In this section, grazing activities are discussed.

VIII.C.6.a. GRAZING

Grazing activities (particularly overgrazing), by contributing excessive sediment, nutrients, and pathogens, can adversely impact water quality and impair beneficial uses. Soil erosion and sedimentation are the primary causes of lowered water quality from rangelands. When grazing removes most of the vegetative cover from pastures and rangelands, the soil surface is exposed to erosion from wind and water. With runoff, eroded soil becomes sediment which can impair stream uses and alter stream channel morphology and results in decreased recharge capacity through clogging of channel bottoms. With steep slopes, highly erodible soils and interim storm events, the sediment delivery ratio (a measure of the amount of eroded soil delivery to a waterbody) on rangeland can be very high. Streambank erosion and lakeshore erosion are other sources of sediment on rangelands. Lakeshores, streambanks, and associated riparian zones are often subjected to heavy livestock use. Trampling and grazing of vegetation contribute to lakeshore and streamside instability as well as accelerated erosion.

Sediments can contribute large amounts of nutrients to surface water. Nutrients, mainly nitrogen and phosphorous, from manure and decaying vegetation also enter surface waters, particularly during runoff periods. Very critical nutrient problems can develop where livestock congregate for water, feed, salt, and shade. Pasture fertilization can also be a source of nutrients to surface waters, as well as a source of pesticides, particularly if flood irrigation techniques are used on rangelands.

Stream zone and lakeshore areas are important for water quality protection in that they can "buffer" (intercept and store nutrients which have entered surface and ground waters from upgradient areas). These "buffer zones" are more sensitive to processes which can increase nutrient discharges such as soil compaction, soil erosion, and vegetation damage than other areas of the rangeland.

Localized contamination by pathogens that could impact human health in surface water, ground water, and soils can result from livestock in pastures and rangelands. Rangeland streams can show

increased coliform bacterial levels with fecal coliform levels tending to increase as intensity of livestock use increases. Fecal coliform serve as indicators that pathogens could exist and flourish. The extent of contamination is usually determined by livestock density, sizing, and frequency of grazing, and access to the surface waters.

GRAZING CONTROL MEASURES

Grazing activities occur on both public and private lands in the Central Coast Region. Regulation of grazing on federal lands differs from that on private lands.

Federal lands -- Grazing activities on federal lands are regulated by the responsible land management agency, such as the U. S. Bureau of Land Management or the U. S. Forest Service. Through Memorandum of Understandings and Management Agency Agreements, the Regional Board recognizes the water quality authority of the U.S. Forest Service and U.S. Bureau of Land Management in range management activities on federal lands. Both these agencies require allotment management plans to be prepared for a specific area and for an individual permittee. The Regional Board relies on the water quality expertise of these agencies to include appropriate water quality measures in the allotment management plans. Most allotment management plans include specific Best Management Practices to protect water quality and existing and potential beneficial uses.

Non-federal (private) lands -- The Range Management Advisory Committee is a statutory committee which advises the California Board of Forestry on rangeland resources. The Committee has identified water quality protection as a major rangeland issue and has assumed a lead role in developing a Water Quality Management Plan for private rangelands in California. Regional Board staff is participating in the Plan's development. Sections proposed for inclusion in the Plan are status of water quality and soil stability on State rangelands, authority, mandates, and programs for water quality and watershed protection, local water quality planning guidelines, sources of assistance, development of management measures (Best Management Practices), State agency water quality responsibilities, and monitoring guidelines. Upon its completion, the Plan will be submitted to the State Board. On private lands whose owners request assistance, the U.S. Soil Conservation Service, in cooperation with the local Resource Conservation Districts, can provide technical and financial assistance for range and water quality improvement projects. A Memorandum of Understanding is in place between the U.S. Soil Conservation Service and the State Board for planning and technical assistance related to water quality actions and activities undertaken to resolve nonpoint source problems on private lands.

On both public and private lands, the Regional Board encourages grazing strategies that maintain adequate vegetative cover to reduce erosion and sedimentation. The Regional Board promotes dispersal of livestock away from surface waters as an effective means of reducing nutrient and pathogen loading. The Regional Board encourages use of Best Management Practices to improve water quality, protect beneficial uses, protect stream zone and lakeshore areas, and improve range and watershed conditions including:

- Implementing rest-rotation grazing strategies,
- Changing the season of use (on/off dates),
- Limiting the number of animals,
- Increasing the use of range riders to improve animal distribution and use of forage,
- Fencing to exclude grazing in sensitive areas,
- Developing non-lakeshore and non-stream zone watering sites,
- Constructing physical improvement projects such as check dams, and
- Restoring riparian habitat.

These same Best Management Practices may result in improved range and increased forage production, resulting in increased economic benefit to the rancher and land owner. The Regional Board also encourages land owners to develop appropriate site-specific Best Management Practices using the

technical assistance of the U.S. Soil Conservation Service and the U.S. EPA.

In addition to relying on the grazing management expertise of agencies such as the U.S. Forest Service, U.S. Bureau of Land Management, or Range Management Advisory Committee, the Regional Board can directly regulate grazing activities to protect water quality. Actions available to the Regional Board include:

1. Require that a Report of Waste Discharge be filed, that allotment management plans for specific federal lands be prepared, or that a Coordinated Resource Management Plan be adopted within one year of problem documentation. Such problems indicate impairment of beneficial uses or violation or threatened violation of water quality objectives.

2. Require that all allotment management plans (utilized for federal lands) and Coastal Resource Management Plans contain Best Management Practices necessary to correct existing water quality problems or to protect water quality so as to meet all applicable beneficial uses and water quality objectives contained in Chapters Two and Three, respectively, of this Basin Plan. Corrective measures would have to be implemented within one year of submittal of the allotment management plan or Coastal Resource Management Plan, except where staged Best Management Practices are appropriate. Implementation of a staged Best Management Practice must commence within one year of submittal of the allotment management plan or Coastal Resource Management Plan.

3. Require that each allotment management plan (utilized for federal lands) or Coastal Resource Management Plan include specific objectives, actions, and monitoring and evaluation procedures. The discussion of actions must establish the seasons of use, number of livestock permitted, grazing system(s) to be used, a schedule for rehabilitation of ranges in unsatisfactory condition, a schedule for initiating range improvements, and a schedule for maintenance of range improvements must include priorities and planned completion dates. The discussion of monitoring and evaluation must propose a method and timetable for reporting of livestock forage conditions, watershed condition, and surface and ground water quality.

4. Require that all allotment management plans and Coastal Resource Management Plans be circulated to interested parties, organizations, and public agencies.

5. Consider adoption of waste discharge requirements if an allotment management plan or Coastal Resource Management Plan is not prepared or if the Executive Officer and the landowner do not agree on Best Management Practices proposed in an allotment management plan or Coastal Resource Management Plan.

6. Decide that allotment management plans and Coastal Resource Management Plans prepared to address a documented watershed or water quality problem may be accepted by the Regional Board's Executive Officer in lieu of adoption of Waste Discharge Requirements.

7. Oversee monitoring of water quality variables and beneficial uses. Provide data interpretation.

8. Encourage the U.S. Bureau of Land Management, U.S. Forest Service, Resource Conservation District, and private landowners to develop watering sites for livestock away from lakeshores, stream zones, and riparian areas.

9. Encourage private landowners to request technical and financial assistance from U.S. Soil Conservation Service, in cooperation with the local Resource Conservation Districts, in the preparation of allotment management plans and the implementation or construction of grazing and water quality improvements.

10. Continue to coordinate with the Range Management Advisory Committee in the development of a water quality management plan for private rangelands.

VIII.D. INDIVIDUAL, ALTERNATIVE, AND COMMUNITY DISPOSAL SYSTEMS

On-site sewage disposal systems and other similar methods for liquid waste disposal are sometimes viewed as interim solutions in urbanizing areas, yet may be required to function for many years. On-site systems can be a viable long-term waste disposal method with proper siting, design, construction, and management. In establishing on- site system regulations, agencies must consider such systems as permanent, not interim systems to be replaced by public sewers. The reliability of these systems is highly dependent on land and soil constraints, proper design, proper construction, and proper operation and maintenance.

If on-site sewage treatment facilities are not carefully managed, problems can occur, including:

- odors or nuisance;
- surfacing effluent;
- disease transmission; and,
- pollution of surface and ground waters.

Odors and nuisance can be objectionable and annoying and may obstruct free use of property. Surfacing effluent (effluent which fails to percolate and rises to the ground surface) can be an annoyance, or health hazard to the resident and neighbors. In some cases, nearby surface waters may be polluted.

On-site sewage disposal systems are a potential mechanism for disease transmission. Sewage is capable of transmitting diseases from organisms which are discharged by an infected individual. These include dysentery, hepatitis, typhoid, cholera, and gastro-intestinal disorders.

Pollution of surface or ground waters can result from the discharge of on-site system wastes. Typical problem waste constituents are total dissolved solids, phosphates, nitrates, heavy metals, bacteria, and viruses. Discharge of these wastes will, in some cases, destroy beneficial surface and ground water uses.

Subsurface disposal systems may be used to dispose of wastewater from: (1) individual residences; (2) multi-unit residences; (3) institutions or places of commerce; (4) industrial sanitary sources; and, (5) small communities. All individual and multi- unit residential developments are subject to criteria in this section of the Basin Plan. Commercial, institutional, and industrial developments with a discharge flow rate less than 2500 gallons per day generally are not regulated by waste discharge requirements; therefore, they must comply with these criteria. Community systems must also comply with criteria relating to this subject within the Basin Plan. Community systems are defined for the purposes of this Basin Plan as: (1) residential wastewater treatment systems for more than 5 units or more than 5 parcels; or, (2) commercial, institutional or industrial systems to treat sanitary wastewater equal to or greater than 2500 gallons per day (average daily flow). Systems of this type and size may be subject to waste discharge requirements.

Alternatives to conventional on-site system designs have been used when site constraints prevent the use of conventional systems. Examples of alternative systems include mound and evapotranspiration systems. Remote subdivisions, commercial centers, or industries may utilize conventional collection systems with community treatment systems and subsurface disposal fields for sanitary wastes. Alternative and community systems can pose serious water quality problems if improperly managed. Failures have been common in the past and are usually attributed to the following:

- Systems are inadequately or improperly sited, designed, or constructed.
- Long-term use is not considered.
- Inadequate operation and maintenance.

VIII.D.1. CORRECTIVE ACTIONS FOR EXISTING SYSTEMS

Individual disposal systems can be regulated with relative ease when they are proposed for a particular site. For new systems, regulations generally provide for good design and construction practices. A more troublesome problem is presented by older septic tank systems where design and construction may have been less strictly controlled or where land development has intensified to an extent that percolation systems are too close together and there is no room left for replacement leaching areas. Where this situation develops to an extent that public health hazards and nuisance conditions develop, the most effective remedy is usually a sewer system. Where soil percolation rates are particularly fast, ground water degradation is possible, particularly increases in nitrate concentrations.

Sewer system planning should be emphasized in urbanizing areas served by septic tanks. A first step would be a monitoring system involving surface and ground waters to determine whether problems are developing. Where septic tank systems in urbanized areas are not scheduled for replacement by sewers and where public health hazards are not documented, septic tank maintenance procedures are encouraged to lessen the probability that a few major failures might force sewering of an area which otherwise could be retained on individual systems without compromising water quality. Often a few systems will fail in an area where more frequent septic tank pumping, corrections to plumbing or leach fields, or in-home water conservation measures could help prevent failure. Improvements of this kind should be enforced by a local septic tank maintenance district or local governing jurisdiction.

A septic tank subjected to greater hydraulic load can fail due to washout of solids into percolation areas and plugging of the infiltrative surface. In some cases, excess wash water could be diverted to separate percolation areas by in-home plumbing changes. Dishwashers, garbage grinders, and washing machines could be eliminated. Water saving toilets, faucets, and shower heads are available to encourage low water use. Water use costs may also be structured to encourage mor frugal use of water.

VIII.D.2. LOCAL GOVERNING JURISDICTION ACTIONS

VIII.D.2.a. DISCLOSURE AND COMPLIANCE OF EXISTING WASTEWATEI DISPOSAL SYSTEM

Local governing jurisdictions should provid programs to assure conformance with this Basin Pla and local regulations. Inspection programs shoul assure site suitability tests are performed a necessary, and that tests are in accordance wit standard procedures. Inspection should also assur proper system installation. Proper design an construction should be certified by the inspector Concerned homeowners can be a tremendous asse in assuring proper construction. When a septi system permit is issued by the local agency, a handout specifying proper construction techniques should be made available to the general public. Systems must be inspected by the local agency before covering (backfilling).

Local agencies can use either staff inspectors or individuals under contract with the local government. Either way, a standard detailed checklist should be completed by the inspector to certify compliance.

Site suitability determinations should specify: (1) whether approval is for the entire lot or for specific locations of the lot; (2) if further tests are necessary; and, (3) if alternatives are necessary or available.

Where agency approval is necessary from various departments, final sign-offs should be on the same set of plans.

Home owners should be aware of the nature and requirements of their wastewater disposal system. Plans should be available in city or county offices showing placement of soil absorption systems. Since this is only feasible for new construction, local agencies should require septic system as- built plans

as a condition of new construction final inspection. Plans would be kept on file for future use of property owners.

Prospective property buyers should be informed of any enforcement action affecting parcels or houses they wish to buy. For example, a parcel in a discharge prohibition area may be unbuildable for an indefinite period, or a developed parcel may be subject to significant user charges from a future sewer system. Local agencies should have prohibition area terms entered into the county record for each affected parcel. When a prospective buyer conducts a title search, terms of the prohibition would appear in the preliminary title report.

Dual leaching capabilities provide an immediate remedy in the event of system failure. For that reason, dual leachfields are considered appropriate for all systems. Furthermore, should wastewater flows increase, this area can be used until the system is expanded. But system expansion may not be possible if land is not set aside for this purpose. For these reasons, dedicated system expansion areas are also appropriate.

To protect this set-aside area from encroachment, the local agency should require restrictions on future use of the area as a condition of land division or building permit approval. For new subdivisions, Covenants, Conditions, and Restrictions (CC&R's) might provide an appropriate mechanism for protecting a set aside area. Future buyers of affected property would be notified of property use restrictions by reading CC&R's.

All on-site system owners need to be aware of proper operation and maintenance procedures. Local governing jurisdictions should mount a continuing public education program to provide home owners with on-site system operation and maintenance guidelines. Basin Plan information should be available at local agency health and building departments.

Local agencies should conduct an on-site system inspection program, particularly in areas where system failures are common or where systems with poor soils are approved. An agency inspector should periodically check each septic tank for pumping need and each system for proper operation. Homeowners should be alerted where evidence of system failure exists. Where nuisance or a potential public health hazard exists, a followup procedure should insure the situation is corrected. On-site systems should be constructed in a location that facilitates system inspection.

Another approach is periodically to mail homeowners a brochure reminding them how to maintain and inspect their on-site system. Homeowners should be notified that they should periodically check their septic tank for pumping need. Homeowners should also be notified of other problems indicative of system failure. Some examples include wet spots in drainfield area, lush grass growths, slowly draining wastewater, and sewage odors.

Many existing systems do not comply with current or proposed standards. Repairs to failing systems should be done under permit from the local agency. To the extent practicable, the local agency should require failing systems to be brought into compliance with Basin Plan recommendations. This could be a condition of granting a permit for repairs.

Land use changes on properties used for commerce, small institutions, or industries should not be approved by the local agency until the existing on-site system meets criteria of this Basin Plan and local ordinances. A land use permit or business license could be used to alert the local agency of land use changes.

VIII.D.2.b. ON-SITE WASTEWATER MANAGEMENT PLANS

On-site wastewater management should be implemented in urbanizing areas to investigate long-term cumulative impacts resulting from continued use of individual, alternative, and community on-site disposal systems. A wastewater disposal study should be conducted to determine the best Wastewater Management Plan that would provide site or basin specific wastewater re- use. This study should identify basin specific criteria to prevent water quality degradation and public health hazards and provide an evaluation of the effects of existing and proposed developments and changes in land use. These plans should be a comprehensive planning tool to specify on-site disposal system limitations to prevent ground or surface water

degradation. Wastewater management plans should:

- Contain a ground/surface water monitoring program.
- Identify sites suitable for conventional septic systems.
- Project on-site disposal system demand.
- Determine sites and methods to best meet demand.
- Project maximum population densities for each subdrainage basin to control degradation or contamination of ground or surface water.
- Recommend establishment of septic tank maintenance districts, as needed.
- Identify alternate means of disposing of sewage in the event of irreversible degradation from on-site disposal systems.

For areas where watershed-wide plans are not developed, conditions could be placed on new divisions of land or community systems to provide monitoring data or geologic information to contribute to the development of a Wastewater Management Plan.

Wastewater disposal alternatives should identify costs to each homeowner. A cost-effectiveness analysis, which considers socio-economic impacts of alternative plans, should be used to select the recommended plan.

On-site wastewater disposal zones, as discussed in Section 6950-6981 of the Health and Safety Code, may be an appropriate means of implementing on-site Wastewater Management Plans.

On-site Wastewater Management Plans shall be approved by the Regional Board.

VIII.D.2.c. SEPTIC TANK MAINTENANCE DISTRICTS

It may be appropriate for unsewered community on-site systems to be maintained by local sewage disposal maintenance districts. These special districts could be administered through existing local governments such as County Water Districts, a Community Services District, or a County Service Area.

Septic tank maintenance districts should be responsible for operation and maintenance in conformance with this Water Quality Control Plan. Administrators should insure proper construction, installation, operation, and maintenance of on-site disposal systems. Maintenance districts should establish septic tank surveillance, maintenance and pumping programs, where appropriate; provide repairs to plumbing or leachfields; and encourage water conservation measures.

VIII.D.3. CRITERIA FOR NEW SYSTEMS

On-site sewage disposal system problems can be minimized with proper site location, design, installation, operation, and maintenance. The following section recommends criteria for all new individual subsurface disposal systems and community sewage disposal systems. Local governing jurisdictions should incorporate these guidelines into their local ordinances. These recommendations will be used by the Regional Board for Regional Board regulated systems and exemptions.

Recommendations are arranged in sequence under the following categories: site suitability; system design; construction; individual system maintenance; community system design; and local agencies.

Mandatory criteria are listed in the "Individual, Alternative, and Community Systems Prohibitions" section.

VIII.D.3.a. SITE SUITABILITY

Prior to permit approval, site investigation should determine on-site system suitability:

1. At least one soil boring or excavation per on-site system should be performed to determine soil suitability, depth to ground water, and depth to bedrock or impervious layer. Soil borings are particularly important for seepage pits. Impervious material is defined as having a percolation rate slower than 120 minutes per inch or having a clay content 60 percent or greater. The soil boring or excavation should extend at least 10 feet below the drainfield[1] bottom at each proposed location.

2. An excavation should be made to detect mottling or presence of underground channels, fissures, or cracks. Soils should be excavated to a depth of 4-5 feet below drainfield bottom.

3. For leachfields, at least three percolation test locations should be used to determine system acceptability. Tests should be performed at proposed subsurface disposal system sites and depths.

4. If no restrictive layers intersect, and geologic conditions permit surfacing, the setback distance from a cut, embankment, or steep slope (greater than 30 percent) should be determined by projecting a line 20 percent downgradient fromthe sidewall at the highest perforation of the discharge pipe. The leachfields should be set-back far enough to prevent this projected line from intersecting the cut within 100 feet, measured horizontally, of the sidewall. If restrictive layers intersect cuts, embankments or steep slopes, and geologic conditions permit surfacing, the setback should be at least 100 feet measured from the top of the cut.

5. Natural ground slope of the disposal area should not exceed 20 percent.

6. For new land divisions, lot sizes less than one acre should not be permitted.

VIII.D.3.b. SYSTEM DESIGN

On-site systems should be designed according to the following recommendations:

1. Septic tanks should be designed to remove nearly 100 percent of settleable solids and should provide a high degree of anaerobic decomposition of colloidal and soluble organic solids.

2. Tank design must allow access for inspection and cleaning. The septic tank must be accessible for pumping.

3. If curtain drains discharge diverted ground water to subsurface soils, the upslope separation from a leachfield or pit should be 20 feet and the downslope separation should be 50 feet.

4. Leachfield application rate should not exceed the following:

Percolation Rate min./in	Loading Rate g.p.d./sq.ft.
1 - 20	0.8
21 - 30	0.6
31 - 60	0.25
61 - 120	0.10

5. Seepage pit application rate should not exceed 0.3 gpd/sq. ft.

6. Drainfield[1] design should be based only upon usable permeable soil layers.

7. The minimum design flow rate should be 375 gallons per day per dwelling unit.

8. In clayey soils, systems should be constructed to place infiltrative surfaces in more permeable horizons.

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[1] "Drainfield" refers to either a leachfield or seepage pit.

9. Distance between drainfield trenches should be at least two times the effective trench depth.[1]

10. Distance between seepage pits (nearest sidewall to sidewall) should be at least 20 feet.

11. Dual disposal fields (200 percent of original calculated disposal area) are recommended.

12. For commercial systems, small institutions, or sanitary industrial systems, design should be based on daily peak flow.

13. For commercial and institutional systems, pretreatment may be necessary if wastewater is significantly different from domestic wastewater.

14. Commercial systems, institutional systems, or domestic industrial systems should reserve an expansion area (i.e. dual drainfields must be installed and area for replacement of drainfield must be provided) to be set aside and protected from all uses except future drainfield repair and replacement.

15. Nutrient and heavy metal removal should be facilitated by planting ground cover vegetation over shallow subsurface drainfields. The plants must have the following characteristics: (1) evergreen, (2) shallow root systems, (3) numerous leaves, (4) salt resistant, (5) ability to grow in soggy soils, and (6) low or no maintenance. Plants downstream of leaching area may also be effective in nutrient removal.

VIII.D.3.c. DESIGN FOR ENGINEERED SYSTEMS

1. Mound systems should be installed in accordance with criteria contained in Guidelines for Mound Systems by the State Water Resources Control Board.

2. Evapotranspiration systems should be installed in accordance with criteria contained in Guidelines for Evapotranspiration Systems by the State Water Resources Control Board. Exceptions are:

   a. For evapotranspiration systems, each month of the highest precipitation year and lowest evaporation year within the previous ten years of record should be used for design.

   b. Systems shall be designed by a registered civil engineer competent in sanitary engineering.

VIII.D.3.d. CONSTRUCTION

Water quality problems resulting from improper construction can be reduced by following these practices:

1. Subsurface disposal systems should have a slightly sloped finished grade to promote surface runoff.

2. Work should be scheduled only when infiltrative surfaces can be covered in one day to minimize windblown silt or rain clogging the soil.

3. In clayey soils, work should be done only when soil moisture content is low to avoid smeared infiltrative surfaces.

4. Bottom and sidewall areas should be left with a rough surface. Any smeared or compacted surfaces should be removed.

5. Bottom of trenches or beds should be level throughout to prevent localized overloading.

6. Two inches of coarse sand should be placed on the bottom of trenches to prevent compacting soil when leachrock is dumped into drainfields. Fine sand should not be used as it may lead to system failure.

7. Surface runoff should be diverted around open trenches/ pits to limit siltation of bottom area.

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[1] "Effective trench depth" means depth below the bottom of the trench pipe.

8. Prior to backfilling, the distribution system should be tested to check the hydraulic loading pattern.

9. Properly constructed distribution boxes or junction fittings should be installed to maintain equal flow to each trench. Distribution boxes should be placed with extreme care outside the leaching area to insure settling does not occur.

10. Risers to the ground surface and manholes should be installed over the septic tank inspection ports and access ports.

11. Drainfield should include an inspection pipe to check water level.

Additional construction precautions are discussed within the Environmental Protection Agency's Design Manual: On-Site Wastewater Treatment and Disposal Systems.

VIII.D.3.e. INDIVIDUAL SYSTEM MAINTENANCE

Individual septic tanks should be maintained as follows:

1. Septic tanks should be inspected every two to five years to determine the need for pumping. If garbage grinders or dishwashers discharge into the septic tank, inspection should occur at least every two years.

2. Septic tanks should be pumped whenever: (1) the scum layer is within three inches of the outlet device; or (2) the sludge level is within eight inches of the bottom of the outlet device.

3. Drainfields should be alternated when drainfield inspection pipes reveal a high water level.

4. Disposal of septage (solid residue pumped from septic tanks) should be accomplished in a manner acceptable to the Executive Officer. In some areas, disposal may be to either a Class I or Class II solid waste site; in others, septage may be discharged to a municipal wastewater treatment facility.

VIII.D.3.f. COMMUNITY SYSTEM DESIGN

Community systems should be designed and maintained to accommodate the following items:

1. Capacities should accommodate build-out population.

2. Design should be based upon peak daily flow estimates.

3. Design should consider contributions from infiltration throughout the collection system.

4. Septic tanks should be pumped when sludge and scum levels are greater than 1/3 of the depth of the first compartment.

5. Operation and maintenance should be in accordance with accepted sanitary practice.

6. Maintenance manuals should be provided to system users and maintenance personnel.

7. Discharge should not exceed 40 grams per day total nitrogen, on the average, per acre of total development overlying ground water recharge areas, unless local governing jurisdictions adopt Wastewater Management Plans subsequently approved by the Regional Board.

VIII.D.3.g. LOCAL AGENCIES

Recommendations for local governing jurisdictions:

1. Adopt a standard percolation test procedure.

   The California State Water Resources Control Board Guidelines for Evapotranspiration Systems provides a percolation test method recommended for use to standardize test

results. A twelve-inch diameter percolation test hole may be used.

2. Percolation tests should be continued until a stabilized rate is obtained.

3. Percolation test holes should be drilled with a hand auger. A hole could be hand augered or dug with hand tools at the bottom of a larger excavation made by a backhoe.

4. Percolation tests should be performed at a depth corresponding to the bottom of the subsurface disposal area.

5. Seepage pits should be utilized only after careful consideration of site suitability. Soil borings or excavations should be inspected either by permitting agency or individual under contract to the permitting agency.

6. Approve permit applications after checking plans for erosion control measures.

7. Inspect systems prior to covering to assure proper construction.

8. Require replacements or repairs to failing systems to be in conformance with Basin Plan recommendations, to the extent practicable.

9. For new land divisions, protect on-site disposal systems and expansion areas from encroachment by provisions in covenants, conditions, and restrictions.

10. Inform property buyers of the existence, location, operation, and maintenance of on-site disposal systems. Prospective home or property buyers should also be informed of any enforcement action (e.g. Basin Plan prohibitions) through the County Record.

11. Conduct public education programs to provide property owners with operation and maintenance guidelines.

12. Alternative system owners shall be provided an informational maintenance or replacement document by the appropriate governing jurisdiction. This document shall cite homeowner procedures to ensure maintenance, repair, or replacement of critical items within 48 hours following failure.

13. Where appropriate, septic tank systems should be maintained by local septic tank maintenance districts.

14. Wastewater Management Plans should be prepared and implemented for urbanizing and high density areas, including applicable portions of San Martin, San Lorenzo Valley, Carmel Valley, Carmel Highland, Prunedale, El Toro, Shandon, Templeton, Santa Margarita/Garden Farms, Los Osos/Baywood Park, Arroyo Grande, Nipomo, upper Santa Ynez Valley, and Los Olivos/Ballard.

15. Ordinances should be updated to reflect Basin Plan criteria.

VIII.D.3.h. ADDITIONAL CONSIDERATIONS

1. Water conservation and solids reduction practices are recommended. Garbage grinders should not be used in homes with septic tanks.

2. Metering and water use costs should be used to encourage water conservation.

3. Grease and oil should not be introduced into the system. Bleach, solvents, fungicides, and any other toxic material should not be poured into the system.

4. Reverse osmosis unit blow-down should not be discharged to on-site wastewater treatment systems overlying usable ground water. Off-site (factory regeneration) practices are recommended for water softeners.

5. If on-site water softener regeneration is necessary, minimum salt use in water softeners is recommended. This can be accomplished by minimizing regeneration time or limiting the number of regeneration cycles.

VIII.D.3.i. INDIVIDUAL, ALTERNATIVE AND COMMUNITY SYSTEMS PROHIBITIONS

Discharges from new soil absorption systems installed after September 16, 1983 in sites with any of the following conditions are prohibited:

1. Soils or formations contain continuous channels, cracks, or fractures.[1]

2. For seepage pits, soils or formations containing 60 percent or greater clay (a soil particle less than two microns in size) unless parcel size is at least two acres.

3. Distances between trench bottom and usable ground water, including perched ground water, less than separation specified by appropriate percolation rate:

Percolation Rate, min/in	Distance, ft
<1	50[1]
1-4	20[1]
5-29	8
>30	5

4. For seepage pits, distances between pit bottom and usable ground water, including perched ground water, less than separation specified by appropriate soil type:

Soil	Distance,ft.
Gravels[2]	50[1]
Gravels with few fines[3]	20[1]
Other	10

5. Distances between trench/pit bottom and bedrock or other impervious layer less than ten feet.

6. For leachfields, where percolation rates are slower than 120 min/in, unless parcel size is at least two acres.

7. For leachfields, where soil percolation rates are slower than 60 min./in. unless the effluent application rate is 0.1 gpd/ft^2 or less.

8. Areas subject to inundation from a ten-year flood.

9. Natural ground slope of the disposal area exceeds 30 percent.

10. Setback distances less than:

	Minimum Setback Distance, ft
Domestic water supply wells in unconfined aquifer	100
Watercourse[4] where geologic conditions permit water migration	100
Reservoir[5] spillway elevation	200
Springs, natural or any part of man-made spring	100

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[1] Unless a set-back distance of at least 250 feet to any domestic water supply well or surface water is assured.

[2] Gravels - Soils with over 95 percent by weight coarser than a No. 200 sieve and over half of the coarse fraction larger than a No. 4 sieve.

[3] Gravels with few fines - Soils with 90 percent to 94 percent coarse fraction larger than a No. 4 sieve.

[4] Watercourse - (1) A natural or artificial channel for passage of water. (2) A running stream of water. (3) A natural stream fed from permanent or natural sources, including rivers, creeks, runs, and rivulets. There must be a stream, usually flowing in a particular direction (though it need not flow continuously) in a definite channel, having a bed or banks and usually discharging into some stream or body of water.

[5] Reservoir-A pond, lake, tank, basin, or other space either natural or created in whole or in part by the building of engineering structures, which is used for storage, regulation, and control of water, recreation, power, flood control, or drinking.

11. While new septic tank systems should generally be limited to new divisions of land having a minimum parcel size of one acre, where soil and other physical constraints are particularly favorable, parcel size shall not be less than one-half acre.

12. Within a reservoir[1] watershed where the density for each land division is less than 2.5 acres for areas without approved Wastewater Management Plans.

13. For individual systems on new land divisions, and commercial, institutional, and sanitary industrial systems without an area set aside for dual leachfields (100 percent replacement area).

14. Commercial, institutional, or sanitary industrial systems not basing design on daily peak flow estimate.

15. Any site unable to maintain subsurface disposal.

16. Any subdivision unless the subdivider clearly demonstrates the use of the system will be in the best public interest, that beneficial water uses will not be adversely affected, and compliance with all Basin Plan prohibitions is demonstrated.

17. Lot sizes, dwelling densities or site conditions causing detrimental impacts to water quality.

18. Any area where continued use of on-site systems constitutes a public health hazard, an existing or threatened condition of water pollution, or nuisance.

Discharges from new community subsurface disposal systems (serving more than five parcels or more than five dwelling units) are prohibited unless:

1. Seepage pits have at least 15 vertical feet between pit bottom and highest usable ground water, including perched ground water.

2. Sewerage facilities are operated by a public agency. (If a demonstration is made to the Regional Board that an existing public agency is unavailable and formation of a new public agency is unreasonable, a private entity with adequate financial, legal,and institutional resources to assume responsibility for waste discharges may be acceptable).

3. Dual disposal systems are installed (200 percent of total of original calculated disposal area).

4. An expansion area is included for replacement of the original system (300 percent total).

5. Community systems provide duplicate individual equipment components for components subject to failure.

6. Discharge does not exceed 40 grams per day of total nitrogen, on the average, per 1/2 acre of total development overlying ground water recharge areas excepting where a local governing jurisdiction has adopted a Wastewater Management Plan subsequently approved by the Regional Board.

In order to achieve water quality objectives, protect present and future beneficial water uses, protect public health, and prevent nuisance, discharges are prohibited in the following areas:

1. Discharges from individual sewage disposal systems are prohibited in portions of the community of Nipomo, San Luis Obispo County, which are particularly described in Appendix A-27.

2. Discharges from individual sewage disposal systems within the San Lorenzo Valley north of Henry Cowell State Park shall be managed as follows:

   a. Discharges within five major communities are prohibited where the affected area (Class I Area) is defined by the Santa Cruz County Assessor's Parcel Numbers as described in Appendix A-28.

[1] Reservoir-A pond, lake, tank, basin, or other space either natural or created in whole or in part by the building of engineering structures, which is used for storage, regulation, and control of water, recreation, power, flood control, or drinking.

b. To preclude prohibition of discharges outside the Class I Area, the County of Santa Cruz shall act as lead agency in coordinating and establishing a program that will assure the Regional Board that:

- additional systems in these areas will be designed, sized, located, spaced, and constructed in a manner that will protect water quality, protect beneficial uses of water, and prevent nuisance, pollution, and contamination.

- existing systems within specific communities are systematically evaluated and redesigned, resized, relocated, and reconstructed as appropriate to protect and enhance water quality, protect and restore beneficial uses of water, and abate and prevent nuisance, pollution and contamination, where the specific communities (Class II Area) are defined by the Santa Cruz County Assessor's Parcel Numbers as described in Appendix A-29.

- systems within the Class II Area are regularly inspected and maintained in a manner that will protect water quality, protect beneficial uses of water, and prevent nuisance, pollution, and contamination.

3. Discharges from individual and community sewage disposal systems are prohibited effective November 1, 1988, in the Los Osos/Baywood Park area depicted in the Prohibition Boundary Map included as Attachment "A" of Resolution No. 83-13 which can be found in Appendix A-30.

VIII.3.j. SUBSURFACE DISPOSAL EXEMPTIONS

The Regional Board or Executive Officer may grant exemption to prohibitions for: (1) engineered new on- site disposal systems for sites unsuitable for standard systems; and (2) new or existing on-site systems within the specific prohibition areas cited above. Such exemptions may be granted only after presentation by the discharger of sufficient justification, including geologic and hydrologic evidence that the continued operation of such system(s) in a particular area will not individually or collectively, directly or indirectly, result in pollution or nuisance, or affect water quality adversely.

Individual, alternative, and community systems shall not be approved for any area where it appears that the total discharge of leachate to the geological system, under fully developed conditions, will cause: (1) damage to public or private property; (2) ground or surface water degradation; (3) nuisance condition; or, (4) a public health hazard. Interim use of septic tank systems may be permitted where alternate parcels are held in reserve until sewer systems are available.

Requests for exemptions will not be considered until the local entity has reviewed the system and submitted the proposal for Regional Board review. Dischargers requesting exemptions must submit a Report of Waste Discharge. Exemptions will be subject to filing fees as established by the State Water Code.

Engineered systems shall be designed only by registered engineers competent in sanitary engineering. Engineers should be responsible for proper system operation. Engineers should be responsible for educating system users of proper operation and maintenance. Maintenance schedules should be established. Engineered systems should be inspected by designer during installation to insure conformance with approved plans.

Some engineered systems may be considered experimental by the Regional Board. Experimental systems will be handled with caution. A trial period of at least one year should be established whereby proper system operation must be demonstrated. Under such an approach, experimental systems are granted a one year conditional approval.

Further information concerning individual, alternative, or community on-site sewage disposal systems can be found in Chapter 5 in the Management Principals and Control Actions sections. State Water Resources Control Board Plans and Policies, Discharge Prohibitions, and Regional Board Policies may also apply depending on individual circumstances.

VIII.E. LAND DISTURBANCE ACTIVITIES

Construction, mining, and other soil disturbance activities which may disturb or expose soil or otherwise increase susceptibility of land areas to erosion are difficult to regulate effectively. Construction or timber harvesting may often begin and end with no obvious impairment of stream quality; however, erosion or land slides the following winter may be directly related to earlier land disturbance or tree cutting. Mining and quarrying activities are generally longer in duration.

Under contract with the Regional Board, the California Association of Resource Conservation Districts completed a study entitled, "Erosion and Sediment in California Central Coast Watersheds - A study of Best Management Practices" (Erosion Study), dated June, 1979. This Erosion Study, funded under Section 208 of the Clean Water Act, assesses impacts of erosion and sedimentation on water quality and beneficial uses in nondesignated planning areas (San Benito, San Luis Obispo, and Santa Barbara Counties) of the Central Coast Region. This Erosion Study and supporting documents have been used by the Regional Board in developing erosion and sedimentation control policy.

Nonpoint source pollution in the remainder of the Region is addressed by designated planning agencies through their respective Areawide Waste Treatment Management Plans. Designated agencies and the areas affected within this Region include: Association of Bay Area Governments (portions of San Mateo and Santa Clara Counties), Association of Monterey Bay Area Governments (Santa Cruz and Monterey Counties), and Ventura County Board of Supervisors (portion of Ventura County). The policy herein described is compatible with those plans and is within the scope of the Regional Board authority.

The Erosion Study and Areawide Waste Treatment Management Plans identify examples of accelerated erosion resulting from insufficient land management of soil cultivation, grazing, silvaculture, construction, and off-road vehicle activities, as well as wildfires. Adverse impacts of sediment are identified, in part, as: impairment of water supplies and ground water recharge, siltation of streams and reservoirs, impairment of navigable waters, loss of fish and wildlife habitat, degradation of recreational waters, transport of pathogens and toxic substances, increased flooding, increased soil loss, and increased costs associated with maintenance and operation of water storage and transport facilities. Recommendations based on conclusions of the Erosion Study and practices recommended in Areawide Waste Treatment Management Plans are a means to reduce unnecessary soil loss due to erosion and to minimize adverse water quality impacts resulting from sediment.

When a practice or combination of practices is found to be the most effective, practical (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with water quality goals, it is designated a Best Management Practice (BMP). BMPs are determined only after problem assessment, examination of alternative practices, and appropriate public participation in the BMP development process.

General recommendations based on conclusions of the Erosion Study are discussed below. These recommendations are considered to be Best Management Practices (BMPs) by the Regional Board as are the areawide approved water quality management plans.

1. Soil conservation control measures should be used to minimize impacts that would otherwise result from soil erosion. Control measures are identified according to systems, which are then broken down into subsystems of erosion control techniques or component measures.

   For example, a system for control of erosion from construction sites would identify component measures such as debris basins, access roads, hillside ditches, etc. Other conservation control systems include: conservation cropping, conservation irrigation, roadside erosion control, critical area treatment, diversions and ditches, grade stabilization, pasture and range management, runoff and sediment control ponds and basins, streambank and channel protection, and watershed, wildlife, and recreation land

improvement. These control measures are comparable to the USDA Soil Conservation Services' Resource Management Subsystem approach as referenced in AMBAG's "Water Quality Management Plan for the Monterey Bay Region," dated July 1978, and in ABAG's, "Handbook of Best Management Practices," dated October 1977.

Experience has shown that no one control measure best solves an existing, or prevents a potential, pollution problem - especially in the area of soil erosion and sedimentation. As land use, the land user, and various situations change, so does the need for control measures. Before application, an on-site investigation with the land user is necessary to determine which practice or set of practices will be most effective and acceptable.

2. Erosion control should be implemented in a reasonable manner with as much implementation responsibility remaining with existing local entities and programs as is possible and consistent with water quality goals.

3. The Regional Board and local units of government should establish a clear policy for control of erosion, including consideration of off-site and cumulative impacts and the imposition of performance standards according to the sensitivity of the area where land is to be disturbed.

4. Effective ordinances and regulatory programs should be adopted by local units of government. Effective programs would allow only land disturbance actions consistent with the waste load capacity of the watershed, require preparation of erosion and sediment control plans with specific contents and with attention to both offsite/on-site impacts, identify performance standards, be at least comparable to the model ordinance in the "Erosion and Sediment Control Handbook," dated May 1978, and have provisions for inspection follow-up, enforcement, and referral.

5. Watersheds with critical erosion and sediment problems should be identified by one or more concerned agencies such as the California Department of Fish and Game, the Regional Board, the local Environmental Health, Planning, or Engineering Departments, the local Flood Control District, or the local Resource Conservation District, and then referred to the remaining agencies by a designated local coordinating agency for determining the scope, nature, and significance of the identified problem. The designated local agency would evaluate the adequacy and appropriateness of the total assessment, including an assessment of the problem and causes, alternatives considered, recommended interim and permanent control measures, and the amount and sources of funding. The evaluation would then be submitted as an Impact Findings Report for consideration and decision by the local governing body.

6. Comprehensive and continuous training should be mandatory for building and grading inspectors, engineers, and planners involved in approving, designing, or inspecting erosion control plans and on-site control measures. The training program would preferably be conducted on an inter-county/agency basis and be administered through a USDA Soil Conservation Service cooperative training arrangement or through seminars conducted by the USDA Soil Conservation Service and the University of California Cooperative Extension seminars. The Soil Conservation Society of America should be requested to assist in establishing an effective training program, including public education to heighten awareness of the adverse affects of erosion and sediment on soil and water resources.

7. More intensive erosion controls should be considered within four watersheds (Lauro Reservoir and Devereaux Ranch Slough in Santa Barbara County and Pismo Lake and Morro Bay in San Luis Obispo County) with apparent critical erosion and sediment problems. Alternative practices that may be implemented to effect the necessary level of control are assigned a relative priority.

VIII.E.1. LAND DISTURBANCE PROHIBITIONS

The discharge or threatened discharge of soil, silt, bark, slash, sawdust, or other organic and earthen materials into any stream in the basin in violation of best management practices for timber harvesting, construction, and other soil disturbance activities and in quantities deleterious to fish, wildlife, and other beneficial uses is prohibited.

The placing or disposal of soil, silt, bark, slash, sawdust, or other organic and earthen materials from timber harvesting, construction, and other soil disturbance activities at locations above the anticipated high water line of any stream in the basin where they may be washed into said waters by rainfall or runoff in quantities deleterious to fish, wildlife, and other beneficial uses is prohibited.

Soil disturbance activities not exempted pursuant to Regional Board Management Principles contained in Chapter Five are prohibited:

1. In geologically unstable areas,

2. On slopes in excess of thirty percent (excluding agricultural activities), and

3. On soils rated a severe erosion hazard by soil specialists (as recognized by the Executive Officer) where water quality may be adversely impacted;

Unless,

a. In the case of agriculture, operations comply with a Farm Conservation or Farm Management Plan approved by a Resource Conservation District or the USDA Soil Conservation Service;

b. In the case of construction and land development, an erosion and sediment control plan or its equivalent (e.g., EIR, local ordinance) prescribes best management practices to minimize erosion during the activity, and the plan is certified or approved, and will be enforced by a local unit of government through persons trained in erosion control techniques; or,

c. There is no threat to downstream beneficial uses of water, as certified by the Executive Officer of the Regional Board.

VIII.E.2. CONSTRUCTION ACTIVITIES

Road construction is often a cause of water quality impairment; all too often roads are located near streams, estuaries, or ocean waters where side fills may be eroded by flood waters. Construction within stream beds will inevitably cause turbidity; however, the timing of such activities should be established with reference to environmental sensitivity factors such as fish migrations, spawning or hatching, and minimum stream flow conditions. Sediment loads can be reduced by proper timing, bank and channel protection, and use of settling ponds to catch silt.

Construction debris should not be left in the flood plain; revegetation of cuts and fills should be encouraged. California Department of Transportation (CALTRANS) has prepared a document entitled "Best Management Practices for Control of Water Pollution (Transportation Activities)," that sets forth procedures used by CALTRANS to address transportation activities which might impact water quality. These procedures are summarized under "Control Actions" in the Plans and Policies chapter. Past and potential impacts from CALTRANS activities may result from the above problems and may include impacts resulting from questionable maintenance practices, chemical spills, and discharges of silt and cement.

Land development projects in sensitive areas should be scheduled so as to minimize the areal extent of land exposed to erosive forces. Where water quality impairment is likely, permits should be issued by the Regional Water Quality Control Board which will insure against water quality degradation. Cooperation of local approving agencies should be obtained in order that approvals of significant subdivisions in environmentally sensitive areas, particularly the upper reaches of watersheds and lands near riparian habitats, are appropriately conditioned. For example, proposed subdivisions of

50 lots or more in such areas should be (1) covered by environmental impact reports on the development and its impact on waste loads and water quality, (2) be in conformance with regional or county master plans, and (3) include provisions for establishment of a public agency responsible for environmental monitoring and maintenance where such subdivisions are outside other appropriate public jurisdictions.

VIII.E.3. MINING ACTIVITIES

Pollution control at the hundreds of inactive mine sites riddling the Coast Ranges is in its infancy. Accurate regional inventories are being compiled, isolated mine cases are addressed individually, and several polluting mines are under direct regulation. Regional Board assistance and consultation are aiding several proactive responsible parties and focused study of inactive mine effects on four Central Coast watersheds has been funded by the Clean Water Act, Water Quality Planning Program.

About a decade ago Toxic Substances Monitoring Program data revealed elevated mercury concentrations in Lake Nacimiento, a high priority municipal and agricultural water storage reservoir in San Luis Obispo County. The Lake is fed by the Las Tablas Creek system (among others), which receives discharge water from the Buena Vista Mine, a mercury mine inactive since 1970 or 1971. An academic study (conducted by respected Cal Poly scientists -- team leader, Dr. Thomas J. Rice) of Lake Nacimiento mercury sources recently concluded up to 78% of the fluvial mercury transport to the Lake is contributed by the Las Tablas Creek system. Further, the inactive Buena Vista and Klau Mines were identified as the primary point sources of Las Tablas Creek mercury. Based on these conclusions and other independent supporting data, the Regional Board on May 14, 1993, adopted four orders requiring strict implementation of NPDES surface water discharge standards and California Code of Regulations Title 23 mine waste management and mine closure standards at the Buena Vista Mine and the adjacent Klau Mine.

The U. S. Bureau of Land Management and Forest Service are addressing several inactive mercury mines on their properties pursuant to the federal "Superfund" process. Sample analyses data generated by Regional Board staff have been instrumental in aiding these investigations.

Two sequential studies of inactive mines in four watersheds of northwest San Luis Obispo County are underway. Funded partially by the Clean Water Act Water Quality Planning Program, the studies address all inactive mines in the Las Tablas Creek, Santa Rosa Creek, San Simeon Creek (all primarily mercury mines), and Chorro Creek (primarily chromium) watersheds. The primary goals of the watershed studies are:

- identification of all inactive mines
- attribution of specific water quality problems to specific mines, and
- determinations of the best methods of abating contaminant sources and remediating already emplaced surface contamination, based on field and possibly lab experiments.

These are considered pilot studies and the Regional Board ultimately plans to conduct such studies for the complete Region and to implement the findings, resulting in abatement of inactive mines as surface and ground water contaminant sources and remediation of contaminated media.

VIII.E.4. TIMBER HARVESTING ACTIVITIES

The Regional Board has regulatory responsibility to prevent adverse water quality impacts from timber harvest activities. Impacts usually consist of temperature, turbidity, and siltation effects caused by logging and associated activities. These can have deleterious impacts on fish and water flow.

Sensitivity of all watercourses, lakes, estuaries, or ocean waters in the basin to timber harvesting operations should be identified following rigorous

analysis of geological, pedological, hydrological, and biological data as confirmed by field inspections. Relative sensitivity could then be portrayed on a large map. The sensitivity would also reflect beneficial uses which are not directly associated with ecological systems.

Upon receiving a timber harvest plan, the Regional Board staff could locate the operation on the sensitivity map and determine the relative risk involved. This information could enable the board to better evaluate the proposed method of operation and the adequacy of proposed mitigation actions or other special considerations. The success of this process depends upon the degree of cooperation provided by the Department of Forestry. Timber harvest plans must contain sufficient detail for evaluation, and the Regional Board must be allowed an ample amount of time for review before start of timber harvesting operations.

The timber yarding and road building methods used at each operation is a function of the terrain, soils, species and other timber considerations including economics. The aforementioned are usually compatible with water quality management, but in cases where water quality may be degraded, mitigating measures to preserve the character and quality of the water course must be taken. Since the Department of Forestry is familiar with the limitations and relative degradation potential of the various harvest methods, it has the lead role in incorporating necessary mitigation measures into the permits and seeing that they are enforced.

The Department of Forestry administers provisions of the Z'berg-Nejedly Forest Practice Act of 1973. The Act provides an opportunity for Regional Boards involved with timber harvesting activities to participate on the Timber Harvest Plan permit process review team. A 1987 Clean Water Act amendment requires States to implement Water Quality Management Plans to control nonpoint sources of pollution, including silviculture. As part of that directive, the State Board has executed a Management Agency Agreement (MAA) with the Board of Forestry and Department of Forestry. It provides a better opportunity for water quality concerns to be incorporated into timber harvesting practices and regulations.

Several possibilities exist to deal with negligent or incompetent operators. The Department of Forestry can revoke the Registered Professional Foresters or Licensed Timber Operator's License. The Regional Board can also implement enforcement action. While these actions can be necessary and effective, they are after-the-fact methods rather than for deterring roles. Thus, the major emphasis must be placed on control measures rather than enforcement actions.

VIII.E.5. AGENCY ACTIVITIES

To insure that impacts on water quality from nonpoint sources of pollution are held to a minimum and that goals and management principles of the Regional Board are met, water quality management programs for implementation by land managing agencies have been developed through the areawide planning process. For nonpoint sources of pollution, this required identification of Best Management Practices (BMP's).

Within the Central Coast Region, federal and State agencies control substantial portions of land. All retain their own land management programs, but are required by regulation to cooperate and give support to State planning agencies in formulating and implementing water quality management plans. Federal law also directs federal agencies to comply with requirements formulated to meet the objectives of the federal act.

Practices and procedures in the U. S. Forest Service's, U. S. Bureau of Land Management's (BLM's) and California Department of Transportation's (CALTRANS') 208 reports described below constitute proper management for water quality protection and are considered BMP's. Further, these agencies have expressed a willingness and capability to implement practices and to revise practices which are currently inadequate. Management agency agreements have been prepared between the State Board and each of these agencies which designates the Forest Service, the BLM, and CALTRANS as management agencies responsible for implementing BMPs for water quality protection on lands under the control of each of

these respective agencies. The management agency agreement further provides for State/Regional Board working relationships with each agency and establishes a mechanism by which the State and Regional Boards will, on a continuing basis and in conjunction with each of these agencies, identify and address water quality management issues of concern to all parties.

The management agency agreements, as approved by the State Water Resources Control Board and each of the agencies, are a part of this Water Quality Control Plan by reference. Management agency agreements will be reviewed and updated periodically to reflect recent achievements, new information, and new concerns.

VIII.E.5.a. UNITED STATES FOREST SERVICE

The United States Forest Service has prepared a report entitled, "Water Quality Management Plan for the National Forest Systems Lands Within the Non-designated Planning Areas of California," dated April, 1979. The report assesses water quality problems, evaluates current practices, and sets forth procedures used by the Forest Service to address activities that might affect water quality. About 72 percent of Los Padres National Forest (which encompasses 1,964,408 gross acres) is within the Central Coast Region. Water and watershed protection were the chief reasons the forest was established. Approximately 1.5 million acre feet of water per year are used by people living adjacent to the forest for domestic and agricultural purposes. Less than five percent of the area is commercial forest land and most wood production is fuel wood sales.

A qualitative assessment of water quality problems on National Forest lands within the Central Coast Region was conducted primarily from information gathered by Forest Service and Regional Board staff. Fire management and recreation are activities with the greatest influence on water quality. Other major activities with potential impact on water quality include road construction, road maintenance, and grazing. Fire management can cause degradation from sediments, nutrients, and bacteria, but the major cause might well be off-road vehicles and misuse of unimproved roads by all vehicles. Road construction has been a source of problems along the Cuyama River. No significant affects from overgrazing or silvacultural practices were noted.

During preparation of the Forest Service's "Water Quality Management Plan for the National Forest Systems Lands Within the Nondesignated Planning Area of California," adopted April, 1979, Forest Service manuals, guidelines, regulations, etc., were reviewed for identification of those practices which are directly or indirectly for the purpose of protecting water quality. The report identifies and discusses ninety-eight such practices in eight activity categories (i.e., timber harvesting, road and building site construction, mining, recreation, vegetative manipulation, fire supervision and prescribed burning, watershed management, and grazing). Ninety-four of the practices are presented as BMPs, while four practices need improvement, and four practices need development. A course of action for improving inadequacies of current practices and for development of new practices is identified.

The practices/procedures contained in the Forest Service 208 plan are at a level of detail appropriate for all Forest Service operations statewide. These practices must be flexible to account for varying geographic conditions. The plan also includes a description of the "decision- making" process which leads to the actual selections of management solutions on a project- specific basis. There are several steps in this process at which Regional Boards can be involved and there is a public involvement program to identify and respond to concerns of interested public. The most critical point of involvement is Step 1, identification of issues, concerns, and opportunities. Once this step is completed, the need for and time of future involvement in subsequent steps can be identified.

VIII.E.5.b. UNITED STATES BUREAU OF LAND MANAGEMENT

The United States Department of the Interior, Bureau of Land Management (BLM), has management responsibility for approximately 320,000 acres within the Central Coast Region. Management

activities occurring on this land have potential for significantly affecting water quality (e.g., mining, grazing, recreation, road construction, off-road vehicles, etc.). The BLM prepared and submitted to the State a report entitled, "BLM California 208 Report." The report includes: (a) a discussion of existing or potential water quality problems on BLM lands, (b) a discussion of current BLM practices and policies including a description of the BLM planning process, (c) a description of the "decision-making process" which leads to the actual selection of management solutions on a project-specific basis, and (d) general policies.

The problem assessment identifies nonpoint sources of water pollution originating on lands administered by the BLM. Problems were qualitatively assessed by BLM with information provided primarily by Regional Board staff. Most of the identified water quality problems on BLM lands within the Central Coast Region result from recreation.

There is improper grazing management on the Temblor range in east San Luis Obispo County (BLM's Bakersfield District) that is causing sedimentation of retention structures for beneficial uses.

The process for determining management practices on a site- specific basis applies to all BLM activities and is divided into three major phases; (1) consideration of site characteristics and water quality concerns, (2) definition and application of BMP's through contract clauses, leases, stipulations, etc., and (3) evaluation of BMP effectiveness and practice modification, if necessary.

VIII.E.5.c. CALIFORNIA DEPARTMENT OF TRANSPORTATION

WATER QUALITY STUDIES

In developing control measures for CALTRANS projects, three basic types of studies are conducted for water quality protection:

1. Transportation System Planning - Emphasizes broad scale water quality problems. The focus is on regional factors such as variations in regional surface and ground water hydrology, existing water quality, and land use. Such studies are not site- specific.

2. Project Level Planning - Emphasis is on runoff associated problems (erosion and sedimentation). Detailed hydrologic and hydraulic analyses are made where warranted. Information is used in selecting project alternatives.

3. Construction - This type is usually associated with waste discharge requirements (issued by Regional Board). The intent is to monitor and control the contractor's operations.

CONSTRUCTION CONTROL

Standard specifications for water pollution control have been prepared by CALTRANS, are set forth in CALTRANS' BMP document, and are incorporated as part of project design. Where warranted, special specifications are prepared by CALTRANS on a project- by-project basis. For every project, contractors must submit a plan for water pollution control to the CALTRANS resident engineer. During the course of any construction project, operations may be temporarily halted if inadequate provision has been made for water quality protection. Remedial work may be required.

In addition to CALTRANS specifications, federal and State permits (including waste discharge requirements) are made a part of project requirements.

OPERATION AND MAINTENANCE

1. Accidental Chemical Spills - A procedural manual has been developed by each CALTRANS district to standardize cleanup procedures. CALTRANS maintenance personnel are equipped and trained to handle such situations.

2. Erosion Control - Where slopes show evidence of erosion, remedial stabilization measures must be taken. Debris is disposed of at approved disposal site.

VIII.E.5.d. OTHER AGENCIES PROGRAMS

Resource Conservation Districts (RCD's) and the U.S.D.A. Soil Conservation Service are organizations that assist property owners in applying effective conservation and land management practices. The program includes technical, educational, and planning services to property owners and local governments who request assistance. It has been relatively successful considering its voluntary nature and resource limitations. The Soil Conservation Service has a major role in the Rural Clean Water Program.

The U.S.D.A. Agricultural Stabilization and Conservation Service administers the cost-sharing aspects of the Agricultural Conservation Program, allocating available monies to farmers and ranchers for erosion and sedimentation control and water conservation projects.

Cities and Counties, as general purpose governments, have broad powers to adopt specific and general plans; to regulate land use, subdividing, grading, and private construction; and to construct and operate public works facilities. Local authority to regulate existing and potential discharges of sediment has been exercised to varying degrees throughout the region.

Many cities and counties within the coastal zone have developed Local Coastal Programs. These programs may include land use and grading restrictions designed to protect long-term productivity of soils and waters within the coastal zone. Regulation by the California Coastal Commission provides this protection where Local Coastal Programs are inadequate.

The State Department of Fish and Game promotes the protection and improvement of streams, lakes, and natural habitat areas for fish and wildlife. It also regulates stream alteration and compels cleanup of fouled streams.

CHAPTER 5. PLANS AND POLICIES

In addition to the Implementation Plan, many other plans and policies direct State and Regional Board actions or clarify the Regional Board's intent. The following pages contain brief descriptions of State Board plans and policies and numerous Regional Board plans and policies. Copies of the State and Regional Board policies are contained in the Appendix.

I. STATE WATER RESOURCES CONTROL BOARD PLANS AND POLICIES

The State Water Resources Control Board (State Board) has adopted a number of plans and policies for Statewide water quality management including:

State Policy for Water Quality Control (1972)

Anti-degradation Policy

Thermal Plan

Bays and Estuaries Policy

Power Plant Cooling Policy

Reclamation Policy

Shredder Waste Disposal Policy

Underground Storage Tank Pilot Program

Sources of Drinking Water Policy

Nonpoint Source Management Plan

Ocean Plan

Discharges of Municipal Solid Waste Policy

Should any of these policies be amended by the State Board, the Regional Board will implement the amended version.

The following sections summarize the adopted policy. The complete policy is available in the "Attachments" section of this document.

I.A. STATE POLICY FOR WATER QUALITY CONTROL

The State Board has developed a set of twelve general principles to implement the provisions and intent of the Porter-Cologne Act. These principles, listed below, are contained in a document called the State Policy for Water Quality Control, adopted on July 6, 1972.

1. Water rights and quality control decisions must assure protection of fresh and marine waters for maximum beneficial use.

2. Wastewaters must be considered a part of the total available fresh water resource.

3. Management of supplies and wastewaters shall be on a regional basis for efficient utilization of the resource.

4. Efficient wastewater management requires a balanced program of source control of hazardous substances, treatment, reuse and proper disposal of effluents and residuals.

5. Substances not amenable to removal in treatment plants must be prevented from entering the system.

6. Treatment systems must provide sufficient removals to protect beneficial uses and aquatic communities.

7. Institutional and financial programs of consolidated systems must serve each area equitably.

8. Sewerage facilities must be consolidated for long-range economic and water quality benefits.

9. Reclamation and reuse for maximum benefit shall be encouraged.

10. Systems must be designed and operated for maximum benefit from expended funds.

11. Control methods must be based on the latest information.

12. Monitoring programs must be provided.

I.B. ANTI-DEGRADATION POLICY

On October 28, 1968, the State Water Resources Control Board adopted Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California." While requiring continued maintenance of existing high quality waters, the policy provides conditions under which a change in water quality is allowable. A change must:

1. be consistent with maximum benefit to the people of the State;

2. not unreasonably affect present and anticipated beneficial uses of water; and

3. not result in water quality less than that prescribed in water quality control plans or policies.

I.C. THERMAL PLAN

The "Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California," adopted by the State Water Resources Control Board on May 18, 1972, and amended September 18, 1975, specifies water quality objectives, effluent quality limits, and discharge prohibitions related to thermal characteristics of enclosed bay and estuary waters and waste discharges.

I.D. BAYS AND ESTUARIES POLICY

The "Water Quality Control Policy for the Enclosed Bays and Estuaries of California," Resolution No. 74-43, was adopted by the State Water Resources Control Board on May 16, 1974. Commonly referred to as the "Bays and Estuaries Policy," it was adopted specifically to provide water quality principles and guidelines for the affected waters.

Decisions by the Regional Boards are required to be consistent with the provisions designed to prevent water quality degradation and to protect beneficial uses. The policy lists principles of management that include a statement of the desirability of phasing out all discharges (exclusive of cooling waters) as soon as practicable. Quality requirements state conformability with other plans and policies. Discharge prohibitions are placed on:

1. new dischargers (other than those that would enhance the receiving waters);

2. untreated waste and waste products;

3. refuse;

4. consequential effects of mining, construction, agriculture, and timber harvesting;

5. materials of petroleum origin;

6. radiological, chemical, or high-level radioactive waste; or

7. discharge or by-pass of untreated waste.

I.E. POWER PLANT COOLING POLICY

The "Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Power Plant Cooling" indicates the State Board's position on power plant cooling, specifying that fresh inland waters should be used for cooling only when other alternatives are environmentally undesirable or economically unsound.

I.F. RECLAMATION POLICY

The "Policy with Respect to Water Reclamation in California" requires the Regional Boards to conduct reclamation surveys and specifies reclamation actions to be implemented by the State and Regional Boards as well as other agencies.

I.G. SHREDDER WASTE DISPOSAL POLICY

The "Policy on the Disposal of Shredder Waste" designates specific conditions to be enforced by the Regional Board by which mechanically destructed car bodies, old appliances, or other similar castoffs can be disposed at certain landfills.

I.H. UNDERGROUND STORAGE TANK PILOT POLICY

The "Policy Regarding the Underground Storage Tank Pilot Program" implements a pilot program to fund oversight of remedial action at leaking underground storage tank sites, in cooperation with the California Department of Health Services. Over-sight may be deferred to the Regional Boards.

I.I. SOURCES OF DRINKING WATER POLICY

The "Sources of Drinking Water" policy specifies which ground and surface waters are considered to be suitable or potentially suitable for the beneficial use of water supply (MUN). It allows the Regional Board some discretion in making MUN determinations.

I.J. NONPOINT SOURCE MANAGEMENT PLAN

The "Nonpoint Source Management Plan", Resolution 88-123, was adopted by the State Water Resources Control Board on November 15, 1988 pursuant to Section 319 of the Clean Water Act. The Plan identifies nonpoint source control programs and milestones for their accomplishment. It emphasizes cooperation with

local governments and other agencies to promote the implementation of Best Management Practices and remedial projects.

I.K. OCEAN PLAN

The "Water Quality Control Plan for Ocean Waters of California," Resolution No. 90-27 was adopted by the State Water Resources Control Board on March 22, 1990. This 1990 plan establishes beneficial uses and water quality objectives for waters of the Pacific Ocean adjacent to the California Coast outside of enclosed bays, estuaries, and coastal lagoons. Also, the Ocean Plan prescribes effluent quality requirements and management principles for waste discharges and specifies certain waste discharge prohibitions.

The Ocean Plan also provides that the State Water Resources Control Board shall designate Areas of Special Biological Significance (ASBS) and requires wastes to be discharged a sufficient distance from these areas to assure maintenance of natural water quality conditions.

The State Water Resources Control Board declared its intent to periodically revise the Plan to reflect water quality objectives that are necessary to protect beneficial uses of ocean waters and to be consistent with current technology.

I.L. DISCHARGES OF MUNICIPAL SOLID WASTE POLICY

The "Policy for Regulation of Discharges of Municipal Solid Waste", Resolution No. 93-62, was adopted by the State Water Resources Control Board on June 17, 1993,. This policy implements State regulations of waste discharge to land (California Code of Regulations, Title 23, Chapter 15) and Federal Regulations related to municipal solid waste disposal (40 Code of Federal Regulations Sections 257 and 258). The policy directs Regional Water Quality Control Boards to revise or adopt, prior to the Federal deadline (currently October 9, 1993), Waste Discharge Requirements for all municipal solid waste landfills subject to State and federal regulations. A detailed description of this policy is provided in Chapter Four under the Resources Conservation and Recovery Act section.

II. RECOMMENDED STATE WATER RESOURCES CONTROL BOARD CONTROL ACTIONS

1. State policies for surface waters and for bays and estuaries should be further considered in light of the revised Ocean Plan of 1988.

2. State policies for water quality control should place increasing emphasis on water quality monitoring to determine compliance with water quality objectives in order to provide a firm basis for classification of receiving waters relative to Section 303(e) of Public Law 92-500.

3. Erosion and sedimentation control policies should be established based on (a) pilot studies conducted by the U. S. Soil Conservation Service which recommended best management practices for erosion problems, (b) a statewide study by the California Association of Resource Conservation Districts on institutional solutions to sedimentation problems, and (c) findings of erosion studies conducted in the Central Coast Region as part of nondesignated area 208 planning.

4. Land use planning relative to nonpoint pollution sources should be considered as a future activity, possibly as a multiagency effort; initial control efforts and means for effective control should be from local agencies.

5. Water quality control pro-grams should continue to include emphasis on total water management in order to permit enhancement of naturally degraded surface and ground waters.

6. The State Water Resources Control Board should consider water quality effects when reviewing water rights permits.

7. Policies affecting water rights should reinforce water quality goals particularly as related to long-term ground water salinity changes. Adjudication of degraded ground water basins should be considered as a tool for implementation of water quality goals to be utilized only if other measures fail.

