California Regional Water Quality Control Board
Central Valley Region

Water Quality Control Plan for the Tulare Lake Basin Third Edition

Revised May 2018 (with Approved Amendments)

Basin plan amendments adopted by the Regional Water Board must be approved by the State Water Board, the Office of Administrative Law. If the amendment involves adopting or revising a standard which relates to surface waters it must also be approved by the U.S. Environmental Protection Agency (USEPA) before becoming effective. However, standards revisions disapproved by USEPA prior to 30 May 2000, remains in effect until it is revised by the basin planning process, or USEPA promulgates its own rule which supersedes the standard revision [40 CFR Section 131.21(c)].

Each version of the Basin Plan includes all amendments that are in effect as of the date of the version. It is the intent of the Central Valley Water Board to release updated editions of the Basin Plan as soon as adopted amendments are approved and in effect

The following are all the amendments adopted by the Regional Water Board since 1975, that are now in effect:

	Subject	Date Adopted By Reg. Bd.	Regional Board Resolution No.	Date in Effect
1.	Adopting Water Quality Control Plans for Sacramento River Basin, Sacramento-San Joaquin Delta Basin, San Joaquin River Basin and Tulare Lake Basin	7/25/1975	R5-1975-0185	8/21/1975
2.	Revision and Amendment of the Water Quality Control Plan of a Prohibition of Septic Tank System within the three Rivers Area, Tulare County	3/26/1976	R5-1976-0088	5/20/1976
3.	Revision and Amendment of Water Quality Control Plan by the Addition of a Prohibition of Waste Discharge from Septic Tanks or Cesspools within Home Garden Community Services District, Kings County	2/25/1977	R5-1977-0020	4/21/1977
4.	Revision and Amendment of Water Quality Control Plan by the Addition of a Prohibition of Waste Discharge from Septic Tanks or Cesspools within the Corcoran Fringe Area, Kings County	7/22/1977	R5-1977-0224	10/20/1977
5.	Adoption of Amendments to the Water Quality Control Plan	7/27/1979	R5-1979-0180	8/16/1979

	Subject	Date Adopted By Reg. Bd.	Regional Board Resolution No.	Date in Effect
6.	Adoption of Amendments to the Water Quality Control Plan for Groundwater Management in N.E. Fresno County and Surface Water Runoff Management in Solano County	9/28/1979	R5-1979-0220	10/18/1979
7.	Adoption of Amendment to Part I of the Water Quality Control Plan Report, Tulare Lake Basin for Disposal of Oil Field Wastewater	10/22/1982	R5-1982-0136	7/21/1983
8.	Adoption of Amendment to Part I of the Water Quality Control Plans Report, Tulare Lake Basin for Disposal of Agricultural Subsurface Drainage	8/12/1983	R5-1983-0104	11/17/1983
9.	Adoption of an Amendment to Part I of the Water Quality Control Plans for the Sacramento River, Sacramento-San Joaquin Delta, San Joaquin River, and Tulare Lake Basins for Land Disposal of Stillage Waste from Wineries	8/12/1983	R5-1983-0105	12/15/1983
10.	Amending the Water Quality Control Plan for Guidelines for Protection of Water Quality During Construction and Operation of Small Hydro Projects	10/28/1983	R5-1983-0135	3/15/1984
11.	Amendment to the Water Quality Control Plan for the Tulare Lake Basin	5/26/1989	R5-1989-0098	8/17/1989
12.	Amendment to the Water Quality Control Plan for the Tulare Lake Basin	8/11/1989	R5-1989-0155	1/18/1990
13.	Amendment to the Water Quality Control Plan for the Tulare Lake Basin	10/27/1989	R5-1989-0215	1/18/1990
14.	Amendment to the Water Quality Control Plan for the Tulare Lake Basin	8/10/1990	R5-1990-0240	11/27/1990
15.	Amendment to the Water Quality Control Plan for the Tulare Lake Basin	4/26/1991	R5-1991-0101	9/26/1991