8. Water supply improvements to reduce influent wastewater salinity made in the interest of total water quality management should be considered for partial eligibility for Clean Water Grants. Increased costs for grant eligibility could be in lieu of costs for wastewater effluent demineralization where such measures are required.

9. Water reclamation and reuse programs for supplementing agricultural irrigation supplies should be given increased emphasis. Grant support should be available for water short areas where such water demand can be demonstrated.

III. REGIONAL WATER QUALITY CONTROL BOARD MANAGEMENT PRINCIPLES

III.A. GENERAL

1. Land use practices should assure protection of beneficial water uses and aquatic environmental values.

2. There shall be no waste discharged into areas which possess unique or uncommon cultural, scenic, aesthetic, historical or scientific values. Such areas will be defined by the Regional Board.

3. Property owners are considered ultimately responsible for all activities and practices that could result in adverse affects on water quality from waste discharges and surface runoff.

III.B. WASTEWATER RECLAMATION

1. Water quality management systems throughout the basin shall provide for eventual wastewater reclamation, but may discharge wastes to the aquatic environment (with appropriate discharge requirements) when wastewater reclamation is precluded by processing costs or lack of demand for reusable water.

2. The number of waste sources and independent treatment facilities shall be minimized and the consolidated systems

shall maximize their capacities for wastewater reclamation, assure efficient management of, and meet potential demand for reclaimed water.

Further wastewater reclamation guidance is available in the Implementation Plan, Chapter Four.

III.C. DISCHARGE TO SURFACE WATERS

1. All discharges to the aquatic environment shall be considered temporary unless it is demonstrated that no undesirable change will occur in the natural receiving water quality.

2. The quality of all surface waters of the basin shall be such as to permit unrestricted recreational use.

3. The discharge of pollutants into surface fresh waters shall be discontinued.

III.D. MUNICIPAL AND INDUSTRIAL SEWERING ENTITIES

1. Municipal and industrial sewering entities should implement comprehensive regulations to prohibit the discharge to the sewer system of substances listed below which may be controlled at their source:

   Chlorinated hydrocarbons;

   Toxic substances;

   Harmful substances that may concentrate in food webs;

   Excessive heat ;

   Radioactive substances;

   Grease, oil, and phenolic compounds;

   Mercury or mercury compounds;

   Excessively acidic and basic substances:

   Heavy metals such as lead, copper,zinc, etc.; and

   Other known deleterious substances.

2. Sewering entities should implement comprehensive industrial waste ordinances to control the quantity and quality of organic compounds, suspended and settleable substances, dissolved solids, and all other materials which may cause overloading of the municipal waste treatment facility.

III.E. GROUND WATER

1. Ground water recharge with high quality water shall be encouraged.

2. In all ground water basins known to have an adverse salt balance, total salt content of the discharge shall not exceed that which normally results from domestic use, and control of salinity shall be required by local ordinances which effectively limit municipal and industrial contributions to the sewerage system.

3. Wastewaters percolated into the ground waters shall be of such quality at the point where they enter the ground so as to assure the continued usability of all ground waters of the basin.

III.F. INDIVIDUAL, ALTERNATIVE, AND COMMUNITY SYSTEMS

The Regional Board intends to discourage high density development on septic tank disposal systems and generally will require increased size of parcels with increasing slopes and slower percolation rates. Consideration of development will be based upon the percolation rates and engineering reports supplied. In any questionable situation, engineer-designed systems will be required.

Further information concerning on-site systems can be found in Chapter Four.

III.G. EROSION AND SEDIMENTATION CONTROL

1. General recommendations for erosion control, numbered one through six under "Land Disturbance Activities" in the Implementation Plan, Chapter Four, are considered by the Regional Board to be Best Management Practices (BMP's), as are those BMP's identified in approved areawide Water Quality Management Plans.

2. Local units of government should have the lead role in controlling land use activities that cause erosion and may, as necessary, impose further conditions, restrictions, or limitations on waste disposal and other activities that might degrade the quality of waters of the State.

3. In implementing BMP's through local units of government, or through State and federal agencies for lands under their control, working relationships, priorities, and time schedules will be defined in management agency agreements between the areawide waste treatment planning agency and the local management agency. Agreements will be reviewed and updated annually to reflect recent achievements, new information and new concerns.

4. Regional Board participation in sediment control programs shall include assistance in the establishment of local control programs, participation in the determination of water quality problems, and a cooperative program evaluation with local units of government. Regional Board enforcement authority will be exercised where local volunteer programs fail to correct sediment problems within a reasonable period.

5. Emergency projects undertaken or approved by a public agency and necessary to prevent or mitigate loss of, or damage to, life, health, property, or essential public services from an unexpected occurrence involving a clear and imminent danger are exempt from this chapter providing such exemption is in the public interest.

6. Regulation of sediment discharges from routine annual agricultural operations, such as tilling, grazing, and land grading and from construction of agricultural buildings is waived except where such activity is causing severe erosion and causing, or threatening to cause, a pollution or nuisance.

7. Regulation of discharges from State and federal lands managed by agencies operating in accordance with approved management agency agreements is waived except where such activity is causing, or threatening to cause, a pollution or nuisance.

"Control Actions" and "Actions by Other Authorities" in this chapter and the Implementation Plan, Chapter Four, contain further information regarding erosion and sedimentation control.

IV. DISCHARGE PROHIBITIONS

Due to unique cultural, scenic, aesthetic, historical, scientific, and ecological values of the Central Coastal Basin, and the necessity to protect the public health and the desire to achieve water quality objectives, the Regional Water Quality Control Board has established certain discharge prohibitions.

IV.A. ALL WATERS

Waste discharges shall not contain materials in concentrations which are hazardous to human, plant, animal, or aquatic life.

The discharge of oil or any residual products of petroleum to the waters of the State, except in accordance with waste discharge requirements or other provisions of Division 7 of the California Water Code, is prohibited.

Discharge of elevated temperature wastes into COLD intrastate waters is prohibited where it may cause the natural temperature of the receiving water to exceed limits specified in Chapter Three, Water Quality Objectives.

IV.A.1. TOXIC OR HAZARDOUS POLLUTANTS

Discharge of toxic or hazardous material that violates: 1) the toxicity objective for all waters as designated in the Ocean Plan [See Appendix A-5] and Objectives for All Inland Surface Waters, Enclosed Bays, and Estuaries [See Chapter Three], or 2) Proposition 65 limitations for municipal/domestic water supply waters is prohibited.

Discharge to publicly owned treatment works is prohibited in concentrations that:

1. Exceeds applicable federal pretreatment standards;
2. Endangers safe and continuous operation of wastewater treatment facilities;
3. Endangers public health and safety; and
4. Causes violation of applicable water quality objectives.

IV.B. INLAND WATERS

Wastes discharged to surface waters shall be essentially free of toxic substances, grease, oil, and phenolic compounds.

Waste discharges to the following inland waters are prohibited:

1. All surface freshwater impoundments and their immediate tributaries.
2. All surface waters within the San Lorenzo River, Aptos-Soquel, and San Antonio Creek Subbasins and all water contact recreation areas except where benefits can be realized from direct discharge of reclaimed water.
3. All deadend sloughs receiving little flushing action from land drainage or natural runoff.
4. All coastal surface streams and natural drainageways that flow directly to the ocean within the Santa Cruz Coastal, Monterey Coastal, San Luis Obispo Coastal from the Monterey County line to the northern boundary of San Luis Obispo Creek drainage, and the Santa Barbara Coastal Subbasins except where discharge is

associated with an approved wastewater reclamation program.

5. The Santa Maria River downstream from the Highway One bridge.

6. The Santa Ynez River downstream from the salt water barrier.

IV.C. WATERS SUBJECT TO TIDAL ACTION

The discharge of any radiological, chemical, or biological warfare agent or high level radioactive waste into the ocean is prohibited.

Waste discharges to the following areas are prohibited.

1. In the northern extreme of Monterey Bay, inshore from an imaginary line extending from Santa Cruz Point (36°-57.0'N, 122°-01.5'W) to the mouth of the Pajaro River (36°-51.0'N, 121°-48.6'W) and in ocean waters within a three (3) mile radius of Point Pinos (36°-38.3'N, 121°-56.0'W), excepting the area described in No. 2 below.

2. In the southern extreme of Monterey Bay, inshore from an imaginary line extending from Point Pinos (36°-38.3'N, 121°-56.0'W) to the mouth of the Salinas River (36°-44.9'N, 121°-48.3'W).

Discharges to the Monterey Bay Prohibition Zone from desalinization units and circulating seawater system discharges may be permitted after each proposal satisfies California Environmental Quality Act requirements and completes the National Pollutant Discharge Elimination System process.

IV.C.1. AREAS OF SPECIAL BIOLOGICAL SIGNIFICANCE

Discharge of waste is prohibited where it will alter natural water quality conditions in Areas of Special Biological Significance. Areas of Special Biological Significance are:

1. Ano Nuevo Point and Island, San Mateo County, including ocean waters within three (3) nautical miles offshore and defined by extensions of Cascade Creek on the north and the Santa Cruz-San Mateo County line on the south.

2. Pacific Grove Marine Gardens Fish Refuge and Hopkins Marine Life Refuge, Monterey County, including Monterey Bay waters bounded by Point Alones on the east, by Point Pinos on the west, and extending offshore to the 60-foot depth contour (about 0.7 miles).

3. Carmel Bay, Monterey County, including all bay waters enclosed by an imaginary line extending between Pescadero Point and Granite Point.

4. Point Lobos Ecological Reserve, Monterey County, including ocean waters within one-quarter (0.25) mile offshore from Granite Point southerly to the southernmost boundary of Point Lobos Reserve State Park.

5. Julia Pfeiffer Burns Underwater Park, Monterey County, including ocean waters within an area extending about one (1.0) mile offshore and about two and one-half (2.5) miles south of Partington Point.

6. Salmon Creek, Monterey County, including ocean waters within one-thousand (1000) feet or more offshore, bounded on the south by an extension of the Monterey-San Luis Obispo County line, and extending northward about three (3) miles.

7. San Miguel, Santa Rosa, and Santa Cruz Islands, Santa Barbara County, including ocean waters within about one (1) nautical mile offshore.

The discharge of municipal and industrial waste sludge and sludge digester supernatant directly to the ocean, or into a waste stream that discharges to the ocean without further treatment, is prohibited.

The bypassing of untreated waste to the ocean is prohibited.

Excepting vessel washdown waters, disposal of waste matter or untreated waste from vessel to tidal water is prohibited.

The discharge of oil or grease, from other than natural sources, which produces a visible or measurable effect to tidal waters of the basin is prohibited.

New thermal waste discharges to coastal waters, enclosed bays and estuaries having a maximum temperature greater than 4°F above the natural temperature of the receiving water are prohibited.

IV.D. GROUND WATERS

Wastes discharged to ground waters shall be free of toxic substances in excess of accepted drinking water standards; taste, odor, or color producing substances; and nitrogenous compounds in quantities which could result in a ground water nitrate concentration above 45 mg/l.

IV.E. OTHER SPECIFIC PROHIBITION SUBJECTS

Other prohibitions exist which pertain to the following topics. These prohibitions can be found under the respective heading in the Implementation Plan.

Mushroom Farms Operation Prohibitions

Individual, Alternative, and Community Sewage Disposal Systems Prohibitions

Land Disturbance Prohibitions

Solid Waste Discharge Prohibitions

IV.F. EXCEPTIONS TO BASIN PLAN REQUIREMENTS

The Regional Board may, subsequent to a public hearing, grant exceptions to any provision of this Plan where the Regional Board determines:

1. The exception will not compromise protection of waters for beneficial uses; and

2. The public interest will be served.

Regional Board exceptions will be effective upon State Board approval, unless exceptions involve surface water beneficial use designations or surface water quality objectives (i.e., federally accepted water quality standards). Such water quality standard related exceptions will also require Environmental Protection Agency approval to become effective.

V. CONTROL ACTIONS

Specific actions can be taken to control water quality. These are specified below.

V.A. WASTE DISCHARGE REQUIREMENTS

1. The Regional Water Quality Control Board will implement water quality control plan provisions through establishment or requirements and timetables for compliance with plan actions.

2. Waste discharge requirements will be established for all (operating) solid waste sites and where inactivated sites may contribute to water quality impairment.

3. Waste discharge requirements will be established for all existing oil well fields, mines, or other well fields which threaten water quality.

4. Waste discharge requirements will be established for all irrigation, feedlot, dairy, and poultry operations which are so located as to pose a clear and direct threat to water quality; such operations need not be so large as to require a permit under NPDES.

V.B. STATE CLEAN WATER GRANTS OR LOANS

1. Priorities for State Clean Water Grants or Loans will be ordered by the Regional Water Quality Control Board and provide ever increasing emphasis toward correction of basin water quality problems.

2. Water supply improvements (which encourage cost-effective water quality management) beyond normal source control measures (i.e., water supply quality enhancement by treatment or other means in lieu of effluent demineralization) will be recommended for funding.

V.C. SALT DISCHARGE

1. Emphasize control of brine disposal into public sewer systems by requiring affected dischargers to comply with normal salt increments, to adopt salt source control ordinances, and to conduct wastewater monitoring programs.

2. Minimize degradation of water during transport from points of use; minimize leakage of poor quality water during transport from salt affected areas through salt free lands to salt sinks for disposal.

3. Regulate importation of water into any basin or subbasin and regulate the reuse of waters in upstream portions of subbasins which is of poorer quality than existing or imported supplies. If such import or transport to up-slope areas for reuse is allowed, take suitable steps to mitigate short and long term adverse effects of increased salt load resulting from this recycling.

4. Increase recharge of underground water storage basins (where recharge is possible) using surplus winter or spring runoff waters.

5. Actively support measures designed to protect and to improve quality of waters imported into areas with unfavorable or poor salt balance.

6. Regulate reclamation of new lands which would contribute large quantities of salts or pollutants to water supplies.

7. Where water supplies are limited, restrict use of reclaimed waters to existing irrigated acreage rather than develop new irrigated acreage to utilize the reclaimed water.

V.D. INDIVIDUAL, ALTERNATIVE, AND COMMUNITY SEWAGE DISPOSAL SYSTEMS

Unsewered areas having high density (one acre lots or smaller) should be organized into septic tank management districts and sewerage feasibility studies should be encouraged in potential problem areas. Local implementation should be encouraged by Regional Board action.

V.E. AGENCY COORDINATION

The Regional Water Quality Control Board will initiate coordination with the appropriate Coastal Commission, as well as other State, federal, and local agencies which possess related or overlapping planning responsibilities.

V.F. ANIMAL CONFINEMENT OPERATIONS

The California Code of Regulations, Title 23, Chapter 15, Section 2601 defines a confined animal facility as "any place where cattle, calves, sheep, swine, horses, mules, goats, fowl, or other domestic animals are corralled, penned, tethered, or otherwise enclosed or held and where feeding is by means other than grazing."

1. Animal confinement facilities plus adjacent crop land under the control of the operator shall have the capacity to retain surface drainage from manure storage areas plus any washwater during a 25-year 24-hour storm.

2. Surface drainage, including water from roofed areas, shall be prevented from running through manure storage areas.

3. Animal confinement facilities, including retention ponds shall be protected from overflow to stream channels during 20-year peak stream flows for existing facilities and 100-year peak stream flows for new facilities.

4. Retention ponds shall be lined with or underlain by soils containing at least ten percent clay and not more than ten percent gravel or artificial material of equivalent impermeability.

5. Washwater and surface drainage from manure storage areas shall be contained, applied to crop lands, or discharged to treatment systems subject to approval by the Regional Water Quality Control Board.

6. Animals in confinement shall be prevented from entering any surface waters within the confined area.

7. Lands that have received animal wastes shall be managed to minimize erosion and runoff. Dry manures applied to cultivated crop lands should be incorporated into the soil soon after application.

8. Animal wastes shall be managed to prevent nuisances in manure storage areas.

9. Manure storage areas shall be managed to minimize percolation of water into underlying soils; this may be accomplished by routing drainage to impervious storage areas, land applications, relocation of existing lots and, in the case of new locations, by selecting more impervious soils for manure storage areas.

10. Animal confinement facilities shall have adequate surface drainage to prevent continuous accumulation of surface waters in corrals and feed yards; drainage should be routed to impervious storage areas or applied to land.

11. Application of manures and washwaters to crop lands shall be at rates which are reasonable for crop, soil, climate, special local situations, management system and type of manure.

12. A monitoring program may be required by the Regional Water Quality Control Board as a condition to issuance or waiver of waste discharge requirements.

Further animal confinement information can be found in Chapter Four in the Nonpoint Source Measures section under Agricultural Water and Wastewater Management.

V.G. EROSION AND SEDIMENTATION

1. Erosion from nonpoint pollution sources shall be minimized through implementation of BMP's (identified under "Management Principles" and described under "Land Disturbance Activities" in Chapter Four's "Nonpoint Source Measures" section.

2. All necessary control measures for minimizing erosion and sedimentation, whether structural or vegetal, shall be properly established prior to November 15 each year.

3. All structural and vegetal measures taken to control erosion and sedimentation shall be properly maintained.

4. A filter strip of appropriate width, and consisting of undisturbed soil and riparian vegetation or its equivalent, shall be maintained, wherever possible, between significant land disturbance activities and watercourses, lakes, bays, estuaries, marshes, and other water bodies. For construction activities, minimum width of the filter strip shall be thirty feet, wherever possible as measured along the ground surface to the highest anticipated water line.

5. Design and maintenance of erosion and sediment control structures, (e.g., debris and settling basins, drainage ditches, culverts, etc.) shall comply with accepted engineering practices.

6. Cover crops shall be established by seeding and/or mulching, or other equally effective measures, for all disturbed areas not otherwise protected from excessive erosion.

7. Land shall be developed in increments of workable size that can be completed during a single construction season. Graded slope length shall not be excessive and erosion and sediment control measures shall be coordinated with the sequence of grading, development, and construction operations.

8. Use of soil sterilants is discouraged and should be minimized.

Further erosion and sedimentation information can be found in other areas of this chapter as well as the Implementation Plan, Chapter Four, under "Land Disturbance Activities."

V.H. ACTIONS BY OTHER AUTHORITIES

V.H.1. FEDERAL AGENCIES

1. Federal agencies directly affected by the facility plans involving consolidation with other communities should comply with applicable provisions of the Basin Plan (e.g., Fort Ord on the Monterey Peninsula is shown as part of municipal wastewater sewerage consolidation plans); agency policies favoring plan recommendations are encouraged.

2. Federal agencies otherwise affected by plan provisions should signify their compliance or concern with plan recommendations; time at public hearings will be provided for this purpose.

V.H.2. ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS

The Association of Monterey Bay Area Governments (AMBAG) should coordinate with local agencies and the Regional Board relative to implementation of water quality control plans in that area.

V.H.3. SEPTIC TANK MANAGEMENT AGENCIES

1. County governments should revise septic tank ordinances to conform with basin plan recommendations and State Board guidelines.

2. Formation of septic tank management districts within existing local agencies should be accomplished in areas where directed by Regional Board action.

V.H.4. WATER MANAGEMENT AGENCIES

Conjunctive ground water-surface water management should continue to be encouraged by water management agencies, both in terms of storage and recharge operations and containment and routing of highly mineralized surface waters to prevent recharge. Examples in the Salinas Subbasin include storage of wet weather flows and recharge from a reservoir on Arroyo Seco and containment to prevent recharge of highly mineralized surface waters in streams such as Pancho Rico Creek.

V.H.5. SOLID WASTE MANAGEMENT

Preparation of solid waste management plans by all counties in the basin should be accomplished as required by the Nejedly-Z'berg-Dills Solid Waste Management and Resource Recovery Act of 1972.

V.H.6. AGRICULTURAL MANAGEMENT

Local agricultural representatives and the University of California extension service should maintain liaison with the Regional Water Quality Control Board and the State Board relative to agricultural wastewater management.

V.H.7. OFFSHORE OIL

Water quality in offshore oil lease areas should be monitored by State and federal agencies preferably by arrangements with independent oceanographic institutions.

V.H.8. SALINITY MANAGEMENT

Salt source control measures should be implemented by municipalities having excessive mineral quality in wastewaters discharged to land or inland waters; control of salinity through water supply improvements is recommended.

V.H.9. SEAWATER INTRUSION

Water Management Plans should be prepared and adopted by Monterey County for the Salinas ground water basin and the Pajaro Valley Water Management Agency for the Pajaro ground water basin. These management plans should include immediate actions these agencies can take to help alleviate seawater intrusion as well as measures to stop seawater intrusion from advancing. These agencies should remediate seawater intrusion as a long-term goal.

Local and State agencies having jurisdiction to help control seawater intrusion should assist in implementing seawater intrusion remedies.

V.H.10. EROSION AND SEDIMENTATION CONTROL

1. The federal government should increase its support of erosion and sediment control programs by increasing its technical staffs, increasing cost-share funds, increasing the availability of low-interest loans, and changing its income tax laws to encourage the use of Best Management Practices for erosion and sediment control.

2. The State of California should establish an erosion and sediment control program that includes incentives for the individual - such as cost-sharing, changes in State law that would reduce property taxes for enduring erosion and sediment control practices, and incentives through state income taxes.

3. Resource Conservation Districts within the Central Coast Region should develop management agency agreements with the Regional Board agreeing to work jointly with the Regional Board to integrate soil and water resource programs in the application of Best Management Practices to correct existing erosion and sediment problems and to prevent new problems from occurring.

4. Local units of government should improve land use plans to establish a clear policy, and shall adopt or improve ordinances to include definitive performance standards, for the control of erosion and sedimentation, including consistency with this Basin Plan and Best Management Practices identified under Regional Board "Management Principles."

5. Local units of government developing Local Coastal Programs shall establish a clear policy on erosion and sedimentation and adopt an ordinance consistent with Best Management Practices for their land areas within the Coastal Zone.

6. Resource Conservation Districts, the U.S.D.A. Soil Conservation Service, the California Department of Transportation, and the Extension Service, in conjunction with the cities and counties, should develop and carry out an erosion and sediment control training program for employees who check erosion and sediment control plans and who enforce local ordinances and regulations relating to erosion and sediment control practices.

7. Counties and cities should work with the Regional Board to identify priorities, time schedules, and limitations and to negotiate management agency agreements concerning implementation of Best Management Practices for control of erosion and sedimentation.

8. Review and assessment of erosion and sediment control plans for new land developments in those counties and cities that have signed management agency agreements with the Regional Board will be processed entirely by that county or city.

VI. REGIONAL BOARD POLICIES

Formal specific policies adopted by the Regional Board are presented below according to various categories.

VI.A. SEWERAGE FACILITIES AND SEPTIC TANKS IN URBANIZING AREAS IN THE CENTRAL COAST REGION

Resolution 69-01: Adopting Policy Statement Regarding Sewerage Facilities and Septic Tanks in Urbanizing Areas in the Central Coast Region

This policy prohibits septic tank or community systems unless particular criteria are satisfied.

VI.B. SEPTIC TANKS

1. Resolution 86-02: Acceptance of Monterey County Board of Supervisor's Ordinance Applying Development Restrictions to the Bay Hills (Bay Farms/Hillcrest) Area.

   This policy accepts Monterey County's moratorium in lieu of a Regional Board prohibition. Further, the policy requested a compliance schedule to eliminate discharge from individual sewage disposal systems and the State Water Resources Control Board is requested to rank this project Class "A" on the Clean Water Grant project priority list.

2. Resolution 87-05: Acceptance of Monterey County Board of Supervisor's Ordinance Applying Development Restrictions to the area within the San Lucas County Water District.

This policy accepts Monterey County's moratorium in lieu of a Regional Board prohibition. Further, the policy requested a compliance schedule to eliminate discharge from individual sewage disposal systems and the State Water Resources Control Board is requested to rank this project Class "A" on the Clean Water Grant project priority list.

Further information concerning on-site system development restrictions can be found in Chapter Four.

VI.C. OIL FIELD WASTES

1. a. Resolution 73-05: Adopting Policy Regarding Beneficial Use of Oil Field Waste Materials in the Santa Maria Oil Fields, Santa Barbara County

   b. Resolution 89-04: Adopting Policy Regarding Beneficial Use of Oil Field Waste Materials in the Central Coast Region

The above policies require oil field waste materials to be deposited at an appropriate and approved Class I or Class II disposal site. Other disposal sites may be used for disposal under certain conditions. Executive Officer approval is necessary for other sites. A procedure to obtain Executive Officer approval is specified.

VI.D. AREA OF SPECIAL BIOLOGICAL SIGNIFICANCE (ASBS)

Resolution 76-10: Recommendation to the State Water Resources Control Board Concerning the Designation of Terrace Point in Santa Cruz County as an Area of Special Biological Significance.

This policy recommended the State Water Resources Control Board to not designate Terrace Point as an Area of Special Biological Significance. The State Board concurred with the Regional Board in Resolution 77-21.

Further information concerning ASBS areas can be found in Chapter Two.

VI.E. LEGISLATIVE MATTERS

Resolution 78-04: Supporting Approval of the Clean Water and Water Conservation Bond Law of 1978.

This policy expressed support for Proposition Two and urged California voters to support the proposition.

VI.F. PROHIBITION ZONES

Resolution 79-06: Resolution Regarding Marina County Water District's Petition to Delete the Southern Monterey Bay Discharge Prohibition Zone from the Basin Plan.

This policy considers Marina County Water District challenge to the Southern Monterey Bay prohibition zone. This policy resolves the Southern Monterey Bay prohibition zone is appropriate.

Regional Board adopted prohibition zones for tidal waters can be found under "Waters Subject to Tidal Action" under "Discharge Prohibitions" in this chapter.

VI.G. SAN LORENZO VALLEY

Resolution 87-04: Certification of Santa Cruz County's Wastewater Management Program for the San Lorenzo River Watershed.

This policy certifies Santa Cruz County's Wastewater Management Program for the San Lorenzo Valley is adequate to satisfy the loan condition authorized by Chapter 962 of the 1986 State Statues.

VI.H. HIGHWAY GROOVING RESIDUES

Resolution 89-04: Adopting Policy Regarding Disposal of Highway Grooving Residues.

This policy specifies conditions for highway grooving residue disposal.

VI.I. WAIVER OF WASTE DISCHARGE REQUIREMENTS

Resolution 89-04: Waiver of Regulation of Specific Types of Waste Dischargers.

State law allows Regional Boards to waive waste discharge requirements (WDRs) for a specific discharge or types of discharges where it is not against the public interest (California Water Code Section 13269). These waivers are conditional and may be terminated at any time.

On April 15, 1983, the Regional Board held a public hearing regarding the types and nature of waste discharges considered for waiver. Following this hearing, the Regional Board established certain discharges which waived WDRs. The types of dischargers which may be waived are shown in the appendix.

VI.J. INTERPRETATION OF MINIMUM PARCEL SIZE REQUIREMENTS FOR ON-SITE SEWAGE SYSTEMS

This policy clarifies Regional Board minimum parcel size requirements for on-site systems contained in Chapter Four of this document.

A copy of this policy is shown in the appendix.

VI.K. APPRECIATION FOR DISCHARGER COMPLIANCE

Resolution 93-04: Appreciation for Discharger Compliance.

This policy addresses the manner in which the Regional Board will protect water quality protection and improvement at the most cost effective manner to society. A copy of the policy is shown in the appendix.

CHAPTER 6. SURVEILLANCE AND MONITORING

The effectiveness of a water quality control program cannot be judged without the information supplied by a comprehensive surveillance and monitoring program.

Historically, a wide variety of interested State, federal, and local agencies have sampled, analyzed, and tracked water quality. The State Board monitoring program coordinates existing information, gathering and supplementing it where necessary to meet data needs.

The State Board is the lead agency in California directing surveillance and monitoring of water quality. A routine program of systematic sampling of the State's waters is now in existence. The activity is coordinated through and assisted by the California Department of Water Resources (DWR) and Health Services (DOHS) as well as the United States Geologic Survey (USGS) and the Environmental Protection Agency (EPA).

This chapter contains a discussion of the objectives and various elements of the State and Regional Boards' programs.

I. PROGRAM OBJECTIVES

The overall objectives of an adequate surveillance and monitoring program are:

1. To measure the achievement of water quality goals and objectives specified in this plan.

2. To measure specific effects of water quality changes on the established beneficial uses.

3. To measure background conditions of water quality and long-term trends in water quality.

4. To locate and identify sources of water pollution that pose an acute, accumulative, and/or chronic threat to the environment.

5. To provide information needed to correlate receiving water quality to mass emissions of pollutants by waste dischargers.

6. To provide data for determining waste discharger compliance with permit conditions.

7. To measure waste loads discharged to receiving waters and to identify the limits of their effect, and in water quality segments, prepare waste load allocations necessary to achieve water quality control.

8. To provide documentation necessary to support enforcement of permit conditions and waste discharge requirements.

9. To provide data needed to carry on the continuing planning process.

10. To measure the effects of water rights decisions on water quality and to guide the State Board in its responsibility to regulate unappropriated water for the control of quality.

11. To provide a clearinghouse for the collection and dissemination of water quality data gathered by other agencies and private parties cooperating in the program.

12. To prepare reports on water quality conditions as required by federal and State regulations and other users requesting water quality data.

II. QUALITY CONTROL AND DATA MANAGEMENT

Federal regulations and State policy require the preparation and implementation of Quality Assurance/Quality Control Plans for most monitoring carried out by the Regional Board's staff or its contractors. Dischargers must use laboratories approved by the Regional Board's Executive Officer

and/or Regional Board's laboratory. The laboratory must have an approved Quality Assurance/Quality Control program.

Discharger monitoring reports are kept in the Regional Board's files; older files are microfiched. The Board has increasingly sophisticated computer facilities for analysis of data collected in special studies. "Raw" data are periodically made available to the State Board for entry into the statewide Water Quality Information System database for use by other agencies.

The results of special studies are generally summarized in the Regional Board staff reports and are discussed at public meetings of the Regional Board. The results of complaint monitoring are provided to the person or agency submitting the complaint. Copies of the Regional Board planning documents and special studies reports are provided to public and university libraries.

III. STATE WATER RESOURCES CONTROL BOARD PROGRAM TASKS

III.A. STATE-WIDE SURFACE WATER MONITORING PROGRAM

Section 13160 of the Porter-Cologne Water Quality Control Act delegates primary responsibility for coordination and control of water quality in California to the State Board. Section 13163 of the Act states that in conducting this mission, the State Board is to coordinate water quality in vestigations, recognizing that other State agencies have primary statutory responsibility for such investigations.

Pursuant to these mandates, the State Board developed and in April 1976 established a coordinated Primary Water Quality Monitoring Network for California. Participants in the Coordinated Network included the California Departments of Health, Water Resources, and Fish and Game and the United States Department of the Interior, Federal Bureau of Reclamation; the U. S. Geological Survey; and, the Environmental Protection Agency.

The goal of the Primary Network is to provide an overall, continuing assessment of water quality in the State. This goal is to be achieved by statewide monitoring of water quality parameters that can affect beneficial uses of State waters. Among such parameters, toxic substances have received increasing attention in federal and State water pollution control activities; accordingly, Toxic Substances Monitoring and the State Mussel Watch program are included in the Primary Network.

III.A.1. TOXIC SUBSTANCE MONITORING

One alternative in monitoring for toxic substances (toxic elements and organic compounds) is to collect and analyze water samples. A major problem with this approach is that toxic discharges are likely to occur in an intermittent fashion and are thus likely to be missed with "grab" sampling of the water. Another limitation to analyzing water samples is that, generally, harmful toxicants are present in low concentrations in the water. The process of bioaccumulation acts to concentrate toxicants through the aquatic food web. Therefore, in the Toxic Substances Monitoring Program the flesh of fish and other aquatic organisms is analyzed for toxic metals and synthetic organic compounds.

The Toxic Substances Monitoring (TSM) portion of the Primary Network has been integrated with other Primary Network Monitoring. Streams and lakes were ranked according to various criteria established to indicate their importance to the State in terms of water quality. From this process, the water bodies ranked Priority 1, or highest priority, were included in the Primary Network; routine chemical and biological water monitoring is performed by DWR and/or the USGS; and toxic substances monitoring of resident organisms is performed by the Department of Fish and Game.

The objectives of the Primary Network TSM program are:

1. To develop statewide baseline data and to demonstrate trends in the occurrence of toxic elements and organic substances in the aquatic biota.

2. To assess impacts of accumulated toxicants upon the usability of State waters by man.

3. To assess impacts of accumulated toxicants upon the aquatic biota.

4. Where problem concentrations of toxicants are detected, to attempt to identify sources of toxicants and to relate concentrations found in the biota to concentrations found in the water.

The samples collected in the TSM program are benthic invertebrates and predator fish. The flesh of bivalve mollusks or crayfish, tailflesh, and fish livers are analyzed for important metals, including arsenic, cadmium, chromium, copper, lead, nickel, silver, and zinc: fish flesh is analyzed for mercury. In addition, both invertebrate and fish flesh samples are analyzed for 55 synthetic organic compounds, most of which are pesticides (Table VI-1). TSM reports have been published annually since 1977.

III.A.2. STATE MUSSEL WATCH

The State Mussel Watch (SMW) program has been integrated with the Primary Network Monitoring to provide documentation of the quality of coastal marine and estuarine waters. The SMW program fulfills the goal of providing the State with long-term trends in the quality of these waters.

Mussels were chosen as the indicator organism for trace metals and synthetic organic compounds in the coastal and estuarine waters. Although the mussel populations of bays and estuaries are of a different species than those found in the open coast, their suitability as sentinels for monitoring the presence of toxic pollutants stems from several factors including: (1) their ubiquity along the California coast; (2) their ability to concentrate pollutants above ambient sea water levels and to provide a time-averaged sample; and (3) their non-motile nature which permits a localized measurement of water quality. The trace metals analyzed for in mussel tissues include aluminum, cadmium, chromium, copper, lead, manganese, mercury, nickel, silver and zinc. Synthetic organic compounds analyzed for are summarized in Table VI-1. When compared with alternative sampling designs, such as seawater and sediment sampling, SMW is a more cost effective program. Reports have been published annually since 1978.

During the 1977 and 1978 sampling periods, the focus of the SMW was, for the most part, on open coast monitoring of sites outside the vicinity of known pollutant point sources. Monitoring water quality in the State Board's designated Areas of Special Biological Significance (ASBS), to establish baseline conditions relating to the range of typical conditions in water, sediment and biota, was given prime importance in the early years of the program.

Based on identification of "hot spot" areas during 1977 and 1978, intensive sampling of these areas was implemented in 1979. Such a sampling strategy was intended to confirm previous findings, establish the magnitude of the potential problem and identify pollutant sources. The program has since evolved to include transplanting M. *californianus* mussels into selected California bays and estuaries at specific sites to confirm potential toxic substance pollution - i.e., in the vicinity of dischargers.

III.B. LAKE SURVEILLANCE

This element is responsive to the requirements set forth in Section 314 of PL 92-500 and applicable federal regulations. The State is required to identify and determine the present trophic condition of all publicly owned fresh water lakes. The lakes inventory isupdated on a two year cycle to include additional data as it becomes available and to indicate changes in trophic conditions.

III.C. BIENNIAL WATER QUALITY INVENTORY

Section 305(b) of PL 92-500 requires the State to prepare and submit biennially to EPA the Water Quality Inventory. This report includes: (a) a description of the water quality of major navigable waters in the State during the preceding years; (b) an analysis of the extent to which significant navigable waters provide for the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water; (c) an analysis of the extent to which elimination of the discharge of pollutants is being employed or will be needed; and (d) an estimate of the environmental impact, the economic, and social costs necessary to achieve the "no discharge" objective of PL 92-500, the economic and social benefits of such achievement and estimate of the date of such achievement. Recommendations as to the programs which must be taken to control them are provided, along with estimates of the cost.

Data collection and analyses already being carried out by the State in the permits, planning, facilities, monitoring and enforcement programs is utilized in preparing the reports on the quality of the waters of California. The first report was published in 1975 with subsequent reports in 1977 and 1979. The next biennial report is due in 1990.

TABLE VI-1
SYNTHETIC ORGANIC COMPOUNDS ANALYZED IN THE
TOXIC SUBSTANCES MONITORING AND STATE MUSSEL WATCH PROGRAMS

COMPOUND	COMPOUND	COMPOUND
Aldrin	DDMU pp	Nitrofen (TOK)
Benefin	DDT pp	Oxychlordance
BHCα	Dialifor	Parathion, ethyl
BHCβ	Diazinon	Parathion, methyl
BHCγ (lindane)	Dichlofenthion	PCB 1248
BHCδ	Dicofol (Kelthane)	PCB 1254
Carbophenothion	Dieldrin	PCB 1260
CDEC (Vegedex)	Endosulfan I (Thiodan I)	PCNB (Quintozene)
Chlorbenside	Endrin	Perthane
cis-Chlordane	EPN	Phenkapton
trans-Chlordane	Ehtion	Phorate (Thimet)
Chloroneb	Fenitrothion	Ronnel
Chlorpyrifos (Dursban)	Fonofos (Dyfonate)	Strobane
Dacthal	Heptachlor	Tetradifon (Tedion)
DDE op	Heptachlor epoxide	Toxaphene
DDE pp	Hexachlorobenzene (HCB)	2,4-D isopropyl ester
DDD op	Methoxychlor pp'	2,4-D isobutyl ester
DDMS pp	Mirex	2,4-D n-butyl ester

IV. WATER QUALITY ASSESSMENT

The State Board has been preparing "Section 305(b) Reports" since the mid-1970's. Most of these reports have been fairly general in nature, highlighting a few significant problem areas and estimating total area or stream mileage of waters statewide which were classified as "good", "medium", or "poor" quality. In 1989, the State Board began a more detailed Water Quality Assessment process to fulfill U. S. EPA reporting requirements and to provide the basis for prioritizing funding under the State's Clean Water Strategy.

The Water Quality Assessment is a computer database. It includes a table which lists water bodies of each region alphabetically by water body type (lakes, streams, ground water, etc). Initially, Regional Boards were directed to include at least all water bodies mentioned by name in their Basin Plans in the Water Quality Assessment table. Additional water bodies are to be added in future updates of the Water Quality Assessment, with the eventual goal of including all waters of the region. The 1992 Water Quality Assessment for the Central Coast Region includes approximately 400 entries.

For each water body, the Water Quality Assessment table identifies the wetland, lake, or ground water basin area or the stream mileage classified as having "good", "intermediate", "impaired", or unknown" water quality. The table includes space for brief narrative problem descriptions. It identifies problem sources as point, nonpoint, or both. It also indicates whether the water body is included on one or more of the following federal "lists" (numbers refer to sections of the Clean Water Act):

131.11 Segments which may be affected by toxic pollutants, or segments with concentrations of toxic pollutants that warrant concern.

303(d) List of Water Quality Limited Segments where objectives or goals of the Clean Water Act are not attainable with the Best Available Treatment/Best Control Technology.

304(M) A "mini-list" of waters not meeting State adopted numeric water quality objectives due to toxic point sources and/or nonpoint sources after implementation of Best Available Treatment/Best Control Technology.

304(S) A "short-list" of waters not achieving water quality standards due to point source implementation of Best Available Treatment/Best Control Technology.

304(L) A "long-list" of waters not meeting water quality goals of the Clean Water Act after implementation of Best Available Treatment/Best Control Technology due to either point sources or nonpoint source discharges.

314 A list of lake priorities for restoration.

319 A list of impaired surface water bodies from nonpoint source problems due to both toxic and nontoxic pollutants.

The information used by Regional Board staff in compiling and revising the Water Quality Assessment table includes the type of monitoring data discussed in this chapter, records of past Regional Board enforcement actions, professional judgement of Regional Board scientists and engineers, and public comments.

The Water Quality Assessment database also includes the capability to print out a more detailed "Fact Sheet" for each water body in the table. Fact Sheets can include longer problem descriptions, information on threatened or impaired beneficial uses, and summaries of current and projected remedial actions by the State Board and/or the Regional Board. Due to time constraints and, in many cases, lack of information, detailed Fact Sheets have not been prepared for all water bodies in the Central Coast Region's Water Quality Assessment table. Additional Fact Sheets will be added during the ongoing Water Quality Assessment update process.

The Water Quality Assessments adopted by the nine Regional Boards were combined into a statewide Water Quality Assessment which was formally adopted by the State Board. The State Board is using the system to print out statewide "reports", statistical tables graphs, and charts summarizing the total numbers or percentages of water bodies affected by different types of water quality problems. The State Board also uses information in the Water Quality Assessment to prioritize proposals affecting specific water bodies.

V. REGIONAL WATER QUALITY CONTROL BOARD PROGRAM TASKS

V.A. COMPLIANCE MONITORING

This task determines permit compliance, validates self-monitoring reports, checks receiving water standards compliance, and provides data for enforcement actions. Data obtained are added to the water quality supply data for regulation, enforcement, planning, and facilities development activities. Discharger compliance monitoring and enforcement actions are the responsibility of, and will normally be carried out wholly by, the Regional Board staff. Standards Compliance Monitoring will be coordinated by the State Board and use data available from other program tasks.

The scope of the Waste Discharger Compliance Monitoring Program for the basin will be dependent on the number and complexity of Waste Discharger Requirements (NPDES and other Permits) issued by the Regional Board. Waste discharge requirements may or may not include a specific discharger self-monitoring and reporting requirement on the effluent and receiving waters.

This program includes a control procedure whereby each discharger is periodically visited by Regional Board personnel on both an announced and an unannounced "Facility Inspection" basis. The intent of announced visits is to work with the discharger through personal contact and communication to review his procedures in order to assure quality control. The intent of the unannounced inspections is to survey the operation; inspect the discharge area; and collect, check, or reference samples.

V.B. Self-Monitoring Report Review

Discharger self-monitoring reports generated as a result of permits and waste discharge requirements are collected and reviewed by the Regional Board for obvious errors or omissions and entered into the data bank for checking. Significant reports of noncompliance are made immediately upon detection. Other data desired by the Regional or State Board will be rendered on a routine basis. Self-monitoring reports are normally submitted by the discharger on a monthly or quarterly basis as required by the permit conditions.

V.C. COMPLAINT INVESTIGATION

The Complaint Monitoring task involves investigation of complaints of citizens and public or governmental agencies on the discharge of pollutants or creation of nuisance conditions. It is a Regional Board responsibility which includes preparation of reports, letters, or taking other follow-up actions to document observed conditions and to inform the State Board and complainant and discharger of the observed conditions.

V.D. AERIAL SURVEILLANCE

Aerial surveillance is used primarily to gather photographic records of discharges and water quality conditions and to observe conditions at solid waste disposal sites in the Region. Aerial surveillance is particularly effective because of the overall view of a facility that is obtained and because many facilities can be observed in a short period of time.

V.E. NONPOINT SOURCE INVESTIGATIONS

The objective in this task is to (a) identify location of the sources of nonpoint pollutants; (b) develop information on the quantity, strength, character, and variability of nonpoint source pollutants; (c) evaluate impact on receiving water quality and biota; (d) provide information useful in management of nonpoint source pollution; and (e) monitor results of any control plan. Investigations will be undertaken on a statewide priority basis.

V.F. INTENSIVE SURVEYS

Intensive monitoring surveys provide detailed water quality data to locate and evaluate violations of receiving water standards and make waste load allocations. They are usually localized, intermittent sampling at a higher than normal frequency. These surveys are specially designed to evaluate problems in water quality class segments, areas of special biological significance, or hydrologic units requiring sampling in addition to routine monitoring programs. Surveys are repeated at appropriate intervals depending on parameters involved, variability of conditions, and changes in hydrologic or effluent regimes.

Intensive surveys are needed for several water bodies. The data are needed for one or more of the following reasons:

a. A water quality problem is suspected, however, little data is available to substantiate the existence or degree of a problem,

b. A water quality screening is needed to verify the Regional Board's judgement of the water quality status, or,

c. A water body is suspected to be water quality limited.

Table 6-2 lists each water body, the constituent needing sampling, and the reason it should be sampled. The Regional Board urgently requests the State Board to make money available for intensive surveys.

Table 6-2. Water Bodies Needing Intensive Survey

Water Body	Constituent(s)	Water Quality Problem Suspected	Water Quality Screening	Suspected Water Quality Limited
San Lorenzo River*	Bacteria Nutrients	X		
Corcoran Lagoon	Nutrients	X		
Soquel Creek/ Lagoon	Bacteria Nutrients	X		
Aptos Creek			X	
Valencia Creek			X	
Pescadero Creek			X	
Hernandez Lake	Mercury		X	
Monterey Bay	DDT			X
Watsonville Slough	Chromium Copper	X		
Watsonville Slough	Pesticides			X
Elkhorn Slough	Pesticides			X
Elkhorn Slough	Cadmium Chromium Copper Lead Nickel Silver Zinc		X	
Moss Landing Harbor	Pesticides			X
Moro Cojo Slough	Chromium Copper Nickel Zinc		X	
Tembladero Slough	Pesticides			X
Salinas Reclamation Slough	Pesticides			X
Salinas River and Old Salinas River	Pesticides			X
Monterey Harbor	Lead			X
Carmel River/ Lagoon			X	
Garapatta Creek/ Lagoon			X	
Big Sur River			X	
San Antonio River	Cadmium	X		

*Sampling should be conducted after area sewered.

Table 6-2. Water Bodies Needing Intensive Survey

Water Body	Constituent(s)	Water Quality Problem Suspected	Water Quality Screening	Suspected Water Quality Limited
Nacimiento River	Mercury	X		
Las Tablas Creek	Mercury			X
Atascadero Lake			X	
Morro Creek	Heavy Metals	X		
Morro Bay	Bacteria			X
Chorro Creek	Bacteria			
	Heavy Metals	X		
Los Osos Creek			X	
Sweet Springs	Bacteria	X		
Pismo Creek			X	
Arroyo Grande Creek			X	
Lopez Lake	Nutrients	X		
Oso Flaco Lake			X	
San Antonio Creek*	Bacteria			
	Nutrients	X		
Santa Ynez Lagoon	Copper			
	Lead	X		
Goleta Slough	Bacteria			
	Heavy Metals	X		
Los Palmas Creek			X	
Arroyo Burro Creek			X	
Santa Barbara Channel	Bacteria			X
Mission Creek**	Bacteria			
	Nutrients	X		
Laguna Creek	Bacteria	X		
Franklin Creek			X	
Santa Monica Creek			X	
Carpinteria Marsh	Chromium			
	Copper			
	Lead			
	Silver			
	Zinc			
	Pesticides			X

*Downstream of Los Alamos

**Upstream and downstream Mission Creek

PLANS AND POLICIES
APPENDIX

Number	Title
A-1	State Policy for Water Quality Control (1972)
A-2	Statement of Policy with Respect to Maintaining High Quality of Waters in California (Anti-degradation Policy)
A-3	Water Quality Control Plan for Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)
A-4	Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Bays and Estuaries Policy)
A-5	Power Plant Cooling Policy
A-6	Reclamation Policy
A-7	Shredder Waste Disposal Policy
A-8	Underground Storage Tank Pilot Program
A-9	Sources of Drinking Water Policy
A-10	Nonpoint Source Management Plan
A-11	Water Quality Control Plan for Ocean Waters of California (1990) (Ocean Plan)
A-12	Discharges of Municipal Solid Waste Policy
A-13	Sewerage Facilities and Septic Tanks in Urbanizing Areas in the Central Coast Region
A-14	Acceptance of Monterey County Board of Supervisor's Ordinance Applying Development Restrictions to the Bays Hills (Bay Farms/Hillcrest)
A-15	Acceptance of Monterey County Board of Supervisors' Ordinance Applying Development Restrictions to the Area within the San Lucas County Water District
A-16	Policy Regarding Beneficial Use of Oil Field Waste Materials in the Santa Maria Oil Fields, Santa Barbara County
A-17	Policy Amending "Policy Regarding Beneficial Use of Oil Field Waste Materials in the Santa Maria Oil Fields, Santa Barbara County" to apply Region Wide

PLANS AND POLICIES
APPENDIX (continued)

Number	Title
A-18	Recommendation to the State Water Resources Control Board Concerning the Designation of Terrace Point in Santa Cruz County as an Area of Special Biological Significance
A-19	Supporting Approval of the Clean Water and Water Conservation Bond Law of 1978
A-20	Regarding Marina County Water District's Petition to Delete the Southern Monterey Bay Discharge Prohibition Zones from the Basin Plan
A-21	Certification of Santa Cruz County's Wastewater Management Program for the San Lorenzo River Watershed
A-22	Policy Regarding Disposal of Highway Grooving Residues
A-23	Waiver of Regulations of Specific Types of Waste Dischargers
A-24	Interpretation of Minimum Parcel Size Requirements for On-Site Sewage Systems
A.25	Appreciation for Discharger Compliance
A-26	Support Material for Calculating Adjusted Sodium Absorption Ratio (SAR) Area
A-27	Nipomo Individual Sewage Disposal System Prohibition Area Description
A-28	San Lorenzo Valley Class I Area
A-29	San Lorenzo Valley Class II Area
A-30	Los Osos Baywood Park Individual and Community Sewage Disposal System Prohibition Area
A-31	Preliminary List of Potential Toxic Hot Spots
A-32	Salinas Ground Water Basin and Sub-Areas
A-33	Paso Robles Ground Water Basin and Sub-Areas
A-34	Santa Maria Ground Water Basin and Sub-Areas
A-35	Lompoc Ground Water Basin and Sub-Areas

APPENDIX A-1

State Policy for Water Quality Control (1972)

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

STATE POLICY FOR WATER QUALITY CONTROL

I. FOREWORD

To assure a comprehensive statewide program of water quality control, the California Legislature by its adoption of the Porter-Cologne Water Quality Control Act in 1969 set forth the following statewide policy:

> The people of the state have a primary interest in the conservation, control, and utilization of the water resources, and the quality of all the waters shall be protected for use and enjoyment.
>
> Activities and factors which may affect the quality of the waters shall be regulated to attain the highest 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 health, safety, and welfare of the people requires that there be a statewide program for the control of the quality of all the waters of the state. The state must be prepared to exercise its full power and jurisdiction to protect the quality of waters from degradation.
>
> The waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations. Factors of precipitation, topography, population, recreation, agriculture, industry, and economic development vary from region to region. The statewide program for water quality control can be most effectively administered regionally, within a framework of statewide coordination and policy.

To carry out this policy, the Legislature established the State Water Resources Control Board and nine California Regional Water Quality Control Boards as the principal state agencies with primary responsibilities for the coordination and control of water quality. The State Board is required pursuant to legislative directives set forth in the California Water Code (Division 7, Chapter 3, Article 3, Sections 13140 Ibid) to formulate and adopt state policy for water quality control consisting of all or any of the following:

Adopted by the State Water Resources Control Board by motion of July 6, 1972.

I. (continued)

Water quality principles and guidelines for long-range resource planning, including groundwater and surface water management programs and control and use of reclaimed water.

Water quality objectives at key locations for planning and operation of water resource development projects and for water quality control activities.

Other principles and guidelines deemed essential by the State Board for water quality control.

II. GENERAL PRINCIPLES

The State Water Resources Control Board hereby finds and declares that protection of the quality of the waters of the State for use and enjoyment by the people of the State requires implementation of water resources management programs which will conform to the following general principles:

1. Water rights and water quality control decisions must assure protection of available fresh water and marine water resources for maximum beneficial use.

2. Municipal, agricultural, and industrial wastewaters must be considered as a potential integral part of the total available fresh water resource.

3. Coordinated management of water supplies and wastewaters on a regional basis must be promoted to achieve efficient utilization of water.

4. Efficient wastewater management is dependent upon a balanced program of source control of environmentally hazardous substances[1/], treatment of wastewaters, reuse of reclaimed water, and proper disposal of effluents and residuals.

5. Substances not amenable to removal by treatment systems presently available or planned for the immediate future must be prevented from entering sewer systems

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1/ Those substances which are harmful or potentially harmful even in extremely small concentration to man, animals, or plants because of biological concentration, acute or chronic toxicity, or other phenomenon.

in quantities which would be harmful to the aquatic environment, adversely affect beneficial uses of water, or affect treatment plant operation. Persons responsible for the management of waste collection, treatment, and disposal systems must actively pursue the implementation of their objective of source control for environmentally hazardous substances. Such substances must be disposed of such that environmental damage does not result.

6. Wastewater treatment systems must provide sufficient removal of environmentally hazardous substances which cannot be controlled at the source to assure against adverse effects on beneficial uses and aquatic communities.

7. Wastewater collection and treatment facilities must be consolidated in all cases where feasible and desirable to implement sound water quality management programs based upon long-range economic and water quality benefits to an entire basin.

8. Institutional and financial programs for implementation of consolidated wastewater management systems must be tailored to serve each particular area in an equitable manner.

9. Wastewater reclamation and reuse systems which assure maximum benefit from available fresh water resources shall be encouraged. Reclamation systems must be an appropriate integral part of the long-range solution to the water resources needs of an area and incorporate provisions for salinity control and disposal of nonreclaimable residues.

10. Wastewater management systems must be designed and operated to achieve maximum long-term benefit from the funds expended.

11. Water quality control must be based upon latest scientific findings. Criteria must be continually refined as additional knowledge becomes available.

12. Monitoring programs must be provided to determine the effects of discharges on all beneficial water uses including effects on aquatic life and its diversity and seasonal fluctuations.

III. PROGRAM OF IMPLEMENTATION

Water quality control plans and waste discharge requirements hereafter adopted by the State and Regional Boards under Division 7 of the California Water Code shall conform to this policy.

This policy and subsequent State plans will guide the regulatory, planning, and financial assistance programs of the State and Regional Boards. Specifically, they will (1) supersede any regional water quality control plans for the same waters to the extent of any conflict, (2) provide a basis for establishing or revising waste discharge requirements when such action is indicated, and (3) provide general guidance for the development of basin plans.

Water quality control plans adopted by the State Board will include minimum requirements for effluent quality and may specifically define the maximum constituent levels acceptable for discharge to various waters of the State. The minimum effluent requirements will allow discretion in the application of the latest available technology in the design and operation of wastewater treatment systems. Any treatment system which provides secondary treatment, as defined by the specific minimum requirements for effluent quality, will be considered as providing the minimum acceptable level of treatment. Advanced treatment systems will be required where necessary to meet water quality objectives.

Departures from this policy and water quality control plans adopted by the State Board may be desirable for certain individual cases. Exceptions to the specific provisions may be permitted within the broad framework of well established goals and water quality objectives.

APPENDIX A-2

Statement of Policy with Respect to Maintaining High Quality of Waters in California (Anti-Degradation Policy)

STATE WATER RESOURCES CONTROL BOARD

RESOLUTION NO. 68-16

STATEMENT OF POLICY WITH RESPECT TO
MAINTAINING HIGH QUALITY OF WATERS IN CALIFORNIA

WHEREAS the California Legislature has declared that it is the policy of the State that the granting of permits and licenses for unappropriated water and the disposal of wastes into the waters of the State shall be so regulated as to achieve highest water quality consistent with maximum benefit to the people of the State and shall be controlled so as to promote the peace, health, safety and welfare of the people of the State; and

WHEREAS water quality control policies have been and are being adopted for waters of the State; and

WHEREAS the quality of some waters of the State is higher than that established by the adopted policies and it is the intent and purpose of this Board that such higher quality shall be maintained to the maximum extent possible consistent with the declaration of the Legislature;

NOW, THEREFORE, BE IT RESOLVED:

1. Whenever the existing quality of water is better than the quality established in policies as of the date on which such policies become effective, such existing high quality will be maintained until it has been demonstrated to the State that any change will be consistent with maximum benefit to the people of the State, will not unreasonably affect present and anticipated beneficial use of such water and will not result in water quality less than that prescribed in the policies.

2. Any activity which produces or may produce a waste or increased volume or concentration of waste and which discharges or proposes to discharge to existing high quality waters will be required to meet waste discharge requirements which will result in the best practicable treatment or control of the discharge necessary to assure that (a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained.

3. In implementing this policy, the Secretary of the Interior will be kept advised and will be provided with such information as he will need to discharge his responsibilities under the Federal Water Pollution Control Act.

BE IT FURTHER RESOLVED that a copy of this resolution be forwarded to the Secretary of the Interior as part of California's water quality control policy submission.

CERTIFICATION

The undersigned, Executive Officer of the State Water Resources Control Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on October 24, 1968.

Dated: October 28, 1968

Kerry W. Mulligan
Executive Officer
State Water Resources
Control Board

APPENDIX A-3

Water Quality Control Plan for Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 75-89

ADOPTING AMENDMENTS 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)

WHEREAS:

1. On February 25, 1975, the State Water Resources Control Board conducted a public hearing to consider proposed amendments to the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California", hereinafter called the Thermal Plan.

2. As a result of that hearing, evidence was obtained from various parties regarding the desirability of the proposed amendments.

3. The State Water Resources Control Board has been advised by the Environmental Protection Agency that the proposed amendments are necessary in order to bring the Plan into full conformance with the provisions of P.L. 92-500.

THEREFORE BE IT RESOLVED:

That the State Water Resources Control Board adopt the proposed amendments as attached.

CERTIFICATION

The undersigned, Executive Officer of the State Water Resources Control Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on SEP 18 1975

Bill B. Dendy

Bill B. Dendy
Executive Officer

State Water Resources Control Board

WATER QUALITY CONTROL PLAN FOR CONTROL OF TEMPERATURE IN THE COASTAL AND INTERSTATE WATERS AND ENCLOSED BAYS AND ESTUARIES OF CALIFORNIA[1/]

DEFINITION OF TERMS

1. Thermal Waste - Cooling water and industrial process water used for the purpose of transporting waste heat.

2. Elevated Temperature Waste - Liquid, solid, or gaseous material including thermal waste discharged at a temperature higher than the natural temperature of receiving water. Irrigation return water is not considered elevated temperature waste for the purpose of this plan.

3. Natural Receiving Water Temperature - The temperature of the receiving water at locations, depths, and times which represent conditions unaffected by any elevated temperature waste discharge or irrigation return waters.

4. Interstate Waters - All rivers, lakes, artificial impoundments, and other waters that flow across or form a part of the boundary with other states or Mexico.

5. Coastal Waters - Waters of the Pacific Ocean outside of enclosed bays and estuaries which are within the territorial limits of California.

6. Enclosed Bays - Indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays will include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to the following: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

7. Estuaries and Coastal Lagoons - Waters at the mouths of streams which serve as mixing zones for fresh and ocean water during a major portion of the year. Mouths of streams which are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open

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1/ This plan revises and supersedes the policy adopted by the State Board on January 7, 1971, and revised October 13, 1971, and June 5, 1972.

ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and saltwater occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge and appropriate areas of Smith River, Klamath River, Mad River, Eel River, Noyo River, and Russian River.

8. Cold Interstate Waters - Streams and lakes having a range of temperatures generally suitable for trout and salmon including but not limited to the following: Lake Tahoe, Truckee River, West Fork Carson River, East Fork Carson River, West Walker River and Lake Topaz, East Walker River, Minor California-Nevada Interstate Waters, Klamath River, Smith River, Goose Lake, and Colorado River from the California-Nevada stateline to the Needles-Topoc Highway Bridge.

9. Warm Interstate Waters - Interstate streams and lakes having a range of temperatures generally suitable for warm water fishes such as bass and catfish. This definition includes but is not limited to the following: Colorado River from the Needles-Topoc Highway Bridge to the northerly international boundary of Mexico, Tijuana River, New River, and Alamo River.

10. Existing Discharge - Any discharge (a) which is presently taking place, or (b) for which waste discharge requirements have been established and construction commenced prior to the adoption of this plan, or (c) any material change in an existing discharge for which construction has commenced prior to the adoption of this plan. Commencement of construction shall include execution of a contract for onsite construction or for major equipment which is related to the condenser cooling system.

    Major thermal discharges under construction which are included within this definition are:

    A. Diablo Canyon Units 1 and 2, Pacific Gas and Electric Company.

    B. Ormond Beach Generating Station Units 1 and 2, Southern California Edison Company.

    C. Pittsburg No. 7 Generating Plant, Pacific Gas and Electric Company.

    D. South Bay Generating Plant Unit 4 and Encina Unit 4, San Diego Gas and Electric Company.

11. New Discharge - Any discharge (a) which is not presently taking place unless waste discharge requirements have been established and construction as defined in Paragraph 10 has commenced prior to adoption of this plan or (b) which is presently taking place and for which a material change is proposed but no construction as defined in Paragraph 10 has commenced prior to adoption of this plan.

12. Planktonic Organism - Phytoplankton, zooplankton and the larvae and eggs of worms, molluscs, and anthropods, and the eggs and larval forms of fishes.

13. Limitations or Additional Limitations - Restrictions on the temperature, location, or volume of a discharge, or restrictions on the temperature of receiving water in addition to those specifically required by this plan.

SPECIFIC WATER QUALITY OBJECTIVES

1. Cold Interstate Waters

   A. Elevated temperature waste discharges into cold interstate waters are prohibited.

2. Warm Interstate Waters

   A. Thermal waste discharges having a maximum temperature greater than 5°F above natural receiving water temperature are prohibited.

   B. Elevated temperature wastes shall not cause the temperature of warm interstate waters to increase by more than 5°F above natural temperature at any time or place.

   C. Colorado River - Elevated temperature wastes shall not cause the temperature of the Colorado River to increase above the natural temperature by more than 5°F or the temperature of Lake Havasu to increase by more than 3°F provided that such increases shall not cause the maximum monthly temperature of the Colorado River to exceed the following:

January	-	60°F	July	-	90°F
February	-	65°F	August	-	90°F
March	-	70°F	September	-	90°F
April	-	75°F	October	-	82°F
May	-	82°F	November	-	72°F
June	-	86°F	December	-	65°F

D. Lost River - Elevated temperature wastes discharged to the Lost River shall not cause the temperature of the receiving water to increase by more than 2°F when the receiving water temperature is less than 62°F, and 0°F when the receiving water temperature exceeds 62°F.

E. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

3. Coastal Waters

A. Existing discharges

(1) Elevated temperature wastes shall comply with limitations necessary to assure protection of the beneficial uses and areas of special biological significance.

B. New discharges

(1) Elevated temperature wastes shall be discharged to the open ocean away from the shoreline to achieve dispersion through the vertical water column.

(2) Elevated temperature wastes shall be discharged a sufficient distance from areas of special biological significance to assure the maintenance of natural temperature in these areas.

(3) The maximum temperature of thermal waste discharges shall not exceed the natural temperature of receiving waters by more than 20°F.

(4) The discharge of elevated temperature wastes shall not result in increases in the natural water temperature exceeding 4°F at (a) the shoreline, (b) the surface of any ocean substrate, or (c) the ocean surface beyond 1,000 feet from the discharge system. The surface temperature limitation shall be maintained at least 50 percent of the duration of any complete tidal cycle.

(5) Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

4. Enclosed Bays

A. Existing discharges

(1) Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses.

B. New discharges

(1) Elevated temperature waste discharges shall comply with limitations necessary to assure protection of beneficial uses. The maximum temperature of waste discharges shall not exceed the natural temperature of the receiving waters by more than 20°F.

(2) Thermal waste discharges having a maximum temperature greater than 4°F above the natural temperature of the receiving water are prohibited.

5. Estuaries

A. Existing discharges

(1) Elevated temperature waste discharges shall comply with the following:

a. The maximum temperature shall not exceed the natural receiving water temperature by more than 20°F.

b. Elevated temperature waste discharges either individually or combined with other discharges shall not create a zone, defined by water temperatures of more than 1°F above natural receiving water temperature, which exceeds 25 percent of the cross-sectional area of a main river channel at any point.

c. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

d. Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

(2) Thermal waste discharges shall comply with the provisions of 5A(1) above and, in addition, the maximum temperature of thermal waste discharges shall not exceed 86°F.

B. New discharges

(1) Elevated temperature waste discharges shall comply with item 5A(1) above.

(2) Thermal waste discharges having a maximum temperature greater than 4°F above the natural temperature of the receiving water are prohibited.

(3) Additional limitations shall be imposed when necessary to assure protection of beneficial uses.

GENERAL WATER QUALITY PROVISIONS

1. Additional limitations shall be imposed in individual cases if necessary for the protection of specific beneficial uses and areas of special biological significance. When additional limitations are established, the extent of surface heat dispersion will be delineated by a calculated 1-1/2°F isotherm which encloses an appropriate dispersion area. The extent of the dispersion area shall be:

   A. Minimized to achieve dispersion through the vertical water column rather than at the surface or in shallow water.

   B. Defined by the Regional Board for each existing and proposed discharge after receipt of a report prepared in accordance with the implementation section of this plan.

2. The cumulative effects of elevated temperature waste discharges shall not cause temperatures to be increased except as provided in specific water quality objectives contained herein.

3. Areas of special biological significance shall be designated by the State Board after public hearing by the Regional Board and review of its recommendations.

4. Regional Boards may, in accordance with Section 316(a) of the Federal Water Pollution Control Act of 1972, and subsequent federal regulations including 40 CFR 122, grant an exception to Specific Water Quality Objectives in this Plan. Prior to becoming effective, such exceptions and alternative less stringent requirements must receive the concurrence of the State Board.

5. Natural water temperature will be compared with waste discharge temperature by near-simultaneous measurements accurate to within 1°F. In lieu of near-simultaneous measurements, measurements may be made under calculated conditions of constant waste discharge and receiving water characteristics.

IMPLEMENTATION

1. The State Water Resources Control Board and the California Regional Water Quality Control Boards will administer this plan by establishing waste discharge requirements for discharges of elevated temperature wastes.

2. This plan is effective as of the date of adoption by the State Water Resources Control Board and the sections pertaining to temperature control in each of the policies and plans for the individual interstate and coastal waters shall be void and superseded by all applicable provisions of this plan.