Subject	Date Adopted By Reg. Bd.	Regional Board Resolution No.	Date in Effect
16. Amendment to the Water Quality Control Plan for the Tulare Lake Basin and the Workplan for the Triennial Review	8/17/1995	R5-1995-0208	02/27/1996
17. Clarify and Update Language	10/17/2002	R5-2002-0177	1/27/2004
18. Non-Regulatory Amendments to Provide A Cost Estimate and Potential Sources of Financing for a Long-Term Irrigated Lands Program	10/13/2011	R5-2011-0075	12/14/2012
19. Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin Regarding Onsite Wastewater System Implementation Program	3/27/2014	R5-2014-0036	1/26/2015
20. Amendments to Edit and Update Language	3/27/2014	R5-2014-0038	1/26/2015
21. Amendments to the Water Quality Control Plans for the Sacramento River and San Joaquin River Basins and the Tulare Lake Basin to Add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity	6/6/2014	R5-2014-0074	7/8/2016
22. Amendment to the Water Quality Control Plan for the Tulare Lake Basin To Remove the Municipal and Domestic Supply (MUN) and Agricultural Supply (AGR) Beneficial Uses from Groundwater within a Designated Horizontal and Vertical Portion of the Tulare Lake Bed	4/6/2017	R5-2017-0032	12/26/2017

Subject	Date Adopted By Reg. Bd.	Regional Board Resolution No.	Date in Effect
23. Amendments to Reformat the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin	10/20/2017	R5-2017-0106	5/24/2018

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1 FOREWORD TO THE THIRD EDITION

Water quality control plans, or basin plans, contain California's administrative policies and procedures for protecting state waters. Basin plans are required by the state Porter-Cologne Water Quality Control Act (California Water Code Section 13240). In addition, Section 303 of the federal Clean Water Act requires states to adopt water quality standards that “consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses.”

Each of California's nine regional water quality control boards must formulate and adopt a basin plan for all areas within its region. The basin plans must conform with statewide policy set forth by the legislature and by the State Water Resources Control Board. Basin plans consist of designated beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives {California Water Code, Section 13050(j)}.

Beneficial uses, together with their corresponding water quality objectives, meet federal regulatory criteria for water quality standards. Hence, California's basin plans serve as regulatory references for meeting both State and federal requirements for water quality control {40 CFR Parts 130 and 131}. One significant difference between the state and federal programs is that California's basin plans establish standards for ground waters in addition to surface waters.

Basin plans are adopted and amended by regional water boards under a structured process involving full public participation and state environmental review. Basin plans and amendments do not become effective until approved by the State Water Board. Regulatory provisions must be approved by the Office of Administrative Law. Adoption or revision of surface water standards are subject to the approval of the U. S. Environmental Protection Agency before they become accepted standards for the federal program.

Basin plans complement water quality control plans adopted by the State Water Board. It is the intent of the state and regional water boards to maintain basin plans in an updated and readily available edition that reflects all current water quality control programs.

The first edition of this *Water Quality Control Plan for the Tulare Lake Basin* (Basin Plan) was adopted by the California Regional Water Quality Control Board, Central Valley Region, on 25 July 1975, and became effective following approval by the State Water Board on 21 August 1975 and the U. S. Environmental Protection Agency (EPA) in June 1976. Although several revisions have been adopted and approved since 1975, this revision is the first complete rewrite of the text of the Basin Plan.

Regional Water Board resolutions adopted prior to 17 August 1995, that revise or supplement the first edition of the plan which are not expressly incorporated by reference into the second edition of the plan are superceded.

In this Basin Plan, "Regional Water Board" refers to the Central Valley Regional Water Quality Control Board and "State Water Board" refers to the State Water Resources Control Board.

1 INTRODUCTION

1.1 BASIN DESCRIPTION

The Central Valley Region includes about 40% of the land in California and stretches from the Oregon border to the Kern County/Los Angeles County line. It is bound by the Sierra Nevada Mountains on the east and the Coast Range on the west. The Region is divided into three basins: the Sacramento River Basin, the San Joaquin River Basin, and the Tulare Lake Basin. This basin plan covers only the Tulare Lake Basin. The Sacramento River Basin and the San Joaquin River Basin are covered in a separate basin plan.

The Tulare Lake Basin comprises the drainage area of the San Joaquin Valley south of the San Joaquin River (See Figure 1-1).

> Note: In 1976, the U. S. Geologic Survey, the Department of Water Resources, and the State Water Resources Control Board agreed upon the hydrologic boundaries for basins within California. The agreed boundaries did not match the planning boundaries in certain cases such as between the San Joaquin River Basin and the Tulare Lake Basin. The planning boundary between the San Joaquin River Basin and the Tulare Lake Basin follows the southern watershed boundaries of the Little Panoche Creek, Moreno Gulch, and Capita Canyon to boundary of the Westlands Water District. From here, the boundary follows the northern edge of the Westlands Water District until its intersection with the Firebaugh Canal Company's Main Lift Canal. The basin boundary then follows the Main Lift Canal to the Mendota Pool and continues eastward along the channel of the San Joaquin River to the southern boundary of the Little Dry Creek watershed (Hydrologic Subareas No. 540.70 and 545.30) and then follows along the southern boundary of the San Joaquin River drainage basin.

Surface water from the Tulare Lake Basin only drains north into the San Joaquin River in years of extreme rainfall. This essentially closed basin is situated in the topographic horseshoe formed by the Diablo and Temblor Ranges on the west, by the San Emigdio and Tehachapi Mountains on the south, and by the Sierra Nevada Mountains on the east and southeast.

The Basin encompasses approximately 10.5 million acres, of which approximately 3.25 million acres are in federal ownership. Kings Canyon and Sequoia National Parks and substantial portions of Sierra, Sequoia, Inyo, and Los Padres National Forests are included in the Basin. Valley floor lands (i.e., those having a land slope of less than 200 feet per mile) make up slightly less than one-half of the total basin land area. The maximum length and width of the Basin are about 170 miles and 140 miles, respectively. The valley floor is approximately 40 miles in width near its southern end, widening to a maximum of 90 miles near the Kaweah River.

Urban development is generally confined to the foothill and eastern valley floor areas. Major concentrations of population occur in or near the metropolitan areas of Bakersfield, Fresno, Porterville, Hanford, Tulare, and Visalia.

The Basin is one of the most important agricultural centers of the world. Industries related to agriculture, such as food processing and packaging (including canning, drying, and wine making), are prominent throughout the area. Producing and refining petroleum lead non-agricultural industries in economic importance.

Surface water supplies tributary to or imported for use within the Basin are inadequate to support the present level of agricultural and other development. Therefore, ground water resources within the valley are being mined to provide additional water to supply demands. Water produced in extraction of crude oil is used extensively to supplement agricultural irrigation supply in the Kern River sub-basin.

The Kings, Kaweah, Tule, and Kern Rivers, which drain the west face of the Sierra Nevada Mountains, are of excellent quality and provide the bulk of the surface water supply native to the Basin. Imported surface supplies, which are also of good quality, enter the Basin through the San Luis Canal/California Aqueduct System, Friant-Kern Canal, and the Delta-Mendota Canal. Adequate control to protect the quality of these resources is essential, as imported surface water supplies contribute nearly half the increase of salts occurring within the Basin.

Buena Vista Lake and Tulare Lake, natural depressions on the valley floor, receive flood water from the major rivers during times of heavy runoff. During extremely heavy runoff, flood flows in the Kings River reach the San Joaquin River as surface outflow through the Fresno Slough. These flood flows represent the only significant outflows from the Basin.

Besides the main rivers, the basin also contains numerous mountain streams. These streams have been administratively divided into eastside streams and westside streams using Highway 58 from Bakersfield to Tehachapi. Streams from the Tehachapi and San Emigdio Mountains are grouped with westside streams. In contrast to eastside streams, which are fed by Sierra snowmelt and springs from granitic bedrock, westside streams derive from marine sediments and are highly mineralized, and intermittent, with sustained flows only after extended wet periods.

Surface water hydrologic units within the Tulare Lake Basin have been defined and numbered by the Department of Water Resources, as shown on Figure 2-1. Eastside streams are surface waters in hydrologic units 552, 553, 554, and 555. Westside streams are surface waters in hydrologic units 556 and 559 and portions of 541 and 542. Valley floor waters are surface waters in hydrologic units 551, 557, and 558. All natural surface waters within the Basin have designated beneficial uses (See Table 2-1).

Normally all native surface water supplies, imported water supplies, and direct precipitation percolate into valley ground water if not lost through consumptive use, evapotranspiration, or evaporation.

Ground water is defined as subsurface water that occurs beneath the ground surface in fully saturated zones within soils and other geologic formations. Where ground water occurs in a saturated geologic unit that contains sufficient permeability and thickness to yield sufficient water to sustain a well or spring, it can be defined as an aquifer {USGS, Water Supply Paper 1988, 1972}. A ground water basin is defined as a hydrogeologic unit containing one large aquifer or several connected and interrelated aquifers {Todd, Groundwater Hydrology, 1980}.

Major ground water basins underlie the valley floor, and there are scattered smaller basins in the foothill areas and mountain valleys. In many parts of the Basin, usable ground waters occur outside of these identified basins. There are water-bearing geologic units within ground water basins in the Basin that do not meet the definition of an aquifer. Therefore, for basin planning and regulatory purposes, the term "ground water" includes all subsurface waters that occur in fully saturated zones and fractures within soils and other geologic formations, whether or not these waters meet the definition of an aquifer or occur within identified ground water basins.