3. Existing and future dischargers of thermal waste shall conduct a study to define the effect of the discharge on beneficial uses and, for existing discharges, determine design and operating changes which would be necessary to achieve compliance with the provisions of this plan.

4. Waste discharge requirements for existing elevated temperature wastes shall be reviewed to determine the need for studies of the effect of the discharge on beneficial uses, changes in monitoring programs and revision of waste discharge requirements.

5. All waste discharge requirements shall include a time schedule which assures compliance with water quality objectives by July 1, 1977, unless the discharger can demonstrate that a longer time schedule is required to complete construction of necessary facilities; or, in accordance with any time schedule contained in guidelines promulgated pursuant to Section 304(b) of the Federal Water Pollution Control Act.

6. Proposed dischargers of elevated temperature wastes may be required by the Regional Board to submit such studies prior to the establishment of waste discharge requirements. The Regional Board shall include in its requirements appropriate postdischarge studies by the discharger.

7. The scope of any necessary studies shall be as outlined by the Regional Board and shall be designed to include the following as applicable to an individual discharge:

   A. Existing conditions in the aquatic environment.

   B. Effects of the existing discharge on beneficial uses.

   C. Predicted conditions in the aquatic environment with waste discharge facilities designed and operated in compliance with the provisions of this plan.

D. Predicted effects of t proposed discharge on beneficial uses.

E. An analysis of costs and benefits of various design alternatives.

F. The extent to which intake and outfall structures are located and designed so that the intake of planktonic organisms is at a minimum, waste plumes are prevented from touching the ocean substrate or shorelines, and the waste is dispersed into an area of pronounced along-shore or offshore currents.

8. All waste discharge requirements adopted for discharges of elevated temperature wastes shall be monitored in order to determine compliance with effluent or receiving water temperature (or heat) requirements.

   Furthermore, for significant thermal discharges as determined by the Regional Board or State, Regional Boards shall require expanded monitoring programs, to be carried out either on a continuous or periodic basis, designed to assess whether the source continues to provide adequate protection to beneficial uses (including the protection and propagation of a balanced indigenous community of fish, shellfish, and wildlife, in and on the body of water into which the discharge is made). When periodic expanded monitoring programs are specified, the frequency of the program shall reflect the probable impact of the discharge.

9. The State Board or Regional Board may require a discharger(s) to pay a public agency or other appropriate person an amount sufficient to carry out the expanded monitoring program required pursuant to paragraph 8 above if:

   A. The discharger has previously failed to carry out monitoring programs in a manner satisfactory to the State Board or Regional Board, or;

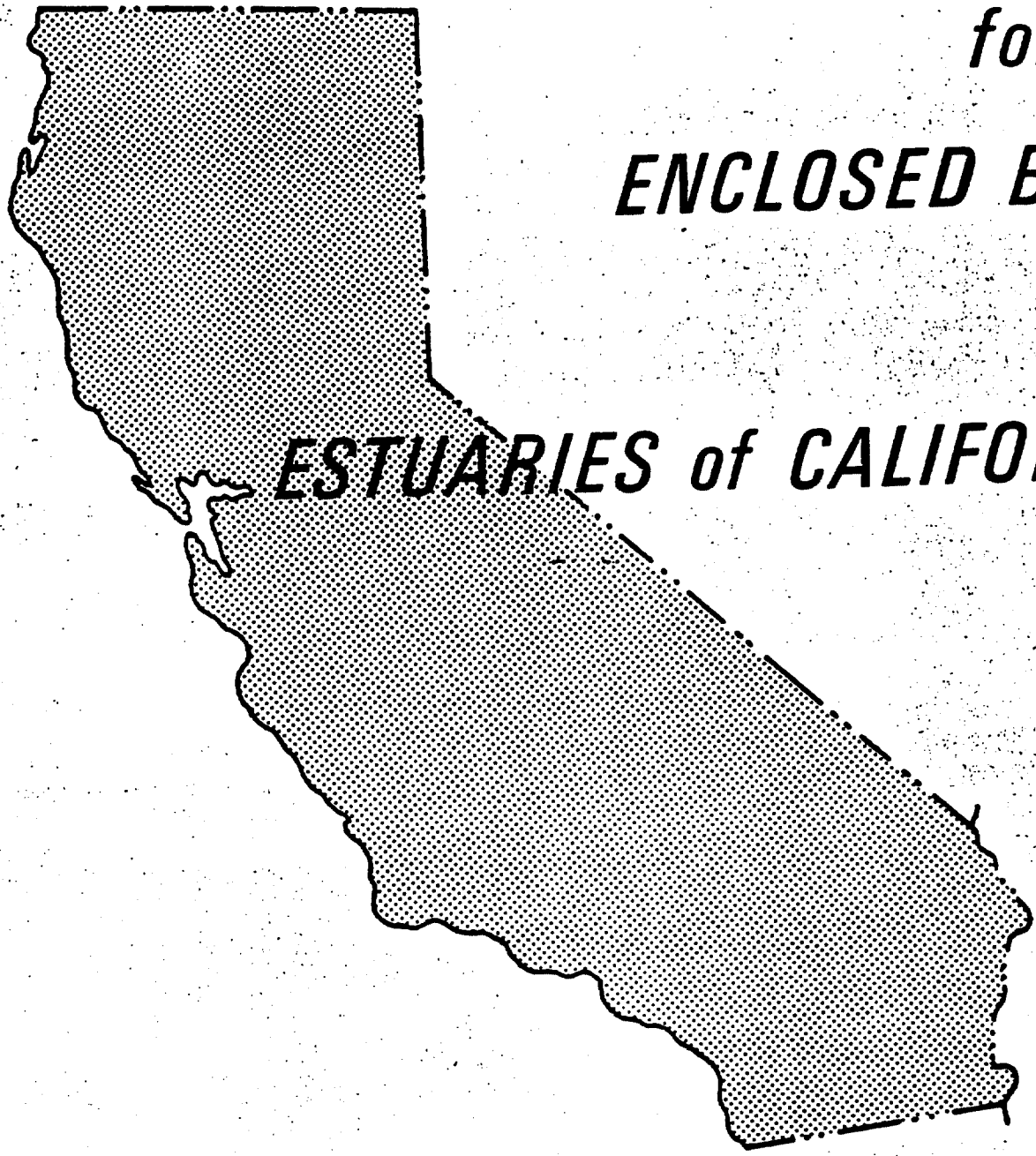
   B. More than a single facility, under separate ownerships, may significantly affect the thermal characteristics of the body of water, and the owners of such facilities are unable to reach agreement on a cooperative program within a reasonable time period specified by the State Board or Regional Board.

APPENDIX A-4

Water Quality Control Policy for the Enclosed Bays and Estuaries of California (Bays and Estuaries Policy)

tate of California

WATER QUALITY CONTROL POLICY for the ENCLOSED BAYS and ESTUARIES of CALIFORNIA



Reprinted April 1979

STATE WATER RESOURCES CONTROL BOARD

TABLE OF CONTENTS

* To be furnished upon request.

WATER QUALITY CONTROL POLICY FOR THE ENCLOSED BAYS AND ESTUARIES OF CALIFORNIA[1/]

INTRODUCTION

The purpose of this policy is to provide water quality principles and guidelines to prevent water quality degradation and to protect the beneficial uses of waters of enclosed bays and estuaries. Decisions on water quality control plans, waste discharge requirements, construction grant projects, water rights permits, and other specific water quality control implementing actions of the State and Regional Boards shall be consistent with the provisions of this policy.

The Board declares its intent to determine from time to time the need for revising this policy.

This policy does not apply to wastes from vessels or land runoff except as specifically indicated for siltation (Chapter III 4.) and combined sewer flows (Chapter III 7.).

CHAPTER I.

PRINCIPLES FOR MANAGEMENT OF WATER QUALITY IN ENCLOSED BAYS AND ESTUARIES

A. It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters[2/] (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge. [3/]

B. With regard to the waters of the San Francisco Bay-Delta system, the State Board finds and directs as follows:

1a. There is a considerable body of scientific evidence and opinion which suggests the existence of biological degradation due to long-term exposure to toxicants which have been discharged to the San Francisco Bay-Delta system. Therefore, implementation of a program which controls toxic effects through a combination of source control for toxic materials, upgraded wastewater treatment, and improved dilution of wastewaters, shall proceed as rapidly as is practicable with the objective of providing full protection to the biota and the beneficial uses of Bay-Delta waters in a cost-effective manner.

1b. A comprehensive understanding of the biological effects of wastewater discharge on San Francisco Bay, as a whole, must await the results of further scientific study. There is, however, sufficient evidence at this time to indicate that the continuation of wastewater discharges to the southern reach of San Francisco Bay, south of the Dumbarton Bridge, is an unacceptable condition. The State Board and the San Francisco Regional Board shall take such action as is necessary to assure the elimination of wastewater discharges to waters of the San Francisco Bay, south of Dumbarton Bridge, at the earliest practicable date.

1c. In order to prevent excessive investment which would unduly impact the limited funds available to California for construction of publicly owned treatment works, construction of such works shall proceed in a staged fashion, and each stage shall be fully evaluated by the State and Regional Boards to determine the necessity for additional expenditures. Monitoring requirements shall be established to evaluate any effects on water quality, particularly changes in species diversity and abundance, which may result from the operation of each stage of planned facilities

and source control programs. Such a staged construction program, in combination with an increased monitoring effort, will result in the most cost-effective and rapid progress toward a goal of maintaining and enhancing water quality in the San Francisco Bay-Delta system.

2. Where a waste discharger has an alternative of in-bay or ocean disposal and where both alternatives offer a similar degree of environmental and public health protection, prime consideration shall be given to the alternative which offers the greater degree of flexibility for the implementation of economically feasible wastewater reclamation options.

C. The following policies apply to all of California's enclosed bays and estuaries:

1. Persistent or cumulative toxic substances shall be removed from the waste to the maximum extent practicable through source control or adequate treatment prior to discharge.
2. Bay or estuarine outfall and diffuser systems shall be designed to achieve the most rapid initial dilution[4/] practicable to minimize concentrations of substances not removed by source control or treatment.
3. Wastes shall not be discharged into or adjacent to areas where the protection of beneficial uses requires spatial separation from waste fields.
4. Waste discharges shall not cause a blockage of zones of passage required for the migration of anadromous fish.
5. Nonpoint sources of pollutants shall be controlled to the maximum practicable extent.

CHAPTER II.

QUALITY REQUIREMENTS FOR WASTE DISCHARGES

1. In addition to any requirements of this policy, effluent limitations shall be as specified pursuant to Chapter 5.5 of the Porter-Cologne Water Quality Control Act, and Regional Boards shall limit the mass emissions of substances as necessary to meet such limitations. Regional Boards may set more restrictive mass emission rates and concentration standards than those which are referenced in this policy to reflect dissimilar tolerances to wastewater constituents among different receiving water bodies.
2. All dischargers of thermal wastes or elevated temperature wastes to enclosed bays and estuaries which are permitted pursuant to this policy shall comply with the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of Califonia", State Water Resources Control Board, 1972, and with amendments and supplements thereto.
3. Radiological limits for waste discharges (for which regulatory responsibility is not preempted by the Federal Government) shall be at least as restrictive as limitations indicated in Section 30269, and Section 30355, Appendix A, Table II, of the California Administrative Code.
4. Dredge spoils to be disposed of in bay and estuarine waters must comply with federal criteria for determining the acceptability of dredged spoils to marine waters, and must be certified by the State Board or Regional Boards as in compliance with State Plans and Policies.

CHAPTER III

DISCHARGE PROHIBITIONS

1. New discharges[5] of municipal wastewaters and industrial process waters[2] (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, which are not consistently treated and discharged in a manner that would enhance the quality of receiving waters above that which would occur in the absence of the discharge, shall be prohibited.
2. The discharge of municipal and industrial waste sludge and untreated sludge digester supernatant, centrate, or filtrate to enclosed bays and estuaries shall be prohibited.
3. The deposition of rubbish or refuse into surface waters or at any place where they would be eventually transported to enclosed bays or estuaries shall be prohibited.[6]
4. The direct or indirect discharge of silt, sand, soil clay, or other earthen materials from onshore operations including mining, construction, agriculture, and lumbering, in quantities which unreasonably affect or threaten to affect beneficial uses shall be prohibited.
5. The discharge of materials of petroleum origin in sufficient quantities to be visible or in violation of waste discharge requirements shall be prohibited, except when such discharges are conducted for scientific purposes. Such testing must be approved by the Executive Officer of the Regional Board and the Department of Fish and Game.
6. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste shall be prohibited.
7. The discharge or by-passing of untreated waste to bays and estuaries shall be prohibited.[7]

CHAPTER IV.

GENERAL PROVISIONS

A. Effective Date

This policy is in effect as of the date of adoption by the State Water Resources Control Board.

B. Review and Revision of Plans, Policies and Waste Discharge Requirements

Provisions of existing or proposed policies or water quality control plans adopted by the State or Regional Boards for enclosed bays or estuaries shall be amended to conform with the applicable provisions of this policy.

Each appropriate Regional Board shall review and revise the waste discharge requirements with appropriate time schedules for existing discharges to achieve compliance with this policy and applicable water quality objectives. Each Regional Board affected by this policy shall set forth for each discharge allowable mass emission rates for each applicable effluent characteristic included in waste discharge requirements.

Regional Boards shall finalize waste discharge requirements as rapidly as is consistent with the National Pollutant Discharge Elimination System Permit Program.

C. Administration of Clean Water Grants Program

The Clean Water Grants Program shall require that the environmental impact report for any existing or proposed wastewater discharge to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall evaluate whether or not the discharge would enhance the quality of receiving waters above that which would occur in the absence of the discharge.

The Clean Water Grants Program shall require that each study plan and project report (beginning with F. Y. 1974-75 projects) for a proposed wastewater treatment or conveyance facility within the San Francisco Bay-Delta system shall contain an evaluation of the degree to which the proposed project represents a necessary and cost-effective stage in a program leading to compliance with an objective of full protection of the biota and beneficial uses of Bay-Delta waters.

D. Administration of Water Rights

Any applicant for a permit to appropriate from a water-course which is tributary to an enclosed bay or estuary may be required to present to the State Board an analysis of the anticipated effects of the proposed appropriation on water quality and beneficial uses of the effected bay or estuary.

E. Monitoring Program

The Regional Board shall require dischargers to conduct self-monitoring programs and submit reports as necessary to determine compliance with waste discharge requirements and to evaluate the effectiveness of wastewater control programs. Such monitoring programs shall comply with applicable sections of the State Board's Administrative Procedures, and any additional guidelines which may be issued by the Executive Officer of the State Board.

FOOTNOTES

1/ Enclosed bays are indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outer most harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes, but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Estuaries, including coastal lagoons, are waters at the mouths of streams which serve as mixing zones for fresh and ocean waters.
Mouths of streams which are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters shall be considered to extend seaward if significant mixing of fresh and saltwater occurs in the open coastal waters. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

2/ For the purpose of this policy, treated ballast waters and innocuous nonmunicipal wastewater such as clear brines, wash-water, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Boards under discharge requirements that provide protection to the beneficial uses of the receiving water.

3/ Undiluted wastewaters covered under this exception provision shall not produce less than 90 percent survival, 50 percent of the time, and not less than 70 percent survival, 10 percent of the time of a standard test species in a 96-hour static or continuous flow bioassay test using undiluted waste. Maintenance of these levels of survival shall not by themselves constitute sufficient evidence that the discharge satisfies the criteria of enhancing the quality of the receiving water above that which occur in the absence of the discharge. Full and uninterrupted protection for the beneficial uses of the receiving water must be maintained. A Regional Board may require physical, chemical, bioassay, and bacteriological assessment of treated wastewater quality prior to authorizing release to the bay or estuary of concern.

4/ Initial dilution zone is defined as the volume of water near the point of discharge within which the waste immediately mixes with the bay or estuarine water due to the momentum of the waste discharge and the difference in density between the waste and receiving water.

5/ A new discharge is a discharge for which a Regional Board has not received a report of waste discharge prior to the date of adoption of this policy, and which was not in existence prior to the date of adoption of this policy.

6/ Rubbish and refuse include any cans, bottles, paper, plastic, vegetable matter, or dead animals or dead fish deposited or caused to be deposited by man.

7/ The prohibition does not apply to cooling water streams which comply with the "Water Quality Control Plan for the Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" - State Water Resources Control Board.

APPENDIX A-5

Power Plant Cooling Policy

WATER QUALITY CONTROL POLICY

on the

USE and DISPOSAL of INLAND WATERS

USED for POWERPLANT COOLING

ADOPTED JUNE 19, 1975

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

TABLE OF CONTENTS

WATER QUALITY CONTROL POLICY ON THE USE AND DISPOSAL OF INLAND WATERS USED FOR POWERPLANT COOLING

Introduction

The purpose of this policy is to provide consistent statewide water quality principles and guidance for adoption of discharge requirements, and implementation actions for powerplants which depend upon inland waters for cooling. In addition, this policy should be particularly useful in guiding planning of new power generating facilities so as to protect beneficial uses of the State's water resources and to keep the consumptive use of freshwater for powerplant cooling to that minimally essential for the welfare of the citizens of the State.

This policy has been prepared to be consistent with federal, state, and local planning and regulatory statutes, the Warren-Alquist State Energy Resources Conservation and Development Act, Water Code Section 237 and the Waste Water Reuse Law of 1974.

Section 25216.3 of the Warren-Alquist Act states:

> "(a) The commission shall compile relevant local, regional, state, and federal land use, public safety, environmental, and other standards to be met in designing, siting, and operating facilities in the State; except as provided in subdivision (d) of Section 25402, adopt standards, except for air and water quality,...."

Water Code Section 237 and Section 462 of the Waste Water Reuse Law, direct the Department of Water Resources to:

> 237. "...either independently or in cooperation with any person or any county, state, federal, or other agency, including, but not limited to, the State Energy Resources Conservation and Development Commission, shall conduct studies and investigations on the need and availability of water for thermal electric powerplant cooling purposes, and shall report thereon to the Legislature from time to time...."
>
> 462. "...conduct studies and investigations on the availability and quality of waste water and uses of reclaimed waste water for beneficial purposes including, but not limited to ... and cooling for thermal electric powerplants."

Decisions on waste discharge requirements, water rights permits, water quality control plans, and other specific water quality control implementing actions by the State and Regional Boards shall be consistent with provisions of this policy.

The Board declares its intent to determine from time to time the need for revising this policy.

Definitions

1. Inland Water - all waters within the territorial limits of California exclusive of the waters of the Pacific Ocean outside of enclosed bays, estuaries, and coastal lagoons.

2. Fresh Inland Waters - those inland waters which are suitable for use as a source of domestic, municipal, or agricultural water supply and which provide habitat for fish and wildlife.

3. Salt Sinks - areas designated by the Regional Water Quality Control Boards to receive saline waste discharges.

4. Brackish Waters - includes all waters with a salinity range of 1,000 to 30,000 mg/l and a chloride concentration range of 250 to 12,000 mg/l. The application of the term "brackish" to a water is not intended to imply that such water is no longer suitable for industrial or agricultural purposes.

5. Steam-Electric Power Generating Facilities - electric power generating facilities utilizing fossil or nuclear-type fuel or solar heating in conjunction with a thermal cycle employing the steam-water system as the thermodynamic medium and for the purposes of this policy is synonomous with the word "powerplant".

6. Blowdown - the minimum discharge of either boiler water or recirculating cooling water for the purpose of limiting the buildup of concentrations of materials in excess of desirable limits established by best engineering practice.

7. Closed Cycle Systems - a cooling water system from which there is no discharge of wastewater other than blowdown.

8. Once-Through Cooling - a cooling water system in which there is no recirculation of the cooling water after its initial use.

9. Evaporative Cooling Facilities - evaporative towers, cooling ponds, or cooling canals, which utilize evaporation as a means of wasting rejected heat to the atmosphere.

10. Thermal Plan - "Water Quality Control Plan for Control of Temperature In The Coastal and Interstate Waters and Enclosed Bays and Estuaries of California"

11. Ocean Plan - "Water Quality Control Plan for Ocean Waters of California"

Basis of Policy

1. The State Board believes it is essential that every reasonable effort be made to conserve energy supplies and reduce energy demands to minimize adverse effects on water supply and water quality and at the same time satisfy the State's energy requirements.

2. The increasing concern to limit changes to the coastal environment and the potential hazards of earthquake activity along the coast has led the electric utility industry to consider siting steam-electric generating plants inland as an alternative to proposed coastal locations.

3. Although many of the impacts of coastal powerplants on the marine environment are still not well understood, it appears the coastal marine environment is less susceptible than inland waters to the water quality impacts associated with powerplant cooling. Operation of existing coastal powerplants indicate that these facilities either meet the standards of the State's Thermal Plan and Ocean Plan or could do so readily with appropriate technological modifications. Furthermore, coastal locations provide for application of wide range of cooling technologies which do not require the consumptive use of inland waters and therefore would not place an additional burden on the State's limited supply of inland waters. These technologies include once-through cooling which is appropriate for most coastal sites, potential use of saltwater cooling towers, or use of brackish waters where more stringent controls are required for environmental considerations at specific sites.

4. There is a limited supply of inland water resources in California. Basin planning conducted by the State Board has shown that there is no available water for new allocations in some basins. Projected future water demands when compared to existing developed water supplies indicate that general fresh-water shortages will occur in many areas of the State prior to the year 2000. The use of inland waters for powerplant cooling needs to be carefully evaluated to assure proper future allocation of inland waters considering all other beneficial uses. The loss of inland waters through evaporation in powerplant cooling facilities may be considered an unreasonable use of inland waters when general shortages occur.

5. The Regional Boards have adopted water quality objectives including temperature objectives for all surface waters in the State.

6. Disposal of once-through cooling waters from powerplants to inland waters is incompatible with maintaining the water quality objectives of the State Board's "Thermal Plan" and "Water Quality Control Plans".

7. The improper disposal of blowdown from evaporative cooling facilities may have an adverse impact on the quality of inland surface and groundwaters and on fish and wildlife.

8. An important consideration in the increased use of inland water for powerplant cooling or for any other purpose in the Central Valley Region is the reduction in the available quantity of water to meet the Delta outflow requirements necessary to protect Delta water quality objectives and standards. Additionally, existing contractual agreements to provide future water supplies to the Central Valley, the South Coastal Basin, and other areas using supplemental water supplies are threatening to further reduce the Central Valley outflow necessary to protect the Delta environment.

9. The California Constitution and the California Water Code declare that the right to use water from a natural stream or watercourse is limited to such water as shall be reasonably required for beneficial use and does not extend to the waste or unreasonable use or unreasonable method of use or unreasonable method of diversion. Section 761, Article 17.2, Subchapter 2, Chapter 3, Title 23, California Administrative Code provides that permits or licenses for the appropriation of water will contain a term which will subject the permit or license to the continuing authority of the State Board to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

10. The Water Code authorizes the State Board to prohibit the discharge of wastes to surface and groundwaters of the State.

Principles

1. It is the Board's position that from a water quantity and quality standpoint the source of powerplant cooling water should come from the following sources in this order of priority depending on site specifics such as environmental, technical and economic feasibility consideration: (1) wastewater being discharged to the ocean, (2) ocean, (3) brackish water from natural sources or irrigation return flow, (4) inland wastewaters of low TDS, and (5) other inland waters.

2. Where the Board has jurisdiction, use of fresh inland waters for powerplant cooling will be approved by the Board only when it is demonstrated that the use of other water supply sources or other methods of cooling would be environmentally undesirable or economically unsound.

3. In considering issuance of a permit or license to appropriate water for powerplant cooling, the Board will consider the reasonableness of the proposed water use when compared with other present and future needs for the water source and when viewed in the context of alternative water sources that could be used

for the purpose. The Board will give great weight to the results of studies made pursuant to the Warren-Alquist State Energy Resources Conservation and Development Act and carefully evaluate studies by the Department of Water Resources made pursuant to Sections 237 and 462, Division 1 of the California Water Code.

4. The discharge of blowdown water from cooling towers or return flows from once-through cooling shall not cause a violation of water quality objectives or waste discharge requirements established by the Regional Boards.

5. The use of unlined evaporation ponds to concentrate salts from blowdown waters will be permitted only at salt sinks approved by the Regional and State Boards. Proposals to utilize unlined evaporation ponds for final disposal of blowdown waters must include studies of alternative methods of disposal. These studies must show that the geologic strata underlying the proposed ponds or salt sink will protect usable groundwater.

6. Studies of availability of inland waters for use in powerplant cooling facilities to be constructed in Central Valley basins, the South Coastal Basins or other areas which receive supplemental water from Central Valley streams as for all major new uses must include an analysis of the impact of such use on Delta outflow and Delta water quality objectives. The studies associated with powerplants should include an analysis of the cost and water use associated with the use of alternative cooling facilities employing dry, or wet/dry modes of operation.

7. The State Board encourages water supply agencies and power generating utilities and agencies to study the feasibility of using wastewater for powerplant cooling. The State Board encourages the use of wastewater for powerplant cooling where it is appropriate. Furthermore, Section 25601(d) of the Warren-Alquist Energy Resources Conservation and Development Act directs the Commission to study, "expanded use of wastewater as cooling water and other advances in powerplant cooling" and Section 462 of the Waste Water Reuse Law directs the Department of Water Resources to "...conduct studies and investigations on the availability and quality of waste water and uses of reclaimed waste water for beneficial purposes including, but not limited to ... and cooling for thermal electric powerplants."

Discharge Prohibitions

1. The discharge to land disposal sites of blowdown waters from inland powerplant cooling facilities shall be prohibited except to salt sinks or to lined facilities approved by the Regional and State Boards for the reception of such wastes.

2. The discharge of wastewaters from once-through inland powerplant cooling facilities shall be prohibited unless the discharger can show that such a practice will maintain the existing water quality and aquatic environment of the State's water resources.

3. The Regional Boards may grant exceptions to these discharge prohibitions on a case-by-case basis in accordance with exception procedures included in the "Water Quality Control Plan for Control of Temperature In The Coastal and Interstate Waters and Enclosed Bays and Estuaries of California.

Implementation

1. Regional Water Quality Control Boards will adopt waste discharge requirements for discharges from powerplant cooling facilities which specify allowable mass emission rates and/or concentrations of effluent constituents for the blowdown waters. Waste discharge requirements for powerplant cooling facilities will also specify the water quality conditions to be maintained in the receiving waters.

2. The discharge requirements shall contain a monitoring program to be conducted by the discharger to determine compliance with waste discharge requirements.

3. When adopting waste discharge requirements for powerplant cooling facilities the Regional Boards shall consider other environmental factors and may require an environmental impact report, and shall condition the requirement in accordance with Section 2718, Subchapter 17, Chapter 3, Title 23, California Administrative Code.

4. The State Board shall include a term in all permits and licenses for appropriation of water for use in powerplant cooling that requires the permittee or licensee to conduct ongoing studies of the environmental desirability and economic feasibility of changing facility operations to minimize the use of fresh inland waters. Study results will be submitted to the State Board at intervals as specified in the permit term.

5. Petitions by the appropriator to change the nature of the use of appropriated water in an existing permit or license to allow the use of inland water for powerplant cooling may have an impact on the quality of the environment and as such require the preparation of an environmental impact statement or a supplement to an existing statement regarding, among other factors, an analysis of the reasonableness of the proposed use.

6. Applications to appropriate inland waters for powerplant cooling purpose shall include results of studies comparing the environmental impact of alternative inland sites as well as alternative water supplies and cooling facilities. Studies of alternative coastal sites must be included in the environmental impact report. Alternatives to be considered in the environmental impact report, including but not limited to sites, water supply, and cooling facilities, shall be mutually agreed upon by the prospective appropriator and the State Board staff. These studies should include comparisons of environmental impact and economic and social benefits and costs in conformance with the Warren-Alquist State Energy Resources Conservation and Development Act, the California Coastal Zone Plan, the California Environmental Quality Act and the National Environmental Policy Act.

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 75-58

WATER QUALITY CONTROL POLICY ON THE USE AND DISPOSAL OF INLAND WATERS USED FOR POWERPLANT COOLING

WHEREAS:

1. Basin planning conducted by the State Board has shown that there is presently no available water for new allocations in some basins.

2. Projected future water demands, when compared to existing developed water supplies, indicate that general freshwater shortages will occur in many areas of the State prior to the year 2000.

3. The improper disposal of powerplant cooling waters may have an adverse impact on the quality of inland surface and groundwaters.

4. It is believed that further development of water in the Central Valley will reduce the quantity of water available to meet Delta outflow requirements and protect Delta water quality standards.

THEREFORE, BE IT RESOLVED, that

1. The Board hereby adopts the "Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling".

2. The Board hereby directs all affected California Regional Water Quality Control Boards to implement the applicable provisions of the policy.

3. The Board hereby directs staff to coordinate closely with the State Energy Resources Conservation and Development Commission and other involved state and local agencies as this policy is implemented.

CERTIFICATION

The undersigned, Executive Officer of the State Water Resources Control Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 19, 1975.

Bill B. Dendy
Executive Officer

APPENDIX A-6

Reclamation Policy

STATE WATER RESOURCES CONTROL BOARD

RESOLUTION NO. 77-1

POLICY WITH RESPECT TO WATER
RECLAMATION IN CALIFORNIA

WHEREAS:

1. The California Constitution provides that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that waste or unreasonable use or unreasonable method of use of water be prevented, and that conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare;

2. The California Legislature has declared that the State Water Resources Control Board and each Regional Water Quality Control Board shall be the principal state agencies with primary responsibility for the coordination and control of water quality;

3. The California Legislature has declared that the people of the State have a primary interest in the development of facilities to reclaim water containing waste to supplement existing surface and underground water supplies;

4. The California Legislature has declared that the State shall undertake all possible steps to encourage the development of water reclamation facilities so that reclaimed water may be made available to help meet the growing water requirements of the State;

5. The Board has reviewed the document entitled "Policy and Action Plan for Water Reclamation in California", dated December 1976. This document recommends a variety of actions to encourage the development of water reclamation facilities and the use of reclaimed water. Some of these actions require direct implementation by the Board; others require implementation by the Executive Officer and the Regional Boards. In addition, this document recognizes that action by many other state, local, and federal agencies and the California State Legislature would also encourage construction of water reclamation facilities and the use of reclaimed water. Accordingly, the Board recommends for its consideration a number of actions intended to coordinate with the program of this Board;

6. The Board must concentrate its efforts to encourage and promote reclamation in water-short areas of the State where reclaimed water can supplement or replace other water supplies without interfering with water rights or instream beneficial uses or placing an unreasonable burden on present water supply systems; and

7. In order to coordinate the development of reclamation potential in California, the Board must develop a data collection, research, planning, and implementation program for water reclamation and reclaimed water uses.

THEREFORE, BE IT RESOLVED:

1. That the State Board adopt the following Principles:

   I. The State Board and the Regional Boards shall encourage, and consider or recommend for funding, water reclamation projects which meet Condition 1, 2, or 3 below and which do not adversely impact vested water rights or unreasonably impair instream beneficial uses or place an unreasonable burden on present water supply systems;

      (1) Beneficial use will be made of wastewaters that would otherwise be discharged to marine or brackish receiving waters or evaporation ponds,

      (2) Reclaimed water will replace or supplement the use of fresh water or better quality water,

      (3) Reclaimed water will be used to preserve, restore, or enhance instream beneficial uses which include, but are not limited to, fish, wildlife, recreation and esthetics associated with any surface water or wetlands.

   II. The State Board and the Regional Boards shall (1) encourage reclamation and reuse of water in water-short areas of the State, (2) encourage water conservation measures which further extend the water resources of the State, and (3) encourage other agencies, in particular the Department of Water Resources, to assist in implementing this policy.

   III. The State Board and the Regional Boards recognize the need to protect the public health including potential vector problems and the environment in the implementation of reclamation projects.

   IV. In implementing the foregoing Principles, the State Board or the Regional Boards, as the case may be, shall take appropriate actions, recommend legislation, and recommend actions by other agencies in the areas of (1) planning, (2) project funding, (3) water rights, (4) regulation and enforcement, (5) research and demonstration, and (6) public involvement and information.

2. That, in order to implement the foregoing Principles, the State Board:

(a) Approves Planning Program Guidance Memorandum No. 9, "PLANNING FOR WASTEWATER RECLAMATION",

(b) Adopts amendments and additions to Title 23, California Administrative Code Sections 654.4, 761, 764.9, 783, 2101, 2102, 2107, 2109, 2109.1, 2109.2, 2119, 2121, 2133(b)(2), and 2133(b)(3),

(c) Approves Grants Management Memorandum No. 9.01, "WASTEWATER RECLAMATION",

(d) Approves the Division of Planning and Research, Procedures and Criteria for the Selection of Wastewater Reclamation Research and Demonstration Projects,

(e) Approves "GUIDELINES FOR REGULATION OF WATER RECLAMATION",

(f) Approves the Plan of Action contained in Part III of the document identified in Finding Five above,

(g) Directs the Executive Officer to establish an Interagency Water Reclamation Policy Advisory Committee. Such Committee shall examine trends, analyze implementation problems, and report annually to the Board the results of the implementation of this policy, and

(h) Authorizes the Chairperson of the Board and directs the Executive Officer to implement the foregoing Principles and the Plan of Action contained in Part III of the document identified in Finding Five above, as appropriate.

3. That not later than July 1, 1978, the Board shall review this policy and actions taken to implement it, along with the report prepared by the Interagency Water Reclamation Policy Advisory Committee, to determine whether modifications to this policy are appropriate to more effectively encourage water reclamation in California.

4. That the Chairperson of the Board shall transmit to the California Legislature a complete copy of the "Policy and Action Plan for Water Reclamation in California".

CERTIFICATION

The undersigned, Executive Officer of the State Water Resources Control Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a special meeting of the State Water Resources Control Board held on January 6, 1977.

Dated: JAN 7 1977

Bill B. Dendy

Bill B. Dendy
Executive Officer

APPENDIX A-7

Shredder Waste Disposal Policy

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 67-22

POLICY ON THE DISPOSAL OF SHREDDER WASTE

WHEREAS:

1. Chemical analysis of wastes resulting from the shredding of automobile bodies, household appliances, and sheet metal (hereinafter shredder waste) by methods stipulated by the Department of Health Services (hereinafter DHS) has resulted in the classification of shredder waste as a hazardous waste and the determination that, if inappropriately handled, it could catch fire and release toxic gases.

2. The California Legislature has declared that shredder waste shall not be classified as hazardous for the purposes of disposal if the producer demonstrates that the waste will not pose a threat to human health or water quality if disposed of in a qualified Class III waste management unit, as specified in Section 2533 of Subchapter 15 of Chapter 3 of Title 23 of the California Administrative Code (hereinafter Subchapter 15).

3. DHS has granted shredder waste a variance for the purposes of disposal from hazardous waste management requirements pursuant to Section 66310 of Title 22 of the California Administrative Code.

4. Hazardous waste which has received a variance from DHS for the purposes of disposal is classified as a designated waste pursuant to Section 2522 of Subchapter 15.

5. In general, designated waste must be disposed of in a Class I or Class II waste management unit. However, designated waste may be disposed of in a Class III waste management unit provided that the discharger establishes to the satisfaction of the Regional Water Quality Control Board (hereinafter Regional Board) that the waste presents a lower risk of degrading water quality than is indicated by its classification. (Authority: Section 2520, Subchapter 15)

6. Analysis of shredder waste by the U. S. Environmental Protection Agency's extraction procedure for heavy metals does not normally result in its classification as a hazardous waste.

7. The disposal of shredder waste in a manner such that it is not in contact with putrescible waste or the leachate generated by putrescible waste will not result in the high mobilization of metals indicated by the tests used to determine that shredder waste is hazardous; therefore, such disposal may occur in accordance with Section 2520 of Subchapter 15.

8. Levels of polychlorinated biphenyls (hereinafter PCB) which slightly exceed 50 mg/kg, the level as defined by the U. S. Environmental Protection Agency which requires disposal to an approved site in accordance with the Federal Toxic Substances Control Act, have been measured in some existing shredder waste piles.

THEREFORE BE IT RESOLVED:

1. That shredder waste which is determined hazardous by DHS, but is granted a variance for the purposes of disposal by DHS, is suitable for disposal at Class III waste management units as designated by the Regional Board when it has been demonstrated to the Regional board that the waste management units at least meet the minimum requirements for a Class III waste management unit as defined by Subchapter 15 provided that:

   a. The shredder waste producer has demonstrated to the Regional Board that the waste contains no more than 50 mg/kg of PCB.

   b. The shredder waste is disposed on the last and highest lift in a closed disposal cell or in an isolated cell solely designated for the disposal of shredder waste.

2. That shredder waste which is not determined hazardous by DHS is suitable for disposal at Class III waste management units as designated by the Regional Board without special segregation or management.

3. That this resolution in no way abridges the rights of the Regional Boards to designate appropriate Class III waste management units for disposal of shredder waste consistent with Section 25143.6 of the Health and Safety Code (Chapter 1395, Statutes of 1985).

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on March 19, 1987.

Maureen Marché
Administrative Assistant to the Board

APPENDIX A-8

Underground Storage Tank Pilot Program

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 88- 23

ADOPTION OF THE POLICY REGARDING THE
UNDERGROUND STORAGE TANK
PILOT PROGRAM

WHEREAS:

1. State law requires local governments to implement an underground tank permit program consisiting of monitoring requirements for existing underground tanks containing hazardous substances and design, construction and monitoring requirements for new tanks.

2. Monitoring efforts have led to the identification of approximately 5,000 leaking underground storage tank release sites with approximately 150 new cases being discovered statewide each month.

3. To address the problem of funding governmental oversight of remedial actions at these release sites, the Legislature appropriated funds and enacted AB 853 (Chapter 1317, Statutes of 1987).

4. Prior to expending funds from the reserve account established by Subdivision (c) of Section 7, Chapter 1439, Statutes of 1985 the State Water Resources Control Board must adopt administrative and technical prodecures for cleanup and abatement action taken under this pilot program.

THEREFORE BE IT RESOLVED:

THAT THE STATE BOARD:

1. Adopts the attached policy regarding implementation of the underground tank pilot program.

2. Directs the Executive Director or his designee to take actions needed to implement the policy.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on February 18, 1988.

Maureen Marche
Administrative Assistant to the Board

STATE WATER RESOURCES CONTROL BOARD POLICY REGARDING THE UNDERGROUND STORAGE TANK PILOT PROGRAM

Statutory authority exists at the federal, state and local level to require remedial action at underground storage tank release sites and to rank and fund remedial action at underground storage tank release sites where a responsible party cannot be identified or has insufficient financial resources to accomplish the needed work. Some local agencies have used this authority to respond to some of these releases, as have the nine Regional Water Quality Control Boards. In addition, the Regional Boards are providing technical assistance to local agencies addressing underground storage tank cleanup. However, no specific statewide program for funding governmental oversight of remedial action by responsible parties has been established. As a result, underground storage tank release oversight is not being consistently addressed statewide, leaving site cleanup by responsible parties without adequate guidance.

To address this problem, the State Board, in cooperation with the Department of Health Services, is implementing a pilot program to fund oversight of remedial action at underground storage tank sites. This program will be funded through an appropriation from the state Hazardous Substances Cleanup Bond Fund and the federal Underground Storage Tank Petroleum Trust Fund.

Prior to implementation of this pilot program, the State Board is required by Section 25297.1 of the Health and Safety Code (AB 853, Chapter 1317, Statutes of 1987) to adopt, as state policy for water quality control, administrative and technical procedures to guide local agencies in development of their individual programs.

As participants in the pilot program, local agencies may contract with the State Board to oversee preliminary site assessment and, if necessary, remedial action at leaking underground storage tank sites. The State Board plans to initially enter into 12 contracts with subsequent expansion as appropriate.

Site and Agency Selection

Local agencies will be selected for participation based on their readiness to implement the pilot program and the size of program which the agencies plan to conduct. Those agencies which have existing oversight efforts and plan to expand staff using pilot program funds were ranked highest among eligible candidates. Any local agency which, unless exempted, has failed to implement Chapter 6.7 of the Health and Safety Code and/or which has failed to collect and transmit to the State Board the surcharge fees pursuant to subdivision (b) of Section 25287, was eliminated from consideration.

Under the pilot program, funds may be used at all sites containing leaking tanks which are subject to the state permit program or Subtitle (I) of the federal Resource Conservation and Recovery Act. While contracting local agencies may perform oversight activities at any site within their jurisdictions, agencies may defer lead responsibility for any case affecting, or threatening to affect, ground water to the appropriate Regional Board.

In addition, the local agencies may defer lead responsibility for any case involving a non-petroleum substance to either the appropriate Regional Board or the Department of Health Services. Under terms of the contract between the local agencies and State Board, all cases involving no financially solvent responsible party, no identifiable responsible party or no responsible party willing to conduct remedial action must be reported to the State Board for possible listing on the state Site Expenditure Plan.

Agreements Between the State Board and Local Agencies

The State Board has developed a model contract which will be used as the basis for negotiations between the local agencies and the State Board. This contract outlines in detail the types of activities expected of contracting agencies and the administrative duties of the State and Regional Boards. The model contract (Attachment 1) is hereby made a part of this water quality control policy. Language in the model contract may be modified in negotiations with the local agencies.

Petition for Review

Responsible parties or any other aggrieved persons may petition the State Board for review of actions or decisions made by a local agency as part of the agency's participation in the pilot program. The procedures for such review are contained in "Review by State Board of Action or Failure to Act by Local Agencies" (Attachment 2), which is hereby made a part of this water quality control policy.

Cost Recovery Procedures

Under terms of both the Cooperative Agreement with the federal government transferring money from the Trust Fund and Section 25297.1 of the Health and Safety Code concerning the Bond Fund, local contracting agencies must agree to keep site-specific accounting records and other such records as are necessary to verify all hours worked and expenses incurred at each underground storage tank site. Local contracting agencies will forward to the State Board monthly invoices listing all site-specific and administrative expenses.

The State Board must undertake cost recovery. Procedurally, the cost recovery efforts will be handled in the following manner. The State Board is responsible for ensuring the preparation of cost data and for invoicing responsible parties for all costs incurred by the State Board and/or local contracting agencies in performing activities covered by this agreement. Such costs shall include all additional costs required to be recovered pursuant to Health and Safety Code Section 25360. The State Board will provide guidelines to the local contracting agencies to ensure that necessary cost data are developed, maintained and reported to the State Board.

The State Board will invoice the responsible parties for all costs, both direct and indirect, attributable to that site upon conclusion of the preliminary site assessment phase. If cleanup of the site has not been completed, the State Board will continue invoicing the responsible parties at regular intervals thereafter until conclusion of site cleanup.

Upon receipt of a final invoice for each site, the State Board will invoice the responsible parties for all costs attributable to the site which have not previously been reimbursed by the responsible parties.

Payments received from responsible parties of sites having state-funded oversight will be deposited in the Hazardous Substances Clearing Account. Payments from responsible parties at federally funded sites will be handled according to procedures established by the federal Environmental Protection Agency.

Whenever a responsible party fails to repay all of the costs specified above, the State Board shall request the State Attorney General to bring a civil action to recover these moneys. The State Board shall be responsible for providing all necessary litigation support, including testimony, to the Attorney General and the Department of Health Services in any action to recover costs. The State Board will submit to the Department of Health Services a copy of each referral of state-funded sites to the Attorney General.

Evaluation Criteria

In conjunction with the pilot program, the State Board is developing the Leaking Underground Storage Tank Information System (LUSTIS). This computer tracking system will enable all local agencies and the Regional Boards to report known leaking tank sites and their cleanup status. Using LUSTIS, it will be possible to compare cleanup of sites in the pilot program with sites handled by non-contracting local agencies and the Regional Boards. Comparison criteria will include number of sites cleaned and length of time required to clean up each site. Additional statistics will be tracked by State Board staff to determine costs under the pilot program and success in cost recovery. Staff will report annually on the status of the pilot program including the above criteria. The report will be submitted to the State Board no later than September 1, 1988 and annually thereafter for the duration of the pilot program.

BECAUSE OF ITS TECHNICAL NATURE AND LENGTH, THE MODEL CONTRACT (ATTACHMENT 1) IS NOT INCLUDED IN THIS PACKET. COPIES WILL BE PROVIDED UPON REQUEST. FOR COPIES, PLEASE CONTACT BETTY MORENO, DIVISION OF WATER QUALITY, STATE WATER RESOURCES CONTROL BOARD, P.O. BOX 100, SACRAMENTO, CA 95801-0100, (916) 324-1262.

REVIEW BY STATE BOARD OF ACTION OR FAILURE TO ACT BY LOCAL AGENCIES

(1) Applicability. This section establishes the procedures by which a responsible party or other aggrieved person may petition the State Board for review of the action or decision a local agency made as part of that local agency's participation in the pilot program. Actions or decisions made by local agencies independent of their participation in the pilot program, and actions or decisions of local agencies that are not participating in the pilot program, are not subject to review by the State Board under this section.

(2) Petitions. Any responsible party or other aggrieved person may petition the State Board for review of an action or decision of a local agency, including a local agency's failure to act, as part of the pilot program.

(A) The petition shall be submitted in writing and received by the State Board within 30 days of the action or decision of the local agency. In the case of a failure to act, the 30-day period shall commence upon refusal of the local agency to act, or 60 days after the request has been made to the local agency to act. The State Board will not accept any petition received after the 30-day period for filing petitions but the State Board may, on its own motion, at any time review any local agency's action or failure to act.

(B) The petition shall contain the following:
(1) The name and address of the petitioner;
(2) The specific action or inaction of the local agency which the State Board is requested to review;
(3) The date on which the local agency acted or refused to act or on which the local agency was requested to act;
(4) A full and complete statement of the reasons the action or failure to act was inappropriate or improper;
(5) The manner in which the petitioner is aggrieved;
(6) The specific action by the State Board or the local agency which the petitioner requests;
(7) A statement of points and authorities in support of legal issues raised in the petition;
(8) A list of persons, if any, other than the petitioner, known by the local agency to have an interest in the subject matter of the petition. Such list shall be obtained from the local agency;
(9) A statement that the petition has been sent to the local agency, the appropriate Regional Board, and to any responsible parties other than the petitioner, known to the petitioner or the local agency;
(10) A copy of the request to the local agency for preparation of the local agency record.

(C) If petitioner requests a hearing for the purpose of presenting additional evidence, the petition shall include a statement that additional evidence is available that was not presented to the local agency or that evidence was improperly excluded by the local agency. A detailed statement of the nature of the evidence and the facts to be proved shall also be included. If evidence was not presented to the local agency, the reason it was not presented shall be explained. If the petitioner contends that evidence was improperly excluded, the request for a hearing shall include a specific statement of the manner in which the evidence was excluded improperly.

(D) Upon receipt of a petition which does not comply with this subdivision, the petitioner will be notified in what respect the petition is defective and the time within which an amended petition may be filled. If a properly amended petition is not received by the State Board within the time allowed, the petition shall be dismissed unless cause is shown for an extension of time.

(E) The State Board may dismiss the petition at any time if the petition is withdrawn or the petition fails to raise substantial issues that are appropriate for review.

(3) Responses. Upon receipt of a petition which complies with subdivision (2), the State Board shall give written notification to the petitioner, the responsible party or parties, if not the petitioner, the local agency, the Regional Board, the Toxic Substances Control Division Office of Legal Counsel in the Department of Health Services, and other interested persons that they shall have 20 days from the date of mailing such notification to file a response to the petition with the State Board. Respondents to petitions shall also send copies of their responses to the petitioner and the local agency, as appropriate. The local agency shall file the record specified in paragraph (B)(10) of subdivision (2) within this 20-day period. Any response which requests a hearing by the State Board shall comply with paragraph (C) of subdivision (2). The time for filing a response may be extended by the State Board. When a review is undertaken on the State Board's own motion, all affected persons known to the State Board shall be notified and given an opportunity to submit information and comments, subject to such conditions as the State Board may prescribe.

(4) Proceedings before the State Board. After review of the record, the State Board may deny the petition or grant the petition in whole or in part.

(A) The State Board may order one or more proceedings which are legally or factually related to be considered or heard together unless any party thereto makes a sufficient showing of prejudice.

(B) The State Board may, in its discretion, hold a hearing for the receipt of additional evidence. If a hearing is held, the State Board shall give reasonable notice of the time and place and of the issues to be considered to the responsible party or parties, if not the petitioner, the local agency, any interested persons who have

filed a response to the petition pursuant to subdivision (3) and such other persons as the State Board deems appropriate. The State Board in its discretion may require that, not later than ten days before the hearing, all interested parties intending to participate shall submit to the State Board in writing the name of each witness who will appear, together with a statement of the qualifications of each expert witness who will appear, the subject of the proposed testimony, and the estimated time required by the witness to present direct testimony. The Board may also require that copies of proposed exhibits be supplied to the State Board not later than ten days before the hearing.

(C) The State Board may discuss a proposed order in a public workshop prior to final action at a State Board meeting. At the workshop meeting, the State Board may invite comments on the proposed order from interested persons. These comments shall be based solely upon factual evidence contained in the record or upon legal argument.

(D) The evidence before the State Board shall consist of (i) the record before the local agency; (ii) any evidence admitted by the State Board at a hearing and (iii) any other relevant evidence which, in the judgment of the State Board, should be considered to effectuate and implement the pilot program. Upon the close of a hearing, the presiding officer may keep the hearing record open for a definite time, not to exceed thirty days, to allow any party to file additional exhibits, reports or affidavits. If any person desires to submit factual evidence not in the local agency record or hearing record, and the proposed order will be discussed at a workshop meeting such person may take this request to the State Board prior to or during the workshop. This request shall include a description of the evidence, and a statement and supporting argument that the evidence was improperly excluded from the record or an explanation of the reasons why the factual evidence could not previously have been submitted. If the State Board in its discretion approves the request, the evidence must be submitted in writing by the person requesting consideration of the evidence to the State Board, and to any other interested person who filed the petition or a response to the petition, within five days of such approval. The evidentiary submittal shall be accompanied by a notification that other interested parties shall be allowed an additional five days from the submittal date to file responsive comments in writing. A copy of the notification shall be filed with the State Board.

(E) Any order granting or denying the petition will be adopted at a regularly scheduled State Board meeting. At the meeting the State Board may invite comments on the matter from interested persons. These comments shall be based solely upon factual evidence contained in the record, including any evidence accepted by the State Board pursuant to paragraph (D), or legal argument. No new factual evidence shall be submitted at the State Board meeting. If new

legal argument is to be submitted at the State Board meeting, this argument is to be filed in writing with the State Board and other interested persons at least five working days prior to the State Board meeting in order for such argument to be considered by the State Board.

(F) An order adopted by the State Board may:
- (i) Deny the petition upon a finding that the action or failure to act of the local agency was appropriate and proper;
- (ii) Set aside or modify the local agency's action;
- (iii) Direct the local agency to take appropriate action; or
- (iv) Request appropriate action by the Regional Board or the Department of Health Services.

(G) If the State Board does not adopt an order or dismiss the petition within 270 days of written notification provided in subdivision (C), the petition is deemed denied. This time limit may be extended for a period not to exceed 60 days by written agreement between the State Board and the petitioner.

(5) Stay Orders. The State Board may stay in whole or in part, pending final disposition of any petition or any proceedings for review on the State Board's own motion, the effect of the action or decision of the local agency. The filing of a petition shall not operate as a stay of the local agency's action or decision, or effect of the local agency's authority to implement or amend that action or decision, unless a stay is issued by the State Board.

(A) A stay order may be issued upon petition of an interested person, or on the State Board's own motion. The stay order may be issued by the State Board, upon notice and a hearing, or by the State Board's Executive Director. If the stay order is issued by the Executive Director, the State Board shall conduct a hearing within 60 days after the stay order is issued by the Executive Director, to consider whether the stay order should be rescinded or modified, unless the State Board makes final disposition of the petition within that 60-day period. A request for a stay may be denied without a hearing.

(B) A petition for a stay shall be supported by affidavit of a person or persons having knowledge of the facts alleged. The requirement of an affidavit may be waived by the State Board in case of an emergency. A petition for a stay will be denied unless the petitioner alleges facts and produces proof of:
- (i) Substantial harm to petitioner or to the public interest if a stay is not granted;
- (ii) A lack of substantial harm to other interested persons and or the public interest if a stay is granted;
- (iii) Substantial questions of law or fact regarding the action or decision of the local agency.

APPENDIX A-9

Sources of Drinking Water Policy

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 88-63

ADOPTION OF POLICY ENTITLED
"SOURCES OF DRINKING WATER"

WHEREAS:

1. California Water Code Section 13140 provides that the State Board shall formulate and adopt State Policy for Water Quality Control; and,

2. California Water Code Section 13240 provides that Water Quality Control Plans "shall conform" to any State Policy for Water Quality Control; and,

3. The Regional Boards can conform the Water Quality Control Plans to this policy by amending the plans to incorporate the policy; and,

4. The State Board must approve any conforming amendments pursuant to Water Code Section 13245; and,

5. "Sources of drinking water" shall be defined in Water Quality Control Plans as those water bodies with beneficial uses designated as suitable, or potentially suitable, for municipal or domestic water supply (MUN); and,

6. The Water Quality Control Plans do not provide sufficient detail in the description of water bodies designated MUN to judge clearly what is, or is not, a source of drinking water for various purposes.

THEREFORE BE IT RESOLVED:

All surface and ground waters of the State are considered to be suitable, or potentially suitable, for municipal or domestic water supply and should be so designated by the Regional Boards[1] with the exception of:

1. <u>Surface and ground waters where:</u>

   a. The total dissolved solids (TDS) exceed 3,000 mg/L (5,000 uS/cm, electrical conductivity) and it is not reasonably expected by Regional Boards to supply a public water system, or

b. There is contamination, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for domestic use using either Best Management Practices or best economically achievable treatment practices, or

c. The water source does not provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day.

2. Surface waters where:

a. The water is in systems designed or modified to collect or treat municipal or industrial wastewaters, process waters, mining wastewaters, or storm water runoff, provided that the discharge from such systems is monitored to assure compliance with all relevant water quality objectives as required by the Regional Boards; or,

b. The water is in systems designed or modified for the primary purpose of conveying or holding agricultural drainage waters, provided that the discharge from such systems is monitored to assure compliance with all relevant water quality objectives as required by the Regional Boards.

3. Ground water where:

The aquifer is regulated as a geothermal energy producing source or has been exempted administratively pursuant to 40 Code of Federal Regulations, Section 146.4 for the purpose of underground injection of fluids associated with the production of hydrocarbon or geothermal energy, provided that these fluids do not constitute a hazardous waste under 40 CFR, Section 261.3.

4. Regional Board Authority to Amend Use Designations:

Any body of water which has a current specific designation previously assigned to it by a Regional Board in Water Quality Control Plans may retain that designation at the Regional Board's discretion. Where a body of water is not currently designated as MUN but, in the opinion of a Regional Board, is presently or potentially suitable for MUN, the Regional Board shall include MUN in the beneficial use designation.

The Regional Boards shall also assure that the beneficial uses of municipal and domestic supply are designated for protection wherever those uses are presently being attained, and assure that any changes in beneficial use designations for waters of the State are consistent with all applicable regulations adopted by the Environmental Protection Agency.

The Regional Boards shall review and revise the Water Quality Control Plans to incorporate this policy.

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1 This policy does not affect any determination of what is a potential source of drinking water for the limited purposes of maintaining a surface impoundment after June 30, 1988, pursuant to Section 25208.4 of the Health and Safety Code.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a policy duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 19, 1988.

Maureen Marche'
Administrative Assistant to the Board

APPENDIX A-10

Nonpoint Source Management Plan

STATE WATER RESOURCES CONTROL BOARD
DIVISION OF WATER QUALITY
NONPOINT SOURCE PROGRAM

NONPOINT SOURCE MANAGEMENT PLAN

NOVEMBER 1988

STATE OF CALIFORNIA
WATER RESOURCES CONTROL BOARD

Paul R. Bonderson Building
901 P Street
Sacramento, CA 95801

NONPOINT SOURCE MANAGEMENT PLAN

Jesse M. Diaz, Chief
Division of Water Quality

Ed Anton, Chief
Planning and Standards Development Branch

Syed Ali, Chief
Planning Section

Jack Hodges, Chief
Nonpoint Source Unit

This report was prepared by

OSCAR BALAGUER

Assisted by

SUSAN NORMAN

NOVEMBER 1988

FOREWORD

This is one of two reports produced by the California State Water Resources Control Board to help more effectively manage nonpoint source water pollution. The reports fulfill the requirements of Section 319 of the Federal Clean Water Act.

A Nonpoint Source Assessment Report reviews existing programs for nonpoint source management. The appended "Nonpoint Source Problem Inventory for Surface Waters" and "Nonpoint Source Problem Assessment" document the nature and magnitude of nonpoint source pollution. The Assessment Report provides the factual foundation to support the State Board's Nonpoint Source Program.

A Nonpoint Source Management Plan presents projected and proposed activities to initiate the State Board's Nonpoint Source Management Program. New implementation projects proposed in the Management Plan address some of the key problems documented in the Problem Inventory. New program development activities address the need to strengthen the State Board's nonpoint source management structure. A schedule of milestones is included in the Management Plan. Other sections of, and appendices, to the report support program implementation.

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 88- 123

APPROVAL OF A NONPOINT SOURCE ASSESSMENT REPORT,
ADOPTION OF A NONPOINT SOURCE MANAGEMENT PLAN,
AND PARTIAL ACCEPTANCE OF
THE SUBSECTION 205(j)(2) NONPOINT SOURCE PROJECT

WHEREAS:

1. The State Water Resources Control Board (State Board) and Regional Water Quality Control Boards are committed to, and have ultimate responsibility for, nonpoint source management to protect and restore water quality in California.

2. On March 7, 1985 the State Board authorized a Phase II Subsection 205(j)(2) "State Strategy for Nonpoint Source Management" Project (Nonpoint Source Project) and on August 20, 1987 augmented the project under Phase III.

3. In February 1987 the Federal Clean Water Act (CWA) was amended to include a new Section 319 which requires each state to develop a Nonpoint Source Assessment Report (Assessment Report) and a Nonpoint Source Management Plan (Management Plan) presenting the State's Nonpoint Source Management Program.

4. The State Board has developed an Assessment Report and Management Plan which fulfill the requirements of CWA Section 319 and incorporate the products developed under the Subsection 205(j)(2) Nonpoint Source Project (except for the Ground Water Feasibility Study which will be presented separately).

5. The State Board held two public hearings to receive testimony on the draft Assessment Report and draft Management Plan, and the reports have been revised to incorporate pertinent comments.

THEREFORE, BE IT RESOLVED:

That the State Board:

1. Approves the Assessment Report and adopts the Management Plan.

2. Accepts these products as partial completion of the Subsection 205(j)(2) Nonpoint Source Project.

3. Authorizes the Executive Director or his designee to transmit the Assessment Report and Management Plan to the U.S. Environmental Protection Agency for approval.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a special meeting of the State Water Resources Control Board held on November 15, 1988.

Maureen Marche'
Administrative Assistant to the Board

ACKNOWLEDGEMENTS

This report was made possible by the generous cooperation and skillful assistance of the following. The help of others, not listed, was also vital and is deeply appreciated.

Regional Board Liaisons

Region 1	Frank Reichmuth
	Susan Warner
Region 2	Dick Whitsel
	Thomas Mumley
Region 3	Bob Baldridge
	Angela Carpenter
Region 4	Dennis Dasker
	Reiner Hoenicke
Region 5	Dave Meith
	Rudy Schnagl
	Dennis Wescot
	Dennis Heiman
Region 6	Ranjit Gill
	Gerrold Peacock
Region 7	Jack Saluja
	Phil Gruenberg
Region 8	Joanne Schneider
	Roger Turner
Region 9	Grieg Peters
	Michael McCann

State Board Program Managers

Freshwater Special Studies	Dave Carlson
Ground Water	Jeff Barnickol
Oceans Standards and Policy	Craig Wilson
Pesticide Registration and Evaluation	Syed Ali
Priority Chemicals	Paul Lillebo
Surveillance and Monitoring	John Youngerman
Water Quality Planning	John Ladd
Water Quality Standards and Policy	John Norton
Bay-Delta	Dave Beringer
Agricultural Drainage	Dale Watkins
Agricultural Drainage Water Management Loans	Farouk Ismail

Interagency Advisory Committee

CA Assoc. of Resource Conservation Districts	Betty Harris
TRI-TAC	William Heaslet
CA Department of Conservation	Ken Trott
CA Department of Fish and Game	Pete Philips
CA Department of Food and Agriculture	Steven D. Wong
	Steven Monk
CA Department of Forestry	Nancy Tosta
CA Department of Transportation	John Haynes
CA Department of Water Resources	Rick Woodard
U.S. Agricultural Stabilization and Conservation Service	Larry Plumb
U.S. Bureau of Land Management	Mark Blakeslee
U.S. Bureau of Reclamation	Ted Roefs
U.S. Environmental Protection Agency	Bobbie Kahan
	George Wilson
U.S. Fish and Wildlife Service	Dan Palawski
U.S. Forest Service	John Rector
U.S. Soil Conservation Service	Wildon Fontenot
	Darwyn Briggs

The U. S. Soil Conservation Service, under the direction of State Conservationist Eugene E. Andreuccetti, provided extraordinary support to the development of the Nonpoint Source Assessment and Management Program by volunteering staff to help with the effort.

Special Thanks are due for:

Software Development	Babs Makinde-Odusola
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	Dale Oliver
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	Rosa Moody
Moral Support and Facilitator Supreme	Jean Ladyman

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Introduction

Nonpoint sources are a major cause of water pollution in California according to the State Water Resource Control Board (State Board)'s 1988 Water Quality Assessment Report and 1988 Nonpoint Problem Inventory for Surface Waters.

More effective management of nonpoint sources will require:

- An explicit long-term commitment by the State Board and Regional Water Quality Control Boards (Regional Boards)
- More effective coordination of existing State Board and Regional Board nonpoint-source related programs
- Greater use of Regional Board regulatory authorities coupled with non-regulatory programs
- Stronger links between the local, State, and Federal agencies which have powers that can be used to manage nonpoint sources
- Development of new funding sources.

Legal Framework

The Porter-Cologne Water Quality Control Act establishes a comprehensive water quality control program for California. The principal means of implementing water quality controls is through issuance of waste discharge requirements which may be issued for both point and nonpoint source discharges affecting both surface and ground waters, including discharges to land. The program is administered by the State Board and the nine Regional Boards.

Management Options

The three general management approaches that will be used by the State Board and the Regional Boards to address nonpoint source problems are:

1. Voluntary implementation of best management practices
2. Regulatory-based encouragement of best management practices
3. Effluent requirements

Regional Boards will generally refrain from imposing effluent requirements on dischargers who are implementing best management practice in accordance with a State Board or Regional Board formal action. It will generally be up to the Regional Boards to decide which management option(s) to use to address particular problems.

Institutional Framework

A host of public agencies have existing nonpoint source-related authorities and programs. In terms of functional relationships these agencies have either land management authority or technical or financial assistance capabilities. The State Board and Regional Boards will seek agreements with these agencies which will result in implementation of best management practices and targeting of technical and financial resources to high priority nonpoint source problems.

Program Objective

The primary objective of the Nonpoint Source Program is to measurably improve water quality and/or implementation of best management practices by 1992. A number of secondary objectives are identified in this report to support this primary objective.

Program Guidance

The State Board has no formal policy regarding nonpoint sources. Pending possible adoption of a policy, Nonpoint Source Program Guidance is presented in this report to provide the framework for more effective coordination and implementation of State Board and Regional Board nonpoint source programs. The guidance is not mandatory but embodies management principles which the State Board considers useful in more effectively managing nonpoint sources. Elements of this guidance may be incorporated into draft policy for State Board consideration.

Implementation

Implementation of the State Board's Nonpoint Source Program will be accomplished in three phases. Phase One will consist of near-term implementation of the program development and implementation activities identified in this report. Phase Two will include ongoing program development and implementation through September 1991. Phase Three will comprise ongoing implementation of the Program after September 1991. Program coordination will be enhanced through the State Board's Clean Water Strategy, the Basin Plan Triennial Review Process, and the Nonpoint Source Management Information System.

New Regional Board Implementation Projects

Four new Regional Board implementation projects will be supported by Section 205(j)(5) funds:

1. Water Quality Management for Forest Activities
2. San Francisco Bay Urban Runoff Control
3. Pesticide and Sediment Discharge to the San Joaquin River
4. Southern California Coastal Lagoon Urban Runoff Management

New Regional Board Program Development Activities

Two new Regional Board program development activities will be supported by Section 205(j)(5) funds:

1. Update Nonpoint Source Problem Inventory
2. Develop Regional Nonpoint Source Management Plans

Ongoing Regional Board Activities

Previously developed nonpoint source activities which will be conducted by the Regional Boards are documented in this report.

New State Board Program Development Activities

Eleven new State Board program development activities will be supported by Section 205(j)(5) funds:

1. Program Management
2. Select 205(j)(5) Projects
3. Update Nonpoint Source Inventory and Assessment
4. Develop Nonpoint Source Policy
5. Coordinate Development of Regional Implementation Plans
6. Evaluate Development of Management Agency Agreements with State and Federal Agencies
7. Review Options for Ongoing Program Funding
8. Update Management Program
9. Water Quality Management for Forest Activities
10. Public Participation
11. Participate in Regional Board New Implementation Projects

Ongoing State Board Activities

Previously developed nonpoint source activities which will be conducted by the State Board are documented in this report.

Schedule

Milestone dates for the above activities are provided.