Generally, the quality and the beneficial uses of the deep ground waters remain the same as before man entered the valley. A few areas within the Basin have ground waters that are naturally unusable or of marginal quality for certain beneficial uses.

Because of the closed nature of the Tulare Lake Basin, there is little subsurface outflow. Thus, salts accumulate within the Basin due to importation and evaporative use of the water. The paramount water quality problem in the Basin is the accumulation of salts. This problem is compounded by the overdraft of ground water for municipal, agricultural, and industrial purposes, and the use of water from deeper formations and outside the basin which further concentrates salts within remaining ground water.

1.2 WASTE DISCHARGE TYPES

Discharges can be classified as point source or nonpoint source discharges. A point source discharge usually refers to waste emanating from a single, identifiable point. A nonpoint source discharge usually refers to waste emanating from diffused locations. Agricultural runoff may discharge to waters of the state from a pipe, but is treated as a nonpoint source.

Both sources may cause health hazards, contamination, and nuisance problems and both must be managed to reduce salt contributions. Point sources may be high in heavy metals and other toxic materials. Nonpoint source wastes traditionally contribute more dissolved minerals and sediments, but have also contaminated waters with pesticides. Nonpoint source discharges contribute the largest portion of the waste load to surface and ground water resources within the Tulare Lake Basin.

Effective water quality management requires more than control of point source discharges. It must respond to many factors such as water use, land use, social and economic needs, and various other activities within the Basin. Although only a few management actions involve facility construction of some kind, all involve some cost to society. The Regional Water Board has authority to control both categories of discharge, but the approach is less direct for nonpoint sources.

Not fitting either category are spills, leaks, above and under ground storage tanks, and other sites that discharge illegally and impact waters of the state. The Regional Water Board has authority to require investigation and cleanup of these sites.

1.2.1 Point Sources

Problems from point source wastes are highly identifiable and for several decades have been subject to regulation. However, they must still be actively managed to protect the state's waters. Regulated point sources include municipal wastewater, oil field wastewater, winery discharges, solid waste sites and other industrial discharges. These dischargers must apply for and obtain waste discharge requirements or a waiver.

1.2.2 Nonpoint Sources

Nonpoint sources include drainage and percolation from a variety of activities, such as agriculture, forestry, recreation, and storm runoff. Specific sources of nonpoint source pollution may be difficult to identify, treat, or regulate. The goal is to reduce the adverse impact of

nonpoint source discharges on the Basin's water resources through better management of these activities.

Much of the nonpoint source pollutants originate from agriculture. The Basin's economy is dependent upon agriculture, which is dependent upon water. Water supplies are finite. Some ground water areas are being overdrafted and additional water is needed to sustain the present intensity of farming. When new lands are put under irrigation, or when cropping patterns are changed, the potential for eliminating overdraft may be lost. Efficient use and development of supplies within the Basin can provide some water to meet growth demands, but to alleviate the projected overdraft, imported water supplies will still be required. The imported water quality should be the highest quality possible to prolong and protect good quality ground water.

Adequate disposal of collected agricultural drainage water from subsurface drains is essential to sustain agriculture in some areas and provide water quality protection. The preferred and long deferred permanent solution of exporting drainage water to San Francisco Bay may not be feasible. In the interim, evaporation ponds are being used for disposal of these saline waters. However, the ponds have created an impact on wildlife that must be mitigated for this interim disposal option to remain viable.