Project Selection and Evaluation

Projects for potential funding from federal fiscal year 1988 Section 205(j)(5) funds will be identified from existing project lists and through State Board and Regional Board proposals. The following selection criteria will be used:

1. Existing Section 205(j)(2) criteria
2. Consistent with Regional Board Triennial Review Workplans
3. Potential statewide significance
4. Meets Federal criteria
5. Availability of matching funds

Identification of Best Management Practices

To provide information on practices to address any particular problem the State Board has developed a computerized data file of reports addressing nonpoint source problems and management. Priority has been given to reports specific to California. Information noted includes report title, date, and author; nonpoint source category; waterbody; hydrologic unit; and county. References can be retrieved by any combination of the above information categories.

Sources of Assistance

A number of funding sources which could be used to support nonpoint source management are presented in this report. The State Board is considering the use of the State Revolving Fund for nonpoint source management purposes.

I. PROGRAM OVERVIEW

A. INTRODUCTION

Nonpoint sources of water pollution are generally defined as sources which are diffuse and/or not subject to regulation under the Federal National Pollutant Discharge Elimination System (for surface water discharges). Appendix A, "Nonpoint Sources" contains a listing of nonpoint source categories. Nonpoint source pollution is difficult to control for technical, political, and institutional reasons, but nonpoint sources are an important cause of water pollution. According to the State Water Resource Control Board (State Board)'s 1988 Water Quality Assessment (305(b) Report), nonpoint sources (including natural sources) are the major contributor of pollution to impacted steams, lakes, marine waters, ground water basins, and wetlands and estuaries in California and are an important contributor of pollution to harbors and bays. The State Board's 1988 Nonpoint Problem Inventory for Surface Waters (Problem Inventory) and Nonpoint Source Problem Assessment (Problem Assessment) respectively describe individual nonpoint source-related problems and present a statistical overview of nonpoint source pollution in California.

Section 319 of the Federal Clean Water Act requires each State to develop a State Nonpoint Source Management Program describing the measures the State will take to address nonpoint sources. This Nonpoint Source Management Plan (Management Plan) outlines steps to initiate systematic management of nonpoint sources in California.

More effective management of nonpoint sources will require:

- An explicit long-term commitment by the State Board and Regional Water Quality Control Boards (Regional Boards)
- More effective coordination of existing State Board and Regional Board nonpoint-source related programs
- Greater use of Regional Board regulatory authorities coupled with non-regulatory programs
- Stronger links between the local, State, and Federal agencies which have powers that can be used to manage nonpoint sources
- Development of new funding sources.

To progress towards the above, two types of activities are presented in this document:

1. Near-term program development and implementation activities expected to be funded under Federal Clean Water Act Section 205(j)(5).

2. Ongoing implementation and planning activities using other funding.

Longer-term actions for which no specific funding sources have yet been identified will be developed as part of the program development activities referenced above.

This Management Plan, the State Board's Nonpoint Source Assessment Report (Assessment Report), and other associated documents were developed with the assistance and review of a Nonpoint Source Interagency Advisory Committee and Regional Board staff members (see Acknowledgements). Further public input to the documents was obtained through public hearings held on March 21 and June 20, 1988.

B. LEGAL FRAMEWORK

The legal framework in which California will implement a Nonpoint Source Program is briefly summarized below. A more complete description of the State Board's statutory authority to manage nonpoint sources is included in Appendix C, "Chief Counsel's Statement of Legal Authority".

1. Federal Clean Water Act

The Clean Water Act is the principal federal water quality protection statute. The Clean Water Act requires the states to adopt water quality standards and to submit those standards for approval by the U.S. Environmental Protection Agency (EPA). For point source discharges to surface waters the Clean Water Act establishes a permit system. However, nonpoint sources are exempt from federal permitting requirements, as are discharges to ground water.

The Clean Water Act also establishes a grants (now a loan) program for the construction of publicly owned treatment works. The permits, grants, and loans may be administered by states with adequate legal authority. In states with approved programs (including California), the state has primary responsibility to apply and enforce the requirements of the Clean Water Act, as a substitute for direct regulation by EPA.

In California the Clean Water Act loans program is administered by the State Board. The permits program is administered by the State Board and the nine Regional Boards. The State Board and Regional Boards also carry

out the State's water quality planning responsibilities under the Clean Water Act.

The Clean Water Act was amended in 1987 to include a new Section 319 entitled "Nonpoint Source Management Programs." Section 319 requires the states to develop Assessment Reports and Management Programs describing the states' nonpoint source problems and setting forth a program to address the problems. The State Board's November 1988 Nonpoint Source Assessment Report and Nonpoint Source Management Plan respond to this requirement. Section 319 authorizes federal grants to the states to support implementation of the Management Programs, however, no Section 319 funds were appropriated in federal fiscal year 1988, and no appropriation is anticipated by the State Board for federal fiscal year 1989.

2. Porter-Cologne Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) establishes a comprehensive water quality control program for the State of California. The Porter-Cologne Act applies to both surface and ground water. The Porter-Cologne Act provides for the establishment of water quality control standards, and requires adoption of water quality control plans to achieve those standards.

The principal means of implementing water quality controls is through issuance of waste discharge requirements. Waste discharge requirements are issued for both point and nonpoint source discharges, affecting both surface and ground waters including discharges to land.

The program is administered by the State Board and the nine Regional Boards. The State Board set overall State policy, adopts or approves all water quality control plans, and hears petitions to review Regional Board decisions. The Regional Boards have primary responsibility for individual permitting, inspection, and enforcement actions.

C. MANAGEMENT OPTIONS

The three general management approaches that will be used to address nonpoint source problems are described below. The options are presented in order of increasing stringency. In general the least stringent option that successfully protects or restores water quality will be employed, with more stringent measures considered if timely improvements in beneficial use protection are not achieved.

Two of the following options relate to implementation of best management practices (BMPs). Federal regulations (40 CFR 130.2(1)) define BMPs as methods, measures or practices selected by an agency to meet its nonpoint source control needs. BMPs include but are not limited to structural and nonstructural controls and operation and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters.

It will usually be up the Regional Boards to decide which, or what mix of, the following three options will be used to address any given nonpoint source problem.

1. Voluntary Implementation of Best Management Practices

   Property owners or managers may voluntarily implement BMPs. Implementation could occur for economic reasons and/or through awareness of environmental benefits. Voluntary implementation can be encouraged through education, training, financial assistance, technical assistance, and demonstration projects. A voluntary approach would take advantage of the expertise and incentives offered by a variety of existing State and Federal programs which are geared to promoting private actions which could have water quality benefits. Lead agencies for these programs include the U.S. Soil Conservation Service, the U.S. Agricultural Soil Stabilization and Conservation Service, Resource Conservation Districts, and the U.C. Cooperative Extension Service.

2. Regulatory-Based Encouragement of Best Management Practices

   Although the Porter-Cologne Act constrains Regional Boards from specifying the manner of compliance with water quality standards, there are two ways in which Regional Boards can use their regulatory authorities to encourage implementation of BMPs.

   First, Regional Boards may encourage BMPs by waiving adoption of waste discharge requirements on condition that dischargers comply with best management practices.

   Alternatively, the State Board and the Regional Boards may enforce BMPs indirectly by entering into management agency agreements (MAAs) with other agencies which have the authority to enforce. Such authority derives either from the agency's regulatory authority or its management responsibility for publicly owned or controlled land. MAAs will include (or reference) specific, acceptable BMPs and their means of implementation.

Regional Boards will generally refrain from imposing effluent requirements on dischargers who are implementing BMPs in accordance with a waiver of waste discharge requirements, an approved MAA, or other State Board or Regional Board formal action. Once BMPs have been formally approved by the State Board or Regional Board they will become the primary mechanism for meeting water quality standards. While compliance with BMP requirements cannot excuse a violation of water quality standards, the Regional Boards may rely on implementation of BMPs to demonstrate compliance with standards.

Implementation of BMPs will normally include (1) design to meet specific site conditions, (2) monitoring to assure that practices are properly applied and are effective, (3) immediate mitigation of a problem where BMPs are not effective (including regulatory action, if necessary), and (4) improvement of an appproved BMP when needed to resolve a deficiency.

Both the State Board and the Regional Boards may enter into MAAs. The State Board will develop MAAs, where appropriate, with State and Federal agencies with Statewide jurisdiction, such as the U.S. Bureau of Land Management or the California Department of Transportation (the State Board has existing MAAs with the U.S. Forest Service and with the California Board of Forestry and Department of Forestry). State Board MAAs will specify acceptable BMPs and their means of implementation. Formal agreements between the State Board and other agencies pertaining to the prevention and abatement of nonpoint source pollution will be referenced in Regional Board basin plans and will become the primary basis for Regional Board determination of compliance with State requirements.

Regional Boards will seek agreements, where appropriate, with local agencies, such as cities and counties (Regional Boards have existing MAAs with counties concerning regulation of onsite wastewater disposal systems). Regional Board MAAs may reference BMPs which have been adopted into basin plans.

Regional Boards have discretion in deciding what BMPs to encourage through conditional waiver of waste discharge requirements or inclusion in Regional Board MAAs. Regional Boards need not adopt BMPs into basin plans for these purposes, but may do so to facilitate region-wide application. The State Board will encourage reasonable consistency among the Regional Boards in choosing BMPs by providing for information transfer between Regional Boards on effective (or ineffective) practices, in

reviewing for approval amendments to basin plans, and through its determinations as the appeal agency for Regional Board decisions.

3. Effluent Limitations

Regional Boards can adopt and enforce requirements on the nature of any proposed or existing waste discharge, including discharges from nonpoint sources. Although Regional Boards are precluded from specifying the manner of compliance with waste discharge limitations, in appropriate cases limitations may be set at a level which, in practice, requires implementation of BMPs.

D. INSTITUTIONAL FRAMEWORK

A host of public agencies have nonpoint source-related authorities and programs. The most important of these are described in the State Board's November 1988 Nonpoint Source Assessment Report. A tabular summary of agency capabilities relating to different nonpoint source categories is also shown in this Management Plan (Appendix D). In terms of functional relationships with the State Board's Nonpoint Source Program, these agencies and programs fall into the following five catagories:

1. Federal and State Land Management Agencies

This category comprises Federal and State agencies which have the authority to enforce implementation of BMPs Statewide. Such authority derives either from the agency's regulatory authority or its management responsibility for publicly owned or controlled land (e.g. U.S. Forest Service, U.S. Bureau of Land Management, California Department of Transportation, and California Department of Food and Agriculture). When such agencies have the capability of acting effectively in the area of their jurisdiction as a lead nonpoint source management agency, the State Board will seek MAAs which will provide for nonpoint source controls.

2. Federal and State Assistance Agencies

This category comprises agencies which can provide technical or financial assistance to support implementation of BMPs (e.g. U.S. Agriculture Stablization and Conservation Service, U.S. Soil Conservation Service, U.C. Extension). These agencies can assist land managers in voluntary implementation of BMPs and can help identify appropriate BMPs for Regional Board or management agency enforcement. The State Board will seek agreements with these agencies which will result in targeting of technical and financial resources

by these agencies to high priority nonpoint source problems.

3. State Board and Regional Board Programs

The State Board and Regional Boards have numerous nonpoint source-related activities, including problem monitoring and assessment, planning, financial assistance, and regulatory and non-regulatory management. The State Board's Nonpoint Source Program will support these current activities and provide a management framework to enhance coordination. Specific functions will include:

a. Development and administration of policy

b. Problem identification and prioritization

c. Update of the Nonpoint Source Management Plan to provide an overall management framework

d. Information transfer regarding successful management approaches

e. Procurement and administration of federal funding

f. Development of new funding sources

g. Program tracking and evaluation

4. Local Land Management Agencies

This category comprises agencies which have the authority to enforce implementation of BMPs locally (e.g. counties, cities, and some special districts). When such agencies have the capability of acting effectively in the area of their jurisdiction as a lead nonpoint source management agency, Regional Boards will seek MAAs which will provide for nonpoint source control.

5. Local Assistance Agencies

This category comprises local agencies which can provide technical or financial assistance to support implementation of BMPs (e.g. U.C. Agricultural Extension, Resource Conservation Districts, and some other special districts). These agencies can assist land managers in voluntary implementation of BMPs and can help identify appropriate BMPs for Regional Board or management agency enforcement. The Regional Board will seek agreements with these agencies which will result in targeting of technical and financial resources by these agencies to high priority nonpoint source problems.

E. PROGRAM OBJECTIVES

The following program objective and goals will help focus Program efforts and will provide a standard for program evaluation.

Primary Program Objective

Measurably improve water quality and/or implementation of BMPs by 1992 by meeting the following secondary objectives:

Secondary Objectives

1. Develop nonpoint source policy for State Board consideration.

2. Establish and maintain a problem identification process coordinated with other State Board and Regional Board assessment efforts.

3. Establish a systematic process to prioritize resource allocation to identified nonpoint source problems.

4. Achieve public support for nonpoint source management programs through public participation and education.

5. Coordinate State Board nonpoint source-related programs to achieve mutually supportive goal-setting, data collection, and resource allocation.

6. Coordinate Regional Board nonpoint source-related programs through the basin planning process and by assuring transfer of information concerning nonpoint source management between Regional Boards.

7. Coordinate other agency nonpoint source-related programs through formal management agency agreements and/or through informal cooperative working arrangements.

8. Develop a program tracking and assessment system to monitor program effectiveness.

9. Identify any needed statutory, regulatory, or institutional changes.

10. Propose development of new institutions and authorities as needed to address nonpoint source problems.

11. Identify and/or develop funding to achieve the above program goals.

F. PROGRAM GUIDANCE

The State Board currently has no formal policy specifically regarding control of nonpoint sources. State Board staff will develop a draft Nonpoint Source Policy for State Board consideration. Pending adoption of a policy, the following Nonpoint Source Program Guidance can provide the framework for more effective coordination and implementation of State Board and Regional Board nonpoint source-related programs. Except as otherwise required, this guidance is not mandatory for Regional Boards and State Board units, but it embodies management principles which the State Board considers useful in more effectively managing nonpoint sources. Elements of this guidance may be incorporated into the draft policy which will be presented to the State Board.

General Guidance

a. Statement of Commitment

The State Board and Regional Boards are committed to, and have ultimate responsibility for, nonpoint source management to protect and restore water quality in California.

b. Lead Capability

The lead capability for nonpoint source management rests with the Federal, State, and local agencies which have direct land-use and resource management control authority.

c. Priority of Point and Nonpoint Source Control

Regional Boards will control nonpoint sources before seeking additional point source control wherever nonpoint sources are the principal cause of existing or expected beneficial use impairment and point source dischargers are in compliance with statutory and regulatory requirements. The State Board will systematically consider which investments will maximize water quality in allocating resources to point versus nonpoint source management activities.

State Board Guidance

d. State Board Funding Priorities

When allocating nonpoint source designated funds, the State Board will give priority to activities which support Regional Nonpoint Source Management Plans (see g. below).

e. Coordination of State Board Programs

The State Board will coordinate its internal nonpoint source activities to achieve mutually supportive goal-setting, data collection, and resource allocation.

f. State Board Coordination with Management Agencies

The State Board will, to the maximum extent practical, work with State and Federal agencies to develop and implement nonpoint source management programs. Formal agreements between the State Board and other Federal and State agencies will be referenced in Regional Board basin plans and implemented as appropriate by Regional Boards.

Regional Board Guidance

g. Regional Management Plans

Regional Boards will develop and periodically update Regional Nonpoint Source Management Plans which will identify (1) priority problems consistent with the State Board's Nonpoint Source Problem Inventory and other assessment reports, (2) planned actions, and (3) needed resources. Development of the Regional Management Plans will be coordinated with the basin plan triennial review process.

h. Regional Board Coordination with Management Agencies

Regional Boards will, to the maximum extent practical, work with local land-use and resource management agencies to develop and implement nonpoint source controls which address the Regional Board's nonpoint source priorities.

i. Voluntary Implementation of Best Management Practices

Regional Boards will actively promote voluntary implementation of best management practices by working with dischargers and with agencies which can provide enforcement, technical, and financial assistance.

j. Use of Regulatory Authority

When necessary to achieve water quality objectives, Regional Boards will actively exercise their regulatory authority over nonpoint sources through enforcement of effluent limitations and other appropriate regulatory measures.

G. IMPLEMENTATION

1. Phasing

Implementation of the State Board's Nonpoint Source Program will be accomplished in three phases, as

described below. The activities presented in this document assume no reductions in current resources dedicated to nonpoint source-related work and the future availability of adequate Clean Water Act Section 205(j)(5) funds through FY 1990-91 to support a total of ten new staff positions at the State Board and the Regional Boards.

Phase One will consist of implementation of the program development and implementation activities identified in Sections II and III of this Management Plan. Implementation of Phase One will be supported by a new Nonpoint Source Unit administratively located in the State Board's Division of Water Quality and by additional staff positions at the Regional Boards.

Phase Two will include additional program development and implementation through September 1991. Phase Two will be guided by the work to be undertaken in Phase One, as documented in annual updates of this Management Plan and by the Regional Nonpoint Source Management Plans to be developed by each Regional Board.

The major elements of the State's Management Program, as generally described in this "Program Overview" section, will be put into place during the three year duration of Phases One and Two.

Phase Three will comprise ongoing implementation of the Program after September 1991. Although a mature program is projected to be in place in Phase Three, program modification to address the full scope of nonpoint source problems affecting California will continue.

2. Program Coordination

The State Board's Nonpoint Source Assessment Report describes a number of existing State Board and Regional Board programs that will be involved in implementation of the Nonpoint Source Program. An important focus during Phases One and Two will be coordination of these programs. The following State Board activities and capabilities will play important roles in this coordination.

a. Clean Water Strategy

The State Board has initiated development of a "Clean Water Strategy" for California. The Strategy will provide a framework to better integrate and coordinate State Board and Regional Board programs, including the many programs with nonpoint source-related activities. The Strategy will also provide a process to target resources for problem identification, characterization, and control to high priority problems. The Strategy will be the

mechanism to set priorities for monitoring to characterize the many nonpoint source problems for which we have inadequate information.

b. Water Quality Management Plan Triennial Review

California's Water Quality Management Plan consists of statewide and regional water quality control plans. These documents are reviewed triennially. Opportunities to strengthen the State Board's Nonpoint Source Program will be considered when the State Board reviews its statewide plans.

The regional basin plan triennial review is the process whereby Regional Boards identify priority water quality issues to be addressed and estimate needed resources. Triennial Review Workplans have been adopted by a number of Regional Boards for the next three-year planning cycle and will be prepared by all Regional Boards by the end of 1988. In the long term, Regional Board nonpoint source management planning will be integrated with the basin plan triennial review process. For the current planning cycle complete integration is infeasible due to the different time frames in which the Triennial Review Workplans and the Regional Nonpoint Source Management Plans have been, or will be, prepared. In developing the initial Regional Nonpoint Source Management Plans, Regional Boards will build upon the nonpoint source-related issues previously identified in the Triennial Review Workplans. For the most part, nonpoint source-related activities currently included in Triennial Review Workplans relate to problem characterization activities rather than to specific control programs. Since the ultimate goal of problem characterization is the development of actual control measures, the Regional Nonpoint Source Management Plans will put the preliminary studies in the context of anticipated regulatory or non-regulatory controls.

3. Nonpoint Source Management Information System

The Nonpoint Source Management Information System (NPSMIS) consists of a set of related computer files and programs regarding nonpoint source problems, studies and reports, and management activities (Figure 1). The NPSMIS will be used to help identify, characterize, and prioritize problems; to identify potential BMPs; and to track nonpoint State Board and Regional Board nonpoint source activities and accomplishments.

Files describing nonpoint source water quality problems include the problem water body, drainage area, source, water quality parameter, beneficial uses impaired, degree of impairment, geographical extent of impairment, and other information. These files were used to develop the

State Board's Nonpoint Source Problem Inventory and Nonpoint Source Problem Assessment. Associated software allows sorting and statistical analysis of the information contained in these files, and the production of reports.

The NPSMIS also includes the "Nonpoint Source Document Reference File" which is described in Section VI of this report (Identification of Best Management Practices) and partially displayed in Appendix B (Cataloged Reports Including BMPs).

A final set of files, to be developed, will document State Board and Regional Board nonpoint source-related activities. These files will include the responsible unit, management activity, and key milestones.

All the above information catagories may be directly cross-referenced in any combination or order, as diagrammed in Figure 1. For example:

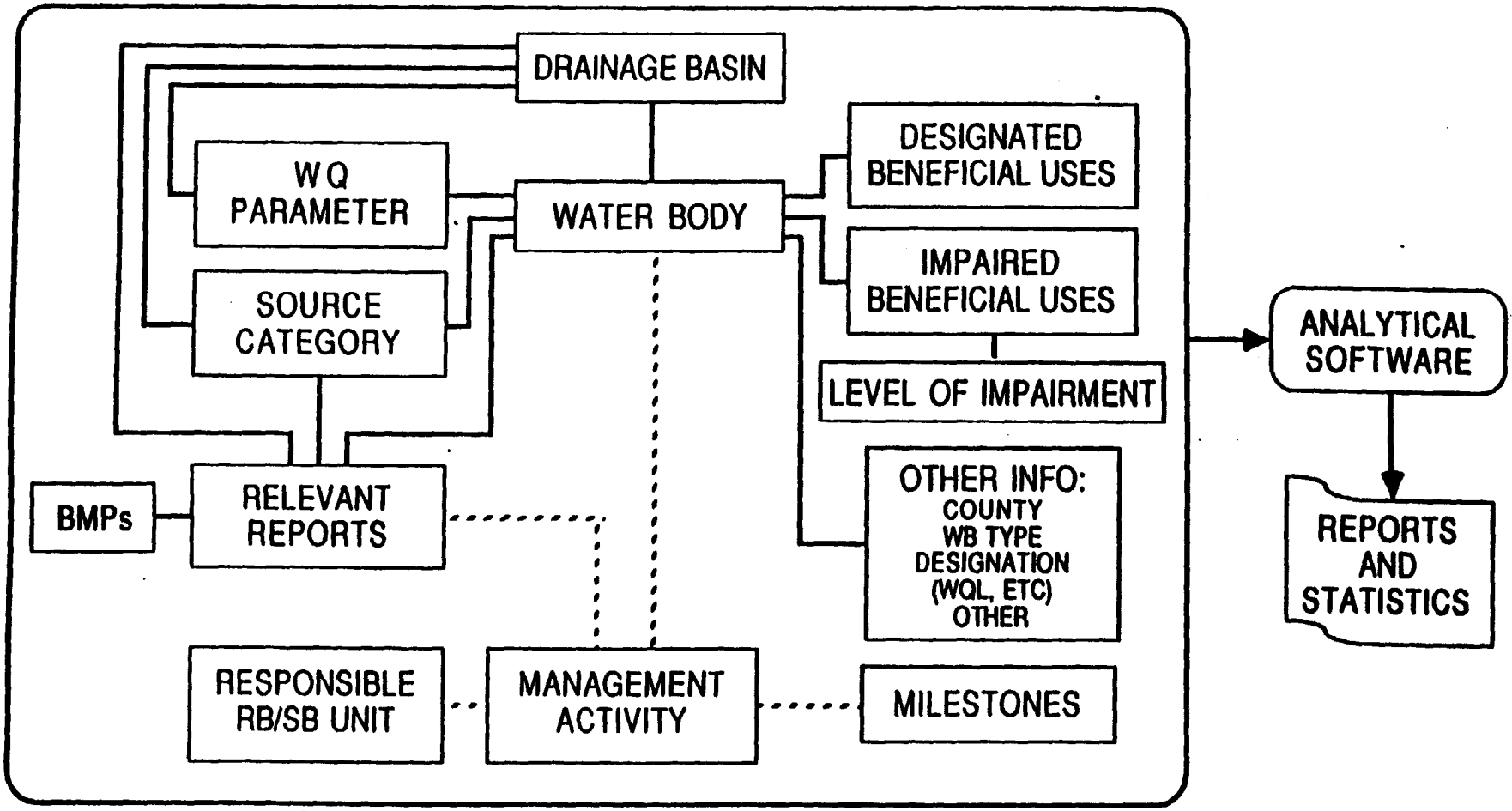
- Given a particular waterbody (e.g. Los Angeles Harbor), we can identify associated nonpoint sources and water quality parameters; previously published reports dealing with the waterbody; and current management activities and milestones.

- Given a particular nonpoint source category (e.g. Agricultural Irrigation Return Flows), we can identify the waterbodies in any given basin or region which are affected by that source; identify previous studies which present BMPs to address the source; and identify current State Board and Regional Board activities relating to that source.

- Given a particular beneficial use category (e.g. Spawning Habitat), we can identify which waterbodies in any given geographical area have that use, which suffer impairment of that use and the total number of stream miles or lake acres affected; identify the nonpoint source catagories affecting the use and their relative importance; and identify related management activities.

FIGURE 1

NPS MANAGEMENT INFO SYSTEM



BOXES REPRESENT DATA CATEGORIES IN NPS DATA BASE

DATA RELATIONS (DIRECT CROSS-REFERENCING CAPABILITY) ARE SHOWN BY CONNECTING LINES

EXISTING ——— UNDER DEVELOPMENT - - - - - -

II. REGIONAL WATER QUALITY CONTROL BOARD PROGRAMS

Projected Regional Board nonpoint source-related activities are described below. Elements identified as CWA "New" will be accomplished with Section 205(j)(5) funds. Other activities will be undertaken with other currently budgeted or expected resources.

A. NEW IMPLEMENTATION PROJECTS

Watershed-specific management work will be initiated by a number of Regional Boards using CWA Section 205(j)(5) funds. These implementation projects will:

1. address nonpoint source problems of Statewide importance, and

2. embody management approaches which are potentially applicable Statewide.

Each of the three projects described below relates to problems documented in the State Board's Problem Inventory. To place these activities in the context of CWA Section 319, the relevant implementation actions cited in CWA Section 319 are identified for each activity.

1. San Francisco Bay Urban Runoff Control

Urban Runoff Workshops

The San Francisco Bay Regional Water Quality Control Board will present several workshops for city and county officials and dischargers regarding urban runoff into San Francisco Bay. Targeted counties will fall into three groups in the following approximate order of priority: Contra Costa; San Francisco and San Mateo; Marin, Napa, Sonoma, and Solano. Information will be presented on Bay water quality, regulatory issues, point versus nonpoint control trade-offs, and proposed management strategies. Protocols for developing and funding local studies to lay the groundwork for urban runoff management will be discussed. Technical issues will include sampling strategies and land use analyses necessary to characterize urban runoff and estimate waste loads at appropriate sub-basin levels. Implementation actions: education, technology transfer, technical assistance.

Contra Costa County Urban Runoff Technical Advisory Group

The San Francisco Bay Regional Water Quality Control Board will establish a Technical Advisory Group to initiate planning for urban runoff management in Contra Costa County. This advisory group will be patterned after the one currently operating in Santa Clara County. The group will have a major responsibility for planning a study which will address urban runoff, including sources

of funding for necessary technical work. They will also evaluate existing management practices, do necessary monitoring to document flows and nonpoint source loadings, evaluate point versus nonpoint management trade-offs, and determine appropriate management strategies.
Implementation actions: technical assistance.

2. Pesticide and Sediment Discharge to the San Joaquin River

High levels of sediment with adsorbed pesticides being discharged to the San Joaquin River are accounting for a major portion of all organochlorine pesticides entering the River. The Regional Board is currently sponsoring a joint study with the U.S. Soil Conservation Service to quantify the amount of sediment discharged to the River from various westside areas. The Regional Board will develop a control program that identifies priority areas, needed management practices, and cost figures for implementation of best management practices to reduce sediment. Regional Board staff will identify needed policy and regulatory actions by the Regional Board and will work through local resource conservation, irrigation, and drainage districts to achieve implementation of best management practices.
Implementation actions: technical assistance, education.

3. Southern California Coastal Lagoon Urban Runoff Management

Runoff of urban contaminants from new commercial, light industrial, and high-density residential development is a problem in the San Elijo, San Diequito, Bataquitos, and Agua Hediona Lagoon watersheds. The San Diego Regional Water Quality Control Board, working jointly with the California Coastal Commission, has required developers to incorporate low flow sand filters into project designs and property owners to implement paved surface sweeping programs. Logs of sweeping operations are kept to ensure compliance with stipulated seasonal schedules.

Regional Board staff will evaluate the adequacy of these measures in removing pollutants. The staff will monitor and evaluate the quality of flows entering and leaving sand filters, using existing laboratory contract funds for the analyses. These data will be correlated with sweeping frequencies and with flow information to determine the effectiveness of the filter systems in trapping pollutants under low-flow and first-flush conditions. To the extent data are available, sweeping regimines will also be evaluted. The performance of the filters over time will be documented and visual inspections made to determine appropriate maintenance schedules. Appropriate changes to the filter design and sweeping program requirements will be made. Regional Board staff will assist project proponents in developing

appropriate control systems. Regional Board recommendations will be enforced through Coastal Commission permits.
Implementation action: Technical assistance, technology transfer.

B. NEW PROGRAM DEVELOPMENT ACTIVITIES

Each Regional Board will undertake the following Region-wide activities using CWA Section 205(j)(5) funds:

1. Update Nonpoint Source Problem Inventory

Regional Board staffs will participate in review and update of the Nonpoint Source Problem Inventory.

2. Develop Regional Nonpoint Source Management Plans

Each Regional Board will develop a Regional Nonpoint Source Management Plan which will:

a. Identify Priority Nonpoint Source Categories

Priority nonpoint source categories will be identified based on the State Board's Problem

Inventory and Assessment and other relevant information.

b. Identify Priority Basins

Priority basins will be selected based on:

(1) the State Board's Nonpoint Source Problem Inventory and Assessment and other relevant information,

(2) the availability of adequate data to address the problem,

(3) the availability of identifiable BMPs to address the problem, and

(4) the probability of achieving water quality goals with available or reasonably foreseeable resources.

c. Identify Management Actions, Schedules, and Resource Requirements

Regional Boards will identify needed management activities and implementation schedules for the priority nonpoint source categories and basins (e.g., monitoring for source identification, education, training, regulation, interagency agreements, employment of BMPs).

d. **Identify Needed Basin Plan Amendments**

Regional Boards will identify basin plan amendments needed to implement the Regional Management Plan.

e. **Identify Necessary Agency Agreements**

Regional Boards will identify needed management actions to be taken by other agencies and needed management agency agreements.

f. **Be Annually Updated**

The Regional Management Plans will be annually updated and included in the updated State Nonpoint Source Management Plan.

C. ONGOING ACTIVITIES

Regional Boards have initiated numerous nonpoint source management activities independent of CWA Section 205(j)(5) funding. Activities which are ongoing into FY 1988-89 and after are identified below for each region. To place these activities in the context of CWA Section 319, the relevant implementation actions cited in CWA Section 319 or in EPA program guidelines are identified for each Regional Board activity.

For purposes of presentation, activities have been identified as being "Regulatory" or "Non-Regulatory". Regulatory activities include issuance and enforcement of waste discharge requirements and enforcement of basin plan prohibitions; non-regulatory activities include planning, technical assistance, and water quality monitoring. In practice there is a continuum between regulatory and non-regulatory management actions. Also, there is no implied preference for one category of management over another. Complementary application of both regulatory and non-regulatory measures will be necessary to control nonpoint source pollution.

Although not specifically referenced in each of the following program descriptions, Regional Boards generally conduct surveillance and monitoring to support enforcement of waste discharge requirements and review environmental documents for water quality impacts.

1. NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD (Region 1)

Regulatory Program

Aerial Application of Herbicides

The Regional Board will enforce Basin Plan BMPs by requiring operators to monitor and report water quality impacts from the aerial application of herbicides. The Regional Board performs surveillance and monitoring and conducts field inspections of application sites.
Implementation action: enforcement.

Sawmill Runoff

The Regional Board will conduct surveillance and monitoring and enforce waste discharge requirements (WDRs) for approximately 60 sawmills.
Implementation action: enforcement.

Highway Construction

The Regional Board will conduct surveillance and monitoring, enforce WDRs for projects, and review environmental documents for the Redwood Park Highway bypass, the Cloverdale bypass, and other construction projects.
Implementation action: enforcement, technical assistance.

Pelican Bay Prison Site

The Regional Board will conduct surveillance and monitoring and enforce basin plan prohibitions for discharges of sediment during the site preparation and construction of the Pelican Bay Prison.
Implementation action: enforcement.

Buckhorn Sediment Dam

The Regional Board will conduct surveillance and monitoring and implement WDR's for this dam (contingent on approval of permit and construction of dam).
Implementation action: enforcement.

Non-Regulatory Program

Timber Harvest Plan Review Program

The Regional Board will participate in timber harvest review teams, review approximately 1000 harvest plans, conduct around 50 field inspections, review environmental documents, and conduct field inspections on private and National Forest Service lands.
Implementation action: technical assistance, and National Forest monitoring/evaluation for BMPs.

EIR Reviews

The Regional Board will review EIRs regarding mining and dredging operations, stormwater runoff to Humboldt Bay oyster culture, and pesticide contamination of groundwater in Del Norte County.
Implementation action: technical assistance.

2. SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD (Region 2)

Regulatory Program

Industrial Runoff

The Regional Board will monitor approximately 33 WDRs from industrial sources.
Implementation action: enforcement.

Habitat Alteration

This activity addresses the affects of dredge and fill activities in wetlands. The Regional Board will review and comment on EIRs, issue water quality certifications, and may establish WDRs.
Implementation action: enforcement.

Construction

This activity addresses pollutants resulting from land disturbances. The Regional Board will review EIRs and issue cleanup and abatement orders when necessary.
Implementation action: enforcement, technical assistance.

Dairies

This activity addresses pollutants resulting from dairies, mainly in Marin and Sonoma Counties. The Regional Board will monitor and enforce Subchapter 15 requirements and WDRs, working with the Dairy Waste Committee, local Resource Conservation Districts and the Department of Fish and Game.
Implementation action: enforcement.

Septic Systems

This activity addresses pollutants that can result from onsite disposal systems. The Regional Board will provide overview of county ordinances which are consistent with Basin Plan guidelines.
Implementation action: enforcement, technical assistance.

Dredging

The Regional Board will continue to collect bioassay and bulk sediment data to update their dredging protocol document which establishes procedures and requirements for certifying U.S. Army Corp of Engineers dredging permits.
Implementation action: enforcement.

Seawater Intrusion in Oakland Inner Harbor

The Regional Board will review ongoing monitoring by the U.S. Army Corp of Engineers and the U.S. Navy to evaluate and control the affects of dredging in contributing to seawater intrusion.
Implementation action: enforcement.

Herbicides

This activity addresses herbicide applications, primarily in urban lakes and areas surrounding artificial lakes (e.g. Foster City Lagoon). The Regional Board will provide guidance to dischargers on correct and reduced usage of herbicides primarily through the EIR review process, and issue permits where appropriate.
Implementation action: technical assistance, enforcement.

Non-Regulatory Program

Basin Planning for Urban Runoff

This activity addresses pollutants resulting from urban runoff. The Regional Board will continue to work with dischargers in Alameda and South San Francisco Bay to conduct water quality monitoring to identify sources and pollutants and recommend control strategies. This work will be augmented with the Section 205(j)(5) activities described elsewhere in this document.
Implementation action: technical assistance, technological transfer, education.

Wasteload Allocation Study

The Regional Board is attempting to determine the affect of any additional discharges to Suisun Marsh.
Implementation Action: NA.

Channel Erosion

The Regional Board will review EIRs addressing channel erosion problems.
Implementation action: technical assistance.

3. CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD (Region 3)

Regulatory Program

San Lorenzo Septic System Enforcement

The Regional Board will issue and enforce cleanup or abatement orders.
Implementation action: enforcement.

Non-Regulatory Program

Evaluation of Abandoned Mines in San Luis Obispo County

The Regional Board is currently monitoring and identifying problem mines. If additional funding is received, the Regional Board will evaluate and implement BMPs for the problem mines.
Implementation action: monitoring.

Timber Harvest Plan Review Program

The Regional Board will review environmental documents and approximately 40 timber harvest plans per year.
Implementation action: technical assistance.

Carpenteria Slough Water Quality Monitoring

The Regional Board has monitored water quality in the past and will continue to monitor after dredging and enhancement operations.
Implementation action: monitoring/evaluation for BMPs.

4. LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD (Region 4)

Non-Regulatory Program

Water Quality Monitoring

The Regional Board will conduct surveillance monitoring of water quality in a number of waterbodies impacted by nonpoint sources.
Implementation action: NA.

Sediment Monitoring in Los Angeles/Long Beach Harbors and other Mussel Watch Stations

The Regional Board will continue to collect baseline sediment data and other sources of existing water quality data to determine the location, source, and level of water quality impact from potential nonpoint source pollutants identified at various Mussel Watch Stations within the region.
Implementation action: NA.

Santa Monica Bay Management Conference

The Regional Board, the State Board, and EPA have convened a management conference on Santa Monica Bay pursuant to the provisions of CWA Section 320. The broad goals of the management conference are to: (1) restore past beneficial uses of the Bay and protect present and future uses; (2) improve or eliminate discharges to the Bay environment that may adversely affect wetlands, biologically sensitive sites, or areas important for water contact sports or sport fishing; and (3) improve water quality to a point where indigenous marine species are not degraded and human health is not threatened. From these general goals, specific objectives will be developed in a comprehensive plan to address problems related to storm drain discharges, sediment quality, fish tissue body burdens, pathogen contamination, and other issues. The management conference will develop a work plan to meet seven objectives: (1) establish a management framework (including a financial plan); (2) characterize the Bay's problems; (3) define the Bay's needs (action plans for stormwater regulation, sediment quality, bioaccumulation standards and other issues); (4) create a Comprehensive Conservation and Management Plan (CCMP); (5) establish the steps necessary to implement the CCMP; (6) monitor effectiveness of CCMP implementation; and (7) coordinate all activities with other programs.

5. CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD (Region 5)

Regulatory Program

Dairies

The Regional Board enforces compliance with Subchapter 15 when necessary and will continue developing a model to be used to determine acceptable loading rates for manure spreading.
Implementation action: enforcement.

Dredging in the Sacramento and San Joaquin River Basins

The Regional Board will produce a set of guidelines for regulation of dredging and riverbank protection projects.
Implementation action: enforcement.

Erosion Control From Land Disturbing Activities

The Regional Board will investigate potential problems and require appropriate mitigation action (which may include BMP's) to control erosion/sedimentation problems from various land disturbing activities.
Implementation Action: Enforcement.

Non-Regulatory Program

Agricultural Drainage Discharges in the San Joaquin River Basin

The Regional Board will develop a Regional Drainage Water Disposal Plan for the entire San Joaquin Basin and will review beneficial uses, establish water quality objectives, and prepare regulatory and implementation plans.
Implementation action: NA.

Acid Drainage from Abandoned Mines in the Sacramento River Basin

The Regional Board will collect data to refine present loading estimates in the basin and will conduct biotoxicity testing to assess the appropriateness of existing water quality objectives. This testing will also be used to begin to assess whether the Delta is affected by these trace elements.
Implementation action: NA.

Mercury Discharges in the Sacramento and San Joaquin River Basins

The Regional Board will conduct limited monitoring to define some upstream sources and implement abatement remedies while monitoring the Delta to see if these remedies provide a measurable benefit.
Implementation action: monitoring/evaluation for BMPs.

Rice Field Discharges in the Sacramento River Basin

The Regional Board will review progress in 1989 in the reduction of peak concentrations and mass residue discharges of Ordram and Bolero against DHS action levels, DFG guidelines, and Basin Plan objectives. They will also continue monitoring efforts to identify other polluting chemicals and their impacts on beneficial uses. The Regional Board will also work with local water agencies to reduce the volume of irrigation return flows by increasing tailwater recycling and effluent spreading on fallow fields, primarily in the Colusa Basin Drainage.
Implementation action: technical assistance, technological transfer, monitoring/evaluation for BMPs.

Effects of Large Water Storage and Diversion Projects in the Sacramento River Basin

The Regional Board will prepare management agency agreements or, as necessary, WDRs for identified problems. For suspected problems additional monitoring will be conducted.

Implementation action: technical assistance, monitoring/evaluation for BMPs.

Beneficial Use Impairment from Silviculture

The Regional Board participates on an interagency review team. This team will perform field inspections before and after harvesting in an attempt to support compliance with BMPs. This ongoing work will be augmented through a 205(j)(5) implementation project described elsewhere in this management plan. The Regional Board will also consider adoption of a Basin Plan prohibition on the discharge of soil, silt, debris, and other materials from silviculture.
Implementation action: technical assistance, monitoring/evaluation for BMPs

Biotoxicity Assessment of the Sacramento and San Joaquin River Basins

For nonpoint source control the staff will expand the use of biotoxicity tests in FY 1988-89 as part of an ambient monitoring program to assess nonpoint and point source toxicity.
Implementation action: monitoring/evaluation for BMPs.

Sacramento Urban Area Runoff Control

The Regional Board has initiated negotiations with the County and City of Sacramento on management of urban storm runoff. Issues under discussion include the need for further biotoxicity testing of urban runoff, development of control mechanisms, and available funding mechanisms. The City of Sacramento has developed a draft workplan addressing these issues and has sought Section 205(j)(2) funding for the work.
Implementation action: technical assistance, education.

Livestock Grazing and Water Quality Degradation

Regional Board staff will work with federal agencies (USFS and USBLM) to strengthen grazing policies and implementation programs so as to provide increased water quality protection.
Implementation Action: technical assistance.

6. LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD (Region 6)

Regulatory Program

Ski Area Regulation

The Regional Board will enforce the implementation of BMPs to control sediment from ski areas by establishing WDRs.
Implementation action: enforcement.

Lake Tahoe City/County Stormwater Permits

The Regional Board establishes and enforces WDRs for storm runoff into Lake Tahoe.
Implementation action: enforcement.

Lake Tahoe Commercial Establishment Review of Development

The Regional Board will enforce the implementation of BMPs by establishing and enforcing WDRs in an effort to control sediment from new commercial construction.
Implementation action: enforcement.

Non-Regulatory Programs

Lake Tahoe Single Family Home Review of Development

The Regional Board will provide funding to the Tahoe Regional Planning Agency (TRPA) to review development proposals and require BMPs to control nutrients and sediment from construction of single family homes.
Implementation action: financial assistance.

Honey Lake Project

The Regional Board will advise Lassen County, which is the responsible regulatory agency, on the control of agricultural discharges of coliform, salts, and nutrients to Honey Lake.
Implementation action: technical assistance.

Timber Harvest Review

The Regional Board helps review timber harvest plans and performs onsite inspections in coordination with the California Department of Fish and Game (CDFG) and the U.S. Forest Service (USFS). This ongoing work will be augmented through a 205(j)(5) implementation project described elsewhere in this document.
Implementation action: technical assistance, monitoring/evaluation for BMPs.

Review of USFS Activities

Staffs of the Regional Board and the USFS, Lake Tahoe Management Unit, are working together to develop clear guidelines for Regional Board review of USFS activities which may impact water quality in the Lake Tahoe basin.
Implementation action: NA.

Coordinated Resource Management Plans (CRMP)

The Regional Board will continue to work through the CRMP process with a variety of resource management agencies to develop management plans to control nonpoint sources of pollution. Two of the agencies involved are the USFS and the USBLM (Appendix E. of the State Board's Assessment Report describes the CRMP process).
Implementation action: NA.

BLM Grazing Plan Review

The Regional Board will review grazing plans and advise USBLM on water quality issues, focusing on the Eagle Lake watershed.
Implementation action: technical assistance.

Erosion Control Project Grants

The Regional Board will administer State Assistance Program (SAP) grants to control erosion caused by urban development. The California Tahoe Conservancy is also a major source of funding and the Regional Board provides substantial review and coordination efforts for their grant projects.
Implementation action: financial assistance.

EIR Review

The Regional Board reviews EIRs and registers concerns pertaining to specific projects that involve potential nonpoint source impacts.
Implementation action: technical assistance.

Lake Tahoe Wetlands Policy

The Regional Board will coordinate with TRPA to develop revisions to the 1980 Basin Plan concerning Lake Tahoe Wetlands.
Implementation action: NA.

Lake Tahoe Shoreline Erosion Study

The Regional Board will continue a study to determine the amount, severity, and potential control of lake shore erosion.
Implementation action: Monitoring/evaluation for BMPs.

Mustang Mesa Groundwater Study

The Regional Board has contracted monitoring of domestic water wells in the Mustang Mesa Area in Inyo County to determine the impact of septic tank/leachfield disposal systems on ground water quality.
Implementation action: Monitoring.

Acid Rain Study

The Regional Board will review and coordinate with other agencies, primarily the TRPA, in assessing the relative impact of acid rain in contributing nutrients to Lake Tahoe.
Implementation action: NA.

Twin Lakes Phytoplankton and Groundwater Monitoring Study

The Regional Board has contracted for sampling of lake and ground water. Staff will use the data to determine the relationship between onsite disposal systems and eutrophication of Upper and Lower Twin Lakes. The Regional Board is working in coordination with the USFS and the County Health Department.
Implementation action: Monitoring/evaluation for BMPs.

7. COLORADO RIVER BASIN REGIONAL WATER QUALITY CONTROL BOARD (Region 7)

Non-Regulatory Program

Selenium Pollution in the Colorado River Basin

The Regional Board will continue a study, in coordination with the U. S. Geological Survey to identify and control sources of selenium affecting the Salton Sea and its tributaries. Upcoming work will emphasize investigation of appropriate control measures.
Implementation action: Monitoring/evaluation for BMPs.

Alamo and New Rivers Pollution Problems

The Regional Board will continue to monitor water quality in the Alamo and New Rivers at the California-Mexico border on a scheduled basis. The Regional Board will continue to work with the State Board towards implementation of corrective measures in California.

Baseline Monitoring

The Regional Board will monitor water quality on a quarterly basis through a network of 13 sampling sites. This work assists in identifying nonpoint sources of pollution.
Implementation action: NA.

Stabilization of Salinity in Salton Sea

The Regional Board will advise and assist agencies which are investigating solutions to control salinity in the Salton Sea. Other agencies working on this problem are the Department of Fish and Game, the Imperial Valley Irrigation District, and ORMAT (an energy production firm).
Implementation action: NA.

8. SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD (Region 8)

Regulatory Program

Dairies

The Regional Board will enforce WDRs on animal confinement facilities, including about 350 dairies, and will reevaluate salt loading to ground waters from dairy and other animal confinement operations to determine if changes in dairy waste management practices should be recommended for incorporation in WDRs.
Implementation action: enforcement.

Non-Regulatory Program

San Diego Creek Toxics Investigation

The Regional Board will complete a special investigation of toxics entering Newport Bay from the San Diego Creek Watershed by measuring metals and synthetic organic chemicals in freshwater clams and sediments from San Diego Creek.
Implementation action: monitoring/evaluation for BMPs.

Nutrient Inputs To Newport Bay

The Regional Board will continue to oversee a cooperative effort by several major commercial nurseries in the Newport Bay watershed to reduce and improve irrigation runoff. The Regional Board will continue monthly monitoring of flows and nutrient loads in San Diego Creek and other waters that drain to Newport Bay. Mass loads of nitrate, dissolved solids, and other materials will be calculated and input to a linear transport model which could be used in the development of wasteload allocations.
Implementation action: monitoring/evaluation for BMPs.

Management of Sediment Problems in Newport Bay

The Regional Board will review plans for grading, erosion control, construction, and BMP implementation in the Newport Bay watershed and will participate in joint inspections of installed BMPs with the Orange County Environmental Management Agency, the Irvine Company, and the cities of Irvine and Newport Beach.
Implementation action: technical assistance.

9. SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD (Region 9)

Regulatory Program

Dairies

The Regional Board will issue WDRs which limit the amount of manure that can be applied per acre per year to agricultural land.
Implementation action: enforcement.

Erosion Control

The Regional Board will implement a policy requiring cities and counties to adopt erosion control ordinances. Staff.will review ordinances and assist enforcement.
Implementation action: technical assistance, enforcement.

Subsurface Disposal Policy

Regional Board staff will develop criteria for minimum lot sizes for septics systems.
Implementation action: enforcement.

Non-Regulatory Program

San Diego Bay Study

The Regional Board will continue a five year study to identify the sources and extent of water quality pollution in San Diego Bay. Possible nonpoint sources such as storm water runoff and past point source pollutants now bound to bottom sediments will be investigated. San Diego State University will sample storm water runoff in FY 1988-89.
Implementation action: enforcement.

III. STATE WATER RESOURCES CONTROL BOARD PROGRAM

State Board nonpoint source-related activities are described below. New Program Development Activities (Section III.A) will be accomplished with Section 205(j)(5) funds. Ongoing Activities (Section III.B) will be undertaken with other currently budgeted or expected resources.

Activities for FY 1989-90 and succeeding years will be progessively defined in updates to the Nonpoint Source Management Program. The updates will provide specific short-term direction and general longer-term guidance for the State Board's nonpoint source programs. Projections beyond the next fiscal year will always be subject to funding availibility and emerging State Board policy.

A. NEW PROGRAM DEVELOPMENT ACTIVITIES

1. Program Management

Administration and further development of the Nonpoint Source Program is the responsibility of the Nonpoint Source Unit in the State Board's Division of Water Quality. Necessary administrative activities include the following:

a. Budget Control

To ensure fiscal accountability for federal grant funds, State Board staff will implement monitoring and control systems to avoid and/or correct budgetary problems. The State Board staff will maintain budget records for the projects and provide full fiscal accountability for all federal funds. Staff will prepare internal budgeting documents and coordinate with EPA Grants Section and State Board Budget Office. Staff will maintain files on projects and grants in accordance with federal regulations.

b. Prepare Annual Report

Section 319 requires that the State prepare an annual report detailing progress in accomplishing the milestones set forth in the Management Plan. Because management of nonpoint sources is a challenging task requiring innovative approaches, State Board staff will regularly examine progress and make timely program corrections when necessary. The annual report will be the primary mechanism for program evaluation and will be an important management tool. Because it is often difficult to evaluate nonpoint source management practices, appropriate measures of progress must be developed for program analysis.

c. Negotiate and Administer Annual Grant

Section 319 specifies that annual federal grants are conditioned on satisfactory progress in achieving the milestones included in the Management Plan. This activity is therefore related to development of the State Board's Annual Report and to the annual update of the Management Plan, including identification of new milestones. Grant application documents will be prepared in consultation with the State Board's Division of Administrative Services and EPA.

d. Coordination and Reporting to EPA

The State Board will routinely coordinate with and report to EPA on the status of the Nonpoint Source Program, problems encountered, and accomplishments achieved. Coordination and reporting will include, but not be limited to, the following:

(1) Mid-Year and End-of-Year program reviews conducted by EPA.

(2) Quarterly Status Reports to be submitted to EPA by the State Board within 30 days of the end of each quarter (December 31, 1988; March 31, 1989; June 30, 1989; and September 30, 1989).

(3) Annual Report to EPA by August 31, 1989.

The Annual Report will include a status report on all milestones listed in the Management Plan, an identification of nonpoint source activities funded by federal Section 205(j)(5) funds, and, to the extent that the State Board's accounting records permit, an indication of other funding sources for nonpoint source activities.

2. Select 205(j)(5) Projects

Section 205(j)(5) provides for a set-aside of up to one percent of each State's construction grants allocation for nonpoint source management purposes. A minimum of $100,000 must be used by the State. An estimated $800,000 will be available for projects from the federal fiscal year 1988 allocation. State Board staff will recommend projects for funding from this source using the project selection criteria adopted by the State Board in the Management Plan. An evaluation process will be included in each funded project.

3. Update and Apply Nonpoint Source Inventory and Assessment

The State Board's Nonpoint Source Inventory was based primarily on documents developed by, or under contract to, the State Board or the Regional Boards. This approach allowed the development of a large database with limited resources, provided significant data quality control, and ensured documentation of the most serious of the State's nonpoint source problems. However, the database was developed with relatively little input from other agencies and interest groups with nonpoint source-related information. Also, Regional Board input was necessarily limited by the lack of budgeted resources for review of the Inventory. State Board staff will update the Nonpoint Source Inventory in FY 1988-89, incorporating information from a wider variety of information sources than currently represented and obtaining more thorough review by Regional Board staffs and the public than was previously possible.

a. Update Nonpoint Source Problem Inventory in conjunction with the State Board's Clean Water Strategy public hearing on impaired water bodies in the State. Review public input and coordinate with the Regional Boards and the State Board's Surveillance and Monitoring Unit to verify and characterize new problems identified by the public and other agencies.

b. Update Nonpoint Source Problem Assessment

State Board staff will update the Nonpoint Source Problem Assessment (a statistical summary of information presented in the Inventory).

c. Apply Nonpoint Source Problem Inventory

The Problem Inventory will have the following ongoing uses:

(1) Development of State Board Management Strategies

Development and refining of California' nonpoint source management strategy will be an ongoing process. The Inventory will support strategy development by providing information on the overall magnitude, severity, and nature of the State's nonpoint source problems. The Inventory will also guide resource allocation and provide justification for resource requests.

(2) Development of Regional Board Management Strategies

As California's Nonpoint Source Program matures, the Regional Boards will play increasingly active roles in formulating and implementing management strategies. The Problem Inventory will guide development of regional programs and provide the basis for resource requests.

(3) Funding Decisions

The Inventory will help guide funding for nonpoint source management from the following funding sources:

(a) Water Conservation and Water Quality Bond Law of 1989

(b) CWA Section 205(j)(2), Water Quality Management Planning

(c) CWA Section 205(j)(5), Nonpoint Source Management Reservation

(d) CWA Section 319, Nonpoint Source Management Program

4. Develop Nonpoint Source Policy

Other than the general policy which appears in the Porter-Cologne Water Quality Control Act, the State Board currently has no formal policy regarding control of nonpoint sources. Such a policy would provide the framework for more effective coordination and implementation of State Board and Regional Board programs. State Board staff will submit a Nonpoint Source Policy for State Board consideration during FY 1988-89. The starting point for this policy will be the program objectives and program guidance set forth in Sections I.E and I.F of this Management Plan. State Board staff will gain State Board approval of a policy development process which will result in input from concerned State Board staff, Regional Boards, and the Interagency Advisory Committee.

5. Coordinate Development of Regional Nonpoint Source Management Plans (Regional Plans)

The factors that make nonpoint source problems difficult to manage generally apply statewide. A fundamental requirement for increasingly effective management is a consistent Statewide approach within which Regional Boards will develop region-specific strategies. State

Board staff will do the following to provide a State framework for Regional Plans:

a. Develop Guidelines for Regional Plans

Based on the general outline presented elsewhere in this document and in consultation with Regional Board staffs, State Board staff will develop guidance on the content, format, and level of detail of Regional Plans.

b. Maximize Information Transfer Among Regional Boards During Program Development

To encourage the most practical consistency among regional nonpoint source programs and to increase Statewide application of successful control strategies, State Board staff will provide for transfer of information among Regional and State Board staffs by means of periodic meetings and written communications.

c. Review Regional Plans for Conformance to Guidelines

State Board staff will review Regional Plans during and after development to ensure conformance to guidelines.

6. Evaluate Development of Management Agency Agreements (MAA) with State and Federal Agencies

A number of federal and State agencies have important nonpoint source-related mandates. The most effective State management approach will fully utilize all the existing capabilities and resources residing with the different agencies operating within the State. Coordination of large and diverse bureaucracies is difficult but important. State Board staff will evaluate the benefits and feasibility of establishing formal coordination, via management agency agreements or other means, with the following agencies.

a. U.S. Agricultural Stabilization and Conservation Service (ASCS)

The ASCS has informally agreed to pursue an MAA which would coordinate all nonpoint source water quality activities, making them consistent with the State and Regional Board's Nonpoint Source Management Plans. This would include targeting cost-sharing to problem areas identified in the Regional Board Nonpoint Source Management Plans.

b. U.S. Soil Conservation Service (SCS)

The SCS has informally agreed to pursue an MAA which would coordinate SCS's nonpoint source water quality activities making them consistent with the State and Regional Board's Nonpoint Source Management Plans. This would include recognizing water quality as a high priority item in the SCS California Multi-Year Plan, a five-year plan now being updated for the years 1989-1994. Technical and financial assistance would be targeted to be consistent with the State Nonpoint Source Program.

c. California Department of Transportation (Caltrans)

Under CWA Section 208 Caltrans published a report identifying best management practices for control of water pollution from transportation activities. The report also identified management measures to help ensure implementation. Recommendations included development of a MAA between Caltrans and the State Board, however, a MAA has not yet been initiated. In the absence of a Statewide management framework, there are disparities in the levels of water quality protection designed and implemented for different highway construction projects. An MAA could provide agreement on appropriate technical standards, more uniform Regional Board oversight, appropriate training for Caltrans field personnel, and an ongoing process to identify and resolve problems.

7. Review Options for Ongoing Program Funding

Federal Section 205(j)(5) funds are expected to maintain a Nonpoint Source Program baseline of a total of 11 PYs at the State Board and Regional Boards through FY 1990-91. An ongoing program will require funding beyond that date. State Board staff will review and evaluate the following funding options for continuing program funding.

a. New Federal Funds
b. New Bond Funds
c. New General Funds
d. Redirection of Existing Resources
e. Title VI Revolving Funds

8. Update Management Plan

State Board staff will update the Nonpoint Source Management Plan annually, maintaining a four-year planning horizon. Future activities will be identified based on accomplishments of current year, updated

information on regional and Statewide nonpoint source problems, prevailing funding projections, and current State Board policy direction. Any changes to the Management Plan will be subject to review by Regional Boards and approval by the State Board. The following issues will be considered for inclusion in the next Management Plan update:

a. Further coordination of State Board nonpoint source-related programs
b. Development of new institutions and authorities as needed to address nonpoint source problems
c. Use of State revolving funds for nonpoint purposes
d. Identification of regulatory or statutory needs
e. Prevention of potential future nonpoint source problems
f. Urban stormwater program needs.

9. Water Quality Management for Forest Activities

Pursuant to CWA Section 208, the State Board has executed Management Agency Agreements (MAAs) with the U.S. Forest Service (USFS) and jointly with the California Department of Forestry and Fire Protection (CDF) and State Board of Forestry (BOF). These MAAs provide for control of pollution from nonpoint sources (primarily silviculture, but including mining and grazing) on national forest lands and from timber operations on nonfederal lands. The purpose of this program is to ensure establishment and maintenance of effective nonpoint source management programs for these wildland activities. Resources for the program will include one position at the State Board and a total of six positions at Regional Boards for a period of one year. The State Board will provide overall program management. Regional Boards will be involved primarily with implementation as described in Section II.B of this document. Major program activities include:

a. Coordination

State Board staff will coordinate related activities of affected agencies (CDF, BOF, USFS, Regional Boards, and the Department of Fish and Game) by providing a framework for open communication and conflict resolution. USFS will report annually and DCF/BOF will report biannually on the status of their activities.

b. BMP Development

State Board staff will participate in and provide oversight of development of new and revised BMPs in accordance with MAA schedules.

c. Review of Proposed BMPs

State Board staff will review proposed new or revised BMPs. A number of federal and nonfederal BMPs are to be proposed to the State Board by December 1989.

d. Improvement of Implementation Procedures

State Board staff will participate in and provide oversight of improvement of interagency BMP implementation procedures through:

(1) improved consultation between Regional Boards and other agencies during planning and interagency review of timber operations,

(2) augmented Regional Board participation in review of proposed silvicultural activities,

(3) Regional Board monitoring of water quality effects during and after selected timber operations,

(4) augmented Regional Board participation in compliance inspections and related enforcement actions, and

(5) improved resolution of conflicts between Regional Boards and other state agencies which arise out of review, monitoring, or inspection of nonfederal timber operations.

e. Provide Guidance Documents and Training

State Board staff will provide oversight of and will participate in:

(1) Development of new or improved technical guidance documents for nonfederal timber operations; implementation is to begin by February 1990.

(2) Development and ongoing implementation of related training programs for state agency and private sector foresters and related professionals.

f. Conduct Technical Studies

State Board staff will provide oversight of and will participate in development and implementation of studies including:

(1) methods for assessing cumulative watershed effects,

(2) methods for assessing likely short-term and long-term effects of timber operations on sensitive terrain or water-related values,

(3) feasibility of implementing compatibly-formatted watershed databases in key agencies, and

(4) surveillance monitoring studies of selected timber harvest operations.

10. Public Participation

Because updating the State Board's Management Plan will be an ongoing activity and because management of nonpoint sources will often rely on means requiring the support of land managers, public participation will be an important program element. State Board staff will conduct the following activities:

a. Review Mail List

The State Board's nonpoint source mailing list consists of about 2,500 names compiled from a variety of other existing nonpoint source-related lists. State Board staff will query this list to determine those with continuing interest, will delete others, and will add new names.

b. Provide Information to the Public

State Board staff will provide information to the public via Interagency Advisory Committee meetings; contributing as requested to publications of interest groups; and participating as time allows in the meetings of organizations involved in aspects of nonpoint source management. In addition, the State Board will continue public outreach projects, to the extent that resources are available, by addressing public meetings, conferences, and associations.

c. Responsibilities of the Interagency Advisory Committee (IAC)

As a major element of the public participation program, an IAC will be used to advise the Nonpoint

Program on future development and implementation matters. The IAC will be composed of State agencies, including Regional Boards, federal agencies, and the California Association of Resource Conservation Districts. IAC meetings will be held in accordance with work activities and decision dates in the adopted Management Plan and as special needs arise. Subcommittees of the IAC may be formed to assist the State Board in drafting work products, providing public outreach, and/or developing input on specific nonpoint source matters. IAC meetings will be summarized in minutes prepared by a secretary rotated among the IAC membership.

The IAC will be requested to review and advise the Nonpoint Program on at least the following tasks:

a. Task 1 -- Prepare Annual Report
b. Task 2 -- Select Projects
c. Task 3 -- Update Inventory
d. Task 4 -- Develop Nonpoint Source Policy
e. Task 8 -- Update Management Program

11. Participate in Regional Board New Implementation Projects

As described in Section II.A. of this document, Regional Boards will conduct the following implementation projects in FY 1988-89:

a. San Francisco Bay Urban Runoff Control
b. Pesticides and Sediment Discharge to the San Joaquin River
c. Southern California Coastal Lagoon Urban Runoff Management

State Board staff will monitor and participate in these four activities to assess the statewide applicability of the management approaches used. State Board oversight of Regional Board implementation projects will include:

a. Budget control of federal 205(j)(5) funds in accordance with Task 1.b.

b. Periodic meetings with Regional Board staff to monitor progress of projects.

c. Quarterly Status Reports for inclusion in the Nonpoint Program Reports to the State Board and EPA.

B. ONGOING ACTIVITIES

1. Bay-Delta

The State Board will hold hearings on and adopt a Water Quality Control Plan for Salinity and a Pollutant Policy Document. The Water Quality Control Plan will identify beneficial uses for the Bay-Delta, will set water quality objectives for reasonable levels of protection of the identified beneficial uses, and will set forth an implementation program. The Pollutant Policy Document will set State policy on regulation of pollutants in the Bay-Delta estuary and will be used by the San Francisco Bay and Central Valley Regions in updating their basin plans. The State Board will also develop and hold hearings on Water Rights Attainment Alternatives for enforcing the objectives adopted in the Water Quality Control Plan through amendments of existing water rights permits and licenses. Finally, the State Board will develop and adopt an Environmental Impact Report on the attainment alternatives, and will adopt a Water Right Decision to implement the selected alternative.

2. Agricultural Drainage

Future efforts will focus on expanding our understanding of selenium's impacts on areas receiving subsurface agricultural drainage and industrial discharges of selenium; documenting the biological and water quality responses to regulatory efforts; improving site-specific water quality criteria for constituents of agricultural drainage; expanding and improving the regulatory framework for subsurface agricultural drainage; investigation of best management agricultural practices for subsurface agricultural drainage reduction and quality improvement; and studies of appropriate treatment, storage, and disposal options for subsurface agricultural drainage. Significant progress in these areas will require funds above the existing baseline.

3. Agricultural Drainage Loan

Program staff will write loan contracts for projects approved by the State Board and the legislature in FY 1987-88, administer loan contracts, and submit additional projects for State Board and legislative approval until the $75 million allocated to this program has been disbursed. Annual reports on the status of agricultural drainage problems statewide will be submitted to the legislature. Prior to exhaustion of the loan funds the State Board will consider requesting the legislature to provide additional funding for the program.

4. Water Quality Management Planning

Program staff will select, administer, provide technical overview for, and conduct follow-up evaluations of nonpoint source-related projects funded under CWA Section 205(j)(2). A detailed description of program activities is contained in the Implementation Plan for the Program. Future project selection will integrate the priorities identified in the Regional Board Nonpoint Source Management Programs. Program staff will provide information on completed studies for inclusion in the nonpoint source data base.

5. Ocean Policy and Standards

Program staff will participate in the selection of projects funded under CWA Sections 205(j)(2) and 319, will review current nonpoint source policy in the Ocean Plan and recommend possible revisions to the State Board, and will participate in the Santa Monica Bay Management Conference.

6. Surveillance and Monitoring

Program staff will implement monitoring strategies which place increased emphasis on source identification for nonpoint source problems, using the Toxic Substances Monitoring and Mussel Watch Programs. Pursuant to the requirements of Clean Water Act Section 304(l), Program staff will document the reasons for water quality impairment, and determine the areal extent, source(s), and loadings from point and nonpoint sources.

7. Review Federal Programs

The State Clearinghouse coordinates State and local review of Federal financial assistance, state plans, direct Federal development activities, and Federal environmental documents, pursuant to Executive Order 12372. The purpose of the process is to afford State and local participation in Federal activities occurring within California. The State Board and Regional Boards routinely receive through the Clearinghouse, and review and comment on, individual assistance applications for a variety of federally-funded projects. Review is conducted to assess and mitigate potential impacts on water quality. Activities affecting water quality and requiring State review are conducted by many Federal programs, however, projects proposed by the following Federal agencies most typically have direct water quality impacts and will be reviewed:

U.S. Corp of Engineers
U.S. Bureau of Reclamation
Federal Energy Regulatory Commission

IV. SCHEDULE OF MILESTONES

The following milestones are provided as an indication of the State and Regional Boards' intentions to actively pursue nonpoint source management programs; however, due to possible changes in priorities and/or available resources these milestones are not commitments to initiate or complete these activities as scheduled. Milestones for new Regional Board Implementation Projects assume an April 1988 project start.