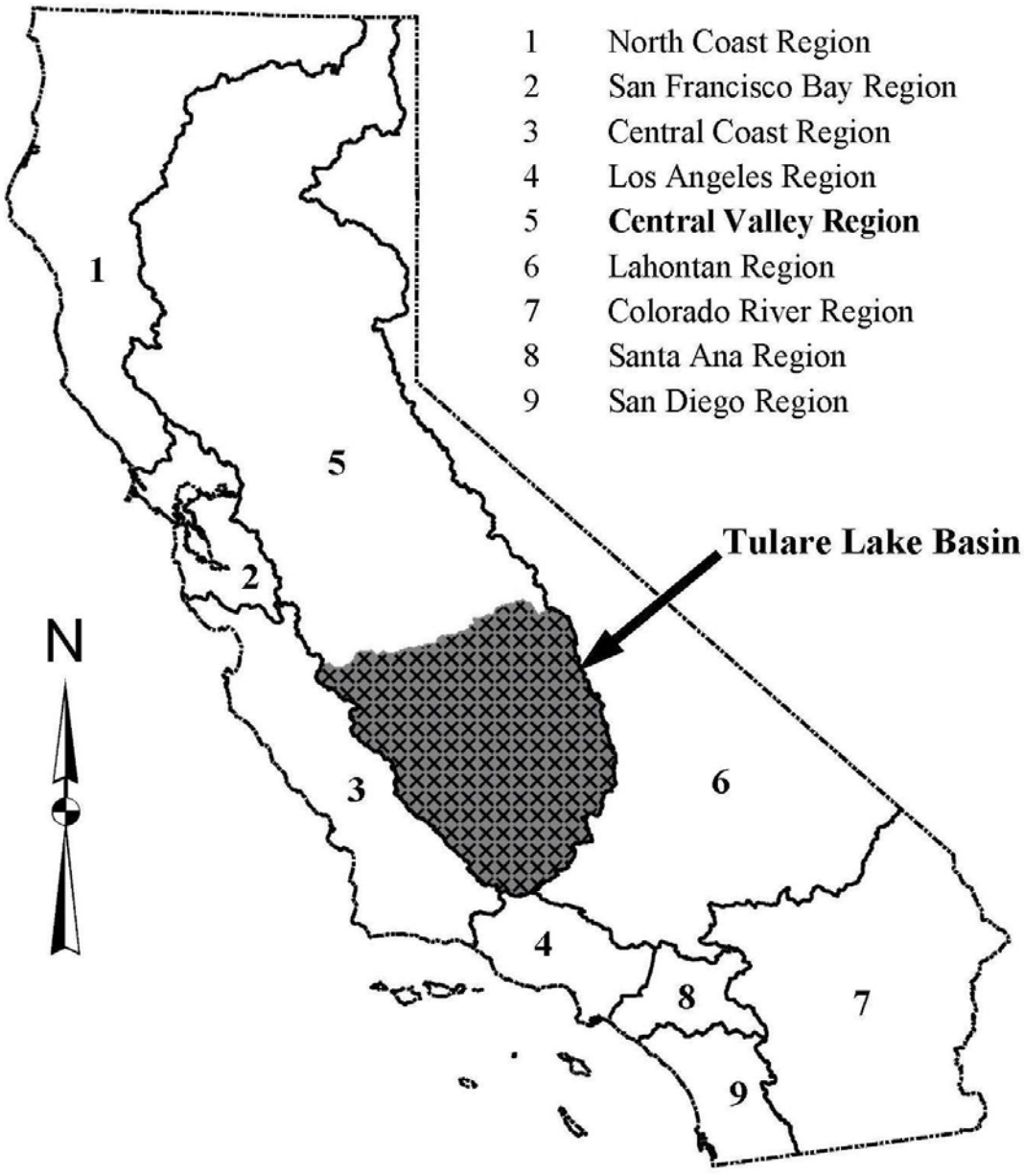
Salinity increases in ground water can ultimately eliminate the beneficial use of the resource. This loss will not be immediate, but control of the increase is a major part of this plan. Salt loads reaching the ground water body must be reduced. Storage of salt in the soil through increased irrigation efficiency is being done, but is only a temporary solution. Current fertilization and soil amendment practices should be reviewed. Methods to control the leachate from newly developed lands should be studied.

Watersheds must be managed to protect water quality. This can be accomplished within the concept of multiple uses of resources. Esthetic, recreational, wildlife, and other uses should receive consideration. Two historical problems within the Tulare Lake Basin are poor sanitation associated with recreational use and erosion from construction, logging, grazing, and irrigated agriculture. Management of these activities has improved the situation and must continue to assure no significant adverse effect on pristine streams. Erodible material must be stabilized so that turbidity in streams will be of limited intensity and duration. Activities in stream protection zones must be regulated. Provisions should be made to protect fishery flow releases in designated reaches of streams.

Waste disposal from land developments must conform with the State Water Board's *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy). New developments must consider collection systems and should connect if within the sphere of influence of an established collection and treatment system. Septic tank pumpings must be treated and disposed of in a way that prevents impact to waters of the state.

FIGURE 1-1

REGIONAL WATER QUALITY CONTROL BOARDS
TULARE LAKE BASIN LOCATION MAP



2 EXISTING AND POTENTIAL BENEFICIAL USES

Protection and enhancement of beneficial uses of water against quality degradation is a basic requirement of water quality planning under the Porter-Cologne Water Quality Control Act. In setting water quality objectives, the Regional Water Board must consider past, present, and probable future beneficial uses of water.

Significant points concerning beneficial uses are:

(1) All water related problems can be stated in terms of whether there is water of sufficient quantity and quality to protect or enhance beneficial uses.

(2) Fish, plants, and other wildlife, as well as humans, depend on and use water beneficially both directly or indirectly.

(3) Defined beneficial uses do not include all possible uses of water. For example, use of waters for disposal of wastewaters is not included as a beneficial use. Similarly, the use of water for the dilution of salts in other waters is not a beneficial use. These may, in some cases, be reasonable and desirable uses of water, but they are not protected uses and are subject to regulation as activities that may harm protected uses.

(4) The protection and enhancement of beneficial uses requires that certain quality and quantity objectives be met for surface and ground waters.

(5) Quality of water in upstream reaches and upper aquifers may impact the quality and beneficial uses of downstream reaches and lower aquifers.

Beneficial use designations (and water quality objectives, see Chapter 3, or variance of a water quality standard, see Chapter 4) must be reviewed at least once during each three-year period for potential modification as appropriate {40 CFR Part 131.20}.

The beneficial uses and abbreviations as defined and listed below are the standard designations used in all basin plans in California with the exception of the definition for Fish Spawning (SPWN) and Warm Freshwater Habitat (WARM). The standard statewide definition for SPWN includes spawning of both warm and cold water fish. In the Tulare Lake Basin, warm water spawning is considered to occur wherever a warm freshwater habitat exists while only select cold water habitats are suitable for spawning by cold water species. For example, certain cold water species require gravel beds in order to spawn. For this reason, for the Tulare Lake Basin, SPWN has been modified to limit the designation to suitable reaches of cold water streams and WARM has been modified to clarify that it includes sensitive fish propagation stages.

Municipal and Domestic Supply (MUN) - Uses of water for community, military, or individual water supply systems, including, but not limited to, drinking water supply.

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 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.

Industrial Process Supply (PRO) -Uses of water for industrial activities that depend primarily on water quality.

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 where there is generally no body contact with water, nor any likelihood of ingestion of water. 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.

Warm Freshwater 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.

WARM includes support for reproduction and early development of warm water fish.

Cold Freshwater 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.

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

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.

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

SPWN shall be limited to cold water fisheries.

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.

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.

Freshwater Replenishment (FRSH) - Uses of water for natural or artificial maintenance of surface water quantity or quality.

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.

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.

Navigation (NAV) - Uses of water for shipping, travel, or other transportation by private, military, or commercial vessels.

The existing and probable future beneficial uses which currently apply to surface waters are presented in Figure 2-1 and Table 2-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams. In some cases a beneficial use may not be applicable to the entire body of water. In these cases the Regional Water Board's judgement will be applied. It should be noted that it is impractical to list every surface water body in the Region. For unidentified water bodies, the beneficial uses will be evaluated on a case-by-case basis.

Upstream from the foothill reservoirs, the quality of surface waters remains good to excellent. The quality of the major streams is suitable for all beneficial uses. Beneficial uses below the dams, however, may be significantly impacted because of the reduced flows in the channels.

For ground water, the following beneficial uses have been identified and occur throughout the Basin: Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), Industrial Service Supply (IND), Industrial Process Supply (PRO), Water Contact Recreation (REC-l), and Wildlife Habitat (WILD).

Figure 2-2 and Table 2-2 present the AGR, IND, PRO, REC-1, REC-2, and WILD beneficial uses of ground water that existed as of 1993. Due to the "Sources of Drinking Water Policy," all ground waters are designated MUN (the use may be existing or potential) unless specifically exempted by the Regional Water Board and approved for exemption by the State Water Board. Ground water areas exempted from MUN or other beneficial uses are presented in Table 2-3. In addition, unless otherwise designated by the Regional Water Board, all ground waters in the Region are considered suitable or potentially suitable, at a minimum, for agricultural supply (AGR), industrial supply (IND), and industrial process supply (PRO).

Existing beneficial uses generally apply within the listed Detailed Analysis Unit (DAU). Due to the size of the DAUs, however, the listed uses may not exist throughout the DAU. For the purpose of assigning beneficial uses, the term ground water is defined in Chapter 1.