A. REGIONAL WATER QUALITY CONTROL BOARDS

1. NEW IMPLEMENTATION PROJECTS

SAN FRANCISCO BAY URBAN RUNOFF CONTROL
(San Francisco Bay Regional Board)

Conduct Urban Runoff Workshops	June 1989 October 1989 January 1990
Contra Costa Workplan	April 1990
Begin Contra Costa Study	July 1990.
Complete Contra Costa Study	April 1992

PESTICIDE AND SEDIMENT DISCHARGE TO THE SAN JOAQUIN RIVER
(Central Valley Regional Board)

Sediment Control Plan	September 1990.

SOUTHERN CALIFORNIA COASTAL LAGOON URBAN RUNOFF MANAGEMENT
(San Diego Regional Board)

Report on Data Collection and Analysis	April 1990

2. NEW PROGRAM DEVELOPMENT ACTIVITIES

UPDATE NONPOINT SOURCE PROBLEM INVENTORY

Updated Inventory	May 1989

DEVELOP REGIONAL NONPOINT SOURCE MANAGEMENT PLANS

Draft Regional Management Plans	September 1989
Final Regional Management Plans	March 1990

3. ONGOING REGIONAL BOARD ACTIVITIES

NORTH COAST REGIONAL WATER QUALITY CONTROL BOARD

Buckhorn Sediment Dam

WDR will be issued in June 1989.

SAN FRANCISCO BAY REGIONAL WATER QUALITY CONTROL BOARD

Dredging

Dredging Policy will be issued in June 1990.

Basin Planning for Urban Runoff

Report will be issued June 15, 1989.

CENTRAL COAST REGIONAL WATER QUALITY CONTROL BOARD

Evaluation of Abandoned Mines in San Luis Obispo County

Report will be issued in June 1989.

Carpenteria Slough Water Quality Monitoring

Report to be prepared shortly after dredging operation is completed. It is unknown when dredging will actually occur.

LOS ANGELES REGIONAL WATER QUALITY CONTROL BOARD

Sediment Monitoring in Los Angeles/Long Beach Harbors and other Mussel Watch Stations

Report will be issued in September 1988.

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

Dredging in the Sacramento and San Joaquin River Basins

Regulatory Guidelines (staff document) to be issued in June 1989.

Agricultural Drainage Discharges in the San Joaquin River Basin

Basin Plan Amendment will be issued in December 1988.

Compliance with water quality objectives for selenium in Grasslands waterfowl areas by October 1989.

Compliance with water quality objectives for selenium in San Joaquin River at and below Hills Ferry by October 1991.

Compliance with water quality objectives for selenium in San Joaquin River upstream of Hills Ferry and tributaries thereto by October 1993.

Compliance with water quality objectives for boron in all portions of the San Joaquin River and its tributaries by October 1991, except for Mud Slough (north) and the San Joaquin River between Sack Dam and Hills Ferry.

Compliance with Boron objectives in Mud Slough (north) and San Joaquin between Sack Dam and Hills Ferry by October 1993.

Compliance with water quality objectives for molybdenum in San Joaquin River and its tributaries by December 1988.

Acid Drainage from Abandoned Mines in the Sacramento River Basin

Funding Proposal by June 1989.

Mercury Discharges in the Sacramento and San Joaquin River Basins

Funding Proposal by March 1989.

Rice Field Discharges in the Sacramento River Basin

Attainment of standards in July 1988 and July 1989.

Effects of Large Water Storage and Diversion Projects in the Sacramento River Basin

Develop WDR by October 1988.

Beneficial Use Impairment from Silviculture

Basin Plan Prohibition will be completed by June 1989.

Biotoxicity Assessment of the Sacramento and San Joaquin River Basins

Workplan will be completed by July 1988.

Sacramento Urban Area Runoff Control

Workplan will be completed by July 1988.

LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD

Lake Tahoe Single Family Home Review of Development Controls

Periodic reports received from TRPA.

Review of USFS Activities

Guidelines developed by November 1989

Coordinated Resource Management Plans (CRMP)

Approved and implemented as necessary.

Erosion Control Project Grants

Final Project Summary Reports and closeout of grant contracts completed periodically.

Lake Tahoe Wetlands Policy

Revisions to Basin Plan completed by 1988.

Lake Tahoe Shoreline Erosion Study

Report will be completed by November 1988.

Mustang Mesa Groundwater Study

Final Report due November 1988.

Twin Lakes Phytoplankton and Groundwater Monitoring Study

Report will be completed by December 1988.

COLORADO RIVER BASIN REGIONAL WATER QUALITY CONTROL BOARD

Selenium Pollution in the Colorado River Basin

Report will be completed by January 1990.

SANTA ANA REGIONAL WATER QUALITY CONTROL BOARD

San Diego Creek Toxics Investigation

Report will be completed in January 1989.

SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD

Subsurface Disposal Policy

Criteria will be developed by October 1988.

San Diego Bay Study

Annual Progress Report will be completed by June 1989.

B. STATE WATER RESOURCES CONTROL BOARD

1. NEW PROGRAM DEVELOPMENT ACTIVITIES

Milestone dates for Tasks 1-5, 8, 10, and 11 are as shown in the State Board's August 25, 1988 workplan for program development activities to be supported by federal fiscal year 1987 Section 205(j)(5) funds. Work products are underlined. For each underlined item, the dates following "Draft" and "Final" are the dates anticipated for formal transmittal of the work product to EPA.

TASK 1, PROGRAM MANAGEMENT

Annual Report

Draft	July 15, 1989
IAC Review	July 30, 1989
Public Hearing	-
Final	August 30, 1989

TASK 2, SELECT FFY 1988 205(j)(5) PROJECTS

Staff Recommendation for Project Funding

Concept Draft	April 15, 1989
IAC Review	May 1, 1989
Draft	May 31, 1989
Public Hearing	-
*SWRCB adopt.	July 1989
Final	August 1, 1989
Start Proj.	March 1, 1990**

TASK 3, UPDATE NONPOINT SOURCE INVENTORY AND ASSESSMENT

Updated Inventory and Assessment

Public Hearing	November 1988
Final	May 1989

TASK 4, DEVELOP NONPOINT SOURCE POLICY

Policy

Draft	February 1, 1989
IAC Review	March 1, 1989
*Redraft	March 30, 1989
*Mail for P.H.	April 15, 1989
Public Hearing	June 1, 1989
*Redraft	July 1, 1989
*Agenda item	July 1, 1989
*SWRCB adopt.	August 1989
Final	September 1, 1989

TASK 5, COORDINATE DEVELOPMENT OF REGIONAL IMPLEMENTATION PROGRAMS

Guidelines for Regional Management Programs

Draft	December 1, 1988
*RB Review	January 15, 1989
IAC Review	-
Public Hearing	-
Final	February 15, 1989

TASK 6, EVALUATE DEVELOPMENT OF MANAGEMENT AGENCY AGREEMENTS

Draft Staff Report	May 1988
Final Staff Report	June 1989

TASK 7, REVIEW OPTIONS FOR ONGOING PROGRAM FUNDING

Draft Staff Report	November 1989
Final Staff Report	February 1989

TASK 8, UPDATE MANAGEMENT PROGRAM

Updated Management Program

Draft	September 1, 1989
IAC Review	September 15, 1989
*Redraft	October 15, 1989
*Mail for P.H.	November 15, 1989
Public Hearing	December 1, 1989**
*Redraft	January 30, 1990**
*SWRCB adopt.	February 1990**
Final	March 1, 1990**

TASK 9, WATER QUALITY MANAGEMENT FOR FOREST ACTIVITIES

Annual USFS Status Reports — January 1989 - 1991

Biannual CDF Status Reports — February and August 1989 - 1991

Revised Nonfederal Best Management Practices — December 1989

Technical Guidance Documents — February 1990

Technical Study Workplans — February 1990

TASK 10, PUBLIC PARTICIPATION

Review Mail List

Final — January 1989

Interagency Advisory Committee Meetings:

Update Inventory	In coordination with Clean Water Strategy
Policy	March 1, 1989
Annual Report	July 30, 1989
Select Projects	September 30, 1989
Update Program	September 15, 1989

TASK 11, OVERVIEW OF REGIONAL BOARD SECTION 205(j)(5) IMPLEMENTATION ACTIVITIES

Status Reports	Quarterly
Annual Report	August 30, 1989

* Interim milestone provided for information only.
** Date falls after funding period of FFY 1987 grant; further funding assumed.

2. ONGOING ACTIVITIES

Bay-Delta

Adoption of Water Quality Control Plan for Salinity and Pollutant Policy Document due by February 1989.

Adoption of EIR on Attainment Alternatives and Water Rights Decision due by July 1990.

Agricultural Drainage

Annual Selenium Verification Study Reports in 1989 to 1991.

Consider implementation of practices to implement San Joaquin Valley Drainage Program's recommended management plan for agricultural drainage by 1990.

Agricultural Drainage Loan

Annual reports to Legislature due in September (1988 to 1991).

Staff recommendation regarding request to Legislature for new bond monies by December 1988.

Evaluation of need for new project priority list by December 1988.

Water Quality Management Planning

Initiate Phase IV Section 205(j)(2) projects in December 1988.

Select Phase V Section 205(j)(2) projects in October 1989.

Ocean Policy and Standards

Convene CWA Section 320 Management Conference for Santa Monica Bay in June 1989.

Staff analysis of nonpoint source policy in Ocean Plan by June 1990.

Surveillance and Monitoring

Site-specific Water Quality Assessment Plans due February 1989.

V. PROJECT SELECTION AND EVALUATION

Federal funds for nonpoint source implementation projects could be made available through congressional appropriation of monies authorized under CWA Section 319 or through the CWA Section 205(j)(5) nonpoint source set-aside. At present, the only reasonably assured federal funding available to the State Board for nonpoint source implementation projects beyond those described in Section II.A is about $800,000 of Federal fiscal year 1987 Section 205(j)(5) funds. The following discussion relates specifically to these funds. If Section 319 monies are made available to the State in the future, the following selection process will be reviewed and modified as appropriate. Regional Boards will play a major role in proposing projects. The State Board's Nonpoint Source Interagency Advisory Committee will have a consultative role in project selection. Evaluation measures will be included in all funded projects. These could include improvement of receiving water or runoff quality, implementation of best management practices, or measuring project performance against other stated project goals.

A. IDENTIFICATION OF PROJECTS

State Board staff will identify potential projects in two ways:

1. Review of Existing Project Lists

State Board staff will review existing lists of proposed projects. A number of agencies have established lists of nonpoint source-related projects for potential funding. Appearance on such a list indicates that initial project planning has been accomplished and a preliminary evaluation has been conducted by the agency. Relevant agencies and lists include:

California Association of Resource Conservation Districts
Proposed Resource Conservation District Projects

State Water Resources Control Board
Water Quality Planning Program
Agricultural Drainage Loan Program

State Coastal Conservancy
Coastal Wetlands Potential Preservation and Enhancement Sites

U.S. Soil Conservation Service
Watershed Planning Program
River Basin Planning Program

U.S. Agricultural Stabilization and Conservation Service
Agricultural Conservation Program

2. Identification of New Proposed Projects

State or Regional Board staffs may propose additional projects which fulfill the selection criteria. It is anticipated that projects proposed by Regional Boards will support implementation of the Regional Board's Triennial Review Workplan (discussed in Section I.G.b).

B. SELECTION CRITERIA

Since the State Board is still developing its Nonpoint Source Management Program and Clean Water Strategy, and since the available funding will support only about six projects, the following criteria are intended to serve as guidance for State Board staff in recommending projects while allowing the State Board flexibility in final selections:

1. Section 205(j)(2) Criteria

Criteria for selection of water quality management planning projects are contained in the State Board's Implementation Plan for the Section 205(j)(2) Water Quality Planning Program (Appendix F).

2. Consistent with Regional Board Triennial Review Workplans

The project addresses the priority nonpoint sources, waterbodies, or needed actions identified in Regional Board Triennial Review Workplans.

3. Potential Statewide Significance

The project addresses a category of nonpoint source which is of Statewide importance (as identified in the State Board's Nonpoint Source Problem Inventory) in a way that could be applied to other basins.

4. Meets Federal Criteria

Projects meet the "Priority for Effective Mechanism" criteria specified in CWA Section 319(h)(5).

5. Availability of Matching Funds

Non-federal matching funds are available to demonstrate local commitment and meet Section 319 requirements.

VI. IDENTIFICATION OF BEST MANAGEMENT PRACTICES

Clean Water Act Section 319 requires that each state identify best management practices (BMPs) to be used to address that state's nonpoint source problems, taking into account the impact of the practices on ground water quality. Numerous manuals and reports are available describing general types of BMPs to control discharges from various nonpoint sources. The actual design of BMPs is usually site-specific.

A. NONPOINT SOURCE DOCUMENT REFERENCE FILE

In order to enhance nonpoint source management capabilities, including knowledge of available BMPs, State Board staff has developed a computerized data file of reports addressing nonpoint source problems and/or management. Priority has been given to reports specific to California. For each report, the following information has been noted in the data file as appropriate:

1. Title, Date, and Author
2. Principal Agency
3. Nonpoint Source(s) for which BMP information is presented
4. Name of Waterbody addressed
5. Hydrologic Unit addressed
6. County(ies) addressed
7. Abstract of contents
8. Administrative Information, if funded by State Board

The ability to readily cross-reference any of the above categories of information makes this data file useful for determining:

1. General BMPs addressing any given nonpoint source category.

2. Site-specific BMPs which may have been developed to address any particular problem.

3. What information is available on any particular problem.

4. What problems have been studied for any given waterbody, hydrologic unit, or county.

5. Studies which have been conducted by any particular agency or under any given funding source or contract.

A listing of documents with BMP information which are currently in the data file is contained in Appendix A. Additional documents will be cataloged on a continuing basis, as resources allow, generally in the following order of priority: CWA Section 205(j)(2)-funded studies, other State Board-funded studies, other studies.

B. POTENTIAL IMPACTS OF BMPs ON GROUND WATER QUALITY

Any practice which alters the quality or quantity of recharge could impact ground water quality. For instance, the use of herbicides to minimize tillage and thus reduce soil erosion could result in increased percolation of agricultural chemicals to ground water. Such potential impacts will be considered by the State Board on a case-by-case basis in any decisions resulting in BMP implementation.

VII. SOURCES OF ASSISTANCE

A brief description of possible sources of assistance and funding for nonpoint source management in California follows.

A. TECHNICAL ASSISTANCE

Many agencies have nonpoint source-related responsibilities and expertise. Each of these could provide technical assistance for nonpoint source management. The programs of the most important of these agencies are described in the State Board's Nonpoint Source Assessment Report.

B. FUNDING ASSISTANCE

Because nonpoint sources are varied and ubiquitous, a number of Federal and State funding programs dealing with water development and flood control could provide nonpoint source-related benefits. In addition, The U.S. Environmental Protection Agency administers a number of water quality funding programs which could be used to support nonpoint source management. Funding sources which appear to be most relevant to California's nonpoint source management needs are:

1. U.S. Environmental Protection Agency

   a. Clean Water Act Section 319(h) and (i) Grants

      These are the primary NPS grants authorized by the Clean Water Act 1987 amendments. Section 319(h) authorized grants for implementing NPS controls for surface water, and 319(i) authorizes grants for ground water protection. The Act requires at least a 40 percent non-federal match for surface water grants. Other activities identified by the Act for BMP implementation include non-regulatory or regulatory programs for enforcement, education, training, technology transfer, and technical and financial assistance. The Act requires the state to maintain its funding for NPS management at or above the average of its NPS management funding for federal fiscal years (FFY) 1985 and 1986. CWA Section 319(i) ground water grants require a 50 percent match, and are limited to $150,000 per fiscal year for each participant. Activities covered under ground water grants must advance the state toward comprehensive NPS control programs. There was no FFY 1988 appropriate for 319(h) or 319(i) although $70 million was authorized. The President's FFY 1989 budget does not contain a request for the $100 million authorized by the CWA. For FFY 1990 and FFY 1991, the annual

authorizations are $100 and $130 million respectively, but it is unknown how much funding will be appropriated.

b. Clean Water Act Section 205(j)(2) Water Quality Management Planning Grants

Section 205(j)(2) designated a one percent set-aside of construction grant funds for water quality management planning including NPS management.

c. Clean Water Act Section 205(j)(5) Grants

Section 205(j)(5) is a new (1987) amendment to the CWA. It allows a one percent set-aside of construction grant funds in addition to the 205(j)(2) monies, or a minimum of $100,000 annually per state, to carry out activities identified under Section 319 of the Act. The funds may be used for: (1) developing NPS assessments, management programs, and data management systems; and (2) implementing NPS management programs. No state match is required for program development grants, although implementation grants must meet the match requirements of 319(h) (40 percent) and 319(i) (50 percent). FFY 1987 funds were available in February 1987. FFY 1988 funds are currently available.

d. Clean Water Act Section 201(g)(1)(B) Discretionary Funds

Section 201(g)(1)(B) of the Act gives each state's governor the discretion to set aside up to 20 percent of its construction grant allotment for NPS management. The Governor determines the amount to be set aside and the purpose for which it is to be used. The set-aside allocation must be consistent with the state's priority list (for construction grants) and EPA's Construction Grants Regulations (40 CFR 35.2012 et seq).

e. Clean Water Act Section 603(c)(2) State Revolving Loan Funds

The Act establishes a State Revolving Fund which may be used for water pollution control activities, including implementation of state NPS management programs and estuary management plans. To be eligible, states must submit an "Intended Use Plan" and identify the types of NPS implementation activities that will be eligible. States have considerable flexibility in establishing policies such as interest rates and repayment periods for administering their revolving fund. The State Board is presently considering the use of the State Revolving Fund for nonpoint source purposes.

f. Clean Water Act Section 604(b) Water Quality Management Planning Grants

The Act authorizes states to reserve one percent of the funding allocated for capitalization of the state revolving loan fund for the purposes of CWA Section 205(j).

2. U.S. Soil Conservation Service

Watershed Protection and Flood Prevention (Small Watershed) Program

This program provides both technical and financial assistance to improve and protect land and water resources.

3. U.S. Agricultural Stabilization and Conservation Service

This agency annually solicits proposals for cost-sharing, including for implementation of agricultural best management practices.

4. State Water Resources Control Board

a. Agricultural Drainage Water Management Loan Program

This program provides low-interest loans for facilities to prevent pollution caused by agricultural drainage.

b. Other State Board Programs

As noted elsewhere in this Management Plan, the State Board conducts a variety of programs relating to nonpoint source management. Expenditures for nonpoint source related activities have risen steadily over the last four fiscal years as summarized below:

STATE BOARD NONPOINT SOURCE MANAGEMENT EXPENDITURES

FY 1984-85	$3,189,093
FY 1985-86	4,030,036
FY 1986-87	5,884,859
FY 1987-88	7,222,502

A more detailed break-down of these expenditures is contained in Appendix G, "State Water Resources Control Board Nonpoint Source Expenditures."

FIGURE 2

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

NORTH COAST REGION (1)

1440 Guemeville Road
Santa Rosa, CA 95403
(707) 576-2220

SAN FRANCISCO BAY REGION (2)

1111 Jackson Street, Rm. 6040
Oakland, CA 94607
(415) 464-1255

CENTRAL COAST REGION (3)

1102-A Laurel Lane
San Luis Obispo, CA 93401
(805) 549-3147

LOS ANGELES REGION (4)

107 South Broadway, Rm. 4027
Los Angeles, CA 90012
(213) 620-4460

CENTRAL VALLEY REGION (5)

3443 Routier Road
Sacramento, CA 95827-3098
(916) 361-5600

Fresno Branch Office

3614 East Ashlan Ave.
Fresno, CA 93726
(209) 445-5116

Redding Branch Office

100 East Cypress Avenue
Redding, CA 96002
(916) 225-2045

LAHONTAN REGION (6)

2092 Lake Tahoe Boulevard
P. O. Box 9428
South Lake Tahoe, CA 95731
(916) 544-3481

Victorville Branch Office

15371 Bonanza Road
Victorville, CA 92392
(619) 241-6583

COLORADO RIVER BASIN REGION (7)

73-271 Highway 111, Ste. 21
Palm Desert, CA 92260
(619) 346-7491

SANTA ANA REGION (8)

6809 Indiana Avenue, Ste. 200
Riverside, CA 92506
(714) 782-4130

SAN DIEGO REGION (9)

9771 Clairemont Mesa Blvd. Ste. B
San Diego, CA 92124
(619) 265-5114

APPENDIX A

NONPOINT SOURCE CATEGORIES

APPENDIX A

NONPOINT SOURCE CATEGORIES

ACID = Acid Precipitation

AGAN = Agriculture, Confined Animals, except Dairy

AGAE = Agriculture, Drift from aerial application of agricultural chemicals

AGDA = Agriculture, Confined Animals, Dairy

AGGR = Agriculture, Grazing Impacts, including overgrazing, land disturbance, and direct impacts by livestock on waterbodies

AGRU = Agriculture, Storm Runoff

AGSU = Agriculture, Subsurface Drainage, natural or engineered

AGTA = Agriculture, Irrigation Tailwater (Return Flows)

ATMO = Atmospheric Deposition, except acid precipitation

BOAT = Discharges from Vessels

CHAN = Channel Erosion

CONS = Construction: active land disturbance phase

DIRE = Direct application of pesticide or herbicide to water body for aquatic pest control

DIST = Disturbed sites no longer subject to active disturbance, including roadcuts and unstabilized development

DRED = Re-suspension of pollutants by Dredging

DUMP = Waste Disposal Site, land or marine

GEOT = Geothermal Development

(continued on next page)

APPENDIX A

NONPOINT SOURCE CATEGORIES

(continued)

HABI = Physical Habitat Alteration, including filling, rip-rapping, physical effects of dredging

HYDR = Hydrologic Modification, including diversion, impoundment, hydrologic effects of discharges

INDU = Industrial

MINI = Mineral Extraction, surface and subsurface, including oil and gas

NATU = Natural Sources, e.g. natural erosion of mercury deposits resulting in contamination of fish tissue

OUTS = Out-of-State: any nonpoint source discharging to California waters from across state or international boundaries

SEAW = Seawater Intrusion

SEPT = Septic Systems/Onsite Disposal

SILV = Silviculture, including road building and other associated activities

UNKN = Unknown

URBA = Urban Runoff

APPENDIX B

CATALOGED REPORTS INCLUDING BEST MANAGEMENT PRACTICES

APPENDIX B

CATALOGED REPORTS WHICH INCLUDE BMPS
FOR INDICATED NONPOINT SOURCE CATEGORY

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	ACI	AGE	AGN	AGD	AGG	AGR	AGS	AGT	BOA	CNA	CON	DIR	DIS	DRE	DUM	GEO	HAB	HYD	IND	MIN	NAT	OUT	SEA	SEP	SIL	URB	CER	GW
ABAG	REGIONAL WETLANDS PLAN FOR URBAN RUNOFF TREATMENT: SAN FRANCISCO BAY AREA ENVIRONMENTAL MANAGEMENT PLAN: VOLS I AND II: APPENDIX O	PRESENTS WQ PORTION OF TITLE PLAN. ADDRESSES THESE WQ PROBLEMS: RECEIVING WATERS/ECOSYSTEM, POINT WASTEWATER DISCHARGE, SURFACE WATER RUNOFF, MISCELLANEOUS POLLUTION SOURCES. CONCERNED WITH WETLANDS IN SFBA, ESPECIALLY IN DEALING WITH URBAN RUNOFF.																	X	X								X	X	
AMBAG	INITIAL ASSESSMENT OF NONPOINT SOURCE POLLUTION IN THE AMBAG 208 AREA: FINAL REPORT	INITIAL ASSESSMENT OF NPS POLLUTION, INCLUDES IDENTIFICATION OF POLLUTION SEVERITY, APPROPRIATE POLLUTION CONTROL MEASURES, AND A WORK PROGRAM TO COMPLETE THE NPS PLAN.							X				X		X		X					X				X	X	X	X	
AMBAG	PAJARO BASIN GROUND WATER MANAGEMENT STUDY	SUMMARIZES AVAILABLE INFORMATION ON AREA, EVALUATES NEED FOR ADDITIONAL WATER SUPPLIES, RECHARGE CONDITIONS, INSTITUTIONAL, FINANCIAL ECONOMIC ASPECTS OF WATER AUGMENTATION DEVELOPMENT, OVERALL GW MNGMT PLAN TO CONTROL OVERDRAFT/SEAWATER INTRUSION.																							X				X	X
AMBAG	SAN LORENZO VALLEY SEPTIC MANAGEMENT PROJECT: FINAL REPORT	PRESENTS PROCEDURES & CONCEPTS FOR IMPLEMENTATION OF PUBLIC MNGMT PROGRAMS FOR ONSITE WASTEWATER SYSTEMS IN CLASS 2 COMMUNITIES (THOSE W/ ONSITE SYSTEMS) IN SAN LORENZO V. EACH CLASS 2 AGENCY WILL NEED TO ADAPT RECOMMENDATIONS TO ITS OWN REQUIREMENTS																								X				
AMBAG SCCRCU	AGRICULTURAL EROSION CONTROL PROJECT: FINAL REPORT	DESCRIBES EROSION PROBLEMS IN AREA, LISTS AND EXPLAINS TASKS OF THE PROJECT WHICH ARE, INTENDED TO CONTROL CONDITIONS. DESCRIBES ACTIVITIES UNDERTAKEN TO ACCOMPLISH THESE TASKS.							X						X														X	
BAKERSFIELD	GROUND WATER QUALITY IMPROVEMENT PROJECT 2800 ACRE AREA RECHARGE FACILITY	DESCRIBES DESIGN AND MANAGEMENT OPTIONS FOR GROUND WATER RECHARGE. INCLUDES SECTIONS ON BASIN GEOLOGY, RECHARGE EFFICIENCY, MONITORING PROGRAM, ENVIRONMENTAL IMPACTS, PREDICTIONS AND PUBLIC PARTICIPATION.																											X	X

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	ACI	AGE	AGN	AGD	AGG	AGR	AGS	AGT	BOA	CHA	CON	DIR	DIS	DRE	DUM	GEO	HAB	HYD	INO	MIN	NAT	OUT	SEA	SEP	SIL	URB	CER	GW
BVRCD	LELAND FREEBORN SALINITY MANAGEMENT PROJECT: DRAFT WATERSHED MANAGEMENT AND ENVIRONMENTAL IMPACT STATEMENT / REPORT	HIGH SALT CONC IN PERCHED GW TABLE THREATENS THE PRODUCTIVITY OF THE WATERSHED & UNDERLYING GW QUALITY. ASSESSES ECONOMIC FEASIBILITY OF SOLVING THE SALINITY PROBLEMS, DESCRIBES WATERSHED PROBLEMS & RESOURCES, PLAN FORMULATION & ENVIRONMENTAL IMPACTS						X	X																					
CALTRANS	BEST MANAGEMENT PRACTICES FOR CONTROL OF WATER POLLUTION (TRANSPORTATION ACTIVITIES)	LISTS TRANSPORTATION-RELATED WQ IMPACTS, THEN PROCEDURES TO PROTECT WQ IN AN INSTITUTIONAL (CALTRANS) CONTEXT. BMP'S PRESENTED PROVIDE GUIDELINES FOR ALL FUNCTIONAL AREAS OF PLANNING, DESIGNING, CONSTRUCTING AND MAINTAINING A TRANSPORTATION SYSTEM.										X	X		X														X	
CITY OF BISHOP	EXISTING AND POTENTIAL NON-POINT SOURCES OF WQ PROBLEMS CAUSED BY EROSION AND SURFACE FLOW MNGMT/URBAN RUNOFF CONCERNS	ANALYSES EROSION CONTROL AND SURFACE FLOW MNGMT/URBAN RUNOFF, W/ 3 PHASES: REGULATIONS INVENTORY, EVALUATION OF THE INVENTORY CONTENTS (WITH DRAFT ACTION PLAN), AND CONCLUDING FINDINGS. INTENT IS TO DEAL ONLY WITH THE CITY OF BISHOP.			X				X				X															X	X	
CO ENVIRONMENT	FINAL REPORT:208 PLANNING FOR THE SOUTH LAHONTAN BASIN, PHASE III, SAN BERNARDINO CO, INDIVIDUAL SEWAGE DISPOSAL AND ALTERNATIVES	EXAMINES THE EFFECTIVENESS OF THE COUNTY'S REGULATION PROGRAM OF INDIVIDUAL WASTEWATER DISPOSAL SYSTEMS IN PREVENTING PROBLEMS SUCH AS ADVERSE IMPACTS TO WATER RESOURCES DUE TO AN ACCUMULATION OF SUCH SYSTEMS.																								X			X	
CPOSDR	AREAWIDE WQ MNGMT PLAN: SAN DIEGO-RIVERSIDE DESIGNATED AREA: WQ PROBLEMS AND MNGMT RESPONSIBILITIES: PART III: SALT BALANCE	DESCRIBES EXISTING GW QUALITY, THE SALT BALANCE METHODOLOGY, EXISTING SALT BALANCE CONDITIONS, AND ALTERNATIVES AND RECOMMENDATIONS FOR ADDRESSING SALT BALANCE PROBLEMS IN GW BASINS.						X	X																			X		X
CPOSDR	AREAWIDE WQ MNGMT PLAN: SAN DIEGO-RIVERSIDE DESIGNATED AREA: WQ PROBLEMS AND MNGMT RESPONSIBILITIES: PART I: RUNOFF	DESCRIBES THE IMPACTS OF RUNOFF ON SURFACE WATERS, THE METHODOLOGY FOR ASSESSING THE IMPACTS, AND THE ALTERNATIVE AND RECOMMENDED METHODS FOR MITIGATING THE WQ IMPACTS ON SELECTED SURFACE WATERS.					X						X													X		X		

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	A C I	A G E	A G R	A G S	A G T	A A	A N	A R	B S	C E	C M	D E	D O	D B	D D	G R	H O	H B	I D	I N	N T	O T	S T	S A	S P	U L	C R	G W
CPOSDR EPA	COMPREHENSIVE PLAN FOR THE SAN DIEGO REGION: AREAWIDE WQ MNGMT PLAN: SAN DIEGO-RIVERSIDE DESIGNATED AREA: SUMMARY	CONTAINS PLAN ELEMENTS: FEDERAL REGULATIONS, REGIONAL GROWTH FORECASTS, INSTITUTIONAL FRAMEWORK FOR IMPLEMENTATION, RECOMMENDATIONS FOR WASTEWATER TREATMENT FACILITIES EXPANSION AND NPS POLLUTION ABATEMENT, AND CONTINUING WQ MNGMT PROCESS.			X			X	X	X													X				X
CPOSPR	COLIFORM POLLUTION IN SAN DIEGO BAY (DRAFT FOR DISCUSSION)	INVESTIGATES AND IDENTIFIES POSSIBLE SOLUTIONS TO THE COLIFORM POLLUTION PROBLEM PRESENT IN THE VICINITY OF CLAMBEDS IN BAY. SIX PROBLEM DISCHARGE AREAS ARE FOUND (SEWAGE AND STORM DRAIN DISCHARGES), AND RECOMMENDATIONS MADE TO ALLEVIATE PROBLEM.																			X		X	X			
CVCWD	208 PLANNING STUDY: AGRICULTURAL WASTEWATER PRACTICES	DISCUSSES AGRICULTURAL WATER USE IN COACHELLA VALLEY, THE PROBABLE SALINITY AND WATER POLLUTION TRENDS AND SOME GENERAL METHODS TO PREPARE FOR THE FUTURE. HISTORY OF WQ PRACTICES AND ALTERNATIVE MNGMT PRACTICES INCLUDED.		X	X				X													X				X	X
DHS CSSWMB	ENVIRONMENTALLY DANGEROUS WASTES IN THE SOUTH LAHONTAN AND COLORADO RIVER BASIN REGIONS	EXAMINES ENVIRONMENTALLY DANGEROUS WASTE PRODUCTION AND TRANSPORT PATTERNS IN THE BASINS AND IDENTIFIES NEEDS FOR NEW DISPOSAL SITES SO AS TO ALLEVIATE ANY POTENTIAL DISPOSAL PROBLEMS. INCLUDES MILITARY INSTALLATIONS, RAILROAD MAINTENANCE, BORATE MINING							X																		
DRCD	SOUTH FORK KINGS RIVER DRAINAGE STUDY	INVESTIGATES THE PROBLEM OF SALINITY BUILDUP IN RIVER, SUBSURFACE AND CANAL WATER AS WELL AS SOIL IN THE RICH AGRICULTURAL AREA. PROPOSES MITIGATION MEASURES TO ALLEVIATE FERTILITY PROBLEMS DUE TO SALINITY.			X																					X	
DWR	WATERSHED MANAGEMENT FOR UNSTABLE AND ERODIBLE AREAS IN NORTH COASTAL CALIFORNIA	STUDIES 3 WATERSHEDS TO DETERMINE PRESENT TIMBER HARVEST METHODS VERSUS ALTERNATIVE BMP'S. LANDSLIDES, GEOLOGY, ENFORCEABILITY OF RULES, SOIL/VEGETATION, TIMBER HARVEST ALL ARE INCLUDED. MANY DETAILED MAPS.																X							X		X	
EPA NACD	CONSERVATION DISTRICTS AND 208 WATER QUALITY MANAGEMENT	EXTENSIVELY DISCUSSES ADMINISTRATIVE REQUIREMENTS AND AGENCY RESPONSIBILITY FOR ALL ASPECTS OF WQ MNGMT, ESPECIALLY RCD'S. APPENDICES LIST VARIOUS AGENCY REGULATIONS RELATING TO RCD'S AND DETAILED LISTS OF BMP'S. (ESPECIALLY EROSION).			X				X									X	X		X				X	X	X	

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	ACI	AGE	AGN	AGD	AGG	AGR	AGS	AGT	BOA	CHA	CON	DIR	DIS	DRE	DUM	GEO	HAB	HYD	IND	MIN	NAT	OUT	SEA	SEP	SIL	URB	CER	GW
EPA:OWPO	METHODS AND PRACTICES FOR CONTROLLING WATER POLLUTION FROM AGRICULTURAL NONPOINT SOURCES	PROVIDES GENERAL INFORMATION ON THE PROBLEMS,FACTORS AFFECTING, AND METHODS FOR CONTROLLING WATER POLLUTION FROM AGRICULTURE NPS'S. INCLUDED ARE: WATER EROSION, WIND EROSION, PLANT NUTRIENTS, PESTICIDES, ANIMAL WASTES. CONTROL METHOD DISCUSSION.			X		X		X																		X			
EPA:WPD	BEST MANAGEMENT PRACTICES GUIDANCE, DREDGED OR FILL ACTIVITIES	COVERS ASPECTS OF PROPER DREDGING/FILL PROGRAM PLANNING AND DEVELOPMENT INCLUDING: MINIMIZING WATER FLOW/CIRCULATION IMPAIRMENT, CONTROLLING EXCESS SEDIMENT LOAD RUNOFF, ENSURING POLLUTANT CONTAINMENT, ENVIRONMENT/WILDLIFE ENHANCEMENT/PROPAGATION.														X			X											
FMFCD	FRESNO NATIONWIDE URBAN RUNOFF PROGRAM PROJECT	DETERMINES TO WHAT EXTENT URBAN RUNOFF IS CONTRIBUTING TO SOLE-SOURCE AQUIFER WQ PROBLEMS AND EVALUATES MNGMT PRACTICES (TOTAL RETENTION/RECHARGE BASINS) FOR CONTROLLING URBAN RUNOFF.																										X	X	X
FRESNO CO.	WATER RESOURCES MANAGEMENT PLAN FOR FRESNO-CLOVIS URBAN & NORTHEAST FRESNO COUNTY	A WATER RESOURCES MNGMT PLAN WAS PREPARED BY FRESNO CO. & LOCAL AGENCIES FOR PRESERVATION & ENHANCEMENT OF EXISTING GW QUALITY IN THE PLAN AREA. INCLUDES 7 COMPREHENSIVE BMPS ALONG WITH SPECIFIC PRIORITY RANKINGS, INSTITUTIONAL/FINANCIAL PLANS.					X	X	X								X											X		X
INYO CO	COUNTY OF INYO: 208 WATER QUALITY PLANNING: PHASE III REPORT (FINAL REPORT)	ACTION PLAN AND FINDINGS FROM STUDY OF 1)EROSION CONTROL, 2)SURFACE FLOW MNGMT/URBAN RUNOFF AND 3)INDIVIDUAL WASTE DISPOSAL SYSTEMS AND ALTERNATIVES. ALSO INCLUDED ARE APPLICABLE REGULATIONS FOR INYO COUNTY.			X							X			X											X		X	X	
LHWD	SALT MANAGEMENT PROJECT IN LOST HILLS WATER DISTRICT	DEVELOPS AN ACTION PLAN AND IMPLEMENTATION SCHEDULE FOR CONTROL OF GROUND WATER QUALITY THROUGH A SALT MANAGEMENT PLAN (COLLECTION-DISPOSAL) FOR USE IN THE LOST HILLS WATER DISTRICT.																											X	X
MARIPOSA CO	FINAL MARIPOSA COUNTY 208 PLAN	DISCUSSES BMP'S FOR SEPTIC TANK LEACH FIELD FAILURES AND SOIL EROSION PROBLEMS IN TWO AREAS IN MARIPOSA COUNTY. A SHORT ENVIRONMENTAL IMPACT REPORT IS INCLUDED.											X		X											X			X	

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	A C I	A G E	A G N	A G R	A G S	A T	A A	A N	A R	S E	M O	B	D D	D N	I T	T A	O P	S L	S B	U R	C E R	G W
MCFMWCD	SALINAS VALLEY SEAWATER INTRUSION STUDY	PRESENTS THE RESULTS OF AN INVESTIGATION OF METHODS TO PREVENT SEAWATER INTRUSION INTO COASTAL AQUIFERS OF THE SALINAS VALLEY. TECHNICAL & ECONOMICAL ANALYSES HAVE BEEN PERFORMED TO EVALUATE ALTERNATIVES THAT COULD BE USED TO SLOW/HALT THE INTRUSION																	X					
PLUMAS CO	SOIL EROSION STUDY FOR PLUMAS COUNTY	DESCRIBES EROSION PROCESS, THE CO'S EROSION PROBLEMS AND CONTRIBUTING FACTORS NATURAL AND ADMINISTRATIVE. AFTER ANALYSIS AND RECOMMENDATION, BMP'S ARE LISTED--WITH DIAGRAMS, PHOTOS, MAPS, AND ATTRIBUTABLE AGENCIES, IF APPLICABLE.					X		X			X												
RWQCB(1)	PLANNING STUDY OF NPS STUDY PROJECT:PLANNING STUDY OF NPS SOURCE BACTERIAL CONTAMINATION, CIRCULATION AND FLUSHING IN HUMBOLDT BAY	ADDRESSES SHELLFISH BED CONTAMINATION. MONITORS CIRCULATION IN THE BAYS AND THE PATTERN OF BACTERIAL CONTAMINATION. MUCH OF THE WORK SPECIFICALLY TIES BACTERIAL SOURCES TO WEATHER, FLUSHING, HYDROGEOLOGY AND POTENTIAL RECOMMENDED MITIGATION PRACTICES																	X	X				
RWQCB(5)	A PRELIMINARY ASSESSMENT OF PESTICIDE DISPOSAL BY TAXI-SPRAYING: FINAL REPORT	ASSESSES PESTICIDE RINSEWATER DISPOSAL BY TAXI-SPRAYING IN THE CENTRAL VALLEY. DONE IN 2 PARTS: SAMPLING AND CHEMICAL ANALYSIS. THREE AIRSTRIPS CHOSEN FOR SAMPLING.				X																		
RWQCB(5)	PCBS IN PRIORITY WATER BODIES: CENTRAL VALLEY PCB STUDY	PCB LEVELS IN VARIOUS STREAMS & RESERVOIRS WITHIN REGION 5. PCB CONCENTRATIONS FOUND IN URBAN & RURAL AREAS WERE CONSIDERED RELATIVELY LOW THUS MAKING IT INFEASIBLE TO REMEDIATE CURRENT PCB CONTAMINATION. RECOMMENDS PCB BMPS BE DEVELOPED/IMPLEMENTED.											X			X								
RWQCB(6)	FEASIBILITY STUDY FOR ABATEMENT OF POLLUTION FROM THE LEVIATHAN MINE	FEASIBILITY REPORT INCLUDES IDENTIFICATION OF DATA SHORTFALLS, SITES OF AND TYPES OF PROBLEMS FOUND, RECLAMATION AND ABATEMENT ALTERNATIVES AND THE RECOMMENDED PROGRAM.	X									X	X	X			X							
RWQCB(7) PVID	208 PLANNING ISSUE A: DEVELOPMENT AND EVALUATION OF ALTERNATIVE WATER MGMNT PRACTICES FOR CONTROL OF AGRICULTURAL WASTEWATER	IDENTIFIES AND DISCUSSES BMP'S FOR THE PALO VERDE IRRIGATION DISTRICT(REG 7). INCLUDES BMP'S FOR RUNOFF CONTAINING SEDIMENTS, PESTICIDES & FERTILIZERS, WQ IMPACTS FROM DREDGING, AND THE IMPACT ON WILDLIFE AND FLORA FROM AQUATIC WEED HERBICIDES.				X				X		X		X										X

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	A C I	A G E	A G N	A G R	A S T	A A	A N	B R	C S	C E	D M	D O	D B	G D	H N	H T	I T	M A	N P	O U	S E	S L	S R	U E	C R	G W
SANTA CRUZ CO	BEST MANAGEMENT PRACTICES FOR AGRICULTURAL SOIL CONSERVATION IN THE PAJARO VALLEY	SUGGESTS MANAGEMENT PRACTICES THAT KEEP SEDIMENT AND OTHER AGRICULTURAL POLLUTANTS FROM ENTERING WATERWAYS, AS WELL AS PREVENT PRODUCTIVE AGRICULTURAL TOPSOIL LOSSES.			X	X				X																	
SANTA CRUZ CO	SAN LORENZO VALLEY ON-SITE WASTEWATER DISPOSAL PILOT MANAGEMENT PROJECT: FINAL REPORT	USES SIX SITES TO DEMONSTRATE IMPROVEMENT METHODS FOR REDUCING WATER QUALITY (SURFACE AND GROUND WATER) PROBLEMS IN THE AREA. RECOMMENDATIONS PRESENTED WILL SERVE AS A BASIS FOR A WASTEWATER MANAGEMENT PROGRAM.																				X					
SANTA CRUZ CO.	SOQUEL CK CHRONIC SEDIMENT SOURCE INVENTORY FINAL REPORT	SOQUEL CK WATERSHED WAS INVENTORIED TO ASCERTAIN SEDIMENT SOURCES & STREAM OBSTRUCTIONS WHICH COULD IMPACT ANADROMOUS FISHERY HABITAT. SEDIMENT SOURCES, LOGJAMS & WATER DIVERSION DAMS WERE IDENTIFIED AS POTENTIAL PROBLEMS. BMPS ARE PRIORITIZED.													X			X								
SCAG LADWP	GROUNDWATER QUALITY MANAGEMENT PLAN: SAN FERNANDO VALLEY BASIN (SFVB)	SUMMARIZES A 2 YEAR STUDY THAT RESULTED IN 8 PRIMARY RECOMMENDATIONS THAT CONSTITUTE THE GW MNGMT PLAN FOR THE SFVB. RECOMMENDATIONS ADDRESS: PUBLIC EDUCATION, REGULATION OF PRIVATE DISPOSAL SYSTEMS, LANDFILLS AND GW MNGMT AND TREATMENT PROGRAMS.												X	X	X					X				X	X
SHASTA CO	SHASTA COUNTY EROSION STUDY	COMPILES PERTINENT DATA REGARDING THE NATURE, MAGNITUDE OF EROSION AND SEDIMENTATION PROBLEMS IN THE CO. ASSESSES APPROPRIATE REMEDIAL AND PREVENTIVE MEASURES. INTENDED TO PROVIDE ASSISTANCE TO THOSE INVOLVED IN THE CO'S DECISION MAKING PROCESS.					X	X															X				
SOLANO CO	NORTHERN SOLANO CO: SURFACE RUNOFF MANAGEMENT PLAN	CONTAINS 7 MEASURES FOR THE CONTROL OF SURFACE RUNOFF IN THE CO, AND THE INSTITUTIONAL, FINANCIAL, LEGISLATIVE AND SCHEDULING DETAILS FOR PLAN IMPLEMENTATION. ALSO DESCRIBED IS THE CONTINUING PLANNING PROGRAM.			X	X	X	X		X	X	X											X		X	X	X
SONOMA CO	AGGREGATE RESOURCES MANAGEMENT PLAN: FINAL ENVIRONMENTAL IMPACT REPORT	BASED ON AN EIR ON WATERWAY AND HARDROCK GRAVEL MINING IN THE CO, PROPOSES A MNGMT PLAN FOR ASSURING FUTURE AGGREGATE RESOURCES WHILE MINIMIZING ENVIRONMENTAL IMPACTS AND LAND USE CONFLICTS.					X										X										

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SRAPC	IMPLEMENTATION REPORT: DRAFT WATER QUALITY MANAGEMENT PLAN	IS THE LOCAL AGREED-TO COMPONENT PLANS TO THE AREAWIDE WQ MNGMT PLAN. NOT ONLY POPULATION GROWTH PROJECTIONS, BUT ALSO URBAN RUNOFF, EROSION AND SEDIMENTATION, SEPTIC TANKS, AND SEWAGE AND STORMWATER NEEDS ARE COVERED.							X				X													X		X	X	
SRAPC	ISSUES AND RECOMMENDATIONS: DRAFT WATER QUALITY MANAGEMENT PLAN	EVALUATES AND DISCUSSES WQ ISSUES IN THE CONTEXT OF PRESENTING THE AREAWIDE WQ MNGMT PLAN. RECOMMENDS PRACTICES TO ALLEVIATE WQ PROBLEMS FROM URBAN STORMWATER RUNOFF, EROSION AND SEDIMENTATION, AND SEPTIC TANK MNGMT. SPECIFIC SITES AS WELL AS GENERAL													X											X		X	X	
SRAPC	SACRAMENTO REGIONAL AREA PLANNING COMMISSION: TECHNICAL SUPPLEMENT: DRAFT WATER QUALITY MANAGEMENT PLAN	DISCUSSES ASPECTS OF WQ PROBLEMS, ESPECIALLY SOURCES AND PERTINENT LEGISLATION IN THE AREA. COVERS URBAN STORMWATER RUNOFF, EROSION AND SEDIMENTATION, SEPTIC TANKS AND SEWAGE AND STORMWATER SYSTEMS. BACKGROUND INCLUDES JURISDICTIONS, GROWTH PATTERNS.										X	X		X							X				X		X	X	
SRAPC	SACRAMENTO REGIONAL AREA PLANNING COMMISSION: DRAFT WATER QUALITY MANAGEMENT PLAN: TECHNICAL SUPPLEMENT	DESCRIBES THE REGION'S ENVIRONMENT AND GROWTH PATTERN, WQ PROBLEMS: URBAN STORMWATER RUNOFF, EROSION AND SEDIMENTATION, SEPTIC TANKS, SEWAGE AND STORMWATER SYSTEMS.																								X		X		
SWCRB USBR DWR	SAN JOAQUIN VALLEY INTERAGENCY DRAINAGE PROGRAM: AGRICULTURAL AND SALT MANAGEMENT IN THE SAN JOAQUIN VALLEY: PRELIMINARY EDITION	RECOMMENDS PLAN FOR CONVEYANCE, DISPOSAL,OF SALINE AGRICULTURAL WASTE WATER. DESCRIBES IMPLEMENTING, FINANCING. EIR, PLAN BACKGROUND INCLUDED. THE PLAN IS PROPOSED TO BE A BASIS FOR STATE AND FEDERAL POLICY ON AGRICULTURAL DRAINAGE.						X	X										X											
SWRCB	A REPORT ON CRITICAL EROSION OF AGRICULTURAL SITES IN CALIFORNIA	ADDRESSES SPECIFIC EROSION PROBLEM AREAS, DESCRIBES REMEDIAL PRACTICES, PROVIDES A RESUME OF EXISTING CONTROL PRACTICES, AIDS ASSESSMENT OF EROSION SEVERITY, SITES SEVERAL SAMPLE ORDINANCES AND DEVELOPS A GUIDELINE FOR FUTURE USE IN EROSION CONTROL.					X		X			X							X											
SWRCB	EROSION AND SEDIMENT CONTROL IN CALIFORNIA WATERSHEDS: A STUDY OF INSTITUTIONAL CONTROLS	DESCRIBES ALTERNATIVES IN STRENGTHENING GOVERNMENTAL RESPONSES TO EROSION AND SEDIMENTATION PROBLEMS IN CALIFORNIA. AGENCY BY AGENCY POWERS, PURPOSE AND PERFORMANCE EVALUATION.											X				X			X		X			X		X		X	

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SWRCB	LOWER WESTSIDE VALLEY WATER QUALITY INVESTIGATION, KERN COUNTY, SUPPLEMENTARY REPORT	ANALYZES THE WESTERN OIL & GAS ASSOCIATION'S REPORTS, TECHNICAL MATERIAL, CONCLUSIONS & RECOMMENDATIONS WITH THE AUTHOR'S REPORT/RECOMMENDATIONS CONTAINED IN 'THE LOWER WESTSIDE WATER QUALITY INVESTIGATION, KERN CO.'						X									X													
SWRCB	LOWER WESTSIDE WATER QUALITY INVESTIGATION, KERN COUNTY	EXAMINES HYDROGEOLOGICAL CONDITIONS TO FIND RELATION BETWEEN GEOLOGICAL FORMATION TO GW, IDENTIFY WQ IMPACTED AREAS, RECOMMEND CHANGES IN CURRENT MANAGERIAL PRACTICES. ORIGINATIVE PROBLEM IS AN INCREASE IN SALT LOAD IN GW AND TOPSOIL SEDIMENTS.						X	X								X			X		X	X							
SWRCB	PROJECTED CHANGES IN QUALITY OF SAN JOAQUIN VALLEY SUBSURFACE DRAINAGE WATERS IN A PROPOSED MARSH AND CANAL TRANSPORT SYSTEM	AN IN-DEPTH ENGINEERING STUDY EVALUATING POSSIBLE DRAINAGE SYSTEMS IN MARSHES OF THE SAN JOAQUIN VALLEY.						X	X																					
SWRCB LA CO	REGULATIONS AND PRACTICES FOR EROSION CONTROL, SURFACE FLOW MNGMT,URBAN RUNOFF AND ON-SITE WASTE DISPOSAL IN LOS ANGELES COUNTY	EXAMINES REGULATIONS AND PRACTICES FOR EROSION CONTROL, SURFACE FLOW MNGMT, URBAN RUNOFF AND ON-SITE WASTE DISPOSAL AND THEIR IMPACT ON WATER QUALITY. ALSO INCLUDED IS 'DO NOTHING' ACTION PLAN AND REVIEW COMMENTS.																								X		X	X	X
SWRCB MCRCD	NORTH COAST EROSION AND SEDIMENT CONTROL PILOT PROJECT: TOMKI CK WATERSHED: FINAL REPORT	A PILOT PROJECT TO DEVELOP A WATERSHED CONSERVATION PLAN IN A UNIQUE CONTIGUOUS AREA CONSISTING OF 83% PRIVATE OWNERSHIP, ALSO SIGNIFICANT NATIONAL PARK AND BUREAU OF LAND MANAGEMENT LAND. PHOTOGRAPHS OF BMP CASES DISTRIBUTED THROUGH TEXT.										X			X				X			X					X		X	
SWRCB USEPA	FARMING AND WATER QUALITY: A HANDBOOK FOR THE SAN JOAQUIN RIVER BASIN: FINAL DRAFT	ON-FARM WATER POLLUTION CONTROL METHODS AND GENERAL INFORMATION. INTENDED FOR FARM GROUP LEADERS, ETC. WHO CAN PASS ALONG THESE PRACTICES TO FARMERS. DISCUSSION OF WATER POLLUTION IMPACTS ON BU'S OF SURFACE AND GROUND WATER.						X	X																				X	

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TRPA	CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD: LAHONTAN REGION: URBAN RUNOFF STUDY: PHASE I REPORT	EVALUATES URBAN WATERSHEDS,CONTROL STRATEGIES TO DETERMINE THEIR EFFECTIVENESS IN REDUCING NUTRIENT INPUT AND CONSEQUENT DEGRADATION OF L TAHOE. DESCRIBES EXISTING DATA ON DRAINAGE, WQ. DEVELOPS MONITORING PROGRAM TO EVALUATE ALTERNATIVE STRATEGIES.													X					X			X					X	X	
USBLM	208 WATER QUALITY MANAGEMENT REPORT	IDENTIFICATION OF WQ PROBLEMS, EVALUATION OF CURRENT MP'S DESCRIPTION OF PROGRAM TO DEVELOP BMP'S (INCLUDING ITS LIMITATIONS), AND RECOMMENDATIONS FOR IMPLEMENTATION. ATTENTION GIVEN TO BLM'S RECREATION AND GRAZING MANAGEMENT ACTIVITIES.															X		X			X					X		X	
USBLM	SOLID WASTE DISPOSAL PRACTICES ON PUBLIC LANDS	REPORT ATTEMPTS TO ACHIEVE 2 GOALS: 1) TO GUIDE MORE STRINGENT LEGISLATION OF SOLID WASTE MANAGEMENT, 2) PROVIDE PLANNING/DESIGN/OPERATION GUIDELINES FOR SOLID WASTE DISPOSAL SITES BY BLM PERSONNEL.			X												X									X				X
USFS	SPECIAL STUDY NO. 1B WORK OUTLINE: WATER QUALITY PLANNING: A PART OF SACRAMENTO VALLEY BASIN STUDY	OUTLINES A WORK PLAN TO GENERATE A REPORT RECOMMENDING BMP'S FOR THE FORESTED LAND OF THE BASIN.					X																X							
USSCS	COMPARISON OF ALTERNATIVE MANAGEMENT PRACTICES: MORLAR FLATS PILOT STUDY AREA	COMPARES ALTERNATIVE PRACTICES FOR THE REDUCTION OF SEDIMENT FROM RANGELAND, RURAL/RESIDENTIAL, SHEET/RILL, STREAMBANK, GULLY AND ROADSIDE EROSION.										X			X														X	
USSCS	COMPARISON OF ALTERNATIVE MANAGEMENT PRACTICES: GEORGETOWN, CAMINO-FRUITRIDGE PILOT STUDY AREA	DESCRIBES PRINCIPAL ECONOMIC EFFECTS OF SELECTED ALTERNATIVES IDENTIFIED IN PREVIOUS REPORT. FOCUSSES ON EROSION CONTROL, RANGE MNGMT, WOODLAND MNGMT, AND LISTS BMP INSTALLATION AND AVERAGE ANNUAL COSTS, ESTIMATED AND ANNUAL REDUCTION IN SEDIMENT.					X					X			X												X		X	
USSCS	FARMING AND WQ: A HANDBOOK FOR THE LOWER SAN JOAQUIN RIVER BASIN: TECHNICAL APPENDIX: EVALUATION OF CONSERVATION PRACTICES (DRAFT)	DESCRIBES DETAILED EFFECTS OF VARIOUS CONSERVATION PRACTICES ON TEST FARMS IN THE CENTRAL VALLEY. EMPHASIS ON CURBING WATER PROBLEMS ARISING FROM AGRICULTURAL PRACTICES. A FOLLOW-UP TO 'SPECIAL STUDY 1A WQ PLANNING SACRAMENTO VALLEY BASIN STUDY'.						X	X																					

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	ACI	AGE	AGN	AGD	AGG	AGR	AGS	AGT	BOA	CNA	COH	DIR	DIS	DRE	DUH	GEO	HAS	HTD	IND	MIH	NAI	OUT	SEA	SEP	SIL	URB	CER	GW
USSCS CRCD	ALTERNATIVE MANAGEMENT PRACTICES: RED BANK CK PILOT STUDY AREA	IDENTIFIES BMP'S FOR REDUCING NPS POLLUTION FROM SEDIMENTATION RESULTING FROM ACCELERATED SOIL EROSION. COMPARES ALTERNATIVE MANAGEMENT PRACTICES.							X			X			X														X	
USSCS NRCD	ALTERNATIVE MANAGEMENT PRACTICES: CITRUS COVE PILOT STUDY AREA	IDENTIFIES BMP'S FOR CONTROLLING SEDIMENT NPS PROBLEMS IN STUDY AREA. ALTERNATIVE MP'S ARE LISTED.							X			X			X				X		X								X	
USSCS NRCD	ALTERNATIVE MANAGEMENT PRACTICES: MORLAR FLATS PILOT STUDY AREA	DESCRIBES ALTERNATIVE MNGMT PRACTICES FOR SEDIMENTATION PROBLEMS IN STUDY AREA. SOME SOURCES DISCUSSED ARE RANGELAND, RURAL/RESIDENTIAL, GULLY EROSION, STREAMBANK AND TRANSPORTATION FACILITIES.							X			X			X				X		X	X					X		X	
USSCS NRCD	COMPARISON OF ALTERNATIVE MANAGEMENT PRACTICES, CITRUS COVE PILOT STUDY AREA	COMPARES ALTERNATIVE COMPONENT PRACTICES TO DETERMINE BMP'S FOR THE REDUCTION OF SEDIMENT FROM STREAMBANK, TRANSPORTATION FACILITIES, AND GULLY EROSION. ECONOMIC, SOCIAL AND ENVIRONMENTAL EFFECTS ARE EVALUATED.										X			X														X	
USSCS NRCD	RECOMMENDED PLAN OF BEST MANAGEMENT PRACTICE: MORLAR FLATS PILOT STUDY AREA	ESTIMATES SEDIMENT PRODUCED FROM AGRICULTURAL LAND BY RAINFALL AND RUNOFF. SPECIFICALLY PLANS BMP'S TO FIT PROBLEM AREAS ENCOUNTERED. NOTEWORTHY BENEFICIAL/ADVERSE EFFECT EVALUATION.					X					X	X		X				X										X	
USSCS ORCD	COMPARISON OF ALTERNATIVE MANAGEMENT PRACTICES: SPANISH GRANT DRAINAGE DISTRICT AND CROW CK PILOT STUDY AREA	COMPARES ALTERNATIVE COMPONENT PRACTICES FOR THE REDUCTION OF SEDIMENT FROM ORCHARDLAND, CROPLAND, RANGELAND AND STREAMBANK EROSION. ECONOMIC, SOCIAL, ENVIRONMENTAL EFFECTS CONSIDERED AS WELL AS TYPES OF EROSION.					X	X	X			X							X										X	
USSCS ORCD	RECOMMENDED PLAN OF BEST MANAGEMENT PRACTICES: SPANISH GRANT DRAINAGE DISTRICT AND CROW CREEK PILOT STUDY AREA	DESCRIBES RECOMMENDED BMP'S FOR AGRICULTURALLY-RELATED SEDIMENTATION PROBLEMS AND THE OVERALL PLAN TO IMPLEMENT THEM. BMP'S LISTED IN DETAIL. SPECIFIC AREAS COVERED ARE SHEET/RILL, GULLY AND STREAMBANK EROSION. DISCUSSES BENEFICIAL AND ADVERSE EFFECTS.							X			X																	X	
USSCS PRCD	ALTERNATIVE MANAGEMENT PRACTICES: WILLOW CK PILOT STUDY AREA	IDENTIFIES BMP'S FOR EROSION POLLUTION PROBLEMS IN STUDY AREA BY COMPARING ALTERNATIVE MANAGEMENT PRACTICES.							X			X			X						X								X	

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	ACI	AGE	AGN	AGD	AGG	AGR	AGS	AGT	BOA	CHA	CON	DIR	DIS	DRE	DUM	GEO	HAB	HYD	IND	MIN	NAT	OUT	SEA	SEP	SIL	URB	CER	GW
USSCS PRCD	COMPARISON OF ALTERNATIVE MANAGEMENT PRACTICES, WILLOW CREEK PILOT STUDY AREA	COMPARES INSTALLATION COSTS AND EROSION CONTROL EFFECTIVENESS OF BMP'S FOR GULLIES, STREAMBANKS AND TRANSPORTATION FACILITIES LOCATED ON GRAZING LAND.										X			X														X	
USSCS PRCD	RECOMMENDED PLAN OF BEST MANAGEMENT PRACTICES, WILLOW CREEK PILOT STUDY AREA	INDIVIDUAL PRACTICES AND COMBINATIONS OF BMP'S ARE RECOMMENDED FOR EROSION CONTROL OF STREAMBANKS, GULLIES AND TRANSPORTATION FACILITIES. IMPLEMENTATION COSTS ARE EXAMINED AS ARE NONECONOMIC COSTS AND BENEFITS.										X			X														X	
USSCS PRCD	RECOMMENDED PLAN OF BEST MANAGEMENT PRACTICES: WILLOW CREEK PILOT STUDY AREA	DESCRIBES STUDY AREA,CONTEXT:THEN INTRODUCES RECOMMENDED PLAN AND IMPLEMENTATION PROCEDURES. EXISTING FEDERAL,STATE PROGRAMS ARE LISTED.SPECIFIC PROBLEMS ADDRESSED:GULLY,STREAMBANK,AND TRANSPORTATION FACILITIES.EVALUATES PLAN BY LAND USE,SEDIMENT SRC										X			X														X	
USSCS YCRCD	COMPARISON OF ALTERNATIVE MANAGEMENT PRACTICES: BUCKEYE AND DUNNIGAN CK PILOT STUDY AREA	INVESTIGATES SOIL EROSION AS A SOURCE OF SEDIMENT DEGRADING THE WATERS OF THE SACRAMENTO RIVER. DESCRIBES PRINCIPAL ECONOMIC EFFECTS OF SELECTED ALTERNATIVE MANAGEMENT PRACTICES.							X						X														X	
USSCS YCRCD	COMPARISON OF ALTERNATIVE MANAGEMENT PRACTICES: BUCKEYE AND DUNNIGAN CREEKS	INVESTIGATES SOIL EROSION AS A SOURCE OF SEDIMENT DEGRADING THE WATERS OF THE SACRAMENTO RIVER. DESCRIBES PRINCIPAL ECONOMIC EFFECTS OF SELECTED ALTERNATIVE MANAGEMENT PRACTICES.							X						X														X	
USWRC	THE NATION'S WATER RESOURCES:THE SECOND NATIONAL WATER ASSESSMENT BY THE U.S. WATER RESOURCES COUNCIL:WATER MNGMT PROBLEM PROFILES	PRESENTS AN OVERVIEW OF WATER RESOURCE MNGMT PROBLEMS AT THE NATIONAL, REGIONAL, AND SUBREGIONAL LEVEL OF DETAIL. EACH SUBREGIONAL ANALYSIS ASSESSES THE LOCATION AND SCOPE OF CRITICAL WATER QUANTITY, WQ, RELATED LAND INFORMATION AND INFORMATION NEED					X		X			X	X		X						X	X					X	X		
USWRC	THE NATION'S WATER RESOURCES:THE SECOND NATIONAL WATER ASSESSMENT BY THE US WATER RESOURCES COUNCIL:PART III:FUNCTIONAL WATER USES	DISCUSSES WATER REQUIREMENTS FOR: DOMESTIC/COMMERCIAL, MANUFACTURING, RECREATION USES FIBER, MINERAL, ENERGY PRODUCTION, NAVIGATION, FISH/WILDLIFE, NATURAL AREAS,FLOOD MNGMT CONSIDERATIONS AND EROSION AND SEDIMENTATION MNGMT. INCLUDES PROJECTIONS.										X	X									X					X	X		

PRINCIPAL AGENCY	REPORT TITLE	ABSTRACT	A A A A A A A A B C C D D D D G N N I N N O S S S U C G G G G G G G G O N O I I R U E A Y N I A U E E I R I E N D G R S T A A N R S E N O B D D N T I A P L B	C E R	G W
VENTURA CO	208 AREAWIDE WQ MNGMT PLANNING STUDY (CONTINUING PLANNING STUDY): 1981/1982 PHASE IV ABANDONED WATER WELLS STUDY	DISCUSSES ABANDONED WELLS IN VENTURA COUNTY AND THE STEPS TAKEN TO CORRECT ASSOCIATED PROBLEMS INCLUDING SEALING THE WELLS, IN ORDER TO PREVENT GROUND WATER LOSS OR CONTAMINATION.		X	X

APPENDIX C

CHIEF COUNSEL'S STATEMENT OF LEGAL AUTHORITY

CHIEF COUNSEL'S STATEMENT
FOR THE
STATE NONPOINT SOURCE MANAGEMENT PROGRAM
ADMINISTERED BY THE
STATE WATER RESOURCES CONTROL BOARD
AND THE
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD
OFFICE OF THE CHIEF COUNSEL
OCTOBER 1988

CHIEF COUNSEL'S STATEMENT
TABLE OF CONTENTS

STATE OF CALIFORNIA, STATE WATER RESOURCES CONTROL BOARD
CHIEF COUNSEL'S STATEMENT OF LEGAL AUTHORITY TO IMPLEMENT A STATE NONPOINT SOURCE MANAGEMENT PROGRAM

I hereby certify, pursuant to Section 319(b) of the Clean Water Act, that in my opinion the laws of the State of California provide adequate authority for the California State Water Resources Control Board (State Board) and the California Regional Water Quality Control Boards (Regional Boards) to carry out the Nonpoint Source Management Program submitted by the State Board. This authority is provided in lawfully enacted statutes and lawfully adopted regulations in full force and effect on the date of this Chief Counsel's Statement. Specific authorities provided by these statutes and regulations are discussed below.

I. INTRODUCTION

Authority for the State of California to implement the nonpoint source management program in compliance with Section 319 of the Clean Water Act (33 U.S.C. § 1329) is found in the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), Division 7 (commencing with Section 13000) of the California Water Code.

The State and Regional Boards also have authority under the Toxic Pits Cleanup Act of 1984 and the state underground storage of hazardous substances law to establish and enforce requirements for surface impoundments containing hazardous waste and for underground storage tanks. (Cal. Health & Safety Code § 20208 et seq.; id. § 25280 et seq.) These statutes do not limit or abridge the State and Regional Board's Porter-Cologne Act authority. (Id. §§ 25208.11, 25299.5.) Similarly, state statutes authorzing other agencies to regulate activities which may be nonpoint sources do not bar the State and Regional Board from regulating those nonpoint sources pursuant to the Porter-Cologne Act. (See Cal. Food & Agric. Code § 11501.1(b) (pesticide use); Cal. Gov't Code § 66732 (solid waste disposal), Cal. Health & Safety Code § 25145 (hazardous waste disposal); id. § 25356.1(b) (hazardous substance releases); Cal. Pub. Res. Code § 2559(mining); id. § 3718 (geothermal wells); id. § 4514(c) (logging).)

A. General Powers of the State and Regional Boards

The Porter-Cologne Act establishes a comprehensive program for the protection of water quality and the beneficial uses of the waters of the state. The Porter-Cologne Act applies to both surface and ground waters, and to both point and nonpoint sources. (See Cal. Water Code § 13050(e), 13172, 13260 et seq.; 63 Ops. Cal. Atty. Gen. 51, 53-57 (1980); 58 Ops. Cal. Atty. Gen. 531-32 (1975); 58 Ops. Cal. Atty. Gen. 114, 121 (1975).)

The Porter-Cologne Act is intended to provide a "statewide program for water quality control." (Cal. Water Code § 13000.) "Water quality control" is defined broadly by the Porter-Cologne

Act to mean "the regulation of any activity or factor which may affect the quality of the waters of the state and includes the prevention and correction of water quality or nuisance." (Id. § 13050(i).)

The authority to administer programs dealing with any factor affecting water quality was originally provided in amendments to the Dickey Water Pollution Act, the predecessor of the Porter-Cologne Act. (See 1963 Cal. Stat. ch. 1463, at 3021.) Interpreting these amendments, the Attorney General concluded:

> Prior to 1963, the state board's concern with water quality was limited to the effect thereon of the discharge of sewage and industrial wastes. . . . [The law] now allows the state board in setting water quality control policy to consider <u>any</u> factor which . . . affects the quality of water for beneficial use. Thus, the state board in setting water quality control policy may now consider such matters as saline intrusion . . . and watershed management projects as they may affect water quality. (44 Ops. Cal. Atty. Gen. 126, 128 (1964)(emphasis in original).)

The Legislative history of the Porter-Cologne Act also underscores the intent to create a comprehensive water quality control program, encompassing point and nonpoint sources:

> Over the past two decades the state has controlled water pollution by regulating waste discharges, but there is now an increasingly urgent need for a greatly expanded, comprehensive control program covering the many factors, apart from waste disposal, that affect water quality, such as impoundments, saline water intrusion, and land use. (Recommended Changes in Water Quality Control, Final Report of the Study Panel to the California State Water Resources Control Board, Study Project, Water Quality Control Program at 3-4 (1969)[hereinafter Study Panel Report]. See generally 1969 Cal. Stat. ch. 482, sec. 36, at 1088 (the Porter-Cologne Act is intended to implement the recommendations of the Study Panel Report).)

The State Board and the nine Regional Boards are the principal state agencies with primary responsibility for water quality control. (Cal. Water Code § 13001.) The State Board also administers the state's water rights program. (See id. § 174.)

It is the intent of the Porter-Cologne Act to create a water quality control program which is administered regionally, within a framework of statewide coordination and policy. (Id. § 13000.) The State Board provides program guidance and oversight to the Regional Boards through adoption of statewide plans, policies, regulations and administrative procedures, preparation of an

annual budget and allocation of funds to the Regional Boards, and providing legal advice to the Regional Boards. (See id. §§ 186, 13140, 13164, 13168, 13170.)

The State Board also provides oversight and policy guidance through review of Regional Board decisions. Most actions involving Porter-Cologne Act planning are initiated by the Regional Boards, but do not take effect until approved by the State Board. (See id. § 13240 et seq.) The Regional Boards also have primary responsibility for individual permitting, inspection, and enforcement actions. (See id. § 13260 et seq., 13300 et seq.) The State Board may review the action or failure to act of any Regional Board, and take appropriate action, upon petition of any aggrieved person or upon the State Board's own motion. (Id. § 13320.)

The Porter-Cologne Act provides for adoption of water quality control plans. (Id. §§ 13170, 13240 et seq.) These plans designate beneficial uses of waters, set water quality objectives to protect beneficial uses, and establish a program of implementation to achieve those objectives. (Id. § 13050(j), 13241, 13242.)

Beneficial use designations and water quality objectives are standards, not just non-binding guidelines or goals. (See Cal. Water Code § 13263(a); Study Panel Report at 12, Appendix A at 28.) They are "water quality standards" within the meaning of the Clean Water Act. (40 C.F.R. § 131.3(i); see Northwest Indian Cemetery Protective Association v. Peterson, 795 F.2d 688 (9th Cir. 1986), rev'd on other grounds, Lyng v. Northwest Indian Cemetery Protective Association, 108 S.Ct. 1319 (1988).)

Water quality control plans may include prohibitions against the discharge of waste, or certain types of waste, in specified areas or under specified conditions. (Id. § 13243.) Discharge prohibitions may be adopted for nonpoint sources, such as surface runoff or discharge of waste to land, as well as to direct discharges to surface or ground water. (See 58 Ops. Cal. Atty. Gen. § 531, 532 (1975).)

The principal means of regulating activities which affect water quality, and the principal means of implementing water quality control plans, is through issuance of waste discharge requirements. Any person discharging waste or proposing to discharge waste that could affect the quality of waters of the state, other than a discharge into a community sewer system, must submit a report of waste discharge to the Regional Board, unless the Regional Board waives the filing of a report. (Cal. Water Code § 13260.) With certain limited exceptions, no person may initiate any new discharge of waste or make any material change in any discharge prior to issuance of waste discharge requirements by the Regional Board. (Id. § 13264. See also Cal. Pub. Res. Code § 4514.3 (nonpoint source discharges from timber operations conducted pursuant to the Z'berg-Nejedly Forest Practice Act of 1973, Cal. Pub. Res. Code § 4511 et seq., ordinarily are exempt from waste discharge requirements when the Environmental Protection Agency has approved Forest Practices Act

as best management practices pursuant to Section 208 of the Clean Water Act, 33 U.S.C. § 1288.)

The term "discharge of waste," as used in the Porter-Cologne Act, has much broader applicability than the term "discharge of a pollutant," as used in the Clean Water Act. (See 33 U.S.C. § 1362(12); Attwater & Markle, Overview of California Water Rights Law and Water Quality Law, 19 Pac. L. J. 957, 997-98, 1001 (1988).) The term "discharge" under the Porter-Cologne Act includes any flowing or issuing out, including drainage, flow, seepage, leaching or other releases of pollutants or liquids containing harmful materials. (See 27 Op. Cal. Atty. Gen. 182, 183-85 (1956); 26 Op. Cal. Atty. Gen. 88, 89-90 (1955).) A continuing discharge occurs for as long as harmful material continues to migrate through or into waters of the state. (See id.)

Discharges subject to waste discharge requirements and discharge prohibitions under the Porter-Cologne Act are not limited to discharges to surface waters, but also include discharges to ground water and discharges of waste to land. (See Cal. Water Code §§ 13050(e), 13172, 13260 et seq.; 23 Cal. Code Reg. § 2510 et seq.)

The definition of "waste" in the Porter-Cologne Act (Cal. Water Code § 13050(d)) is intended to include all interpretations of the Attorney General of the meaning of "sewage", "industrial waste", or "other waste" under the Dickey Water Pollution Act. (Study Panel Report, Appendix A at 23; 63 Op. Cal. Atty. Gen. 51, 53-59 (1980).) Published opinions of the Attorney General had interpreted a discharge of "sewage", "industrial waste", or "other waste" to include the following:

- Releases from a hydroelectric plant. (43 Op. Cal. Atty. Gen. 302, 302-03 (1964).);
- Pesticides improperly applied to waters of the state, or which find their way into waters of the state after application for use. (Id. at 304.);
- Changes in the physical or chemical characteristics of receiving waters caused by extraction of minerals from a streambed. (32 Op. Cal. Atty. Gen. 139, 140-41 (1958).);
- Drainage, flow or seepage containing debris or eroded earth from logging operations. (27 Op. Cal. Atty. Gen. 182, 184 (1956).);
- Drainage, flow or seepage containing garbage, ashes, rubbish, mixed refuse, or solid industrial waste from inactive or closed dumps. (Id.);
- Return irrigation or drainage water from agricultural operations. (Id.);

- Liquids containing harmful materials which arise in one stratum intercepted by a water, oil or gas well and flow through the well into other intercepted strata. (Id. at 184-85.);

- Drainage from inoperative and abandoned mines. (26 Op. Cal. Atty. Gen. 88, 90 (1955).);

- Garbage disposal that may affect water quality. (16 Op. Cal. Atty. Gen. 125, 126-30 (1950).);

- Dumping of earth moved from construction operations, or drainage of waste water from construction sites. (Id. at 130-31.)

In prescribing waste discharge requirements, the regional board must take into consideration the beneficial uses to be protected, the water quality objectives required to protect those beneficial uses, and the need to prevent nuisance. (Cal. Water Code § 13263.) Waste discharge requirements must implement any applicable water quality control plan. (Id.)

The Porter-Cologne Act provides the Regional Boards with a spectrum of enforcement powers to address unauthorized discharges, discharges in violation of waste discharge requirements or discharge prohibitions, discharges which cause or threaten to cause pollution or nuisance, and violations of monitoring or reporting requirements. (Cal. Water Code §§ 13261, 13262, 13265, 13268, 13271, 13272, 13300 et seq.; Attwater & Markle, Overview of California Water Rights and Water Quality Law, 19 Pac. L. J. 957, 1009-12 (1988).)

As discussed above, most nonpoint sources -- including surface runoff, irrigation return flows, injection or percolation of wastes into ground waters, and waste discharge to land -- may be regulated as a "discharge of waste" under the Porter-Cologne Act. Salt water intrusion and reductions in waste assimilative capacity caused by diversions which reduce water quantity, on the other hand, are not discharges of waste. (See 44 Ops. Cal. Atty. Gen. 126, 128 (1964); Sawyer, State Regulation of Groundwater Pollution Caused by Changes in Groundwater Quantity or Flow. 19 Pac. L. J. 1267, 1275 (1988).) These factors can be addressed in state policy for water quality control and water quality control plans adopted or approved by the State Board, which are binding on other state agencies. (See 44 Op. Cal. Atty. Gen. 126, 128-30 (1964); Cal. Water Code §§ 13050(i), 13142, 13146, 13240, 13247).) The State Board may use its water rights authority to enforce requirements for the protection of water quality. (Cal. Water Code §§ 174, 275, 1242.5, 1258, 2100; United States v. State Water Resources Control Board, 182 Cal. App. 3d 82, 123-30, 227 Cal. Rptr. 161, 183-88 (1986); Sawyer, State Regulation of Groundwater Pollution Caused by Changes in Groundwater Quantity or Flow, 19 Pac. L. J. 1267, 1286-96 (1988).)

Additional water quality protection authority provided by the Porter-Cologne Act includes provisions for grants and loans for waste treatment facilities, a state water pollution cleanup and abatement account, regulation of use of reclaimed water, sewage treatment plant operator certification, regulation of water wells, monitoring wells, and cathodic protection wells, and regulation of discharges from houseboats. (Cal. Water Code §§ 13400 et seq.; 13440 et seq.; 13500 et seq.; 13700 et seq.; 13900 et seq.; 13955 et seq.; 13999 et seq.)

B. Additional Authority for Clean Water Act Programs

The State Board has all powers assigned to the State, or to the Governor of the State, under the Clean Water Act. (Cal. Water Code § 13160; letter from George Deukmejian, Governor to W. Don Maughan, Chairman, State Water Resources Control Board (April 30, 1987)(delegation of authority). See also Cal. Water Code § 13162.)

Thus, the State Board has authority to prepare and submit a nonpoint source assessment report and nonpoint source management program. (33 U.S.C. § 1329.) The State Board also has authority to carry out the State's responsibilities under Sections 205(j), 208, 303, 304(f), 305, 314, and 320 of the Clean Water Act. (33 U.S.C. § 1285(j), 1288, 1313, 1314(f), 1315, 1324, 1330.)

The State Board is authorized to adopt water quality control plans, without first considering a water quality control plan submitted for approval by a Regional Board, for waters for which water quality standards are required under the Clean Water Act (i.e., essentially all surface waters). (Cal. Water Code § 13170).

The State Board has authority to administer all financial assistance programs which may be administered by the State pursuant to the Clean Water Act. (Cal. Water Code § 13600; see, e.g., 33 U.S.C. §§ 1285(g)(2), 1285(j), 1329(g), 1329(i), 1381 et seq.)

Chapter 5.5 (commencing with Water Code Section 13370) of the Porter-Cologne Act authorizes the State and Regional Boards to implement the National Pollutant Discharge Elimination System (NPDES) program in California. Chapter 5.5 applies to point source discharges of pollutants to surface waters, introduction of pollutants into publicly owned treatment systems, use and disposal of sewage sludge, and disposal of pollutants into wells. (See Cal. Water Code §§ 13370, 13370.5, 13373, 13376, 13377, 13382, 13383.)

In some cases, best management practices developed through a nonpoint source management program may be implemented through the NPDES program. (See 40 C.F.R. § 122.44(k).) Activities commonly thought of as nonpoint sources may result in point source discharges in specific cases where the discharge happens to occur through a pipe, ditch, or other confined and discrete conveyance. (See United States v. Earth Sciences, Inc., 599 F.2d 368, 372-74 (10th Cir. 1979).) Urban runoff discharged through storm drains

may require an NPDES permit under specified circumstances, and all storm drains will be subject to the NPDES program beginning October 1, 1992. (33 U.S.C. § 1342(p); see Cal. Water Code § 13377.) In addition, where an industrial facility is required to have an NPDES permit, the permit may impose best management practices to control nonpoint source discharges of toxic or hazardous pollutants from ancillary industrial activities. (33 U.S.C. § 1314(e).)

II. SPECIFIC AUTHORITY

A. Problem Assessment and Identification of Best Management Practices

The State and Regional Boards have broad authority to conduct investigations into water quality. (Cal. Water Code §§ 183, 186, 13267.) This includes authority to identify water bodies where additional controls on nonpoint sources are needed to meet water quality standards, and to identify nonpoint sources contributing to water quality standards violations. (See 33 U.S.C. § 1329(a). See also Cal. Water Code § 13160.)

The State Board is authorized to administer a program of research in the technical phases of water quality control, research which may include development of best management practices. (Cal. Water Code § 13162.)

The State and Regional Board's planning authority also includes the authority to identify areas where nonpoint source controls are necessary to protect water quality, and to identify or develop best management practices. Water quality control plans must include a program of implementation to achieve water quality standards. (Cal. Water Code § 13050(j)(3), 13242.) The authority to prepare and adopt water quality control plans necessarily includes the authority to identify water quality problems and appropriate control measures. (See id. §§ 186, 13050(j), 13170, 13241, 13242. See generally Rich Vision Center v. Board of Medical Examiners, 144 Cal.App.3d 110, 114, 192 Cal.Rptr. 455, 457 (1983)(an administrative agency's powers include those powers which are necessary for the due and efficient administration of the powers expressly granted to the agency by statute, or which may be fairly implied from the agency's express powers.)

The State and Regional Boards themselves may carry out problem assessment and identification of best management practices, or carry out these activities in cooperation with other agencies. The Porter-Cologne Act assigns the State Board primary responsibility for the coordination of water quality related investigations in California. (See Cal. Water Code § 13301, 13163.)

The State and Regional Board also have authority to require that others carry out water quality related investigations, including assessment of water quality impacts of nonpoint sources

and identification of best management practices as appropriate. A Regional Board may require any discharger, including a federal, state, local or private entity, to investigate, monitor and report on technical factors involved in water quality. (Id. § 13267(b); see id. §§ 19, 13050(c). See also 26 Ops.Cal.Atty.Gen. 88, 90-91 (1955) (a Regional Board may regulate a landowner as a "discharger," even though the discharge from the landowner's property is caused by the activities of others, because the landowner has the legal power to control the discharge.) The State and Regional Boards may also require any state or local agency to investigate and report on technical factors involved in water quality, even if that agency is not a discharger. (Id. §§ 13165, 13225(c).) Thus, the State and Regional Boards may require reports on nonpoint sources, including evaluation of water quality impacts and identification of best management practices, from state and local agencies which regulate activities such as land development and timber harvesting.

B. Voluntary Implementation of Best Management Practices

The State and Regional Boards have authority to undertake programs to promote voluntary implementation of best management practices, either independently or in cooperation with other public agencies.

The State Board is authorized to implement a public information program, which may include dissemination of information necessary for the voluntary implementation of best management practices. (Id. § 13167.) The Regional Boards are directed to "[o]btain coordinated action in water quality" and to "[e]ncourage and assist in self-policing waste disposal programs," authority which includes the power to carry out a public education program or similar efforts to encourage voluntary implementation of best management practices. (Id. § 13225.)

Water quality control plans may also include programs to promote voluntary implementation of best management practices. A water quality control plan must include a program of implementation for achieving water quality objectives, "including recommendations for appropriate action by any entity, public or private." (Id. § 13242.) Accordingly, a water quality control plan may include both voluntary and regulatory programs. The implementation program should provide for the attainment of water quality standards. (See id.; Study Panel Report at 12. See also Cal. Water Code § 13263(a) (waste discharge requirements must implement the applicable water quality control plan).) A water quality control plan therefore should not rely on voluntary programs to the exclusion of regulatory programs needed to protect water quality. A water quality control plan may properly rely on a voluntary program for implementation where there is reasonable assurance that a voluntary program will achieve water quality standards, either by itself or in combination with regulatory programs.

C. Regulatory Programs

1. Monitoring and Reporting

The State and Regional Boards are authorized to require any state or local agency, or any person discharging or proposing to discharge, from a point or nonpoint source or into a community sewer system, to submit technical or monitoring reports. (Cal. Water Code §§ 13165, 13225(c), 13267(b).) Monitoring, recording and reporting requirements may also be established in waste discharge requirements. (See 23 Cal. Code Reg. § 2230.)

The State and Regional Boards also have authority to obtain information on nonpoint sources, independent of information supplied by regulated persons. The State and Regional Boards have broad powers to conduct water quality investigations. (Cal. Water Code § 13267(a); see id. § 183; Joseph v. Masonite Corp., 148 Cal.App.3d 6, 9, 195 Cal.Rptr. 629, 630-31 (1983).) These investigations may be conducted for any purpose necessary to carry out the powers of the boards, including "establishing or reviewing a water quality control plan, or waste discharge requirements, or in connection with any action relating to any plan or requirement or authorized by [the Porter-Cologne Act]." (Cal. Water Code §§ 183, 13267(a).) The State and Regional Boards have authority under their investigatory powers to conduct sampling and monitoring, inspect records, facilities and monitoring equipment, and issue subpoenas requiring production of evidence. (Id. §§ 183, 186, 1080, 13267(b); Cal. Gov't Code § 11181.)

The Regional Boards have authority to obtain an administrative inspection warrant to enter and inspect the facilities of any person to determine whether the purposes and requirements of the Porter-Cologne Act are being complied with. (Cal. Water Code § 13267(c); see Cal. Civ. Proc.Code § 1822.50 et seq.) The Regional Board may enter and inspect facilities without an inspection warrant if it obtains the consent of the owner, or in an emergency. (Cal. Water Code § 13267(c).)

2. Waste Discharge Control

With limited exceptions, nonpoint sources are subject to regulation through waste discharge requirements and discharge prohibitions issued pursuant to the Porter-Cologne Act. (See Cal. Water Code §§ 13243, 13260 et seq. But see 44 Ops. Cal. Atty. Gen. 126, 128 (1964)(salt water intrusion is not subject to waste discharge requirements).) Waste discharge requirements and enforcement orders usually are issued by the Regional Boards, but may also be issued by the State Board upon review of the action or failure to act of a Regional Board. (Cal. Water Code § 13320(c); see, e.g., State Water Resources Control Board Order No. WQ 85-1.) Discharge prohibitions may be established in water quality control plans or waste discharge requirements. (Cal. Water Code § 13243.)

There is an exemption from waste discharge requirements for timber harvest operations conducted pursuant to the Z'Berg Nejedly Forest Practice Act of 1973. (Cal. Pub. Res. Code § 4511 et seq.) With specified exceptions, including cases where the State Board finds that compliance with best management practices will not provide water quality protection required by the applicable water quality control plan, timber harvest operations conducted pursuant to the Act may be exempt from waste discharge requirements. (Id. § 4514.3.) This exemption will take effect only if the Environmental Protection Agency certifies that the requirements of the Act constitute best management practices for silviculture pursuant to Section 208 of the Clean Water Act. (Id.) The Department of Forestry is required to consult with the Regional Boards in its review of timber harvest plans submitted pursuant to the Act. (See id. § 4582.6.)

Waste discharge requirements and discharge prohibitions may implement best management practices, either by setting limitations on the discharge which lead the discharger to employ best management practices or, in some cases, by specifying best management practices to be followed.

Effluent Limitations and Discharge Prohibitions

Waste discharge requirements specify "the nature of any proposed discharge . . . with relation to the conditions existing . . . in the disposal area or receiving waters." (Cal. Water Code § 13263.) In so doing, waste discharge requirements may set limitations on the characteristics of the discharge (effluent limitations), establish conditions to be maintained in the disposal area or receiving waters, or regulate through a combination of these methods. (See 16 Ops. Cal. Atty. Gen. 203 (1950).) These requirements may be set as either numerical limitations or narrative standards.

Discharge prohibitions prohibit discharges, or specified types of discharges, in certain areas or under certain conditions. (Id. § 13243.)

In some cases, a best management practice is a limitation on the volume, characteristics, area or timing of discharge, which may be specified as an effluent limitation or discharge prohibition adopted by a Regional Board. Examples include requirements that discharges not occur under specified conditions, such as periods of low stream flow, and requirements that wastes be disposed to land instead of being allowed to runoff into surface waters.

In other cases, effluent limitations and discharge prohibitions may serve to implement best management practices, without specifically requiring that those best management practices be followed, where those best management practices are the most cost-effective means of achieving the results required by the effluent limitations or discharge prohibitions. (See Pacific Water Conditioning Association, Inc. v. City Council, 73

Cal.App.3d 546, 554, 40 Cal.Rptr. 812, 816-17 (1977).) For example, a prohibition against discharges to surface waters may have the effect of requiring construction of retention ponds or other facilities to control surface runoff.

Waste discharge requirements must implement the applicable water quality control plan, provide for the reasonable protection of beneficial uses, and prevent nuisance. (Cal. Water Code § 13263.) Where a water quality control plan calls for implementation of best management practices, or best management practices are necessary to protect water quality or prevent nuisance, any waste discharge requirements issued should limit the allowable discharge to that attainable by following those best management practices.

Specification of Best Management Practices

Waste discharge requirements may set conditions to assure protection of water quality. (See Cal. Water Code § 13263.) In appropriate cases, these may include conditions requiring implementation of best management practices.

The Porter-Cologne Act limits the authority of the Regional Boards to specifically require compliance with best management practices under certain circumstances. Ordinarily, waste discharge requirements and other Porter-Cologne Act orders may not "specify the design, location, type of construction, or particular manner in which compliance may be had," but must allow compliance "in any lawful manner." (Cal. Water Code § 13360.) In other words, waste discharge requirements ordinarily should be framed in terms of the results to be achieved -- in terms of allowable discharge or conditions in the disposal area or receiving waters -- rather than specify the particular manner by which those results shall be achieved. (See id. § 13263(a).)

Limitations on the volume, characteristics, area or timing of discharge specify the result to be achieved, not the manner of compliance, and are not affected by the statutory restriction on specifying the manner of compliance. The Regional Boards may set and enforce these limitations, even where in practical effect there is no means of compliance except to follow a particular best management practice. (Pacific Water Conditioning Association, Inc. v. City Council, 73 Cal.App.3d 546, 554, 40 Cal.Rptr. 812, 816-17 (1977).) Thus, waste discharge requirements may limit allowable discharges to those which would occur if best management practices are followed, even where they may not specify that those best management practices be followed. Discharge prohibitions, by their very nature, specify the results to achieved, in terms of discharge, not the manner of compliance. (See Cal. Water Code § 13243.)

A Regional Board may also require that a discharger's report of waste discharge include information relevant to the discharge, including identification of any proposed treatment facilities, containment facilities, or best management practices. (See id. §

13260(a).) The Regional Board may refuse to approve the discharge as proposed if, taking into account any best management practices or other control measures proposed, there is not reasonable assurance that water quality will be adequately protected. (See id. § 13260.) If the Regional Board approves the discharge, it may require that the discharger submit a new report of waste discharge before initiating any material change in treatment, containment, or other practices used to control the discharge. (See id. §§ 13260, 13264; 23 Cal. Code Reg. § 2210.) These restrictions do not amount to an invalid specification of the manner of compliance, so long as the Regional Board affords the discharger an opportunity to propose alternative methods of compliance.

There are also a number of exceptions to the statutory restriction against specifying the manner of compliance. (See, e.g. People v. Barry, 194 Cal.App.3d 158, 180-89, 239 Cal.Rptr. 349, 363-64.) NPDES permits may specify that best management practices be followed as a means of compliance. (See 40 C.F.R. § 122.44(k); Cal. Water Code §§ 13327, 13377; State Water Resources Control Board Order No. WQ 80-19 at 19-21.) Waste discharge requirements for injection wells may also specify the manner of compliance. (Cal. Water Code § 13360(a)(1).) For solid waste disposal sites, waste discharge requirements may specify the construction of particular containment or drainage control facilities, or set other reasonable requirements to achieve similar purposes. (Id. § 13360(a)(2).)

Conformity with best management practices will not excuse a violation of effluent limitations, discharge prohibitions or water quality standards. Best management practices are a means to achieve water quality standards, not a substitute for those standards. (Northwest Indian Cemetery Protective Association v. Peterson, 795 F.2d 688 (9th Cir. 1986), rev'd on other grounds, Lyng v. Northwest Indian Cemetery Protective Association, 108 S.Ct. 1319 (1988).)

Multiple Dischargers

In many cases, nonpoint source pollution problems will be the result of a large number of individual dischargers. The existence of large numbers of dischargers does not vitiate the State and Regional Boards' authority to regulate individual dischargers through waste discharge requirements or other orders.

In considering issuance of waste discharge requirements, the Regional Boards should take into account the cumulative impacts of the proposed discharge and other discharges, activities or factors affecting water quality, not just the impacts of the particular discharge being proposed. (See 14 Cal. Code Reg. § 15041, 15065(c); 23 Cal. Code Reg. § 3721, 3742.) The State and Regional Boards are not required to demonstrate that, but for the requirements imposed on a particular discharger or class of

dischargers, water quality standards would be violated. The State and Regional Boards are not required to authorize the utilization of the full waste assimilation capacities of the receiving waters. (Cal. Water Code § 13263(b).) The Porter-Cologne Act also declares that:

> [A]ctivities and factors which may affect the quality of waters of the state shall be regulated to attain the highest water quality which is reasonable .
>
> . . .
>
> . . . [and] the state must be prepared to exercise its full power and jurisdiction to protect the quality of waters in the state. (Id. § 13000.)]

Accordingly, the State and Regional Boards are authorized to impose requirements for an individual or class of dischargers if those requirements are reasonable and promote the protection of water quality, even if it cannot be demonstrated that the requirements are necessary to achieve applicable water quality standards.

The State and Regional Boards may employ a variety of planning and regulatory tools to facilitate regulation of multiple dischargers. A water quality control plan, as part of its program of implementation, may include an allocation of permissible discharges, specifying what level of discharge is allowable from individual dischargers or categories of dischargers. (See Cal. Water Code § 13242.) The implementation plan may also specify requirements which will apply generally to a class or category of discharger. These will establish minimum requirements to be applied through waste discharge requirements, eliminating the need to develop limits on a case-by-case basis for most dischargers. (See id. §§ 13242, 13263.) Discharge prohibitions adopted in water quality plans also serve to set restrictions for a category or class of dischargers. (See id. § 13243.)

The Porter-Cologne Act has been interpreted to authorize issuance of general waste discharge requirements. (See, e.g., 23 Cal. Code Reg. 2524(c).) The Regional Board may also adopt resolutions which waive waste discharge requirements for a category or class of nonpoint sources. (See Cal. Water Code § 13269.) Waivers must be conditional, and may be terminated at any time by the Regional Board. (Id.) Accordingly, a Regional Board may decide to waive waste discharge requirements for a category or class of nonpoint sources upon condition that identified best management practices are followed. By issuing general waste discharge requirements or waivers, a Regional Board may establish appropriate water quality control measures for a group of discharges, reserving the issuance of individual waste discharge requirements for specific cases identified as presenting significant water quality problems and for dischargers requesting individual requirements. (Cf. 40 C.F.R. § 122.28(b)(2)(setting forth situations when individual permits may

be issued instead of general permits under the NPDES permit program).)

The State Board also has authority to adopt regulations setting requirements for a class or category dischargers. (Cal. Water Code § 1058; see, e.g., 23 Cal. Code Reg. § 2510 et seq. (landfills, surface impoundments, waste piles and land treatment facilities); id. § 2560 et seq. (confined animal facilities); id. § 2570 (mining waste management).

Enforcement

The Porter-Cologne Act provides several options for enforcement of violations of water quality control plans, waste discharge requirements and provisions of the Porter-Cologne Act itself, including cease and desist orders, cleanup and abatement orders, administrative civil liability orders, actions in court for civil liability or injunctive relief, and criminal prosecutions. (Cal. Water Code §§ 13261, 13262, 13265, 13268, 13271, 13272, 13300 et seq.; Attwater & Markle, Overview of California Water Rights and Water Quality Law, 19 Pac. L. J. 957, 1009-12 (1988).)

When a Regional Board finds that a discharge is taking place or threatening to take place in violation of waste discharge requirements, or that waste collection, treatment, or disposal facilities are approaching capacity, the Regional Board may require the discharger to submit a detailed time schedule of corrective action to correct or prevent a violation of requirements. (Cal. Water Code § 13000.)

The Regional Boards are also authorized to issue cease and desist orders in response to violations or threatened violations of waste discharge requirements or discharge prohibitions. (Id. § 13001.) The cease and desist order may require the discharger to comply with requirements or prohibitions, to comply according to a time schedule, or, in the case of a threatened violation, to take appropriate remedial or preventive action. (Id.) A cease and desist order may restrict or prohibit new sources of waste to a community sewer system. (Id.)

Cleanup and abatement orders require a discharger to clean up a discharge or abate its effects or, in the case of a threatened pollution or nuisance, take other necessary remedial action. (Id. § 13304.) The Regional Boards may issue cleanup and abatement orders in response to discharges in violation of waste discharge requirements or discharge prohibitions. (Id.) Cleanup and abatement orders may also be issued to any person who has caused or permitted, causes or permits, or threatens to cause or permit a discharge or deposit of waste which create or threatens to create a condition of pollution, even if there is no violation of waste discharge requirements or discharge prohibitions. (Id.) In the event the State must arrange for a cleanup or abatement effort, the person who discharged the waste is liable to the government agency to the extent of the

reasonable costs actually incurred in the cleanup or abatement. (Id. § 13304 (c).)

The Porter-Cologne Act establishes civil monetary liability for specified violations, including failure to submit a requested report of waste discharge, initiating a new or materially changed discharge without issuance or waiver of waste discharge requirements, failure or refusal to submit technical and monitoring reports, and violation of waste discharge requirements or other orders or prohibitions. (Cal. Water Code §§ 13261, 13265, 13268, 13350.) Under some provisions liability may be imposed based upon a standard of strict liability, while under other provisions liability may not be imposed unless the violation was intentional or negligent or the discharger continued the violation after notification. (Compare id. § 13268 with id. §§ 13265, 13350(a).) The Regional Board may impose liability administratively, or refer the matter to the Attorney General for imposition of liability in an action in the Superior Court. (Id. §§ 13261, 13265, 13268, 13350.)

The Porter-Cologne Act also provides authority to petition the Superior Court to enjoin threatened or continuing violations in appropriate cases. (Id. §§ 13262, 13264(b), 13304, 13331.) The Regional Board's may also request the Attorney General to bring an action for an injunction in an emergency requiring immediate action in response to a discharge or threatened discharge that threatens to create a condition of pollution or nuisance. (Id. § 13340.)

Criminal penalties may be imposed for certain violations, including continuing a new or materially changed discharge without issuance or waiver of waste discharge requirements, after the violation has been called to the discharger's attention, and for violations of monitoring and reporting requirements. (Id. § 13265(a), 13268(a), 13271, 13272.)

3. Ground Water

State law provides authority to take into account the impact on ground water quality of best management practices identified to control nonpoint sources.

The Porter-Cologne Act establishes a comprehensive water quality protection program, applicable to both surface and ground waters. (Cal. Water Code §§ 13000, 13050(e).) The planning and waste discharge control provisions applicable to nonpoint sources also apply to discharges to ground water, providing authority not only to consider impacts on ground water, but also authority to plan an implement any necessary controls.

In addition, the California Environmental Quality Act requires all state and local agencies to take into account any significant adverse impacts on ground water of the actions they carry out and approve. (Cal. Pub. Res. Code § 21000 et seq.) State and local agencies must avoid or mitigate these adverse impacts where feasible. (Id. § 21002.)

For a complete discussion of California state ground water quality law, see Appendix C-1.

4. Federal Facilities

Federal officials and federal agencies are subject to the nonpoint source control requirements administered or imposed by state and local agencies, including any nonpoint source control requirements or administrative authority established pursuant to the Porter-Cologne Act or state water rights law. (Clean Water Act Section 313; 33 U.S.C. § 1323; see, e.g., Northwest Indian Cemetery Protective Association v. Peterson, 795 F.2d 688 (9th Cir. 1986), rev'd on other grounds, Lyng v. Northwest Indian Cemetary Protective Association, 108 S.Ct. 1319 (1988); United States v. State Water Resources Control Board, 182 Cal.App.3d 82, 134-37, 227 Cal.Rptr. 161, 190-92 (1986).)

Date: October 12, 1988

William R. Attwater
Chief Counsel
California State Water
Resources Control Board

APPENDIX C-1

CALIFORNIA STATE GROUND WATER QUALITY LAW

by ANDREW H. SAWYER

is available upon request by contacting:

STATE WATER RESOURCES CONTROL BOARD

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SACRAMENTO, CALIFORNIA 95814

ATTN: TERRY HEISER

APPENDIX D

AGENCY FUNCTIONS IN CONTROLLING NONPOINT SOURCE POLLUTION

APPENDIX D

AGENCY FUNCTIONS IN CONTROLLING
NPS POLLUTION

AGENCY*	ACID	AGAN	AGAE	AGDA	AGGR	AGRU	AGSU	AGTA	ATMO	BOAT	CHAN	CONS	DIRE	DIST
RWQCB		RT	RT	RT	RT	RT	RT	RT		RT	RT	RT	RT	RT
SWRCB		RFT	RFT	RFT	RFT	RFT	RFT	RFT		RFT	RFT	RFT	RFT	RFT
CALTRAN (1)												B		B
CARCD (2)		T		T	T	T	T	T			T	T		T
CDFA (3)			T			T	T	T					T	
CDF (4)														
CDFG (5)	T	T	T	T	T	T	T	T	T	T	T	T	T	T
CDOC														
CDWR (6)											F			
CSCC (7)	F	F	F	F	F	F	F	F	F	F	F	F	F	F
UCCES		T	T	T	T	T	T	T						
USACE (8)														
USASCS		F	F	F	F	F	F	F						
USBLM					B									
USBUREC (9)							B	B						
USFHA		F	F	F	F	F	F	F						
USFS (10)					B							B		B
USFWS (11)	T	T	T	T	T	T	T	T	T	T	T	T	T	T
USSCS (12)		FT		FT	FT	FT	FT	FT				FT		F

* See Appendix E for key to agency acronyms

R = REGULATORY AUTHORITY

T = TECHNICAL ASSISTANCY

F = FINANCIAL ASSISTANCE

B = DIRECT BMP IMPLEMENTATION

(continued on next page)

AGENCY FUNCTIONS IN CONTROLLING NPS POLLUTION

AGENCY	DRED	DUMP	GEOT	HABI	HYDR	INDU	MINI	NATU	OUTS	SEAW	SEPT	SILV	UNKN	URBA
RWQCB	RT	RT	RT	RT	RT	RT	RT	T	RT	RT	RT	RT	T	RT
SWRCB	RFT	RFT	RFT	RFT	RFT	RFT	RFT	FT	RFT	RFT	RFT	RFT	FT	RFT
CALTRAN (1)				B										
CARCD (2)														
CDFA (3)														
CDF (4)								FB				R		
CDFG (5)	T	T	T	RT	T	T	T	T	T	T	T	T	T	T
CDOC							R					T		
CDWR (6)				B	B									F
CSCC (7)	F	F	F	F	F	F	F	F	F	F	F	F	F	F
UCCES														
USACE (8)	R			R										
USASCS												F		
USBLM							B					B		
USBUREC (9)					B					B				
USFHA														
USFS (10)							B					B		
USFWS (11)	T	T	T	T	T	T	T	T	T	T	T	T	T	T
USSCS (12)														

(1) B - RELATING TO STATE HWY CONSTRUCTION AND MAINTENANCE
(2) T - RELATING TO CONTROL OF RUNOFF AND SOIL EROSION FROM PRIMAILY AG LANDS
(3) R - RELATING TO PESTICIDE USE
(4)FB - RELATING TO REVEGETATION AFTER FIRES
(5) R - RELATING TO STREAMBED ALTERATION, T - ANY SOURCE THAT MAY IMPACT FISH AND WILDLIFE
(6) B - RELATING TO WATER PROJECTS, F - URBAN STREAMS RESTORATION PROGRAM
(7) F - PROJECTS MAY ADDRESS ANY NPS IN COASTAL ZONE
(8) R - HABI, RELATING TO WETLANDS ALTERATION
(9) B - RELATING TO OPERATION OF CENTRAL VALLEY PROJECT
(10) B - RELATING TO ANY SOURCES ON FOREST LANDS
(11) T - MAY PROVIDE TECHNICAL REVIEW FOR ANY PROGRAM OR ACTIVITY THAT MAY AFFECT FISH AND WILDLIFE
(12) F - RELATING TO PL556 PROGRAMS

APPENDIX E

LIST OF AGENCY ACRONYMS

APPENDIX E

LIST OF AGENCY ACRONYMS

RWQCB	REGIONAL WATER QUALITY CONTROL BOARD
SWRCB	STATE WATER RESOURCES CONTROL BOARD
CALTRANS	CALIFORNIA DEPARTMENT OF TRANSPORTATION
CARCD	CALIFORNIA ASSOCIATION OF RESOURCE CONSERVATION DISTRICTS
CDFA	CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE
CDFG	CALIFORNIA DEPARTMENT OF FISH AND GAME
CDOC	CALIFORNIA DEPARTMENT OF CONSERVATION
CDWR	CALIFORNIA DEPARTMENT OF WATER RESOURCES
CSCC	CALIFORNIA STATE COASTAL CONSERVANCY
UC EXTENSION	UNIVERSITY OF CALIFORNIA COOPERATIVE EXTENSION SERVICE
USACE	U.S. ARMY CORP OF ENGINEERS
USASCS	U.S. AGRICULTURE STABILIZATION AND CONSERVATION SERVICE
USBLM	U.S. BUREAU OF LAND MANAGEMENT
USBUREC	U.S. BUREAU OF RECLAMATION
USFHA	U.S. FARMERS HOME ADMINISTRATION
USFS	U.S. FOREST SERVICE
USFWS	U.S. FISH AND WILDLIFE SERVICE
USSCS	U.S. SOIL CONSERVATION SERVICE

APPENDIX F

SELECTION CRITERIA FOR CWA SECTION 205(j)(2) PROJECTS

APPENDIX F

SELECTION CRITERIA FOR CWA SECTION 205(j)(2) PROJECTS

Prior to requesting proposals for Subsections 205(j)(2) and 205(j)(5) and/or Section 319 funding, the State Board will provide each potential participant with updated guidance to be used in developing proposals.

Regulations prepared by EPA and guidance provided by EPA, Region 9, relative to this program indicate that states are to use 205(j)(2) funds to determine the nature, extent, and causes of point and nonpoint source pollution problems and to develop plans to resolve these problems. The following discussion relates specifically to projects funded under Subsection 205(j)(2). Additional complementary criteria would be developed for nonpoint source management projects to be funded under Subsection 205(j)(5) and Section 319. These criteria would be based on the nonpoint source problem inventory and assessment.

In managing the selection and funding of projects conducted by RPCPOs/IOs, EPA guidance states that water quality goals and program priorities should be clearly communicated by the State. The State of California's water quality goals and program priorities are directed towards the cleanup or prevention of water quality problems. California's water quality problems are assessed and presented in the biennial State Board Section 305(b) report. Additionally, the list of water bodies impacted by toxics developed pursuant to Section 131.11(a)(2), Title 40, Code of Federal Regulations, the list of nonpoint source problems, and the State ground water strategy, identify water bodies which may be considered as program priorities by the State Board. The Regional Board and State Board triennial review and Ocean Plan Update workplans and processes also identify priority water quality issues and resources necessary to conduct continued basin planning efforts. The water bodies with adversely impacted beneficial uses identified in these documents are defined, for the purposes of this document, as "State identified water quality impacted water bodies". Further, EPA, Region 9, has indicated that Subsection 205(j)(2) funds should be used for examination of water quality standards, development of waste load allocations, and initiation or continuation of monitoring to support planning for point and nonpoint sources of pollution.

In considering project proposals, EPA guidance indicates states should assess the capacity of each agency's current or proposed water quality staff to manage the proposed work, any previous water quality or environmental experience, the potential of the proposed work to abate significant water quality problems, and other relevant criteria. This does not mean that only projects that are directly associated with corrective action on a State identified water quality impacted water body or only agencies with experienced water quality management staff may be funded.

It is intended, however, that such projects and agencies receive special consideration.

By using the concept of "State identified water quality impacted water bodies", the State's water quality goals and program priorities are broadly and comprehensively presented. This is intended to allow public agencies to make comments on the draft Plan and to develop project proposals which address the State Board's primary requirements for funding projects. These requirements are that projects focus on identified water quality problems, and that projects lead directly to the correction or prevention of the problem. During the review and comment period for the draft Plan, commentors will have the opportunity to advise the State Board as to what specific water quality problems should be given high priority in evaluation proposals. Therefore, the State Board may choose to revise the final Plan to contain a more specific list of water quality problems to be given high priority in the project evaluation process.

The following criteria focus on State identified water quality impacted water body clean up and/or protection, but also provide for funding high priority planning efforts not directly associated with such efforts.

These criteria will assist the State Board in evaluating projects. It is intended that the limited planning funds be allocated to projects that have substantial support from local agencies, and to agencies that have illustrated their intention and ability to implement the project recommendations. The criteria are:

1. Is the project directed at cleaning up or protecting a State identified water quality impacted water body?

   Factors to be considered:

   (1) What is the use to be protected?

   (2) To what extent does pollution contribute to the impairment of the use and what are the pollutant(s) constituents?

   (3) What is the level of point source pollution control necessary to restore or enhance the use?

   (4) What is the level of nonpoint source pollution control necessary to restore or enhance the use?

   (5) Is there a public health threat?

   (6) Are water quality standards being violated?

(7) Is the problem caused or aggravated by financial inability to comply with waste discharge requirements or NPDES standards?

2. Is the project directed at solving (or contributing to the solution of) a significant water quality problem not directly associated with a State identified water quality impacted water body?

   Factors to be considered:

   o Same as for (1) above.

3. Are the causes of the problems known or is there a good probability that they can be determined? Are the causes of the problem correctable and to what extent will the project results be applicable to other similar problems in the State?

   Factors to be considered:

   o Is there an existing data base?
   o Is there convincing evidence that water users believe there is a problem?
   o Is the physical extent of the problem well defined?
   o Are there existing technologies or institutional processes to determine or correct the problem?
   o Will the results of the project be applicable to similar problems throughout the State?

4. Is there a regional and local interest in solving the problem?

   Factor to be considered:

   o Is there specific evidence of regional and local interest in solving the problem?

5. Is there a regional and local commitment to implement the final recommendations of the project?

   Factors to be considered:

   o Is there existing documentation of the regional and local commitment to implement the project recommendations (e.g., letters of intent, MOUs, resolutions, etc.)?

   o Has there been a history of regional and local entities accepting and implementing similar recommendations?

6. What is the capacity of the proposing agency's current or proposed water quality or environmental staff to manage, perform, and complete the proposed work?

   Factor to be considered:

   - Has the proposing agency completed and implemented other significant water quality or environmental projects?

APPENDIX G

STATE WATER RESOURCES CONTROL BOARD NONPOINT SOURCE EXPENDITURES

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1984-85

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS % IN DOLLARS
NPS GENERAL SUPPORT					
TECHNICAL ASSISTANCE*		767,730	767,730	2%	15,355
TOTAL	0	767,730	767,730		15,355
NPS PARTIAL SUPPORT					
WASTE DISCHARGE REQ		2,254,112	2,254,112	19%	428,281
COMPLIANCE INSPECTION	208,298	2,018,345	2,226,643	19%	423,062
COMPLIANCE INVESTIGATION	531,065	0	531,065	19%	100,902
SELF-MONITORING REVIEW	67,594	562,955	630,549	19%	119,804
ENFORCEMENT/CLEAN-UP	2,282,499	429,456	2,711,955	19%	515,271
PRIORITY CHEMICALS**		0	632,620	80%	506,096
BASIN PLANNING & POLICIES FOR SURFACE WATER		700,217	700,217	5%	35,011
205(J) PROJECT ADM	317,609	0	317,609	95%	301,729
TECHNICAL REVIEWS*		923,115	923,115	50%	461,558
TOTAL	3,407,065	6,888,200	10,927,885		2,891,714

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1984-85

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS $ IN DOLLARS
NPS SPECIFIC					
FOREST PRACTICES RULES ASSESSMENT PROJECT		147,778	147,778	100%	147,778
PESTICIDES		130,995	130,995	80%	104,796
AGRICULTURAL DRAINAGE SAN JOAQUIN RIVER BASIN		196,331	196,331	15%	29,450
TOTAL	0	475,104	475,104		282,024
GRAND TOTAL	3,407,065	8,131,034	12,170,719		3,189,093

* TECHNICAL ASSISTANCE DOES NOT INCLUDE TECHNICAL REVIEWS (25508)

** THE EXPENDITURE REPORT (Q16) DOES NOT BREAK OUT STATE AND FEDERAL DOLLARS

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1985-86

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS % IN DOLLARS
NPS GENERAL SUPPORT					
TECHNICAL ASSISTANCE*		956,085	956,085	2%	19,122
TOTAL	0	956,085	956,085		19,122
NPS PARTIAL SUPPORT					
WASTE DISCHARGE REQUIREMENT		3,530,852	3,530,852	19%	670,862
COMPLIANCE INSPECTIONS	2,002	3,740,561	3,742,563	19%	711,087
COMPLIANCE INVESTIGATIONS	618,991	207,538	826,529	19%	157,041
SELF-MONITORING REVIEW	160,564	895,761	1,056,325	19%	200,702
ENFORCEMENT/CLEAN-UP	2,098,089	1,800,369	3,898,458	19%	740,707
PRIORITY CHEMICAL**	0	0	91,075	80%	72,860
205(J) PROJECT ADM - PH I	98,469	0	98,469	95%	93,546
205(J) PROG ADM - PH II**		0	184,590	95%	175,361
BASIN PLANNING & POLICIES FOR SURFACE WATER		1,009,946	1,009,946	5%	50,497
TECHNICAL REVIEWS*		1,287,121	1,287,121	50%	643,561
TOTAL	2,978,115	12,472,148	15,725,928		3,516,222

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1985-86

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS % IN DOLLARS
NPS SPECIFIC					
PESTICIDES		147,140	147,140	80%	117,712
FOREST PRACTICES RULES ASSESSMENT PROJECT		145,438	145,438	100%	145,438
AGRICULTURAL DRAINAGE SAN JOAQUIN RIVER BASIN		272,403	272,403	85%	231,543
TOTAL	0	564,981	564,981		494,693
GRAND TOTAL	2,978,115	13,993,214	17,246,994		4,030,036

* TECHNICAL REVIEWS DOES NOT INCLUDE TECHNICAL ASSISTANCE (25508)
** THE EXPENDITURE REPORT (G16) DOES NOT BREAK OUT STATE AND FEDERAL DOLLARS

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1986-87

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS $ IN DOLLARS
NPS GENERAL SUPPORT					
QUALITY ASSURANCE		32,045	32,045	3%	961
TECHNICAL ASSISTANCE*		822,586	822,586	3%	24,678
TOTAL	0	854,631	854,631		25,639
NPS PARTIAL SUPPORT					
WASTE DISCHARGE REQUIREMENT		3,696,434	3,696,434	19%	702,322
COMPLIANCE INSPECTIONS		4,107,546	4,107,546	19%	780,434
COMPLIANCE INVESTIGATIONS		741,077	741,077	19%	140,805
SELF-MONITORING REVIEW		1,489,937	1,489,937	19%	283,088
ENFORCEMENT/CLEAN-UP	2,587,121	1,774,680	4,361,801	19%	828,742
PRIORITY CHEMICALS		0	0	80%	0
AB 1803		5,714,744	5,714,744	5%	285,737
BASIN PLANNING & POLICIES FOR SURFACE WATER		914,021	914,021	5%	45,701
BASIN PLANNING FOR GROUND WATER BASINS		521,966	521,966	2%	10,439
GROUND WATER STRATEGY	271,701	34,366	306,067	5%	15,303

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1986-87

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS $ IN DOLLARS
205(J) PROJECT ADM - PH I	83,786	0	83,786	95%	79,597
205(J) PROGRAM ADM - PH II	405,228	0	405,228	95%	384,967
TECHNICAL REVIEWS*		1,166,971	1,166,971	50%	583,486
TOTAL	3,347,836	20,161,742	23,509,578		4,140,621
NPS SPECIFIC					
FOREST PRACTICES RULES ASSESSMENT PROJECT	99,484	0	99,484	100%	99,484
SUBSURFACE AGRICULTURAL DRAINAGE PLANNING		1,241,183	1,241,183	100%	1,241,183
PESTICIDES		188,086	188,086	80%	150,469
AGRICULTURAL DRAINAGE SAN JOAQUIN RIVER BASIN		267,604	267,604	85%	227,463
TOTAL	99,484	1,696,873	1,796,357		1,718,599
GRAND TOTAL	3,447,320	22,713,246	26,160,566		5,884,859

* TECHNICAL ASSISTANCE DOES NOT INCLUDE TECHNICAL REVIEWS (25508)

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1987-88

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS % IN DOLLARS
NPS GENERAL SUPPORT					
TECHNICAL ASSISTANCE*		675,565	675,565	4%	27,023
WATER QUALITY CRITERIA		182,876	182,876	25%	45,719
TOTAL	0	858,441	858,441		72,742
NPS PARTIAL SUPPORT					
WDR/NON-SUBCHAPTER 15	29,719	7,613,196	7,642,915	19%	1,452,154
WDR/SUBCHAPTER 15	6,482	3,627,271	3,633,753	50%	1,816,877
AB 1803		2,240,992	2,240,992	20%	448,198
205(J) PROGRAM ADM - PH II	110,219	0	110,219	95%	104,708
205(J) PROJECT ADM - PH I	112,499	0	112,499	95%	106,874
NPS MANAGEMENT PH II 205(J)(2)	80,137	0	80,137	100%	80,137
PRIORITY CHEMICALS		720,653	720,653	80%	576,522
BASIN PLANNING & POLICIES FOR SURFACE WATER		966,587	966,587	8%	77,327
BASIN PLANNING FOR GROUND WATER BASINS		637,196	637,196	3%	19,116
GROUND WATER STRATEGY	197,521	136,847	334,368	5%	16,718

STATE WATER RESOURCES CONTROL BOARD
NON POINT SOURCE (NPS)
EXPENDITURES
FY 1987-88

TASK DESCRIPTION	FED FUND EXPENDITURES	STATE FUND EXPENDITURES	TOTAL EXPENDITURES	NPS %	NPS % IN DOLLARS
205(J) PROGRAM ADM PH III	317,171	0	317,171	95%	301,312
TECHNICAL REVIEWS*		1,032,709	1,032,709	50%	516,355
TOTAL	853,748	16,975,451	17,829,199		5,516,298
NPS SPECIFIC					
FOREST PRACTICES RULES ASSESSMENT PROJECT	47,476	0	47,476	100%	47,476
NPS PROGRAM PH III 205(J)(2)	45,937	0	45,937	100%	45,937
PESTICIDES		263,623	263,623	80%	210,898
SUBSURFACE AGRICULTURAL DRAINAGE PLANNING		1,322,640	1,322,640	100%	1,322,640
AGRICULTURAL DRAINAGE SAN JOAQUIN RIVER BASIN		43,404	43,404	15%	6,511
TOTAL	93,413	1,629,667	1,723,080		1,633,462
GRAND TOTAL	947,161	19,463,559	20,410,720		7,222,502

* TECHNICAL ASSISTANCE DOES NOT INCLUDE TECHNICAL REVIEWS (25508)

APPENDIX A-11

Water Quality Control Plan for Ocean Waters of California (1990)
(Ocean Plan)

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA

CALIFORNIA OCEAN PLAN

1990

STATE WATER RESOURCES CONTROL BOARD

State of California

STATE WATER RESOURCES CONTROL BOARD

1990

CALIFORNIA OCEAN PLAN

WATER QUALITY CONTROL PLAN

OCEAN WATERS OF CALIFORNIA

Adopted and Effective

March 22, 1990

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 90-27

APPROVAL OF AMENDMENT TO THE
WATER QUALITY CONTROL PLAN FOR OCEAN WATERS OF CALIFORNIA
(CALIFORNIA OCEAN PLAN)

WHEREAS:

1. The State Water Resources Control (State Board) adopted the Ocean Plan on July 6, 1972 and revised the plan in 1978, 1983, and 1988.

2. The State Board may adopt water quality control plans for waters for which water quality standards are required by the Federal Clean Water Act in accordance with California Water Code Section 13170.

3. The State Board is responsible for reviewing Ocean Plan water quality standards and for modifying and adopting standards in accordance with Section 303(c)(1) of the Federal Clean Water Act and Section 13170.2(b) of the California Water Code.

4. The State Board has considered relevant management agency agreements in accordance with Section 13170.1 of the California Water Code.

5. Additional information pertinent to water quality objectives for dioxin and related compounds is being developed and reviewed by the scientific community.

6. The State Board prepared and circulated a draft Function Equivalent Document in accordance with the provisions of the California Environmental Quality Act and Title 14, California Code of Regulations 15251(g).

7. The State Board conducted a public hearing in Torrance on August 29, 1989 to solicit comments regarding the proposed amendments of the Ocean Plan and has reviewed and considered carefully all comments and testimony received. The State Board considered the information contained in the Functional Equivalent Document prior to approval of the California Ocean Plan.

8. The California Ocean Plan as approved will not have a significant adverse effect on the environment.

THEREFORE BE IT RESOLVED:

1. That the State Board approves the Functional Equivalent Document for the amendment of the Water Quality Control Plan for Ocean Waters of California.

2. That the State Board hereby adopts amendments to the California Ocean Plan (attached).

3. That the State Board authorizes the Executive Director, or his designee, to transmit the Plan to the U.S. Environmental Protection Agency, Region 9 in compliance with Section 303(c)(1) of the Clean Water Act.

4. That the State Board directs its staff to review the water quality objective for dioxin and related compounds as soon as possible within the next triennial review period.

5. That the State Board declares its intent to require continual monitoring of the marine environment to assure that the Plan reflects the latest available data and that the water quality objectives are adequate to fully protect indigenous marine species and to protect human health.

CERTIFICATION

The undersigned Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on March 22, 1990.

Maureen Marche'
Administrative Assistant to the Board

Table of Contents

CALIFORNIA OCEAN PLAN

WATER QUALITY CONTROL PLAN FOR OCEAN WATERS OF CALIFORNIA

INTRODUCTION

In furtherance of legislative policy set forth in Section 13000 of Division 7 of the California Water Code (Stats. 1969, Chap. 482) pursuant to the authority contained in Section 13170 and 13170.2 (Stats. 1971, Chap. 1288) the State Water Resources Control Board hereby finds and declares that protection of the quality of the ocean* waters for use and enjoyment by the people of the State requires control of the discharge of waste* to ocean* waters in accordance with the provisions contained herein. The Board finds further that this plan shall be reviewed at least every three years to guarantee that the current standards are adequate and are not allowing degradation* to marine species or posing a threat to public health.

This plan is applicable, it its entirety, to point source discharges to the ocean*. Nonpoint sources of waste* discharges to the ocean* are subject to Chapter I Beneficial Uses, Chapter II - Water Quality Objectives, Chapter III -General Requirements, Chapter IV - Table B (wherein compliance with water quality objectives shall, in all cases, be determined by direct measurements in the receiving waters) and Chapter V - Discharge Prohibitions.

This plan is not applicable to discharges to enclosed* bays and estuaries* or inland waters nor is it applicable to vessel wastes, or the control of dredging spoil.

Provisions regulating the thermal aspects of waste* discharged to the ocean* are set forth in the Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed* Bays and Estuaries* of California.

Chapter I
BENEFICIAL USES

The beneficial uses of the ocean* waters of the State that shall be protected include industrial water supply, water contact and non-contact recreation, including aesthetic enjoyment, navigation, commercial and sport fishing, mariculture*, preservation and enhancement of Areas of Special Biological Significance, rare and endangered species, marine habitat, fish migration, fish spawning and shellfish* harvesting.

Chapter II
WATER QUALITY OBJECTIVES

This chapter sets forth limits or levels of water quality characteristics for ocean* waters to ensure the reasonable protection of beneficial uses and the prevention of nuisance. The discharge of waste* shall not cause violation of these objectives.

The Water Quality Objectives and Effluent Quality Requirements are defined by a statistical distribution when appropriate. This method recognizes the normally occurring variations in treatment efficiency and sampling and analytical techniques and does not condone poor operating practices.

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* See Appendix I for definition of terms.

Compliance with the water quality objectives of this chapter shall be determined from samples collected at stations representative of the area within the waste field where initial* dilution is completed.

A. Bacterial Characteristics

1. Water-Contact Standards

Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Board, but including all kelp* beds, the following bacterial objectives shall be maintained throughout the water column:

a. Samples of water from each sampling station shall have a density of total coliform organisms less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any sampling station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml), and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 ml (100 per ml).

b. The fecal coliform density based on a minimum of not less than five samples for any 30-day period, shall not exceed a geometric mean of 200 per 100 ml nor shall more than 10 percent of the total samples during any 60-day period exceed 400 per 100 ml.

The "Initial* Dilution Zone" of wastewater outfalls shall be excluded from designation as "kelp* beds" for purposes of bacterial standards, and Regional Boards should recommend extension of such exclusion zone where warranted to the State Board (for consideration under Chapter VI.F.). Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp* beds for purposes of bacterial standards.

2. Shellfish* Harvesting Standards

At all areas where shellfish* may be harvested for human consumption, as determined by the Regional Board, the following bacterial objectives shall be maintained throughout the water column:

The median total coliform density shall not exceed 70 per 100 ml, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

B. Bacterial Assessment and Remedial Action Requirements

The requirements listed below shall be used to 1) determine the occurrence and extent of any impairment of a beneficial use due to bacterial contamination; 2) generate information which can be used in the development of an enterococcus standard; and 3) provide the basis for remedial actions necessary to minimize or eliminate any impairment of a beneficial use.

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* See Appendix I for definition of terms.

Measurement of enterococcus density shall be conducted at all stations where measurement of total and fecal coliforms are required. In addition to the requirements of Section II.A.1., if a shore station consistently exceeds a coliform objective or exceeds a geometric mean enterococcus density of 24 organisms per 100 ml for a 30-day period or 12 organisms per 100 ml for a six-month period, the Regional Board shall require the appropriate agency to conduct a survey to determine if that agency's discharge is the source of the contamination. The geometric mean shall be a moving average based on no less than five samples per month, spaced evenly over the time interval. When a sanitary survey identifies a controllable source of indicator organisms associated with a discharge of sewage, the Regional Board shall take action to control the source.

Waste discharge requirements shall require the discharger to conduct sanitary surveys when so directed by the Regional Board. Waste discharge requirements shall contain provisions requiring the discharger to control any controllable discharges identified in a sanitary survey.

C. Physical Characteristics

1. Floating particulates and grease and oil shall not be visible.

2. The discharge of waste* shall not cause aesthetically undesirable discoloration of the ocean* surface.

3. Natural* light shall not be significantly* reduced at any point outside the initial* dilution zone as the result of the discharge of waste*.

4. The rate of deposition of inert solids and the characteristics of inert solids in ocean* sediments shall not be changed such that benthic communities are degraded*.

D. Chemical Characteristics

1. The dissolved oxygen concentration shall not at any time be depressed more than 10 percent from that which occurs naturally, as the result of the discharge of oxygen demanding waste* materials.

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

3. The dissolved sulfide concentration of waters in and near sediments shall not be significantly* increased above that present under natural conditions.

4. The concentration of substances set forth in Chapter IV, Table B, in marine sediments shall not be increased to levels which would degrade* indigenous biota.

5. The concentration of organic materials in marine sediments shall not be increased to levels which would degrade* marine life.

6. Nutrient materials shall not cause objectionable aquatic growths or degrade* indigenous biota.

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* See Appendix I for definition of terms.

E. Biological Characteristics

1. Marine communities, including vertebrate, invertebrate, and plant species, shall not be degraded*.

2. The natural taste, odor, and color of fish, shellfish*, or other marine resources used for human consumption shall not be altered.

3. The concentration of organic materials in fish, shellfish* or other marine resources used for human consumption shall not bioaccumulate to levels that are harmful to human health.

F. Radioactivity

1. Discharge of radioactive waste* shall not degrade* marine life.

Chapter III
GENERAL REQUIREMENTS FOR MANAGEMENT OF WASTE* DISCHARGE TO THE OCEAN*

A. Waste* management systems that discharge to the ocean* must be designed and operated in a manner that will maintain the indigenous marine life and a healthy and diverse marine community.

B. Waste discharged* to the ocean* must be essentially free of:

1. Material that is floatable or will become floatable upon discharge.

2. Settleable material or substances that may form sediments which will degrade* benthic communities or other aquatic life.

3. Substances which will accumulate to toxic levels in marine waters, sediments or biota.

4. Substances that significantly* decrease the natural* light to benthic communities and other marine life.

5. Materials that result in aesthetically undesirable discoloration of the ocean* surface.

C. Waste* effluents shall be discharged in a manner which provides sufficient initial* dilution to minimize the concentrations of substances not removed in the treatment.

D. Location of waste* discharges must be determined after a detailed assessment of the oceanographic characteristics and current patterns to assure that:

1. Pathogenic organisms and viruses are not present in areas where shellfish* are harvested for human consumption or in areas used for swimming or other body-contact sports.

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* See Appendix I for definition of terms.

2. Natural water quality conditions are not altered in areas designated as being of special biological significance or areas that existing marine laboratories use as a source of seawater.

3. Maximum protection is provided to the marine environment.

Waste* that contains pathogenic organisms or viruses should be discharged a sufficient distance from shellfishing* and water-contact sports areas to maintain applicable bacterial standards without disinfection. Where conditions are such that an adequate distance cannot be attained, reliable disinfection in conjunction with a reasonable separation of the discharge point from the area of use must be provided. Disinfection procedures that do not increase effluent toxicity and that constitute the least environmental and human hazard should be used.

Chapter IV
QUALITY REQUIREMENTS FOR WASTE* DISCHARGES (EFFLUENT QUALITY REQUIREMENTS)

This chapter sets forth the quality requirements for waste* discharge to the ocean*.

Table A limitations apply only to publicly owned treatment works and industrial discharges for which Effluent Limitations Guidelines have not been established pursuant to Sections 301, 302, 304, or 306 of the Federal Clean Water Act.

Table B limitations apply to all discharges within the jurisdiction of this plan.

Table A limitations, and effluent concentrations calculated from Table B limitations, shall apply to a discharger's total effluent, of whatever origin (i.e. gross, not net, discharge), except where otherwise specified in this Plan.

The State Board is authorized to administer and enforce effluent requirements established pursuant to the Federal Clean Water Act. Effluent limitations established under Sections 301, 302, 306, 307, 316, 403, and 405 of the aforementioned Federal Act and administrative procedures pertaining thereto, are included in this plan by reference. Compliance with Table A limitations, or Environmental Protection Agency Effluent Limitations Guidelines for industrial discharges, based on Best Practicable Control Technology, shall be the minimum level of treatment acceptable under this plan, and shall define reasonable treatment and waste control technology.