In considering any exceptions to the beneficial use designation of MUN, the Regional Water Board employs the following criteria:

(1) The TDS must exceed 3,000 mg/l (5,000 µmhos/cm EC) and the aquifer cannot be reasonably expected to supply a public water system, or

(2) 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

(3) The water source cannot provide sufficient water to supply a single well capable of producing an average, sustained yield of 200 gallons per day, or

(4) The aquifer is regulated as a geothermal energy producing source or has been exempted administratively pursuant to 40 CFR, 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.

To be consistent with State Water Board Resolution No. 88-63 in making exceptions to beneficial use designations other than municipal and domestic supply (MUN), the Regional Water Board will consider criteria for exceptions, parallel to Resolution No. 88-63 exception criteria, which would indicate limitations on those other beneficial uses as follows:

In making any exceptions to the beneficial use designation of agricultural supply (AGR), the Regional Water Board will consider the following criteria:

(1) There is pollution, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for agricultural use using either Best Management Practices or best economically achievable treatment practices, or

(2) 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, or

(3) The aquifer is regulated as a geothermal energy producing source or has been exempted administratively pursuant to 40 CFR, 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.

In making any exceptions to the beneficial use designation of industrial supply (IND or PRO), the Regional Water Board will consider the following criteria:

(1) There is pollution, either by natural processes or by human activity (unrelated to a specific pollution incident), that cannot reasonably be treated for industrial use using either Best Management Practices or best economically achievable treatment practices, or

(2) 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.

TABLE 2-1
TULARE LAKE BASIN PLAN
SURFACE WATER BENEFICIAL USES

Stream	MUN	AGR	IND	PRO	POW	REC-1	REC-2	WARM	COLD	WILD	RARE	SPWN	GWR	FRSH
552, 551 Kings River														
North Fork, Upper					•	•	•	•	•	•	•	•		•
Main Fork, Above Kirch Flat	•					•	•	•	•	•	•	•		•
Kirch Flat to Pine Flat Dam (Pine Flat Reservoir)					•	•	•	•	•	•				•
Pine Flat Dam to Friant-Kern	•	•			•	•	•	•	•	•		•	•	•
Friant Kern to Peoples Weir	•	•		•		•	•	•		•			•	
Peoples Weir to Stinson Weir on North Fork and to Empire Weir No. 2 on South Fork		•				•	•	•		•			•	
553, 558 Kaweah River														
Above Lake Kaweah	•				•	•	•	•	•	•	•	•		•
Lake Kaweah					•	•	•	•		•				•
Below Lake Kaweah	•	•	•	•		•	•	•		•			•	
555, 558 Tule River														
Above Lake Success	•	•			•	•	•	•	•	•	•	•		•
Lake Success		•			•	•	•	•		•				•
Below Lake Success	•	•	•	•		•	•	•		•			•	
554, 557, 558 Kern River														
Above Lake Isabella	•				•	•	•	•	•	•	•	•		•
Lake Isabella					•	•	•	•	•	•				•
Lake Isabella to KR-1‡					•	•	•	•	•	•	•			
Below KR-1‡	•	•	•	•	•	•	•	•		•	•		•	
555, 558 Poso Creek		•				•	•	•	•	•			•	•
552 Mill Creek, Source to Kings River	•					•	•	•		•			•	•
552, 553, 554, 555 Other East Side Streams	•	•				•	•	•	•	•			•	
556, 559 West Side Streams		•	•	•		•	•	•		•	•		•	
551, 557, 558 Valley Floor Waters		•	•	•		•	•	•		•	•		•	

‡KR-1: Southern California Edison Kern River Powerhouse No. 1.

TABLE 2-2
TULARE LAKE BASIN
GROUNDWATER BENEFICIAL USES*

BUs	DAU	MUN	AGR	IND	PRO	REC-1	REC-2	WILD
Hydrologic Unit								
Delta-Mendota Basin								
	216	•	•	•				
	235	•	•	•	•		•	•
	237	•	•	•				
Kings Basin								
	233	•	•	•	•	•	•	
	234	•	•	•				
	235	•	•	•	•			
	236	•	•	•	•			
	237	•	•	•				
	239	•	•	•	•			
	240	•	•					
Kaweah Basin	242	•	•	•	•	•	•	
Tulare Lake Basin								
	238	•	•	•	•			
	241	•	•	•				
	246	•	•	•				
Tule Lake Basin								
	243	•	•	•	•			•
	257	•	•					
Pleasant Valley Basin	245	•	•	•				
Westside Basin	244	•	•	•				
Kern County Basin								
	245	•	•	•				
	254[a]	•	•	•	•	•	•	•
	255	•	•	•				•
	256	•	•	•	•			
	257	•	•	•		•		
	258	•	•	•	•			
	259[b]	•	•	•				
	260	•		•				
	261	•	•	•				