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* See Appendix I for definition of terms.

TABLE A
MAJOR WASTEWATER CONSTITUENTS AND PROPERTIES

	Unit of measurement	Limiting Concentrations: Monthly (30 day Average)	Weekly (7 day Average)	Maximum at any time
Grease and Oil	mg/l	25	40	75
Suspended Solids			see below+	
Settleable Solids	ml/l	1.0	1.5	3.0
Turbidity	NTU	75	100	225
pH	units		within limits of 6.0 to 9.0 at all times	
Acute* Toxicity	TUa	1.5	2.0	2.5

+Suspended Solids: Dischargers shall, as a 30-day average, remove 75% of suspended solids from the influent stream before discharging wastewaters to the ocean*, except that the effluent limitation to be met shall not be lower than 60 mg/l. Regional Boards may recommend that the State Board (Chapter VI.F.), with the concurrence of the Environmental Protection Agency, adjust the lower effluent concentration limit (the 60 mg/l above) to suit the environmental and effluent characteristics of the discharge. As a further consideration in making such recommendation for adjustment, Regional Boards should evaluate effects on existing and potential water* reclamation projects.

If the lower effluent concentration limit is adjusted, the discharger shall remove 75% of suspended solids from the influent stream at any time the influent concentration exceeds four times such adjusted effluent limit.

Effluent limitations shall be imposed in a manner prescribed by the State Board such that the concentrations set forth below as water quality objectives shall not be exceeded in the receiving water upon completion of initial* dilution, except that limitations indicated for radioactivity shall apply directly to the undiluted waste* effluent.

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* See Appendix I for definition of terms.

TABLE B
TOXIC MATERIALS LIMITATIONS

	Units of Measurement	Limiting Concentrations 6-Month Median	Daily Maximum	Instantaneous Maximum
OBJECTIVES FOR PROTECTION OF MARINE AQUATIC LIFE				
Arsenic	ug/l	8	32	80
Cadmium	ug/l	1	4	10
Chromium (Hexavalent) (see below, a)	ug/l	2	8	20
Copper	ug/l	3	12	30
Lead	ug/l	2	8	20
Mercury	ug/l	0.04	0.16	0.4
Nickel	ug/l	5	20	50
Selenium	ug/l	15	60	150
Silver	ug/l	0.7	2.8	7
Zinc	ug/l	20	80	200
Cyanide (see below, b)	ug/l	1	4	10
Total Chlorine Residual (For intermittent chlorine sources, see below, c)	ug/l	2	8	60
Ammonia (expressed as nitrogen)	ug/l	600	2400	6000
Chronic* Toxicity	TUc		1	
Phenolic Compounds (non-chlorinated)	ug/l	30	120	300
Chlorinated Phenolics	ug/l	1	4	10
Endosulfan	ng/l	9	18	27
Endrin	ng/l	2	4	6
HCH*	ng/l	4	8	12
Radioactivity	Not to exceed limits specified in Title 22, Chapter 15, Article 4, Section 64443 of the California Code of Regulations.			

* See Appendix I for definition of terms.

Table B Continued

Chemical	Units of Measurement	30-day Average
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH -- NONCARCINOGENS		
acrolein	ug/l	220
antimony	mg/l	1.2
bis(2-chloroethoxy) methane	ug/l	4.4
bis(2-chloroisopropyl) ether	mg/l	1.2
chlorobenzene	ug/l	570
chromium (III)	mg/l	190
di-n-butyl phthalate	mg/l	3.5
dichlorobenzenes*	mg/l	5.1
1,1-dichloroethylene	mg/l	7.1
diethyl phthalate	mg/l	33
dimethyl phthalate	mg/l	820
4,6-dinitro-2-methylphenol	ug/l	220
2,4-dinitrophenol	ug/l	4.0
ethylbenzene	mg/l	4.1
fluoranthene	ug/l	15
hexachlorocyclopentadiene	ug/l	58
isophorone	mg/l	150
nitrobenzene	ug/l	4.9
thallium	ug/l	14
toluene	mg/l	85
1,1,2,2-tetrachloroethane	mg/l	1.2
tributyltin	ng/l	1.4
1,1,1-trichloroethane	mg/l	540
1,1,2-trichloroethane	mg/l	43
OBJECTIVES FOR PROTECTION OF HUMAN HEALTH -- CARCINOGENS		
acrylonitrile	ug/l	0.10
aldrin	ng/l	0.022
benzene	ug/l	5.9
benzidine	ng/l	0.069
beryllium	ng/l	33
bis(2-chloroethyl) ether	ug/l	0.045
bis(2-ethylhexyl) phthalate	ug/l	3.5
carbon tetrachloride	ug/l	0.90
chlordane*	ng/l	0.023
chloroform	mg/l	0.13
DDT*	ng/l	0.17
1,4-dichlorobenzene	ug/l	18
3,3'-dichlorobenzidine	ng/l	8.1

* See Appendix I for definition of terms.

Table B Continued

Chemical	Units of Measurement	30-day Average
1,2-dichloroethane	mg/l	0.13
dichloromethane	mg/l	0.45
1,3-dichloropropene	ug/l	8.9
dieldrin	ng/l	0.040
2,4-dinitrotoluene	ug/l	2.6
1,2-diphenylhydrazine	ug/l	0.16
halomethanes*	mg/l	0.13
heptachlor*	ng/l	0.72
hexachlorobenzene	ng/l	0.21
hexachlorobutadiene	ug/l	14
hexachloroethane	ug/l	2.5
N-nitrosodimethylamine	ug/l	7.3
N-nitrosodiphenylamine	ug/l	2.5
PAHs*	ng/l	8.8
PCBs*	ng/l	0.019
TCDD equivalents*	pg/l	0.0039
tetrachloroethylene	ug/l	99
toxaphene	ng/l	0.21
trichloroethylene	ug/l	27
2,4,6-trichlorophenol	ug/l	0.29
vinyl chloride	ug/l	36

a) Dischargers may at their option meet this limitation as a total chromium limitation.

b) If a discharger can demonstrate to the satisfaction of the Regional Board (subject to EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by Standard Methods 412F, G, and H (Standard Methods for the Examination of Water and Wastewater. Joint Editorial Board, American Public Health Association, American Water Works Association, and Water Pollution Control Federation. Most recent edition.).

c) Water quality objectives for total chlorine residual applying to intermittent discharges not exceeding two hours, shall be determined through the use of the following equation:

$$\log y = -0.43 (\log x) + 1.8$$

where: y = the water quality objective (in ug/l) to apply when chlorine is being discharged;
x = the duration of uninterrupted chlorine discharge in minutes.

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* See Appendix I for definition of terms.

Implementation Provisions for Table B

A. Calculation of Effluent Limitations

Effluent limitations for parameters identified in Table B with the exception of Radioactivity, shall be determined through the use of the following equation:

$$Ce = Co + Dm\ (Co - Cs) \quad (1)$$

where:

Ce = the effluent concentration limit,
Co = the concentration to be met at the completion of initial* dilution,
Cs = background seawater concentration (see Table C below),
Dm = minimum probable initial* dilution expressed as parts seawater per part wastewater.

For the purpose of this Plan, minimum initial dilution is the lowest average initial dilution within any single month of the year. Dilution estimates shall be based on observed waste flow characteristics, observed receiving water density structure, and the assumption that no currents, of sufficient strength to influence the initial dilution process, flow across the discharge structure.

The Executive Director of the State Board shall identify standard dilution models for use in determining Dm, and shall assist the Regional Board in evaluating Dm for specific waste discharger. Dischargers may propose alternative methods of calculating Dm, and the Regional Board may accept such method upon verification of its accuracy and applicability.

TABLE C
BACKGROUND SEAWATER CONCENTRATIONS (Cs)

Waste Constituent	Cs (ug/l)
Arsenic	3
Copper	2
Mercury	0.0005
Silver	0.16
Zinc	8

For all other Table B parameters, Cs = 0.

The six-month median effluent concentration limit shall apply as a moving median of daily values for any 180 day period in which daily values represent flow weighted

* See Appendix I for definition of terms.

average concentrations within a 24-hour period. For intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.

The daily maximum effluent concentration limit shall apply to flow weighted 24 hour composite samples.

The instantaneous maximum shall apply to grab sample determinations.

If only one sample is collected during the time period associated with the water quality objective (e.g., 30-day average or 6-month median), the single measurement shall be used to determine compliance with the effluent limitation for the entire time period.

Discharge requirements shall also specify effluent requirements in terms of mass emission rate limits utilizing the general formula:

$$lbs/day = 8.34 \times Ce \times Q \quad (2)$$

The six-month median limit on daily mass emissions shall be determined using the six-month median effluent concentration as Ce and the observed flow rate Q in millions of gallons per day. The daily maximum mass emission shall be determined using the daily maximum effluent concentration limit as Ce and the observed flow rate Q in millions of gallons per day.

Any significant change in waste* flow shall be cause for reevaluating effluent quality requirements.

B. Compliance Determination

All analytical data shall be reported uncensored with detection limits and quantitation limits identified. For any effluent limitation, compliance shall be determined using appropriate statistical methods to evaluate multiple samples. Compliance based on a single sample analysis should be determined where appropriate as described below.

When a calculated effluent limitation is greater than or equal to the PQL*, compliance shall be determined based on the calculated effluent limitation and either single or multiple sample analyses.

When the calculated effluent limitation is below the PQL*, compliance determinations based on analysis of a single sample shall only be undertaken if the concentration of the constituent of concern in the sample is greater than or equal to the PQL*.

When the calculated effluent limitation is below the PQL* and recurrent analytical responses between the PQL* and the calculated limit occur, compliance shall be determined by statistical analysis of multiple samples. Sufficient sampling and analysis shall be required to determine compliance.

Published values for MDL*s and PQL*s should be used except where revised MDL*s and PQL*s are available from recent laboratory performance evaluations, in which case the

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* See Appendix I for definition of terms.

revised MDL*s and PQL*s should be used. Where published values are not available the Regional Boards should determine appropriate values based on available information.

If a discharger believes the sample matrix under consideration in the waste discharge requirements is sufficiently different from that used for an established MDL* value, the discharger may demonstrate to the satisfaction of the Regional Board what the appropriate MDL* should be for the discharger's matrix. In this case the PQL* shall be established at the limit of quantitation (equal to 10 standard deviations above the average measured blank used for development of the MDL* in the discharger's matrix).

When determining compliance based on a single sample, with a single effluent limitation which applies to a group of chemicals (e.g., PCBs) concentrations of individual members of the group may be considered to be zero if the analytical response for individual chemicals falls below the MDL* for that parameter.

Due to the large total volume of powerplant and other heat exchange discharges, special procedures must be applied for determining compliance with Table B limitations on a routine basis. Effluent concentration values (Ce) shall be determined through the use of equation 1 considering the minimal probable initial* dilution of the combined effluent (in-plant waste streams plus cooling water flow). These concentration values shall then be converted to mass emission limitations as indicated in equation 2. The mass emission limits will then serve as requirements applied to all inplant waste* streams taken together which discharge into the cooling water flow, except that limitations on total chlorine residual, chronic* toxicity and instantaneous maximum limitations on Table B toxic materials shall apply to, and be measured in, the combined final effluent, as adjusted for dilution with ocean water. The Table B limitation on radioactivity shall apply to the undiluted combined final effluent.

C. Toxicity Reduction Requirements

If a discharge consistently exceeds an effluent limitation based on a toxicity objective in Table B, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the source of toxicity. Once the source(s) of toxicity is identified, the discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

The following shall be incorporated into waste discharge requirements: (1) a requirement to conduct a TRE if the discharge consistently exceeds its toxicity effluent limitation, and (2) a provision requiring a discharger to take all reasonable steps to reduce toxicity once the source of toxicity is identified.

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* See Appendix I for definition of terms.

Chapter V
DISCHARGE PROHIBITIONS

A. Hazardous Substances

The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste* into the ocean* is prohibited.

B. Areas of Special Biological Significance

Waste* shall not be discharged to areas designated as being of special biological significance. Discharges shall be located a sufficient distance from such designated areas to assure maintenance of natural water quality conditions in these areas.

C. Sludge

Pipeline discharge of sludge to the ocean* is prohibited by federal law; the discharge of municipal and industrial waste* sludge directly to the ocean*, or into a waste* stream that discharges to the ocean*, is prohibited by this Plan. The discharge of sludge digester supernatant directly to the ocean*, or to a waste* stream that discharges to the ocean* without further treatment, is prohibited.

It is the policy of the State Board that the treatment, use and disposal of sewage sludge shall be carried out in the manner found to have the least adverse impact on the total natural and human environment. Therefore, if federal law is amended to permit such discharge, which could affect California waters, the State Board may consider requests for exceptions to this section under Chapter VI, F. of this Plan, provided further that an Environmental Impact Report on the proposed project shows clearly that any available alternative disposal method will have a greater adverse environmental impact than the proposed project.

D. By-Passing

The by-passing of untreated wastes* containing concentrations of pollutants in excess of those of Table A or Table B to the ocean* is prohibited.

Chapter VI
GENERAL PROVISIONS

A. Effective Date

This Plan is in effect as of the date of adoption by the State Water Resources Control Board.

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* See Appendix I for definition of terms.

B. Waste Discharge Requirements

The Regional Boards may establish more restrictive water quality objectives and effluent quality requirements than those set forth in this Plan as necessary for the protection of beneficial uses of ocean* waters.

Regional Boards may impose alternative less restrictive provisions than those contained within Table B of the Plan, provided an applicant can demonstrate that:

Reasonable control technologies (including source control, material substitution. treatment and dispersion) will not provide for complete compliance; or

Any less stringent provisions would encourage water* reclamation;

Provided further that:

a) Any alternative water quality objectives shall be below the conservative estimate of chronic toxicity, as given in Table D below, and such alternative will provide for adequate protection of the marine environment;

b) A receiving water toxicity* objective of 1 TUc is not exceeded; and

c) The State Board grants an exception (Chapter VI.F.) to the Table B limits as established in the Regional Board findings and alternative limits.

TABLE D
CONSERVATIVE ESTIMATES OF CHRONIC TOXICITY

Constituent	Estimate of Chronic Toxicity (ug/l)
Arsenic	19
Cadmium	8
Hexavalent Chromium	18
Copper	5
Lead	22
Mercury	0.4
Nickel	48
Silver	3
Zinc	51
Cyanide	10
Total Chlorine Residual	10.0
Ammonia	4,000.0
Phenolic Compounds (non-chlorinated)	a)(see below)
Chlorinated Phenolics	a)
Chlorinated Pesticides and PCB's	b)

* See Appendix I for definition of terms.

a. There is insufficient data for phenolics to estimate chronic toxicity levels. Requests for modification of water quality objectives for these waste* constituents must be supported by chronic toxicity data for representative sensitive species. In such cases, applicants seeking modification of water quality objectives should consult the Regional Water Quality Control Board to determine the species and test conditions necessary to evaluate chronic effects.

b. Limitations on chlorinated pesticides and PCB's shall not be modified so that the total of these compounds is increased above the limitations in Table B (6-Month Median = 31 ng/l, Daily Maximum = 62 ng/l, and Instantaneous Maximum = 93 ng/l).

C. Revision of Waste* Discharge Requirements

The Regional Board shall revise the waste* discharge requirements for existing discharges as necessary to achieve compliance with this Plan and shall also establish a time schedule for such compliance.

D. Monitoring Program

The Regional Boards shall require dischargers to conduct self-monitoring programs and submit reports necessary to determine compliance with the waste* discharge requirements, and may require dischargers to contract with agencies or persons acceptable to the Regional Board to provide monitoring reports. Monitoring provisions contained in waste discharge requirements shall be in accordance with the Monitoring Procedures provided in Appendix II.

Where the Regional Board is satisfied that any substance(s) of Table B will not significantly occur in a discharger's effluent, the Regional Board may elect not to require monitoring for such substance(s), provided the discharger submits periodic certification that such substance(s) are not added to the waste* stream, and that no change has occurred in activities that could cause such substance(s) to be present in the waste* stream. Such election does not relieve the discharger from the requirement to meet the limitations of Table B.

The Regional Board may require monitoring of bioaccumulation of toxicants in the discharge zone. Organisms and techniques for such monitoring shall be chosen by the Regional Board on the basis of demonstrated value in waste* discharge monitoring.

E. Areas of Special Biological Significance

Areas of special biological significance shall be designated by the State Board after a public hearing by the Regional Board and review of its recommendations.

F. State Board Exceptions to Plan Requirements

The State Board may, in compliance with the California Environmental Quality Act, subsequent to a public hearing, and with the concurrence of the Environmental Protection Agency, grant exceptions where the Board determines:

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* See Appendix I for definition of terms.

1. **The exception will not compromise protection of ocean* waters for beneficial uses, and**

2. **The public interest will be served.**

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* See Appendix I for definition of terms.

APPENDIX I

DEFINITION OF TERMS

ACUTE TOXICITY

a. **Acute Toxicity (TUa)**

Expressed in Toxic Units Acute (TUa)

TUa = 100/96-hr LC 50%

b. Lethal Concentration 50% (LC 50)

LC 50 (percent waste giving 50% survival of test organisms) shall be determined by static or continuous flow bioassay techniques using standard test species. If specific identifiable substances in wastewater can be demonstrated by the discharger as being rapidly rendered harmless upon discharge to the marine environment, but not as a result of dilution, the LC 50 may be determined after the test samples are adjusted to remove the influence of those substances.

When it is not possible to measure the 96-hour LC 50 due to greater than 50 percent survival of the test species in 100 percent waste, the toxicity concentration shall be calculated by the expression:

$$TUa = \frac{\log (100 - S)}{1.7}$$

S = percentage survival in 100% waste. If S > 99, TUa shall be reported as zero.

CHLORDANE shall mean the sum of chlordane-alpha, chlordane-gamma, chlordene-alpha, chlordene-gamma, nonachlor-alpha, nonachlor-gamma, and oxychlordane.

CHRONIC TOXICITY: This parameter shall be used to measure the acceptability of for waters supporting a healthy marine biota until improved methods are developed to evaluate biological response.

a. Chronic Toxicity (TUc)

Expressed as Toxic Units Chronic (TUc)

TUc = 100/NOEL

b. No Observed Effect Level (NOEL)

The NOEL is expressed as the maximum percent effluent or receiving water that causes no observable effect on a test organism, as determined by the result of a critical life stage toxicity test listed in Appendix II.

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* See Appendix I for definition of terms.

DDT shall mean the sum of 4,4'DDT, 2,4'DDT, 4,4'DDE, 2,4'DDE, 4,4'DDD, and 2,4'DDD.

DEGRADE: Degradation shall be determined by comparison of the waste field and reference site(s) for characteristics species diversity, population density, contamination, growth anomalies, debility, or supplanting of normal species by undesirable plant and animal species. Degradation occurs if there are significant differences in any of three major biotic groups, namely, demersal fish, benthic invertebrates, or attached algae. Other groups may be evaluated where benthic species are not affected, or are not the only ones affected.

DICHLOROBENZENES shall mean the sum of 1,2- and 1,3-dichlorobenzene.

ENCLOSED BAYS are indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

ENDOSULFAN shall mean the sum of endosulfan-alpha and -beta and endosulfan sulfate.

ESTUARIES AND COASTAL LAGOONS are waters at the mouths of streams which serve as mixing zones for fresh and ocean waters during a major portion of the year. Mouths of streams which are temporarily separated from the ocean by sandbars shall be considered as estuaries. Estuarine waters will generally be considered to extend from a bay or the open ocean to the upstream limit of tidal action but may be considered to extend seaward if significant mixing of fresh and salt water occurs in the open coastal waters. The waters described by this definition include but are not limited to the Sacramento-San Joaquin Delta as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

HALOMETHANES shall mean the sum of bromoform, bromomethane (methyl bromide), chloromethane (methyl chloride), chlorodibromomethane, and dichlorobromomethane.

HEPTACHLOR shall mean the sum of heptachlor and heptachlor epoxide.

HCH shall mean the sum of the alpha, beta, gamma (lindane) and delta isomers of hexachlorocyclohexane.

INITIAL DILUTION is the process which results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge.

For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial

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* See Appendix I for definition of terms.

dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

For shallow water submerged discharges, surface discharges, and nonbuoyant discharges, characteristic of cooling water wastes and some individual discharges, turbulent mixing results primarily from the momentum of discharge. Initial dilution, in these cases, is considered to be completed when the momentum induced velocity of the discharge ceases to produce significant mixing of the waste, or the diluting plume reaches a fixed distance from the discharge to be specified by the Regional Board, whichever results in the lower estimate for initial dilution.

KELP BEDS, for purposes of the bacteriological standards of this plan, are significant aggregations of marine algae of the genera Macrocystis and Nereocystis. Kelp beds include the total foliage canopy of Macrocystis and Nereocystis plants throughout the water column.

MARICULTURE is the culture of plants and animals in marine waters independent of any pollution source.

MDL (Method Detection Limit) is the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136 Appendix B.

NATURAL LIGHT: Reduction of natural light may be determined by the Regional Board by measurement of light transmissivity or total irradiance, or both, according to the monitoring needs of the Regional Board.

OCEAN WATERS are the territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the State could affect the quality of the waters of the State, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

PAHs (polynuclear aromatic hydrocarbons) shall mean the sum of acenaphthylene, anthracene, 1,2-benzanthracene, 3,4-benzofluoranthene, benzo[k]fluoranthene, 1,12-benzoperylene, benzo[a]pyrene, chrysene, dibenzo[ah]anthracene, fluorene, indeno[1,2,3-cd]pyrene, phenanthrene and pyrene.

PCBs (polychlorinated biphenyls) shall mean the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

PQL (Practical Quantitation Level) is the lowest concentration of a substance which can be consistently determined within +/- 20% of the true concentration by 75% of the labs tested in a performance evaluation study. Alternatively, if performance data are not available, the PQL* for carcinogens is the MDL* x 5, and for noncarcinogens is the MDL* x 10.

SHELLFISH are organisms identified by the California Department of Health Services as shellfish for public health purposes (i.e., mussels, clams and oysters).

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* See Appendix I for definition of terms.

SIGNIFICANT difference is defined as a statistically significant difference in the means of two distributions of sampling results at the 95 percent confidence level.

TCDD EQUIVALENTS shall mean the sum of the concentrations of chlorinated dibenzodioxins (2,3,7,8-CDDs) and chlorinated dibenzofurans (2,3,7,8-CDFs) multiplied by their respective toxicity factors, as shown in the table below.

Isomer Group	Toxicity Equivalence Factor
2,3,7,8-tetra CDD	1.0
2,3,7,8-penta CDD	0.5
2,3,7,8-hexa CDDs	0.1
2,3,7,8-hepta CDD	0.01
octa CDD	0.001
2,3,7,8 tetra CDF	0.1
1,2,3,7,8 penta CDF	0.05
2,3,4,7,8 penta CDF	0.5
2,3,7,8 hexa CDFs	0.1
2,3,7,8 hepta CDFs	0.01
octa CDF	0.001

WASTE: As used in this Plan, waste includes a discharger's total discharge, of whatever origin, i.e., gross, not net, discharge.

WATER RECLAMATION: The treatment of wastewater to render it suitable for reuse, the transportation of treated wastewater to the place of use, and the actual use of treated wastewater for a direct beneficial use or controlled use that would not otherwise occur.

* See Appendix I for definition of terms.

APPENDIX II

STANDARD MONITORING PROCEDURES

The purpose of this appendix is to provide direction to the Regional Boards on the implementation of the California Ocean Plan and to ensure the reporting of useful information. It is not feasible to cover all circumstances and conditions that could be encountered by all dischargers. Therefore, this appendix should be considered as the basic components of any discharger monitoring program. Regional Boards can deviate from the procedures required in the appendix only with the approval of the State Water Resources Control Board unless the Ocean Plan allows for the selection of alternate protocols by the Regional Boards. If no direction is given in this appendix for a specific provision of the Ocean Plan, it is within the discretion of the Regional Board to establish the monitoring requirements for the provision.

The appendix is organized in the same manner as the Ocean Plan.

Chapter II. A. Bacterial Standards:

For all bacterial analyses, sample dilutions should be performed so the range of values extends from 2 to 16,000. The detection methods used for each analysis shall be reported with the results of the analysis.

Detection methods used for coliforms (total and fecal) shall be those presented in the most recent edition of Standard Methods for the Examination of Water and Wastewater or any improved method determined by the Regional Board (and approved by EPA) to be appropriate.

Detection methods used for enterococcus shall be those presented in EPA publication EPA 600/4-85/076, Test Methods for Escherichia coli and Enterococci in Water By Membrane Filter Procedure or any improved method determined by the Regional Board to be appropriate.

Chapter IV. Table B. Compliance with Table B objectives:

Procedures, calibration techniques, and instrument/reagent specifications used to determine compliance with Table B shall conform to the requirements of federal regulations (40 CFR 136). All methods shall be specified in the monitoring requirement section of waste discharge requirements.

Where methods are not available in 40 CFR 136, the Regional Boards shall specify suitable analytical methods in waste discharge requirements. Acceptance of data should be predicated on demonstrated laboratory performance.

The State or Regional Board may, subject to EPA approval, specify test methods which are more sensitive than those specified in 40 CFR 136. Total chlorine residual is likely to be a method detection limit effluent requirement in many cases. The limit of detection of total chlorine residual in standard test methods is less than or equal to 20 ug/l.

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* See Appendix I for definition of terms.

Monitoring for the substances in Table B shall be required periodically. For discharges less than 1 MGD (million gallons per day), the monitoring of all the Table B parameters should consist of at least one complete scan of the Table B constituents one time in the life of the waste discharge requirements. For discharges between 1 and 10 MGD, the monitoring frequency shall be at least one complete scan of the Table B substances annually. Discharges greater than 10 MGD shall be required to monitor at least semiannually.

Chapter IV. Compliance with Toxicity Objectives:

Compliance with the acute toxicity objective (TUa) in Table A shall be determined using an established protocol, e.g., American Society for Testing Materials (ASTM), EPA, American Public Health Association, or State Board.

The Regional Board shall require the use of critical life stage toxicity tests specified in this Appendix to measure TUc. Other species or protocols will be added to the list after State Board review and approval. A minimum of three test species with approved test protocols shall be used to measure compliance with the toxicity objective. If possible, the test species shall include a fish, an invertebrate, and an aquatic plant. After a screening period, monitoring can be reduced to the most sensitive species. Dilution and control water should be obtained from an unaffected area of the receiving waters. The sensitivity of the test organisms to a reference toxicant shall be determined concurrently with each bioassay test and reported with the test results.

Use of critical life stage bioassay testing shall be included in waste discharge requirements as a monitoring requirement for all discharges greater than 100 MGD by January 1, 1991 at the latest. For other major dischargers, critical life stage bioassay testing shall be included as a monitoring requirement one year before the waste discharge requirement is scheduled for renewal. For major dischargers scheduled for waste discharge requirements renewal less than one year after the adoption of the toxicity objective, critical life stage bioassay testing shall be included as a monitoring requirement at the same time as the chronic toxicity effluent limits is established in the waste discharge requirements.

The following tests shall be used to measure TUc. Other tests may be added to the list when approved by the State Board.

Species	Effect	Test Duration	Reference
red alga, Champia parvula	number of cystocarps	7-9 days	1
giant kelp, Macrocystis pyrifera	percent germination; germ tube length	48 hours	2
abalone, Haliotis rufescens	abnormal shell development	48 hours	2

* See Appendix I for definition of terms.

oyster, Crassostrea gigas; mussel, Mytilus edulis	abnormal shell development; percent survival	48 hours	3
urchins, Strongylocentrotus purpuratus, S. franciscanus; sand dollar, Dendraster excentricus	percent fertilization	1 hour	4
shrimp, Mysidopsis bahia	percent survival; growth; fecundity	7 days	1
silversides, Menidia beryllina	larval growth rate; percent survival	7 days	1

Bioassay References

1. Weber, C.I., W.B. Horning, II, D.J. Klemm, T.W. Neiheisel, P.A. Lewis, E.L. Robinson, J. Menkedick, and F. Kessler (eds.). 1988. Short-term methods for estimating the chronic toxicity of effluents and receiving waters to marine and estuarine organisms. EPA-600/4-87/028. National Technical Information Service, Springfield, VA.

2. Hunt, J.W., B.S. Anderson, S.L. Turpin, A.R. Conlon, M. Martin, F.H. Palmer, and J.J. Janik. 1989. Experimental Evaluation of Effluent Toxicity Testing Protocols with Giant Kelp, Mysids, Red Abalone, and Topsmelt. Marine Bioassay Project. Fourth Report. California State Water Resources Control Board, Sacramento.

3. American Society for Testing Materials (ASTM). 1987. Standard Practice for conducting static acute toxicity tests with larvae of four species of bivalve molluscs. Procedure E 724-80. ASTM, Philadelphia, PA.

4. Dinnel, P.J., J. Link, and Q. Stober. 1987. Improved methodology for sea urchin sperm cell bioassay for marine waters. Archives of Environmental Contamination and Toxicology 16: 23-32.

* See Appendix I for definition of terms.

STATE WATER RESOURCES CONTROL BOARD
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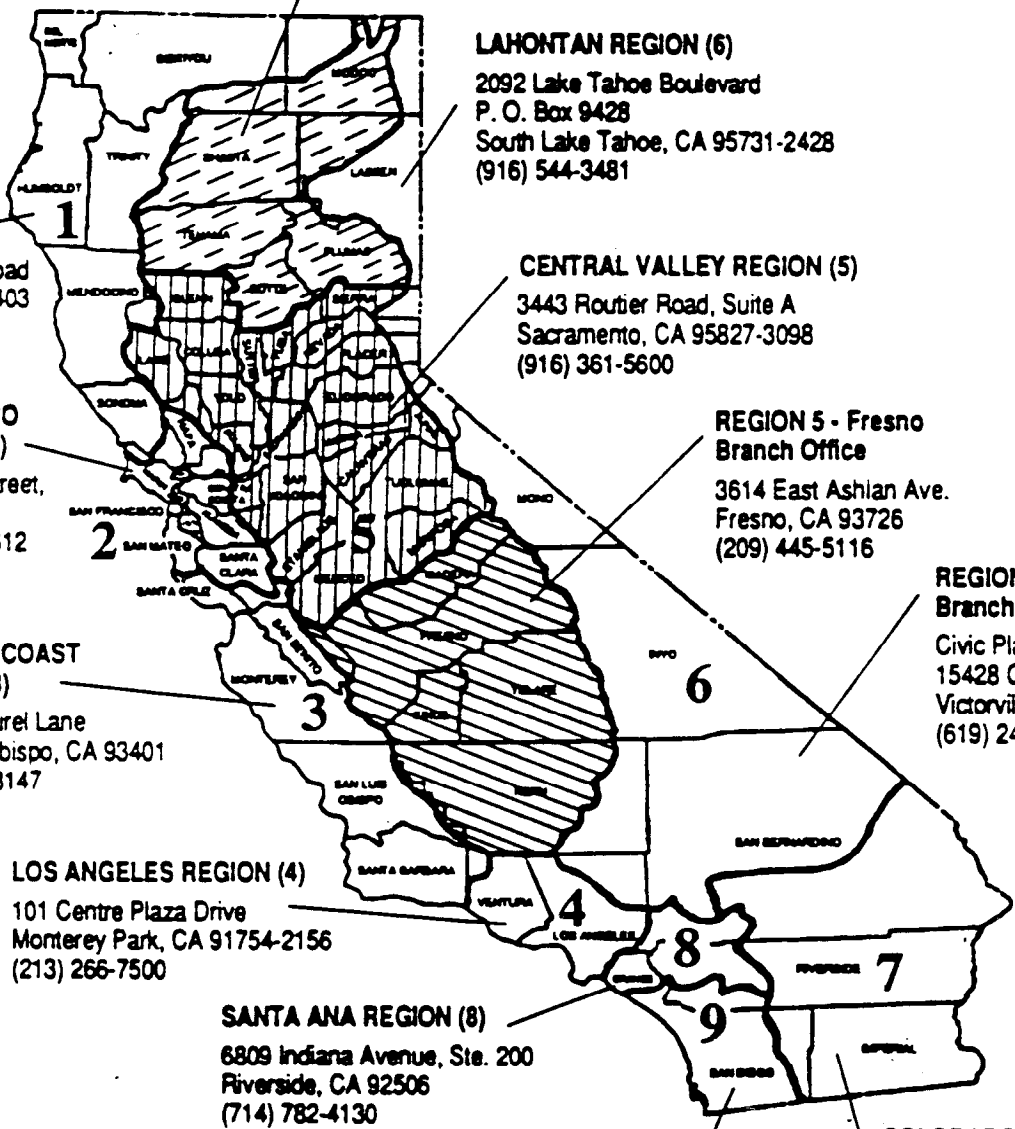
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARDS



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APPENDIX A-12

Discharges of Municipal Solid Waste Policy

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 93-62

POLICY FOR REGULATION OF DISCHARGES OF MUNICIPAL SOLID WASTE

WHEREAS:

1. **Water quality protection**–The State Water Resources Control Board (**State Water Board**) and each Regional Water Quality Control Board (**Regional Water Board**) are the state agencies with primary responsibility for the coordination and control of water quality (California Water Code Section 13001, "WC §13001");

2. **State Policy for Water Quality Control**–The State Water Board is authorized to adopt State Policy For Water Quality Control which may consist of or contain "...principles and guidelines deemed essential by the state board for water quality control" (Authority: WC §§1058, 13140, 13142);

3. **State agency compliance**–All State agencies shall comply with State Policy For Water Quality Control regarding any activities that could affect water quality (WC §13146);

4. **Waste Discharge Requirements**–Regional Water Boards regulate discharges of waste that could affect the quality of waters of the state, including discharges of solid waste to land, through the issuance of waste discharge requirements (WC §13263);

5. **Solid waste disposal**–The State Water Board is directed to classify wastes according to threat to water quality and to classify waste disposal sites according to ability to protect water quality (WC §13172);

6. **Chapter 15**–The State Water Board promulgated regulations, codified in Chapter 15 of Division 3 of Title 23 of the California Code of Regulations (23 CCR §§2510-2601, "**Chapter 15**"), governing discharges of waste to land. These regulations:

   a. Contain classification criteria for wastes and for disposal sites;

   b. Prescribe minimum standards for the siting, design, construction, monitoring, and closure of waste management units;

7. **Federal authority**–The federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 USC §6901, *et seq*, "**SWDA**"), authorizes development of nationwide standards for disposal sites for municipal solid waste [**MSW**], including criteria for sanitary landfills (SWDA §§1007, 4004, 42 USC §§6907, 6944);

8. **Federal MSW regulations**–On October 9, 1991, the United States Environmental Protection Agency (**USEPA**) promulgated regulations that apply, in California, to dischargers who own or operate landfills which accept municipal solid waste on or after October 9, 1991, (**MSW landfills**), regardless of whether or not a permit is issued (Title 40, Code of Federal Regulations [CFR], Parts 257 and 258, "**federal MSW regulations**"). The majority of the federal MSW regulations become effective on what is hereinafter referred to as the "**Federal Deadline**" [40 CFR §258.1(e)], currently October 9, 1993;

9. **States required to apply federal MSW regulations**–Each state must "...adopt and implement a permit program or other system of prior approval and conditions to assure that each...[MSW landfill]...within such state...will comply with the...[federal MSW landfill regulations]." State regulations promulgated to satisfy this requirement are subject to approval by USEPA. (SWDA §§4003, 4005, 42 USC §§6943, 6945);

10. **Approved state's authority**–The permitting authority in an "approved state" may approve engineered alternatives to certain prescriptive standards contained in the federal MSW regulations, provided that the alternative meets specified conditions and performance standards (40 CFR 256.21);

11. **State application**–The State Water Board and the Integrated Waste Management Board submitted an application for program approval to the USEPA on February 1, 1993;

12. **Chapter 15 deficiencies**–The State Water Board's Chapter 15 regulations are comparable to the federal MSW regulations. Nevertheless, the USEPA has identified several areas of Chapter 15 which are not adequate to ensure compliance with

certain provisions of the federal MSW regulations, as summarized in Attachment I;

13. **Rulemaking to amend Chapter 15**–There is insufficient time, prior to October 9, 1993, for the State Water Board to amend Chapter 15 to ensure complete consistency with the federal MSW regulations and subsequently for the USEPA to carry out a review of the revised chapter and to render a decision approving California's permit program;

14. **Composite liner(s) needed**–Solid Waste Assessment Test Reports, submitted to Regional Water Boards pursuant to WC §13273, have shown that releases of leachate and gas from MSW landfills that are unlined are likely to degrade the quality of underlying ground water. Research on liner systems for landfills indicates that (a) single clay liners will only delay, rather than preclude, the onset of leachate leakage, and (b) the use of composite liners represents the most effective approach for reliably containing leachate and landfill gas;

15. **Lack of compliance with Chapter 15**–WDRs for many MSW landfills have not been revised to meet the most recent Chapter 15 amendments;

16. CEQA–Adoption of this policy is categorically exempt from the provisions of the California Environmental Quality Act (Division 13, commencing with §21000, of the Public Resources Code, "CEQA") because it is an action by a regulatory agency for the protection of natural resources, within the meaning of §15307 of the *Guidelines For Implementation of California Environmental Quality Act* in Title 14 of the California Code of Regulations;

17. **Public notice**–Notice of the State Water Board's proposal to adopt a State Policy for Water Quality Control regarding Regulation of Discharges of Municipal Solid Waste was published on March 31, 1993, and a public hearing on the matter was held on June 1, 1993; and

18. **Reference**—This Policy implements, interprets, or makes specific the following Water Code Sections: §13142, §13160, §13163, and §13172.

THEREFORE BE IT RESOLVED:

I. Implementation of the Chapter 15 and federal MSW regulations:

A. **WDR revision**—In order to insure compliance with SWDA §§4003, 4005 (42 USC §§6943, 6945), each Regional Water Board shall henceforth implement in waste discharge requirements for discharges at MSW landfills, both the Chapter 15 regulations and those applicable provisions of the federal MSW regulations that are necessary to protect water quality, particularly the containment provisions stipulated in Section III of this Policy and the provisions identified in Attachment 1 to this Policy, and shall revise existing waste discharge requirements to accomplish this according to the schedule provided in Section II of this Policy;

B. **Alternatives limited**—The Regional Water Board shall not rely upon any exemption or alternative allowed by Chapter 15 if such an exemption or alternative would not be allowed under the federal MSW regulations, nor shall the Regional Water Board waive waste discharge requirements for the discharge of municipal solid waste at landfills;

C. **Applicability in the absence of useable waters**—Although all other provisions of this Policy would continue to apply, the Regional Water Board shall have the discretion to prescribe requirements for containment systems and water quality monitoring systems that are less stringent than the design and construction standards in this Policy, in the federal MSW regulations, and in Chapter 15 if the Regional Water Board finds that the containment systems satisfy the performance standard for liners in the federal MSW regulations [40 CFR §§258.40(a)(1) and (c)], that the prerequisite for an exemption from ground water monitoring in the federal MSW regulations is satisfied [40 CFR §258.50(b)], and that either of the following two conditions is satisfied:

1. A hydrogeologic investigation shows that:

   a. There is no aquifer (i.e., a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of ground water to wells or springs) underlying the facility property; and

   b. It is not reasonably foreseeable that fluids—including leachate and landfill gas—migrating from the landfill could reach any aquifer or surface water body in the ground water basin within which the landfill is located; or

2. The ground water in the basin underlying the facility has no beneficial uses and a hydrogeologic investigation shows that it is not reasonably foreseeable that fluids—including leachate and landfill gas—migrating from the landfill could reach any aquifer or surface water body having beneficial uses.

II. Implementation schedule:

A. **MSW landfills**–By the Federal Deadline (e.g., October 9, 1993), each Regional Water Board shall amend the waste discharge requirements for discharges of waste at all MSW landfills in its region (including discharges to any area outside the actual waste boundaries of an MSW landfill as they exist on that date ["**lateral expansion**" hereinafter]), to require persons who own or operate such landfills to:

1. Except for the ground water monitoring and corrective action requirements under 40 CFR §§258.50-258.58, comply with all applicable portions of the federal MSW regulations by the Federal Deadline; and

2. Achieve full compliance with Chapter 15 and with the federal ground water monitoring and corrective action requirements under 40 CFR §§258.50-258.58 as follows:

   a. For all MSW landfills that are less than one mile from a drinking water intake (surface or subsurface), by no later than October 9, 1994; and

   b. For all other MSW landfills that have accepted waste prior to the effective date of this Policy, by no later than October 9, 1995;

B. **Proposed MSW landfills**–As of the date of the Federal Deadline, waste discharge requirements for the discharge of waste at all MSW landfills that have not accepted waste as of that date shall ensure full compliance both with Chapter 15 and with the federal MSW regulations prior to the discharge of waste to that landfill.

III. Containment–As of the Federal Deadline, discharges of waste to either an MSW landfill that has not received waste as of that date or to a lateral expansion of an MSW landfill unit are prohibited unless the discharge is to an area equipped with a containment system which is constructed in accordance with the standard of the industry and which meets the following additional requirements for both liners and leachate collection systems:

A. **Standards for liners**

1. **Post-Federal Deadline construction**–Except as provided in either §III.A.3. (for steep sideslopes) or §III.A.2. (for new discharges to pre-existing liners), after the Federal Deadline, all containment systems shall include a composite liner that consists of an upper synthetic flexible membrane component (**Synthetic Liner**) and a lower component of soil, and that either:

   a. **Prescriptive Design**:

      i. **Upper component**–Has a Synthetic Liner at least 40-mils thick (or at least 60-mils thick if of high density polyethylene) that is installed in direct and uniform contact with the underlying compacted soil component described in paragraph III.A.1.a.ii.; and

      ii. **Lower component**–Has a layer of compacted soil that is at least two feet thick and that has an hydraulic conductivity of no more than 1×10^{-7} cm/sec (0.1 feet/year); or

   b. **Alternative design**–Satisfies the performance criteria contained in 40 CFR §§258.40(a)(1) and (c), and satisfies the criteria for an engineered alternative to the above Prescriptive Design [as provided by 23 CCR §2510(b)], where the performance of the alternative composite liner's components, in combination, equal or exceed the waste containment capability of the Prescriptive Design;

2. **New discharges to liners constructed prior to the Federal Deadline**–Except as provided in §III.A.3. (for steep sideslopes), containment systems that will begin to accept municipal solid waste after the Federal Deadline, but which have been constructed prior to the Federal Deadline, are not required to meet the provisions of §III.A.1. if the containment system includes a composite liner that:

   a. **Prescriptive Design**–Features as its uppermost component a Synthetic Liner at least 40-mils thick (or at least 60-mils if high density polyethylene) that is installed in direct and uniform contact with the underlying materials; and

   b. **Performance**–Meets the performance criteria contained in 40 CFR §§258.40(a)(1) and (c);

3. **Steep sideslopes**–Containment systems installed in those portions of an MSW landfill where an engineering analysis shows, and the Regional Water Board finds, that sideslopes are too steep to permit construction of a stable composite liner that meets the prescriptive standards contained in §§III.A.1 or 2. shall include an alternative liner that meets the performance criteria

contained in 40 CFR §§258.40(a)(1) and (c) and that either:

a. Is a composite system and includes as its uppermost component a Synthetic Liner at least 40-mils thick (or at least 60-mils if high density polyethylene) that is installed in direct and uniform contact with the underlying materials; or

b. Is not a composite system, but includes a Synthetic Liner at least 60-mils thick (or at least 80-mils if of high density polyethylene) that is installed in direct and uniform contact with the underlying materials; and

B. **Standards for leachate collection**–Include a leachate collection and removal system which conveys to a sump (or other appropriate collection area lined in accordance with §III.A.) all leachate which reaches the liner, and which does not rely upon unlined or clay-lined areas for such conveyance.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 17, 1993.

Maureen Marchè
Administrative Assistant to the Board

ATTACHMENT I

To Resolution No. 93-62

Pursuant to §I.A., in writing or revising the waste discharge requirements for MSW landfills, Regional Water Boards shall implement those portions of the following sections of the federal MSW regulations that either are more stringent than, or do not exist within, Chapter 15.

- **Floodplains**–40 CFR §§258.11 and 258.16
- **Wetlands**–40 CFR §258.12
- **Unstable areas**–40 CFR §§258.15 and 258.16
- **Run-on/Run-off control systems**—40 CFR §258.26
- **Liquids acceptance**–40 CFR §§258.28 [esp. §(a)(2)]
- **Design Criteria**—40 CFR §258.40, according to the provisions of Section III
- **Well/piezometer performance**–40 CFR §258.51
- **Ground-water sampling/analysis**—40 CFR §258.53
- **Monitoring Parameters**–40 CFR §258.54 and Appendix I to Part 258
- **Constituents of Concern**–40 CFR §258.55 and Appendix II to Part 258
- **Response to a release**–40 CFR §§258.55 [esp. §(g)(1)(ii, iii)]
- **Establishing corrective action measures**–40 CFR §§258.56 [esp. §§(c and d)] and 258.57
- **Ending corrective action program**–40 CFR §258.58 [esp. §(e)]
- **Closure/post-closure**–40 CFR §§258.60-258.61 [esp. §§258.60(a-g)]
- **Deed notation**–40 CFR §258.60(i)
- **Ending post-closure**–40 CFR §258.61 [esp. §§(a and b)]
- **Corrective action financial assurance**—40 CFR §258.73

APPENDIX A-13

Sewerage Facilities and Septic Tanks in Urbanizing Areas in the Central Coast Region

CENTRAL COASTAL REGIONAL WATER QUALITY CONTROL BOARD

RESOLUTION NO. 69 - 1

ADOPTING POLICY STATEMENT REGARDING SEWERAGE FACILITIES AND SEPTIC TANKS IN URBANIZING AREAS IN THE CENTRAL COASTAL REGION.

WHEREAS, Section 13052(e) of the California Water Code states that each regional board, with respect to its region, shall:

> "Formulate and adopt long-range plans and policies with respect to water pollution control and water quality control within the region to conformity with the policies set forth in Chapter 1 (commencing at Section 13000) and any water quality control policy adopted at any time by the state board."; and,

WHEREAS, Section 13052(a) of the California Water Code states that each regional board, with respect to its region, shall:

> "Obtain coordinated action in water quality control and in the abatement, prevention and control of water pollution and nuisance by means of formal or informal meetings of the persons involved."; and,

WHEREAS, Section 13052(d) of the California Water Code states that each regional board, with respect to its region, shall:

> "Request enforcement of laws concerning water pollution or nuisance by appropriate federal, state and local agencies."; and,

WHEREAS, Section 13052(c) of the California Water Code states that each regional board, with respect to its region, shall:

> "Require any state or local agency to inspect and report on any technical factors involved in water pollution or nuisance."; and,

WHEREAS, within the context of this policy the term "urbanizing areas" refers to areas subject to rapid and/or concentrated development and subdivision areas of less concentrated development with individual parcels of land less than 2.5 acres; and,

WHEREAS, this board has evidence that many past, present and potential water pollution problems in the region result from the practice of serving new residential subdivisions and other urbanizing areas with individual septic tanks and leaching systems or with small, community sewerage systems that fail to provide satisfactory service; and,

WHEREAS, this board has observed that water pollution problems do not develop where local government recognizes the potential for such problems well in advance and takes steps to prevent them; and,

WHEREAS, after adequate notice, public hearings were held to receive testimony from all persons present and desiring to be heard concerning this matter; and,

WHEREAS, the board has reviewed the testimony received at the public hearings and the written statements from interested persons; now therefore, be it

RESOLVED, that it is the policy of this Board that city and county governments are requested to:

1. Prohibit the use of septic tanks and leaching systems for sewage disposal:

   a. For any subdivision of land which comes under the provisions of the Subdivision Map Act of California unless the subdivider clearly demonstrates to the satisfaction of the governing body having jurisdiction that the use of septic tanks will be in the best public interest and that the beneficial uses of water of the state will not be adversely affected;

   b. For any area where minimum lot sizes, dwelling densities, construction standards, percolation rates and minimum physiographic conditions have not been established by county ordinance; and

   c. For any other area where the continued use of septic tanks constitutes a public health hazard, or existing or threatened condition of water pollution or nuisance.

2. Prohibit the development of any subdivision, trailer park, or similar development that will use its own community system for the disposal of sewage unless:

   a. The subdivision, trailer park, or similar development is within or has access to a pre-existing governmental entity (city or district) that has authority to and has stated its intent to assume responsibility for the planning, construction, operation, and maintenance of the sewerage system or has authority to and has stated its intent to review plans and construction and assume operation and maintenance of the sewerage system upon certification by the appropriate health officer that the system is failing; and,

b. The governmental entity (county, city or district) has developed a master plan for sewerage, pursuant to Section 65300, et seq. of the California Government Code, which includes the subdivision, trailer park, or similar development; and, be it further

RESOLVED, that this Board intends:

1. To continue to observe the progress made by local government in the Central Coastal Region toward prevention of water pollution and nuisance problems which may result from individual sewage disposal systems and from small community sewerage systems; and,

2. To seek enforcement action if and when it appears to the Board that such action is needed to prevent water pollution, nuisance or contamination because of inadequate control of development in urbanizing areas by local government; and be it further

RESOLVED, that this Board instructs its Executive Officer to transmit this resolution to all interested parties, including but not limited to the governing body of each city and county and to appropriate districts in the Central Coastal Region, and urges each body to give its full support to the policy enunciated above; and be it further

RESOLVED, that this Board requests each agency which has power to regulate the types of development that are covered by this resolution to make copies of this resolution available to all persons proposing such developments at the earliest practicable time so that each will be advised of the policy of the Regional Board in this matter.

Adopted by the Central Coastal Regional Water Quality Control Board on February 14, 1969.

Bertram H. Mudgett

BERTRAM H. MUDGETT, Chairman

ATTEST:

Kenneth R. Jones

KENNETH R. JONES, Executive Officer

APPENDIX A-14

Acceptance of Monterey County Board of Supervisor's Ordinance Applying Development Restrictions to the Bays Hills (Bay Farms/Hillcrest)

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
1102 A Laurel Lane
San Luis Obispo, California 93401

RESOLUTION NO. 86-02

Acceptance of Monterey County Board of Supervisor's Ordinance Applying Development Restrictions to the Bay Hills Area

WHEREAS, the California Regional Water Quality Control Board, Central Coast Region (hereafter Regional Board), adopted the Water Quality Control Plan for the Central Coast Basin (hereafter Basin Plan), on March 14, 1975: and,

WHEREAS, in a meeting on May 16, 1984, the Monterey County Supervisor for the Bay Farms/Hillcrest area (also known as Bay Hills) discussed the area's sewage disposal problems with Regional Board staff; and,

WHEREAS, in a letter to the County dated June 8, 1984, Regional Board staff recommended the County further investigate wastewater problems and consider a local building moratorium in lieu of a Regional Board Basin Plan amendment prohibiting individual septic system discharges in Bay Hills; and,

WHEREAS, the Bay Farms/Hillcrest area of Northern Monterey County has been designated Bay Hills County Water District, and is recognized by the State of California as such; and,

WHEREAS, the County conducted investigations and prepared a report entitled "Bay Farms Groundwater & Septic Tank Report, May, 1985," providing documentation for a moratorium; and,

WHEREAS, the State Water Resources Control Board (hereafter State Board), adopted Resolution No. 84-3, which accepts locally imposed moratoriums in lieu of Regional Board prohibitions; and,

WHEREAS, the County has declared the Bay Farms/Hillcrest area in Pajaro, California, as a "Health Hazard Area" because of contamination of domestic water systems from existing septic tank systems and endangerment of public health due to surfacing septic system effluent; and,

WHEREAS, the County, on June 25, 1985, adopted "An Ordinance of the County of Monterey, State of California, Applying Development Restrictions to the Area Generally Within the Proposed Bay Hill County Water District;" and,

WHEREAS, the Regional Board accepted public testimony and considered the County's Ordinance at the Regional Board's regularly scheduled meeting on January 10, 1986, in the Salinas City Council Chambers Rotunda, 200 Lincoln Avenue, Salinas, California.

NOW, THEREFORE, BE IT RESOLVED, that the Regional Board accepts the County's moratorium for Bay Hills adopted under its Ordinance, in lieu of a Regional Board prohibition.

BE IT FURTHER RESOLVED, that the County of Monterey is requested to coordinate a project to eliminate discharge from individual sewage disposal systems in Bay Hills according to the following schedule:

Task	Compliance Date
Begin Planning	February 1, 1986
Complete Planning	September 1, 1986
Begin Design	November 1, 1986
Complete Design	June 1, 1987
Begin Construction	March 1, 1988
Complete Construction	March 1, 1989
Cease Discharge	June 1, 1989

BE IT FURTHER RESOLVED, the Regional Board assumes authority for approval of any exemptions to the moratorium, consistent with exemption criteria contained in the Basin Plan.

BE IT FURTHER RESOLVED, that the State Water Resources Control Board is hereby requested to amend forthwith all appropriate Clean Water Grant Project Priority Lists to recognize the necessary structural solution for Bay Hills Area as a Class "A" project.

BE IT FURTHER RESOLVED, that the State Board is hereby requested to assist the local agencies in finding means to finance the design and construction of the recommended project (e.g., favorable consideration for a State Water Quality Control Fund loan or Small Communities Supplemental Assistance for the local share of project costs).

I, KENNETH R. JONES, Executive Officer of the California Regional Water Quality Control Board, Central Coast Region, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on January 10, 1986.

Executive Officer

APPENDIX A-15

Acceptance of Monterey County Board of Supervisors' Ordinance Applying Development Restrictions to the Area within the San Lucas County Water District

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
1102A Laurel Lane
San Luis Obispo, California 93401

RESOLUTION NO. 87-05

Acceptance of Monterey County Board of Supervisors' Ordinance Applying Development Restrictions to the Area within the San Lucas County Water District

WHEREAS, the California Regional Water Quality Control Board, Central Coast Region (hereafter Regional Board), adopted the Water Quality Control Plan for the Central Coast Basin (hereafter Basin Plan), on March 14, 1975; and,

WHEREAS, the Monterey County Health Department conducted investigations, and with Clean Water Bond pollution studies grant contracted EMCON Associates to conduct a study of the area; and,

WHEREAS, EMCON prepared a report based on this study entitled "San Lucas Water District Pollution Study, Monterey County, California, December 19, 1986," and arrived at the conclusion that ground water quality beneath San Lucas has been significantly degraded due to high septic system density and large percentages of septic system failures in the community; and,

WHEREAS, in a letter to the Monterey County Health Department dated May 29, 1987, the Division of Clean Water Grants, State Water Resources Control Board (hereafter State Board), stated after its review of the pollution study report, it was recommending that the project be placed on the FY 1988 Clean Water Grant Priority List in an "A" classification; and,

WHEREAS, in this same letter, the State Board advised the County that they and the Central Coast Regional Board must adopt a local moritorium before the San Lucas project could be placed in Priority Class "A;" and,

WHEREAS, the County has declared the San Lucas County Water District area as a "Health Hazard Area" because of contamination of domestic water systems from existing septic tank systems and endangerment of public health due to surfacing septic system effluent; and,

WHEREAS, the County, on June 23, 1987, adopted "An Ordinance of the County of Monterey, State of California, Applying Development Restrictions to the Area Generally Within the San Lucas County Water District;" and,

WHEREAS, the State Board adopted Resolution No. 84-3, which accepts locally imposed moratoriums in lieu of Regional Board prohibitions; and,

WHEREAS, the Regional Board accepted public testimony and considered the County's Ordinance at the Regional Board's regularly scheduled meeting on September 4, 1987, in San Luis Obispo City Hall Council Chambers, 990 Palm Street, San Luis Obispo, California.

NOW, THERERFORE, BE IT RESOLVED, that the Regional Board accepts the County's moratorium for the area within the San Lucas County Water District, adopted under County Ordinance No. 3247, in lieu of a Regional Board prohibition.

BE IT FURTHER RESOLVED, that the County of Monterey is requested to coordinate a project to eliminate discharge from individual sewage disposal systems in San Lucas according to the following schedule:

Task	Compliance Date
Begin Planning	November 20, 1987
Complete Planning	March 1, 1988
Begin Design	April 1, 1988
Complete Design	July 1, 1988
Begin Construction	October 15, 1988
Complete Construction	November 1, 1989
Cease Discharge	February 15, 1990

BE IT FURTHER RESOLVED, the Regional Board assumes authority for approval of any exemptions to the moratorium, consistent with exemption criteria contained in the Basin Plan.

BE IT FURTHER RESOLVED, that the State Board is hereby requested to amend forthwith all appropriate Clean Water Grant Project Lists to recognize the necessary structural solution for San Lucas County Water District as a Class "A" project.

I, WILLIAM R. LEONARD, Executive Officer of the California Regional Water Quality Control Board, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on September 4, 1987.

William R. Leonard
Executive Officer

APPENDIX A-16

Policy Regarding Beneficial Use of Oil Field Waste Materials in the Santa Maria Oil Fields, Santa Barbara County

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 73-5

ADOPTING POLICY REGARDING BENEFICIAL USE OF OIL FIELD WASTE MATERIALS IN THE SANTA MARIA VALLEY OIL FIELDS, SANTA BARBARA COUNTY

WHEREAS, Water Code Section 13224 states:

"Each Regional Board may issue policy statements relating to any water quality matter within its jurisdiction."; and,

WHEREAS, oil field waste materials, including but not limited to "drilling muds", oily wastes and brines, generally contain toxic substances and materials which could significantly impair the quality of usable waters and generally constitute Group I wastes as defined by California Administrative Code, Title 23, Chapter 3, Subchapter 15, Article 3, Section 2520; and

WHEREAS, Group I wastes, such as oil field waste materials, may ordinarily be deposited only at a Class I or Class II-1 disposal site; and

WHEREAS, California Administrative Code, Title 23, Chapter 3, Subchapter 15, Article 5, Section 2540, provides:

"The regional board may waive the reporting of solid waste discharge, or approval and classification of disposal sites or types of sites, or the establishment of waste discharge requirements as provided by Section 13269 of the Water Code when an operation will not unreasonably affect water quality because of the type of waste and disposal operation, or an operation is in compliance with ordinances or regulations of other governmental agencies which adequately protect water quality. Such waivers shall be conditional and may be terminated by the regional board at any time."; and

WHEREAS, Water Code Sections 14040 and 14041 state:

"Each regional board shall approve sites suitable for the disposal of different kinds of liquid wastes, consistent with the classifications that shall be adopted by the state board, and may adopt regulations for disposal of liquid waste at such approved sites that it deems are necessary for the protection of the quality of the waters of the state."

"The hauler of liquid waste shall dispose of liquid waste in accordance with the regulations adopted by the Regional Board and shall dispose of only such type of waste as was designated for a particular site."; and

WHEREAS, under appropriate circumstances, certain clean fresh water "drilling muds" may be usable for beneficial purposes such as sealing of agricultural reservoir sites, improving tillability of certain solids, and stabilizing sandy soils without causing water quality problems or nuisance conditions; and,

WHEREAS, under appropriate circumstances, certain oily wastes may be usable for beneficial purposes such as dust control, weed abatement and road construction without causing water quality problems or nuisance conditions; and

WHEREAS, in the Santa Maria Valley oil fields, it appears possible, with appropriate care, to separate those oil field waste materials which may be appropriate for beneficial uses from those materials not suitable for beneficial uses;

NOW THEREFORE BE IT RESOLVED that the following shall constitute the policy of this Board regarding beneficial use of oil field waste materials in the Santa Maria Valley oil fields, Santa Barbara County:

1. Except as hereafter expressly provided, all oil field waste materials, including but not limited to "drilling muds", oily wastes, and brines, shall be deposited at an appropriate and approved Class I or Class II-1 disposal site.

2. The following oil field waste materials may be deposited for an appropriate beneficial use at sites other than a Class I or Class II-1 disposal site provided that such site has been approved in advance by the Executive Officer of this Board, the amount of oil field waste material to be deposited and used at such site is reasonable, and adequate use practices for and control of oil field waste materials on such site are assured:

   (a) Clean, fresh-water drilling mud removed from the drilling of an oil well prior to the time that the first production string of casing is installed.

   (b) Clean oil, not mixed with contaminants such as salt brines or toxic materials.

3. The Executive Officer may, upon written request, approve a site for a specified use or uses of those oil field waste materials specified in Paragraph 2 above, when the Executive Officer is reasonably assured that use of such site in the manner and for the purpose proposed will not adversely affect water quality or lead to nuisance conditions. Requests for site approval shall contain such information as may be required by the Executive Officer, and at a minimum shall contain:

   (a) A description of the site at which deposit and use of oil field waste materials will be made, and assurance that such materials will be used solely at and retained on such site.

(b) A description of the type of oil field waste material which will be used, the purpose or purposes for which it will be used, and the maximum quantity or quantities which will be used.

(c) Assurance that the applicant or a competent agent, will be present at the time of each delivery of oil field waste material.

(d) A proposed plan of use, specifically including cultivation practices and/or other appropriate control uses and measures, which will be taken to protect water quality and prevent nuisance.

(e) Certification that the proposed use or uses of oil field waste materials comply with all city, county, or other local use and zoning requirements and that all necessary use permits will be obtained and maintained.

(f) Certification that the applicant will submit such monitoring and technical reports as may be required by the Executive Officer.

(g) Certification that the applicant is the owner of the site at which deposit and use of oil field waste materials will be made, or written consent of the owner of such site to the proposed use.

4. In the event that the Executive Officer determines that there is reasonable assurance that the use of oil field waste materials at the site proposed and in the manner proposed will not adversely affect water quality or lead to nuisance conditions, the Executive Officer may, in writing, approve such site. The approval shall be contingent upon full and exact compliance with all statements, representations and assurances contained in the request, and shall further provide that:

(a) Site approval may be withdrawn at any time, in the discretion of the Executive Officer, upon a determination that further use of the site for deposit or use of oil field waste materials will or may adversely affect water quality or create nuisance conditions.

(b) Site approval does not relieve the landowner, or any other person, from otherwise complying with all state and local laws, rules, regulations and ordinances, and specifically does not constitute a license for use of oil field waste materials except in strict accord with the request and approval.

5. The Executive Officer shall remove site approval in the event of violation of any of the statements, representations, and assurances contained in the request.

I, Kenneth R. Jones, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on December 14, 1973.

Kenneth R. Jones

Executive Officer

APPENDIX A-17

Policy Amending "Policy Regarding Beneficial Use of Oil Field Waste Materials in the Santa Maria Oil Fields, Santa Barbara County" to apply Region Wide

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 89-04

ADOPTING AMENDMENTS TO THE WATER QUALITY CONTROL PLAN AND REQUESTING APPROVAL FROM THE STATE WATER RESOURCES CONTROL BOARD

WHEREAS:

1. The Water Quality Control Plan, Central Coastal Basin (Basin Plan) was approved by the State Water Resources Control Board (State Board) on March 20, 1975.

2. Since March 20, 1975, thirty-seven Basin Plan amendments have been approved by the Regional Water Quality Control Board (Regional Board) and the State Board.

3. Since 1975, several changes in water quality regulations and administrative procedures have occurred.

4. An updated Basin Plan incorporating all previously approved amendments, updated regulations, and procedures is needed.

5. Several significant new Basin Plan amendments are needed:

    a. Revise PCB and Phthalate Ester objective for all Inland Surface Waters, Enclosed Bays, and Estuaries in the Water Quality Objectives chapter.

    b. Update "Municipal Wastewater Management Plans" in the Implementation Plan chapter.

    c. Update "Solid Waste Management" in the Implementation Plan chapter.

    d. Add "Water Quality Limited Segments" designation in the Plans and Policies chapter.

    e. Add general toxic or hazardous materials discharge prohibition to all waters in the Plans and Policies chapter.

    f. Amend Resolution 73-05, "Adopting Policy Regarding Beneficial Use of Oil Field Waste Materials in the Santa Maria Valley Oil Fields, Santa Barbara County" to apply Regionwide.

    g. Add Regional Board policy for Highway Grooving Residues in the Plans and Policies chapter.

h. Add Regional Board Policy for Waiver of Regulation of Specific Types of Waste Dischargers in the Plans and Policies chapter.

i. Add Water Bodies Needing Intensive Surveillance in the Surveillance and Monitoring chapter.

6. Several additional changes (as described in Attachment "A") are necessary to update the 1975 Basin Plan.

7. Several minor wording changes are necessary to improve the readability of the Basin Plan.

8. Drafts of the proposed Basin Plan have been prepared and distributed to interested persons and agencies for review and comment.

9. Regional Board staff has followed appropriate procedures to satisfy the environmental documentation requirements of both the California Environmental Quality Act, under Public Resources Code Section 21080.5 (Functional Equivalent) and the Federal Clean Water Act of 1977 (PL 92-500 and PL 95-217). The Regional Board finds adoption of these objectives will not have a significant adverse effect on the environment.

10. Due notice of public hearing was given by advertising in newspapers of general circulation within the Region.

11. On September 8, 1989, and November 17, 1989, in the Salinas City Council Chamber Rotunda, 200 Lincoln Avenue, Salinas, California, and in the Embassy Suites-Edna Room, 333 Madonna Road, San Luis Obispo, California, respectively, after due public notice, the Regional Board received evidence and considered all factors concerning the proposed revisions and amendments to the Plan.

THEREFORE BE IT RESOLVED:

1. All amendments mentioned above and in Attachment "A," will not have a significant adverse impact on the environment and the Executive Officer of the Regional Board is hereby directed to file a Notice of Decision to this effect with the Secretary of the Resources Agency.

2. All amendments mentioned above and in Attachment "A' are adopted.

3. Any minor editorial changes to correct data or grammar and/or clarify meaning in the final copy which may not be included in Attachment "A", are also adopted.

4. Staff responses which propose specific Basin Plan changes provided in the Regional Water Quality Control Board letter dated October 12, 1989, are adopted.

5. The State Board is requested to approve the proposed updated Basin Plan with amendments in accordance with Sections 13245 and 13246 of the California Water Code.

6. Upon approval, the State Board is requested to transmit the updated Basin Plan to the U.S. Environmental Protection Agency for approval.

I, **WILLIAM R. LEONARD, Executive Officer**, do hereby certify the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Central Coastal Region, on November 17, 1989.

William R. Leonard
Executive Officer

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APPENDIX A-18

Recommendation to the State Water Resources Control Board Concerning the Designation of Terrace Point in Santa Cruz County as an Area of Special Biological Significance

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 76-10

RECOMMENDATION TO THE STATE WATER RESOURCES CONTROL BOARD CONCERNING THE DESIGNATION OF TERRACE POINT IN SANTA CRUZ COUNTY AS AN AREA OF SPECIAL BIOLOGICAL SIGNIFICANCE

WHEREAS:

1. The State Water Resources Control Board has adopted a Water Quality Control Plan, Ocean Waters of California;

2. This plan established the concept of designating some ocean waters as Areas of Special Biological Significance to afford special protection for marine life to the extent that waste discharge requirements or other procedures will not insure;

3. Such areas are to be designated by the State Water Resources Control Board after public hearings by the Regional Board and review of the Regional Board's recommendation;

4. Testimony was received by the Central Coast Regional Board concerning the Terrace Point area of Santa Cruz County as an Area of Special Biological Significance at hearings on February 9, 1973 and March 9, 1973;

5. The Regional Board did not include Terrace Point in its list of areas recommended to the State Board for consideration because of insufficient evidence;

6. The State Water Resources Control Board received further testimony regarding Terrace Point as an Area of Special Biological Significance at its hearing on March 21, 1974, but remanded it to the Regional Board for further hearing and recommendation;

7. After due notice, including publication in the Santa Cruz Sentinel, a third hearing was held by the Regional Board on November 19, 1976, pertaining to the designation of Terrace Point as an Area of Special Biological Significance;

8. Testimony for and against designating Terrace Point as an Area of Special Biological Significance was received at that hearing;

9. After considering all testimony received, the hearing panel did agree upon a recommendation to be submitted to the Regional Board.

10. At its regular meeting on December 10, 1976, the Board did receive the recommendation of the hearing panel and did review the record of the hearings concerning this matter;

11. The Board finds that adequate protection of water quality and beneficial uses can be provided through waste discharge requirements, permits, and aforementioned

activities, and that designation of the Terrace Point area as an Area of Special Biological Significance is not warranted;

NOW, THEREFORE, BE IT RESOLVED:

1. The California Regional Water Quality Control Board, Central Coast Region, recommends to the State Water Resources Control Board that Terrace Point not be considered for the designation of Area of Special Biological Significance; and, furthermore,

2. That copies of this resolution and the Board's staff report and copies of all other evidence presented, be transmitted to the State Water Resources Control Board.

I, KENNETH R. JONES, Executive Officer of the California Regional Water Quality Control Board, Central Coast Region, do hereby certify the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on December 10, 1976.

Executive Officer

APPENDIX A-19

Supporting Approval of the Clean Water and Water Conservation Bond Law of 1978

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 78-04

SUPPORTING APPROVAL OF THE CLEAN
WATER AND WATER CONSERVATION BOND
LAW OF 1978

WHEREAS, the people of the State of California repeatedly have expressed their interest in ending water pollution in this State; and

WHEREAS, the Legislature passed the Porter-Cologne Water Quality Control Act which provides the authority and policy to require rapid compliance with high water quality standards: and

WHEREAS, the Board is determined to protect and enchance the quality of all waters of the State; and

WHEREAS, in order to carry out these objectives it is essential that new and improved facilities for the treatment, disposal and reclamation of sewage and other wastes be constructed at the earliest possible date: and

WHEREAS, the United States Congress has passed legislation which requires improved standards in water pollution control facilities, and provides Federal grants to assist in achieving such objectives; and

WHEREAS, in accelerating the needed waste treatment construction program of municipalities, inordinate financial burdens will be placed on the property taxpayers in a relatively short period of time unless the State assumes a share of the cost; and

WHEREAS, all of the citizens of the State benefit from improved water quality: and

WHEREAS, the drought of 1976 and 1977 demonstrated the need for conservation of freshwater and greater reuse of wastewater; and

WHEREAS, the Legislature has passed and the Governor has signed the Clean Water and Water Conservation Bond Law of 1978, which will provide needed financial aid to local governments; and

WHEREAS, this law will be considered by the voters of the State as Proposition 2 on June 6, 1978; and

WHEREAS, some public agencies will be unable to construct necessary wastewater treatment, disposal and/or reclamation systems without State assistance; and

WHEREAS, discontinuance of State assistance will cause delays in the construction of some necessary treatment works, reclamation systems, and water conservation projects: and

WHEREAS, the California Regional Water Quality Control Board, Central Coast Region, is the State agency with primary responsibility for the coordination and control of water quality in the Region;

NOW, THEREFORE, BE IT RESOLVED, that the California Regional Water Quality Control Board, Central Coast Region, expresses its support for Proposition 2 and urges every California voter to vote "yes" so that pollution control and environmental enhancement activities of local agencies can be continued.

I, KENNETH R. JONES, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region on April 14, 1978.

Executive Officer

APPENDIX A-20

Regarding Marina County Water District's Petition to Delete the Southern Monterey Bay Discharge Prohibition Zones from the Basin Plan

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 79-06

Resolution Regarding Marina County Water District's
Petition to Delete the Southern Monterey Bay Discharge
Prohibition Zone from the Basin Plan

WHEREAS, The California Regional Water Quality Control Board, Central Coast Region, (hereafter Regional Board), adopted the Water Quality Control Plan for the Central Coastal Basin (hereafter Basin Plan) on March 25, 1975, pursuant to Section 13240, et. seq. of the California Water Code and,

WHEREAS, The Basin Plan was reviewed and approved by the California State Water Resources Control Board and the United States Environmental Protection Agency; and,

WHEREAS, The Basin Plan prohibits waste discharges to the southern extreme of Monterey Bay, inshore from an imaginary line extending from Point Pinos (36°-38.3' N., 121°-56.0' W.) to the mouth of the Salinas River (36°-44.9' N., 121°-48.3' W.), effective July 1, 1983, and

WHEREAS, the Marina County Water District discharges treated wastewater to the southern Monterey Bay prohibition zone, and

WHEREAS, in April, 1979, Marina County Water District challenged the southern Monterey Bay prohibition zone, as contained in the Basin Plan, and waste discharge requirements and enforcement orders based on this prohibition, and

WHEREAS, during a public hearing on June 18, 1979, the Regional Board received testimony and reconsidered factors which prompted prohibition zone establishment, including:

1. Weak ocean currents and sluggish circulation
2. High ammonia concentrations and nutrient build-up
3. Adverse affects on designated Areas of Biological Significance
4. History of beach contamination
5. Importance of water-contact recreation and marine habitat
6. Projected wastewater flow increases
7. Political, social, and economic concerns, and

NOW, THEREFORE, be it resolved, that the Regional Board finds the following:

1. The establishment of the southern Monterey Bay prohibition zone in the Basin Plan was appropriate, based on information available at that time.

2. Data available since Basin Plan adoption supports the southern Monterey Bay discharge prohibition.

3. Amendment of the Basin Plan with respect to the southern Monterey Bay discharge prohibition zone is unwarranted.

I, Kenneth R. Jones, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a Resolution duly and regularly adopted by the California Regional Water Quality Control Board, Central Coast Region, on June 18, 1979.

Executive Officer

APPENDIX A-21

Certification of Santa Cruz County's Wastewater Management Program for the San Lorenzo River Watershed

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 87-04

CERTIFICATION OF SANTA CRUZ COUNTY'S
WASTEWATER MANAGEMENT PROGRAM
FOR THE
SAN LORENZO RIVER WATERSHED

WHEREAS, Chapter 962 of the Statutes of 1986 states it is the intent of the Legislature to assist the San Lorenzo Valley Water District with its cash-flow problem by providing a loan; and,

WHEREAS, one condition of the state making the loan is "the County of Santa Cruz shall agree to undertake a program which will adequately ensure that the use of on-site waste water disposal systems will not pollute waters of the state;" and,

WHEREAS, the County of Santa Cruz developed a multifaceted wastewater management program for the San Lorenzo River Watershed; and,

WHEREAS, the County of Santa Cruz submitted the program to the Regional Board; and,

WHEREAS, the Regional Board has reviewed the program and the progress of its implementation through reports, including periodic presentations by county staff to the Board; and,

WHEREAS, prior to the state making a loan the Regional Board must certify the adequacy of the County's program; and,

WHEREAS, Resolution No. 339-87, "Concerning Continued Implementation of a Wastewater Management Program for the San Lorenzo River Watershed," adopted by the Santa Cruz County Board of Supervisors on May 12, 1987, assures continued implementation of that wastewater management plan; and,

WHEREAS, the wastewater management plan contains the elements necessary to ensure protection of the waters of the state.

THEREFORE BE IT RESOLVED: the Regional Water Quality Control Board, Central Coast Region, certifies Santa Cruz County's Wastewater Management Program for the San Lorenzo Valley is adequate to satisfy the condition for the loan authorized by Chapter 962 of the Statutes of 1986.

I, WILLIAM R. LEONARD, Executive Officer of the California Regional Water Quality Control Board, Central Coast Region, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on June 12, 1987.

William R. Leonard
Executive Officer

RCB:lh -- res 87-04

APPENDIX A-22

Policy Regarding Disposal of Highway Grooving Residues

POLICY REGARDING DISPOSAL OF HIGHWAY GROOVING RESIDUES

1. Each highway grooving residue site shall be approved by the Executive Officer prior to use.

2. Waste Discharge Requirements may be waived, provided the following conditions are met:

   a. Grooving residues are confined to the trenches without overflow.

   b. Trenches do not intercept ground water.

   c. Disposal activities do not occur during the rainy season (December through April).

APPENDIX A-23

Waiver of Regulations of Specific Types of Waste Dischargers

State of California
California Regional Water Quality Control Board
Central Coast Region

April 15, 1983

ITEM: 7

SUBJECT: Review of Staff Procedures Regarding Waiver of Regulation of Specific Types of Waste Discharges.

DISCUSSION: Water Code Section 13263 provides Regional Boards with authority to issue waste discharge requirements for any discharge, other than into a community sewer system, that could affect the quality of the waters of the State. However, Water Code Section 13269 allows the Boards to waive regulation of a specific discharge or specific types of discharges where such action is in the public interest. This paragraph in the code allows flexibility to the Regional Boards so regulatory resources can be directed toward potential problems rather than consumed through regulation of waste discharges that will have no affect on quality of the state's waters.

Historically, staff has made most decisions regarding which discharges to regulate. Those decisions were based upon the size, type, duration, location, and significance of each existing or proposed waste discharge as well as staff resources available. All waivers granted by staff have been conditional and could be terminated at any time. Types of discharges which have received waivers from regulation by staff have usually fallen into one of the categories listed in Appendix A of this agenda item.

A recent opinion from the State Board's Office of Chief Counsel states that only the Regional Board itself can waive regulation of any discharge. One method of complying with this opinion would be for staff to schedule every waste discharge for a hearing before the Regional Board. However, because of limited resources, both Board and staff time must be directed to the more significant water quality problems. There are hundreds of waste discharges in the Region which have little or no impact on water quality. Many discharges are regulated through development of Best Management Practices rather than waste discharge requirements. For scattered sources of relatively minor quantities of pollutants, this management by exception is a more cost-effective method of regulation.

In order to meet the terms of the legal opinion and still effectively use resources that are available, the Executive Officer proposes the following procedure:

A proposed discharge or an existing unregulated discharge, which can be categorized as one of the types of discharges shown on the list in Appendix A, will be evaluated by staff. Discharges without perceivable significant impacts on water quality or public health will receive a tentative waiver from staff. With some exceptions, these tentative waivers will be reported to the Board on its next available agenda. Regional Board will be requested to ratify the staff's preliminary decisions and thus the Board can grant waivers from direct regulation generally on a case-by-case basis. Exceptions to this procedure are those types of discharge marked by an asterisk. These discharges are too small, insignificant, or numerous to list on the Board's agenda; or they are discharges for which regulating authority has been delegated by the Regional Board. For example, Regional Board Resolution 82-09 establishes applicable criteria for individual on-site sewage disposal systems. When a valid memorandum of understanding exists between the Regional Board and the local agency, permitting authority is delegated to the local agency.

Those dischargers which (1) cannot be categorized as one of the types of discharges on the attached list, or (2) may have significant water quality impacts (e.g., due to low flow rate of receiving water, or unique location of discharge), or (3) where any questions or uncertainty concerning conditions or facts remain, will be required to submit a Report of Waste Discharge with appropriate filing fee, and proposed requirements will be brought to the Board for consideration under normal procedures. After evaluating the facts, the Board may in some cases still determine that a waiver of direct regulation is appropriate.

Where waste discharge requirements have been issued by the Regional Board and have not expired, a waiver of that regulation cannot be obtained without a decision by the Board following a hearing. Thus, the procedure described above cannot be used to modify any existing order of the Board during the life of the permit. When a permit expires, staff will follow the procedure outlined above. Past self-monitoring reports and inspection reports will be used in evaluating the need for permit renewal. If staff determines that a tentative waiver is appropriate, that recommended action will be subject to Board ratification.

ATTACHMENT: Appendix A

RECOMMENDATION: Unless the Regional Board objects, staff will operate as described above.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

TYPES AND NATURE OF WASTE DISCHARGES
WHICH WILL BE CONSIDERED
FOR WAIVER OF REGULATION

Type of Waste Discharge	Limitations
1. Air conditioner, cooling and elevated temperature waters	Discharged to storm drains, to land, or in small volumes which will not change temperature of receiving water more than one degree C.
2. Drilling muds	Discharged to sump with at least two feet of freeboard. Sump must be dried by evaporation or pumping. Drilling muds may remain in sump only if discharger demonstrates mud is non-toxic. Sump area shall be restored to preconstruction state within sixty (60) days of completion or abandonment of well. Clean, oil-free, freshwater drilling mud removed from the oil well drilling operation prior to the time the first production casing is installed.
3. Oilfield waste materials	Clean oil not mixed with contaminants such as salt brines or toxic materials, (Reference: Staff Guidelines) used for beneficial purposes such as dust control, weed control and mosquito abatement where oil cannot reach State waters.
4. Minor dredge operations	When operation is short-term and spoil is nontoxic, and discharged to land.
5. Group 3 solid wastes	Small-scale operations using good disposal and erosion control practices.
*6. Test pumpings of fresh water wells	When pollutants are neither present nor added.
7. Storm water runoff	Where no water quality problems are contemplated and no federal NPDES permit is required.
*8. Erosion from construction projects	Where Best Management Practice (BMP) plans have been formulated and implemented or the local entity has an approved program for implementing BMP's (Reference: Resolution No. 79-09).

9. Pesticide rinse waters from applicators	Where discharger complies with State Board's Pesticides Guidance Document, (January, 1982)
10. Confined animal wastes	Where discharger complies with the Basin Plan and no federal NPDES permit is required.
11. Minor stream channel alterations and suction dredging	Where regulated by Department of Fish and Game conditions.
12. Short-term sand and gravel operations	Operations where washwaters are confined to land.
13. Metals mining operations	Operations confined to land where toxic materials are not used in recovery operations.
*14. Swimming pool discharges	Where adequate dilution exists to offset chlorine toxicity or where beneficial uses will not be affected.
15. Food processing wastes spread on land	Small, seasonal, confined to land, and removed from populated areas.
16. Agricultural commodity wastes	Small, seasonal, confined to land, and removed from populated areas.
17. Industrial wastes utilized for soil amendments	Where industry certifies nontoxic and non-hazardous content and BMP for agricultural application used.
*18. Timber harvesting	Operating under approved Timber Harvest Plan.
19. Minor hydro projects	Operating under water rights permit from State Water Resources Control Board or Fish and Game conditions.
20. Irrigation return water	Where sediment meets Basin Plan turbidity objectives and discharge is not toxic fish or wildlife. (Exempted from NPDES permit as per consolidated regulations)
*21. Project where application for Water Quality Certification is required	Where project (normally minor construction) is not expected to have a significant water quality effect, and project complies with Fish and Game conditions.

22. Brine disposal	To ocean without toxic constituents or to impermeable ponds.
*23. Individual sewage disposal systems	Where project is required to meet standard criteria of county or city that is implementing Basin Plan requirements pursuant to MOU, or an individual project that complies with Basin Plan.
24. Treatment and disposal systems for sanitary waste from small community, institutional, commercial, industrial operations.	Small community systems (serving five or less residential units) or institutional, commercial, or industrial systems (less than 2500 gallons per or day) with subsurface disposal, regulated by local agency that is implementing the Basin Plan through MOU with Regional Board, or an individual project that complies with the Basin Plan.
25. Flow-thru seawater systems and aquacultural operations.	Where no water quality problems are anticipated and no federal NPDES permit is provided.
*26. Injection wells	Where waste is produce water (CDOG/ SWRCB MOA)

*The Board will not be requested to ratify staff waivers for these discharge types.

APPENDIX A-24

Interpretation of Minimum Parcel Size Requirements for On-Site Sewage Systems

REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

1102-A Laurel Lane
San Luis Obispo, CA 93401

RESOLUTION NO. 91-04

INTERPRETATION OF BASIN PLAN'S MINIMUM PARCEL SIZE FOR ON-SITE SEWAGE SYSTEMS

The California Regional Water Quality Control Board, Central Coast Region (hereafter Regional Board), finds that:

WHEREAS:

1. The Water Quality Control Plan for the Central Coastal Region (Basin Plan) contains the following language: "For new land divisions, lot sizes less than one acre should not be permitted." The Basin Plan allows on-site sewage disposal systems for parcel sizes not less that one-half acre when conditions are particularly favorable.

2. The Basin Plan is not specific as to gross or net area when referring to parcel size.

3. When this Basin Plan criterion was adopted by the Board, lot sizes required for on-site disposal systems were calculated by including building area, landscape area, driveway area, pool area, disposal area (including expansion area), and drainage area. Lot size calculations did not include streets, curbs, sidewalks, commons, or green belts.

4. There are environmental benefits to cluster subdivisions where dwellings are clustered and open space areas dedicated so long as densities do not exceed safe soil loading rates.

5. Lot sizes may be safely reduced in very favorable soil areas with fast percolation rates and minimal slopes. Staff calculations show percolation rates less than five minutes per inch and slopes less than five degrees can be suitable for on-site sewage disposal systems under very favorable conditions.

NOW, THEREFORE BE IT RESOLVED:

1. For new land divisions, the Regional Water Quality Control Board considers all one acre and one-half acre parcels to be gross area (i.e., including streets, curbs, sidewalks, commons, or green belts.)

2. For new land divisions, the one-half acre area requirement may be reduced to 20,000 square feet net area under very favorable site conditions as certified by the County Environmental Health Officer. Such conditions include, but are not limited to, slope less than five percent and percolation rates faster than five minutes per inch. Approval of the 20,000 square feet net lot size must be obtained in writing from the Regional Board's Executive Officer after certification by the County's Environmental Health Officer.

I, WILLIAM R. LEONARD, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on May 10, 1991.

Executive Officer

agc:parcel3.res
sm7

APPENDIX A-25

Appreciation for Discharger Compliance

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

81 Higuera Street, Suite 200
San Luis Obispo, CA 93401-5427

RESOLUTION NO. 93-04

APPRECIATION FOR DISCHARGER COMPLIANCE

WHEREAS, the California Regional Water Quality Control Board, Central Coast Region, regulates discharges to surface and ground waters in the region through implementation of increasingly complex laws and regulations; and

WHEREAS, the dischargers in the region have increasing responsibilities and costs due to greater complexity of environmental regulatory compliance; and

WHEREAS, in spite of these problems, the vast majority of regulated dischargers do an excellent job of protecting water quality and complying with regulations; and

WHEREAS, prevention of pollution is much more cost effective and protects resources more effectively than cleanup; and

WHEREAS, Cal/EPA has stated goals which include regulatory streamlining as well as building and maintaining the capability to achieve environmental protection, given fiscal constraints.

NOW, THEREFORE BE IT RESOLVED, the region's regulated dischargers are commended for their excellent overall compliance record and continued efforts to protect water quality and public health in the face of economic difficulties.

THEREFORE BE IT FURTHER RESOLVED, the Regional Board will continue its endeavor to achieve the Board's mission of water quality protection and improvement, at the most cost effective manner to society, via the following:

1. The Board will maintain a significant level of field surveillance with a primary goal of early detection of threats to water quality and needed corrective actions, in addition to verification of on-going compliance with requirements.

2. The Board will require dischargers to do what is necessary for water quality protection and regulatory compliance, without asking for more than what is needed to do the job. Where applicable, general permits or waivers of requirements will be used.

3. In situations where staff is asking for discharger actions that go beyond regulatory minima (e.g., areas of regulatory ambiguity relying more on professional judgement, or where resources require protection beyond bare regulatory minima) the Board's staff will provide justification for its requests.

4. Staff will request technical and monitoring reports to the extent that they are required by the situation and will ensure that the burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports.

5. Staff will try to consolidate requests and encourage dischargers to consolidate reports or cross reference reports to accomplish reporting in the most cost effective manner. Time schedules may be adjusted to accommodate this goal so long as water quality or public health protection are not compromised.

THEREFORE BE IT FURTHER RESOLVED, that the State Water Resources Control Board is asked to consider the above listed principles in its communications with the Regional Board and dischargers.

I, WILLIAM R. LEONARD, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on May 14, 1993.

William R. Leonard

EXECUTIVE OFFICER

May 14, 1993

APPENDIX A-26

Support Material for Calculating Adjusted Sodium Absorption Ratio (SAR)

TABLES FOR CALCULATING pHc VALUES OF WATERS

pHc can be calculated, using the table below; pHc= $(pK_2'-pK_c')$ + p (Ca+Mg) + pAlk where $pK_2'-pK_c'$ is obtained from Ca+Mg+Na
p (Ca+Mg) " " " Ca+Mg
pAlk " " " CO_3+HCO_3

Tables for Calculation pHc

Conct. Ca+Mg+Na (me/l)	$pK_2'-pK_c'$	Conct. Ca+Mg (me/l)	p(Ca+Mg)	Conct. CO_3+HCO_3 (me/l)	pAlk
.5	2.11	.05	4.60	.05	4.30
.7	2.12	.10	4.30	.10	4.00
.9	2.13	.15	4.12	.15	3.82
1.2	2.14	.2	4.00	.20	3.70
1.6	2.15	.25	3.90	.25	3.60
1.9	2.16	.32	3.80	.31	3.51
2.4	2.17	.39	3.70	.40	3.40
2.8	2.18	.50	3.60	.50	3.30
3.3	2.19	.63	3.50	.63	3.20
3.9	2.20	.79	3.40	.79	3.10
4.5	2.21	1.00	3.30	.99	3.00
5.1	2.22	1.25	3.20	1.25	2.90
5.8	2.23	1.58	3.10	1.57	2.80
6.6	2.24	1.98	3.00	1.98	2.70
7.4	2.25	2.49	2.90	2.49	2.60
8.3	2.26	3.14	2.80	3.13	2.50
9.2	2.27	3.90	2.70	4.0	2.40
11	2.28	4.97	2.60	5.0	2.30
13	2.30	6.30	2.50	6.3	2.20
15	2.32	7.90	2.40	7.9	2.10
18	2.34	10.00	2.30	9.9	2.00
22	2.36	12.50	2.20	12.5	1.90
25	2.38	15.80	2.10	15.7	1.80
29	2.40	19.80	2.00	19.8	1.70
34	2.42				
39	2.44				
45	2.46				
51	2.48				
59	2.50				
67	2.52				
76	2.54				

Example: To calculate adj.SAR of water from

$$\text{adj.SAR} = \frac{Na}{\sqrt{\frac{Ca+Mg}{2}}} \left[1+(8.4-pHc)\right]$$

With report of water analysis
Na = 3.5 me/l
Ca+Mg = 1.0 me/l
Ca+Mg+Na = 4.5 me/l
CO_3+HCO_3 = 3.0 me/l

pHc= 2.21+3.30+2.5= 8.01 (from tables)

$$\text{adj.SAR} = \frac{3.5}{\sqrt{1/2}} \left[1+(8.4-8.01)\right] = 4.95 \ (1+.39)$$

adj.SAR= 6.88

NOTE: Values of pHc above 8.4 indicate tendency to dissolve lime from soil through which the water moves; values below 8.4 indicate tendency to precipitate lime from waters applied.

(ref: L.V. Wilcox, U.S. Salinity Laboratory, mimeo Dec. 30, 1966)

APPENDIX A-27

Nipomo Individual Sewage Disposal System Prohibition Area Description

NIPOMO INDIVIDUAL SEWAGE DISPOSAL SYSTEM PROHIBITION #1A

BEGINNING at the point of the southernmost property corner of Assessor's Parcel Number (APN) 92-331-8 near the intersection of Southland Street and Orchard Road; thence north-easterly along the northerly boundary line at Southland Street to intersect the easterly boundary line of U.S. Highway 101; thence northwesterly along said line to the westernmost property corner of APN 92-301-12; thence along a bearing approximately N 48° 15' to intersect the easterly boundary line of Oakglen Avenue; thence northwesterly along said line to the southerly boundary line of Division Street; thence along an extension of said line to the easterly boundary line of Thompson Avenue; thence northwesterly along said line to the south property corner of APN 90-081-10; thence northeasterly along southeastern boundary of said parcel to the east property corner; thence northwesterly along an extension of the westerly boundary line of Cedar Street to the northerly boundary line of Tefft Street; thence northeasterly along said line to the easternmost property corner of APN 90-371-58; thence northwesterly along an extension of the boundary of said parcel to the southerly boundary line of Chestnut Street; thence southwesterly along said line to the westerly boundary line of Thompson Avenue; thence northwesterly along said line to the easternmost property corner of APN 90-151-13; thence along a bearing approximately S 48° W to intersect the easterly boundary line of Willow Road; thence southeasterly along said line to the southerly boundary line of Juniper Street; thence northeasterly along said line to the westernmost property corner of APN 92-131-06; thence along a bearing S 34° 30'E to the southerly boundary line of Tefft Street; thence southwesterly along said line to the west corner of APN 92-132-34; thence along a bearing of S 34° 30'E to the southerly boundary line of Hill Street; thence northeasterly along said line to the west corner of APN 92-133-26; thence along a bearing of S 34° 30'E to intersect the northerly boundary line of Division Street; thence southwesterly along said line to the easternmost property corner of APN 92-172-02; thence along a bearing approximately N 67° 28'W to the northernmost property corner of APN 92-454-20; thence along a bearing approximately S 22° 26'W to the westernmost property corner of APN 9-111-25; along a bearing approximately S 67° 28'E to intersect the easterly boundary line of Division Street; thence northeasterly along said line to the westernmost property corner of APN 92-181-13; thence along a bearing approximately S 64° 33'E to the southernmost property corner of APN 92-181-13; thence along a bearing approximately N 37° 30'E to the easterly boundary line of Orchard Road; thence southeasterly along said line to the true POINT OF BEGINNING.

APPENDIX A-28

San Lorenzo Valley Class I Area

SAN LORENZO VALLEY CLASS I AREA

Ben Lomond Book 77, Pages*
04, (Block 1, Lots 15, 16, 17, 20, 21, 27, 28, 29, 30, 31, 36, 37, 40, 41, 42, 47, 48, 50, 51, 52), 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24 (Block 1 only), 25, 26, 27, 28.

Book 78, Pages* 162-03

Boulder Creek Book 81, Pages*
06, 07, 08, 09, 11, 12, 13, 14, 15 (all Block 1 and Block 2, Lots 1, 2, 3, 4, 8, 9, 11, 12), 16, 17, 20, 21, 22, 25, 26, 27, 28, 29.

Book 82, Pages*
20, 21, 22, 23, 27, (Block 1, Lot 12 only)

Book 89, Pages*
16 (Block 3, Lot 1 and Block 5, Lots 3, 4, 5), 17 (Block 1, Lots 4, 5), 18.

Book 90, Pages*
01, 02, 11 (Block 1, Lots 17, 19, 21, 22, 23, 24, 25)

Lower Kings/Wildwood
Book 83, Pages*
04, 07, 08, 11, 12, 13, 1, Lots 1, 2, 4, 5, 6, 18, 19 and Block 2)

Book 84, Pages*
01, 02, 03, 04, 05, 06, 07, 08, 09, 11

Book 85, Pages*
13, 14, 16, 17, 18, 19

Glen Arbor
Book 72, Pages*
07, 11, 14, 15, 17, 18, (Block 1, Lots 25, 26; Block 2, Lots 1, 2, 3)

Felton Book 65, Pages*
01, 02, 03, 04, 05, 06, 07, 08, 09, 11, 12, 13, 14, 15, 16, 17, 18, 21, 22

Book 71, Pages*
03 (Block 01, Lots 3, 13, 15, 16, 17, 18, 23, 24, 25, 26, 30, 38, 49, 50, 51, 62, 63, 64, 65), 04, 05, 06, 07, 15 (school district property only), 16, 17, 17, 18, 19, 25, 26, 29

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* Parcel numbers are indicated by complete pages, unless otherwise noted.

APPENDIX A-30

Los Osos Baywood Park Individual and Community Sewage Disposal System Prohibition Area

APPENDIX A-29

San Lorenzo Valley Class II Area

SAN LORENZO VALLEY CLASS II AREA

Forest Lakes Book 64, Pages*
5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16 (Block 1, Lots 1, 2, 3), 17, 22, 29, 30 (All Block 1), 31, 32, 33, 34

Book 65, Pages*
19, 20, 23, 24, 25

Mount Hermon Book 66, Pages*
1, 2, 3

East Glen Arbor Book 72, Pages*
12, 18 (Block 1, Lots 1, 2, 8, 10, 11, 12, 13, 14, 18, 19, 20, 21, 23, 24, 27), 19, 24, 25, 27, 28, 29, 30, 35, 37

Brook Lomond Book 78, Pages*
6, 7, 8

Brookdale Book 79, Pages*
9, 10 (Block 1, Lots 6, 8, 9, 10, 12, 13, 14, 15, 18; Block 2, Lots 1, 2, 3, 4)

Forest Springs/Forest Park/ Brackenbrae Book 81, Pages*
2 (Block 1, Lots 1, 2, 3, 4, 5, 6, 7, 8, 12, 14, 15), 3 (Block 1, Lots 5, 6, 11, 12), 4, 5 (Block 1, Lots 1, 2)

Book 82, Pages*
1, 2 (Block 1, Lots 2, 3, 4, 5, 6, 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 24, 26, 27, 28) 3, 4, 5, 7, 12, 31

Book 83, Pages*
16 (Block 1, lots 5, 7, 8, 13, 14, 15, 16, 18), 17 (Block 1, Lot 4), 18, 19, 20, 21, 22, 23

Riverside Grove Book 85, Pages*
2, 3, 4, 5, 6, 8

San Lorenzo Woods/Ramona Woods Book 87, Pages*
16, 18, 19, 20, 21

San Lorenzo Park Book 87, Pages*
7, 8, 9, 10, 11, 12

Zayante Book 74, Pages*
2, 3, 4, 5, 7, 9, 10, 12, 13, 14, 15, 16

Lompico Book 75, Pages*
1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30

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* Parcel numbers are indicated by complete pages, unless otherwise noted.

WHEREAS, Los Osos Basin groundwaters are suitable for agricultural, municipal, domestic, and industrial water supply; and,

WHEREAS, a Regional Board staff report finds beneficial uses of Los Osos ground and surface waters are adversely affected by individual sewage disposal system discharges, there appears to be a trend of increasing degradation, and public health is jeopardized by occurrences of surfacing effluent; and,

WHEREAS, drafts of proposed revisions and amendments of the Basin Plan, prohibiting discharges from Los Osos/Baywood Park individual sewage disposal systems, have been prepared and provided to interested persons and agencies for review and comment; and,

WHEREAS, Regional Board staff has prepared documents and followed appropriate procedures to satisfy the environmental documentation requirements of both the California Environmental Quality Act, under Public Resources Code Section 21080.5 (Functional Equivalent), and the Federal Clean Water Act of 1977 (PL 92-500 and PL 95-217), and the Regional Board finds adoption of this prohibition area will not have a significant adverse effect on the environment; and,

WHEREAS, on September 16, 1983, in the San Luis Obispo City Council Chambers, 990 Palm Street, San Luis Obispo, California, after due notice, the Regional Board conducted a public hearing at which evidence was received pursuant to Section 13281 of the California Water Code concerning the impact of discharges from individual sewage disposal systems on water quality and public health; and,

WHEREAS, pursuant to Section 13280 of the California Water Code, the Regional Board finds that discharges of wastes from new and existing individual disposal systems which utilize subsurface disposal in the affected area will result in violation of water quality objectives; will impair beneficial uses of water; will cause pollution, nuisance, or contamination; and will unreasonably degrade the quality of waters of the State; and,

WHEREAS, the Regional Board finds the aforestated conditions in need of remedy to protect present and potential beneficial uses of water and to prevent pollution and nuisance.

NOW, THEREFORE, BE IT RESOLVED, that the Water Quality Control Plan, Central Coastal Basin, be amended as follows:

Page 5-66, after Item 7, following the legal description for Pasatiempo Pines (added by Resolution 83-09), insert the following prohibitions:

"8. Discharges of waste from individual and community sewage disposal systems are prohibited effective November 1, 1988, in the Los Osos/ Baywood Park area, and more particularly described as:

"Groundwater Prohibition Zone

(Legal description to be provided for area prescribed by Regional Board).

"Failure to comply with any of the compliance dates established by Resolution 83-13 will prompt a Regional Board hearing at the earliest possible date to consider adoption of an immediate prohibition of discharge from additional individual and community sewage disposal systems."

Discharges from individual or community systems within the prohibition area in excess of an additional 1150 housing units (or equivalent) are prohibited, commencing with the date of State Water Resources Control Board approval.

BE IT FURTHER RESOLVED, that the above area is consistent with the recommendations of the staff report as shown on "Attachment A."

BE IT FURTHER RESOLVED, that the Regional Board does intend standard exemption criteria, first paragraph of Page 5-67 of the Basin Plan, to apply to this action.

BE IT FURTHER RESOLVED, that compliance with the above prohibition of existing individual or community sewage disposal systems shall be achieved according to the following time schedule:

Task	Compliance Date
Begin Design	November 1, 1984
Complete Design	November 1, 1985
Obtain Construction Funding	December 1, 1985
Begin Construction	April 1, 1986
Complete Construction	November 1, 1988

BE IT FURTHER RESOLVED, that reports of compliance or noncompliance with schedules shall be submitted to the Regional Board within 14 days following each scheduled date unless otherwise specified, where noncompliance reports shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 83-13

Revision and Amendment of Water Quality Control Plan by the Addition of a Prohibition of Waste Discharge from Individual Sewage Disposal Systems Within the Los Osos/Baywood Park Area, San Luis Obispo County

WHEREAS, the California Regional Water Quality Control Board, Central Coast Region (hereafter Regional Board), adopted the Water Quality Control Plan for the Central Coastal Basin (hereafter Basin Plan) on March 14, 1975; and,

WHEREAS, the Regional Board, after notice and public hearing in accordance with Water Code Section 13244, periodically revises and amends the Basin Plan to ensure reasonable protection of beneficial uses of water and prevention of pollution and nuisance; and,

WHEREAS, in protecting and enhancing water quality, the Basin Plan specifies certain areas where the discharge of waste, or certain types of waste, is prohibited; and,

WHEREAS, Article 5, Chapter 4, Division 7, of the California Water Code defines criteria for such prohibition areas (Section 13240 et seq.); and,

WHEREAS, Los Osos/Baywood Park is an unincorporated community, with a 1980 population of 10,933 persons located south of the City of Morro Bay, in San Luis Obispo County; and,

WHEREAS, current zoning will accommodate a population in excess of 27,000 people and an average residential lot size of about 6600 ft^2; and,

WHEREAS, on-site soil absorption or evapotranspiration systems are the sole means of wastewater disposal in the Los Osos/Baywood Park area; and,

WHEREAS, the Los Osos/Baywood Park area soil permeability is rapid and there are substantial areas with high groundwater; and,

WHEREAS, the majority of lots are too small to provide adequate dispersion of individual sewage disposal system effluent; and,

WHEREAS, the San Luis Obispo County Environmental Health Department has provided documentation concerning the problem of liquid waste disposal in the Los Osos/Baywood Park area; and,

WHEREAS, the County of San Luis Obispo is preparing an environmental impact report (EIR) in accordance with the California Environmental Quality Act and a project report that identifies adverse environmental impacts from continued use of septic tanks in the Los Osos/Baywood Park area and discusses alternatives to existing wastewater management practices; and,

WHEREAS, "Los Osos-Baywood Park/Phase I Water Quality Management Study" cites conditions which constitute contamination and pollution as defined in Section 13050 of the California Water Code; and,

WHEREAS, chemical analyses of wells in Los Osos/Baywood Park indicates 38% of the shallow wells tested in the Phase I study, taking water from the Old Dune Sands deposits portion of the qauifer, contain nitrate concentrations which exceed State Health Department Drinking Water Standards of 45 milligrams per liter; and,

WHEREAS, bacterial analyses of 42 wells tested in the Phase I study resulted in 26 wells indicating total coliform in violation of State Health Drinking Water Standards, and 2 wells indicating fecal coliform in violation of Basin Plan limits for groundwater; and,

WHEREAS, surface water bacterial analyses tested in the Phase I study indicated total and fecal coliform levels exceeding Basin Plan recommended limits for water contact recreation (REC-1); and,

WHEREAS, a letter from the California Health and Welfare Agency, Department of Health Services, states their concerns regarding the high nitrate levels in the waters of Los Osos/Baywood Park area, and recommends adequate measures be taken to correct the nitrate problems to bring the waters into compliance with California Drinking Water Standards; and,

WHEREAS, a letter from the San Luis Obispo County Health Agency Director cites violation of the public health limit for nitrates and recommends elimination of shallow groundwater usage and adoption of a discharge prohibition; and,

WHEREAS, the Regional Board is obligated to include a program of implementation for achieving water quality objectives in its Basin Plan; and,

WHEREAS, present and anticipated future beneficial uses of Los Osos/Baywood Park creeks include recreation and aquatic habitat; and,

BE IT FURTHER RESOLVED, the County will continue a monitoring program, approved by the Regional Board staff, that will monitor ground water quality within the prohibition boundaries as set forth in this resolution, and also a monitoring program which covers areas outside the prohibition boundaries but within the urban reserve line as shown in Attachment A.

BE IT FURTHER RESOLVED, that the Regional Board has determined this action will not have a significant adverse impact on the environment and the Executive Officer of the Regional Board is hereby directed to file a Notice of Decision to this effect with the Secretary of the Resources Agency.

BE IT FURTHER RESOLVED, that the State Water Resources Control Board is hereby requested to amend forthwith the Clean Water Grant Project Priority List to recognize the necessary structural solution for Los Osos/Baywood Park as a Priority "A" project.

BE IT FURTHER RESOLVED, that if the Board holds a hearing and adopts an immediate prohibition as described above, the prohibition is effective as of the date the Regional Water Quality Control Board adopts a prohibition of discharge from additional individual and community sewage disposal systems.

BE IT FURTHER RESOLVED, the Executive Officer of the Regional Board is hereby directed to submit this revision of the Basin Plan to the State Water Resources Control Board for approval pursuant to Section 13245 of the California Water Code.

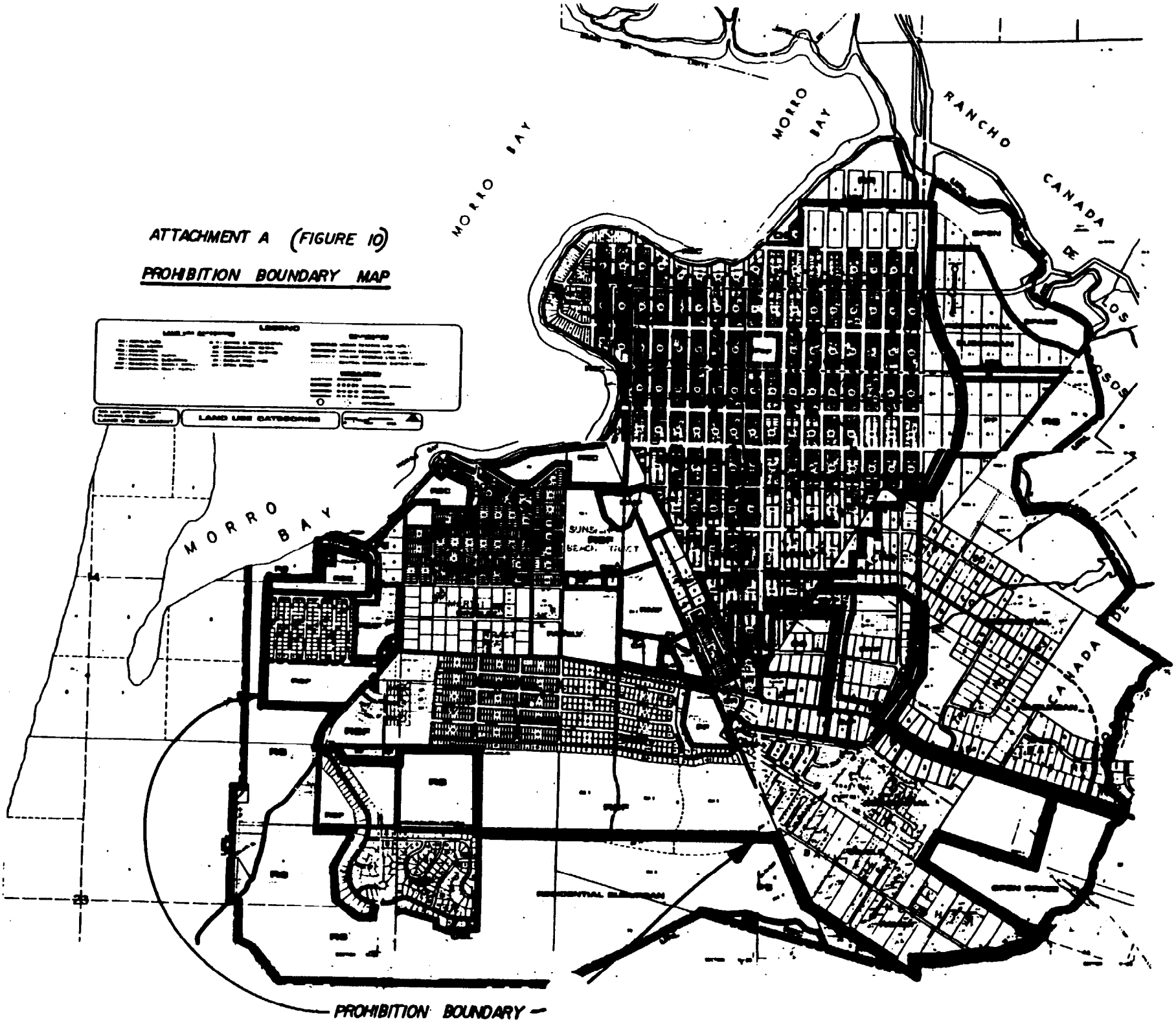
BE IT FURTHER RESOLVED, upon approval by the State Water Resources Control Board, Chapter 5 of the Water Quality Control Plan is revised by the addition of the above prohibition.

I, KENNETH R. JONES, Executive Officer of the California Regional Water Quality Control Board, Central Coast Region, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on September 16, 1983.

Executive Officer

ATTACHMENT A (FIGURE 10)

PROHIBITION BOUNDARY MAP



APPENDIX A-31

Preliminary List of Potential Toxic Hot Spots

PRELI ARY LIST OF
POTENTIAL
TOXIC HOT SPOTS
REGION 3

Water Body	Segment	Known or Potential	Constituents	Supporting Information
Carmel Bay	Estuary and Bay	Potential	Silver, zinc, cadmium, in shellfish	SMW 1978-79, 1983-89, 1991 TSM 1988 Carmel Valley Wastewater Study, MPWMD, 1981 (at Cal Poly Library) Wastewater Monitoring Program, Carmel Sanitation District, 1981 Carmel WWTP NPDES monitoring
Santa Cruz Harbor	same	Potential	Cadmium and Copper	SMW 1980-81, 1989-90 Monterey County Bacteria monitoring, 1981-89 Santa Cruz WWTP NPDES monitoring
Santa Barbara Harbor	same	Potential	Mercury, zinc, copper in shellfish	SMW 1988-90 RWQCB Bacteria Study 1988 Santa Barbara WWTP NPDES monitoring RWQCB Bacteria Study 1992
San Luis Harbor	same	Potential	Possible metals and hydrocarbons from oil facilities	SMW 1983-91 Avila NPDES Permit monitoring (County Water District) Unocal Pipeline Investigation Reports (Dames & Moore), Avila Facility
San Luis Creek	Estuary	Potential	Bacteria, Sulfur, pesticides, fertilizers	SMW 1989-92 SLO Creek Restoration Plan, SLO County Land Conservancy, 1988 SLO Creek Water Quality Study, 1986 RWQCB Nutrient Study, 1983 DWR Water Quality Survey 1980 RWQCB Prop 65 Sampling, year? Invertebrate and Toxicity Testing, year? TSM 1989-90 San Luis Obispo WWTP Npdes monitoring
Monterey Bay	Monterey Harbor	Potential	Lead in shellfish and sediments Possible TBT in sediments	SMW 1978-89 RWQCB report 1988 IT Corp report 1990 (Southern Pacific Railroad lead cleanup) TSM 1987-90
Morro Bay	same	Potential	Possible pesticides, bacteria, metals, TBT	DHS report 1985 Morro Bay WWTP NPDES monitoring SMW 1978-90 RWQCB report 1986 PG&E Morro Bay NPDES monitoring

PRELIMINARY LIST OF
POTENTIAL
TOXIC HOT SPOTS
REGION 3

Water Body	Segment	Known or Potential	Constituents	Supporting Information
Monterey Bay	Elkhorn Slough	Potential	Pesticides in shellfish	SMW 1979-89 PG&E Moss Landing NPDES Permit monitoring TSM 1988 DHS Shellfish Study, 1989 SWRCB/EPA Water Quality Study, 205j study, date ?
Monterey Bay	Moss Landing Harbor	Potential	Pesticides & bacteria in shellfish, TBT	SMW 1984, 1987-89 PG&E Moss Landing NPDES monitoring TSM 1988-90
Goleta Slough/ Estuary	same	Potential	Bacteria in shellfish & copper in water, Metals in sediments	Goleta Sanitary District NPDES monitoring SMW 1988-90 TSM 1988-89 RWQCB ag drain study 1988
Monterey Bay	Harkins Slough	Potential	Pesticides in fish and shellfish	SMW 1987-88 TSM 1985-86, 1988
Monterey Bay	Moro Cojo Slough	Potential	Pesticides in shellfish	SMW 1983, 1989
Monterey Bay	Tembladero Slough	Potential	Pesticides in fish	TSM 1983-84
Salinas River	Salinas River Lagoon	Potential	Pesticides in fish and shellfish	SMW 1984 TSM 1983 Biotic Assessment Salinas River Lagoon, Harvey and Stanley, 1988 Salinas River Lagoon Study, for MRWPCA by Ecomar, 1982 Lower Salinas River Ecological Study, Engineering Science, 1980 DHS Sanitary Eng. Investigation, Lower Salinas River, Rec. Canal, and Blanco Drain, 1971

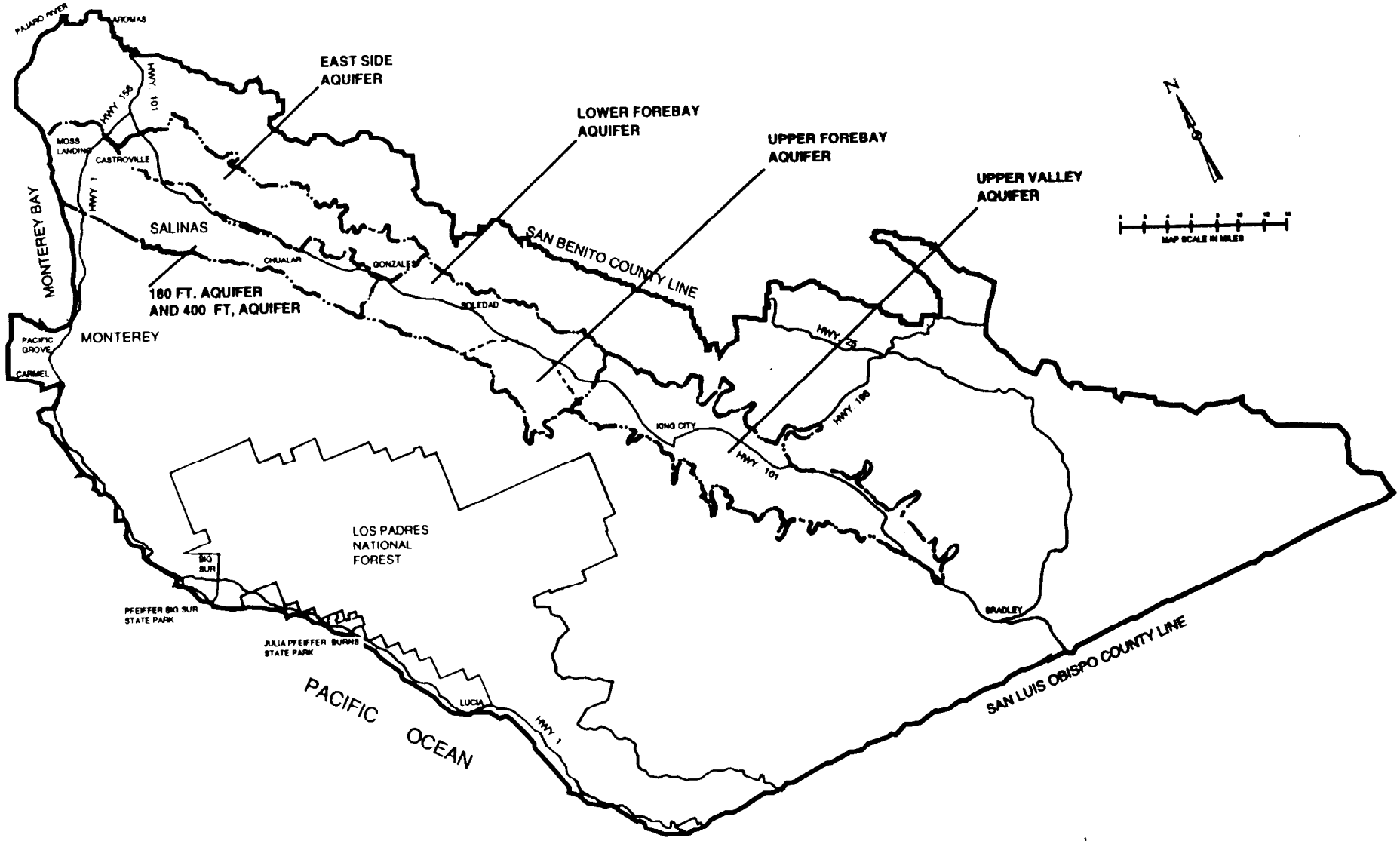
PRELIMI LIST OF
POT..TIAL
TOXIC HOT SPOTS
REGION 3

Water Body	Segment	Known or Potential	Constituents	Supporting Information
Monterey Bay	Espinosa Slough & Salinas Rec. Canal	Potential	Pesticides in fish and shellfish	SMW 1984-88 TSM 1984-88 DHS Sanitary Eng. Investigation, Lower Salinas River, Rec. Canal, and Blanco Drain, 1971 Abbot Street Properties NPDES monitoring Christian Salveson NPDES monitoring Shippers Development Co. NPDES monitoring
Salinas River	Old Salinas River Estuary	Potential	Pesticides in fish and shellfish	SMW 1984-85 TSM 1982-83 Biotic Assessment of Old Salinas River & Tembladero Slough, Harvey and Stanley, 1988
Monterey Bay	Watsonville Slough & Pajaro Slough	Potential	Pesticides in fish and shellfish	SMW 1983-84, 1986, 1988 TSM 1982, 1984-86, 1988

mt/THS.lst/E

APPENDIX A-32

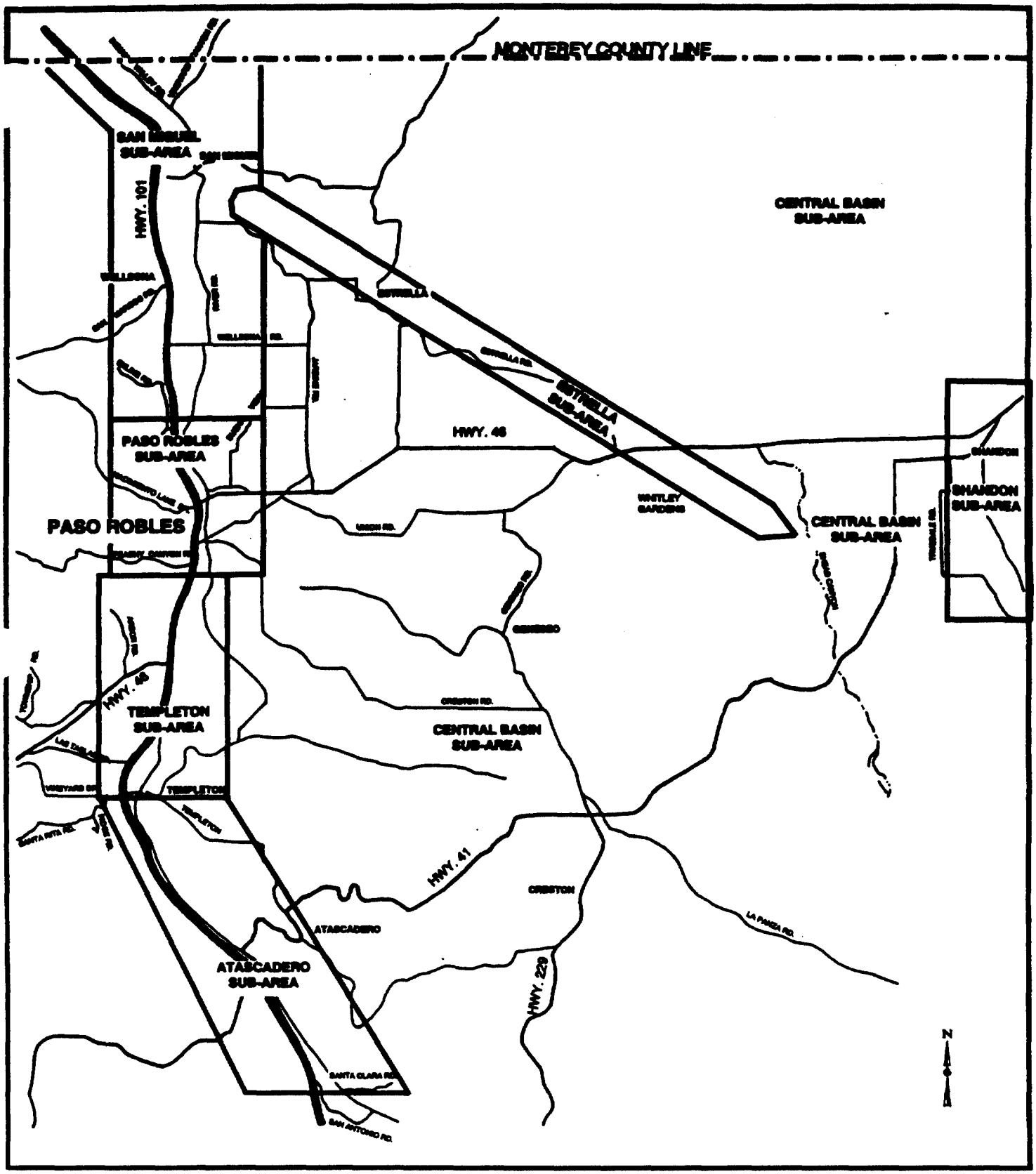
Salinas Ground Water Basin and Sub-Areas



SALINAS
GROUND WATER
SUB-AREAS

APPENDIX A-33

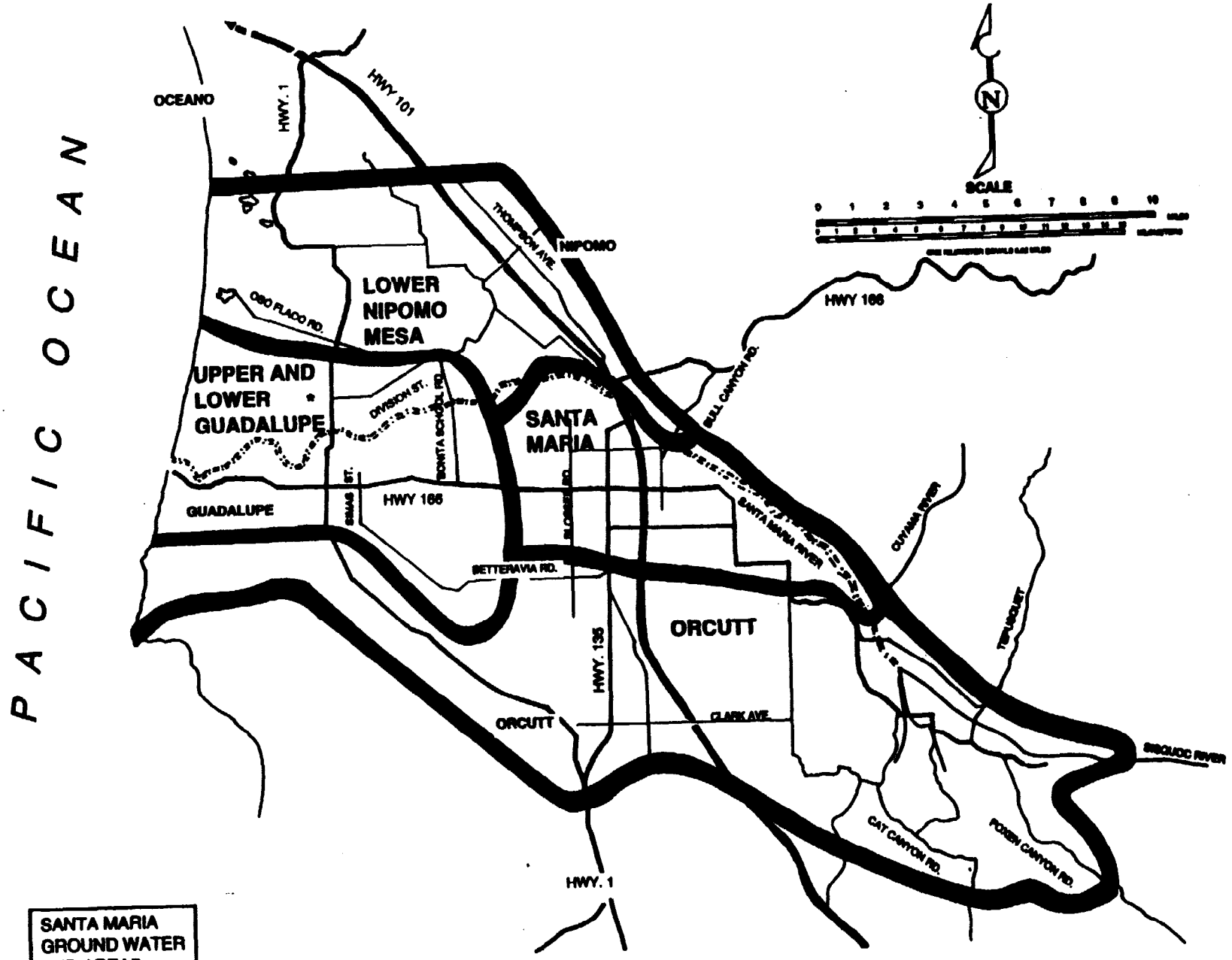
Paso Robles Ground Water Basin and Sub-Areas



PASO ROBLES
GROUND WATER BASIN AND
SUB-AREAS

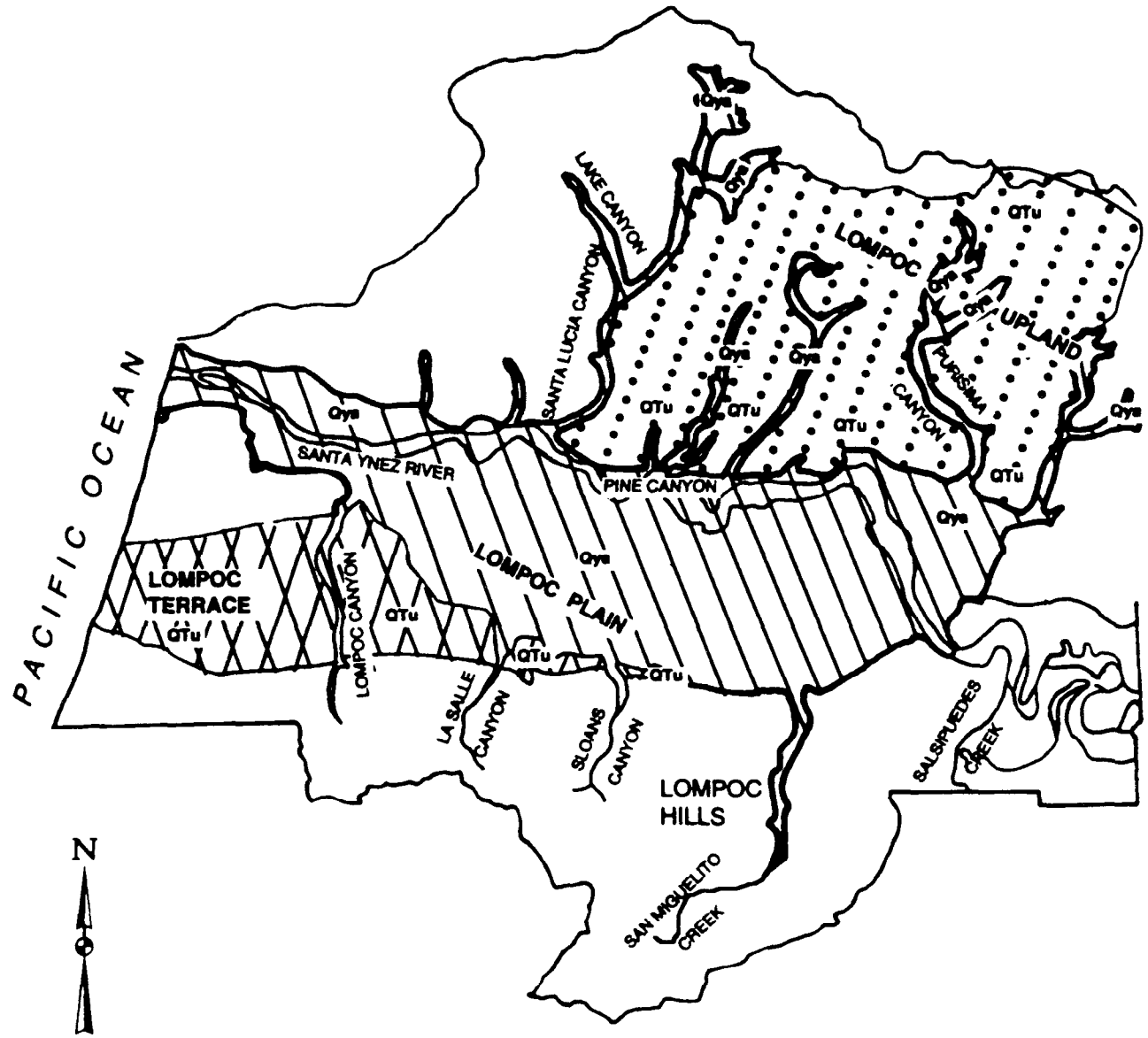
APPENDIX A-34

Santa Maria Ground Water Basin and Sub-Areas


PACIFIC OCEAN
OCEANO
HWY. 1
HWY 101
NIPOMO
THOMPSON AVE.
LOWER NIPOMO MESA
ORO FLACO RD.
UPPER AND LOWER GUADALUPE *
DIVISION ST.
BONITA SCHOOL RD.
SANTA MARIA
BELL CANYON RD.
HWY 166
GUADALUPE
BRAS ST.
HWY 166
BLOSSER RD.
SANTA MARIA RIVER
CUYAMA RIVER
BETTERAVIA RD.
ORCUTT
HWY. 135
TEPUSQUET
CLARK AVE.
ORCUTT
SISQUOC RIVER
CAT CANYON RD.
FOSEN CANYON RD.
HWY. 1
N
SCALE
SANTA MARIA GROUND WATER SUB-AREAS
* (LOWER GUADALUPE IS 80 FEET BELOW GROUND SURFACE)

APPENDIX A-35

Lompoc Ground Water Basin and Sub-Areas



LOMPOC GROUND WATER SUB-AREAS

Qya— YOUNGER ALLUVIUM OF HOLOCENE AGE—Sand, gravel, silt, and some clay; beneath Lompoc plain upper member predominantly sand and silt; lower member predominantly gravel and sand.

QTu— TERRACE DEPOSITS, ORCUTT SAND, PASO ROBLES FORMATION, AND CAREAGE SAND OF PLIOCENE AGE—Sand, gravel, silt, and some clay.

LOMPOC TERRACE

LOMPOC PLAIN

LOMPOC UPLAND

CONSOLIDATED ROCKS OF TERTIARY AGE—Mostly sandstone, shale, diatomite, and mudstone of the Monterey, Sisquoc, and Foxen Formations.