TABLE 2-2
TULARE LAKE BASIN
GROUNDWATER BENEFICIAL USES* (continued)

BUs	DAU	MUN	AGR	IND	PRO	REC-1	REC-2	WILD
Satellite Basins								
Panoche Valley		•						
Squaw Valley		•	•	•				
Kern River Valley		•	•	•				
Walker Basin Creek Valley		•	•	•				
Cummings Valley		•	•	•		•	•	
Tehachapi Valley West		•	•	•		•	•	•
Castac Lake Valley		•	•	•				
Vallecitos Creek Valley		•						
Cedar Grove Area		•						
Three Rivers Area		•						
Springville Area		•		•				
Templeton Mountain Area		•						
Monache Meadows Area		•	•				•	
Secator Canyon Valley		•						
Rockhouse Meadow Valley		•				•		
Linns Valley		•		•				
Brite Valley		•	•	•		•	•	•
Bear Valley		•	•	•		•	•	•
Cuddy Canyon Valley		•		•			•	
Cuddy Ranch Area		•	•					
Cuddy Valley		•	•	•				
Mill Potrero Area		•		•			•	
All Other Ground Waters[c]		•						

* Table 2-2 presents the AGR, IND, PRO, REC-1, REC-2, and WILD beneficial uses of ground water that existed as of 1993.

See Table 2-3 for listed groundwater beneficial use exception.

TABLE 2-3
TULARE LAKE BASIN
GROUNDWATER BENEFICIAL EXCEPTIONS

Exception Area	Area Description	DAU#
1	Ground water contained in the lower Transition Zone and Santa Margarita formation within 3,000 feet of the Kern Oil and Refining Company proposed injection wells in Section 25, T30S, R28E,MDB&M, is not suitable, or potentially suitable, for municipal or domestic supply (MUN). Ground water contained in the basal Etchegoin formation, Chanac formation, and Santa Margarita formation within, and extending to one-quarter mile outside the administrative boundary of the Fruitvale Oil Field, as defined by the State of California, Department of Conservation, Division of Oil and Gas in Application for Primacy in the Regulation of Class II Injection Wells Under Section 1425 of the Safe Drinking Water Act, dated April 1981, is not suitable, or potentially suitable, for municipal or domestic supply (MUN). However, the upper ground water zone (ground water to a depth of 3,000 feet) retains the MUN beneficial use.	254
2	Ground water and spring water within 1/2 mile radius of the McKittrick Waste Treatment (formerly Liquid Waste Management) site in Section 29, T30S, R22E, MDB&M, are not suitable, or potentially suitable, for municipal or domestic supply (MUN).	259
3	Ground water in the San Joaquin, Etchegoin, and Jacalitos Formations within one-half mile of existing surface impoundments P-1, P-2, P-3, P-4, P-4 1/2, P-5, P-6, P-7, P-8, P-9, P-10, P-11, P-12/12A, P-13, P-14, P-15, P-16, P-17, P-18, P-19, and P-20, and proposed surface impoundments P-21, P-24, P-25, P-27, P-28, and P-29 at the Kettleman Hills Facility (Sections 33 and 34, T22S, R18E, and Section 3, T23S, R18E, MDB&M) of Chemical Waste Management is not a municipal or domestic supply (MUN).	N/A

Exception Area	Area Description	DAU#
4	Groundwater in the Tulare Lake Bed within the horizontal and vertical boundaries as described below, and as shown in Figure 2- 3, are not suitable for municipal, and domestic or agricultural irrigation and stock watering supply (MUN and AGR): For the most accurate location for the de-designation boundary refer to figure ES-1 and the detailed boundary narrative description in Appendix ES-A of the staff report. However, the overall de-designation horizontal boundary general begins to the Northwest, just south of Stratford, to the North following Laurel Avenue, south at 13th Avenue, east at Nevada Avenue, south at between 8th and 7th Avenues along the western boundary of the town of Corcoran, to the west just south of Quebec Avenue, south approximately 6 ½ Avenue, east on Redding Avenue, south on 5th Avenue, east on Racine Avenue, South at approximately 2nd Avenue, begin angling just south of Utica Avenue past the westside boundary of Alpaugh moving west toward 6th Avenue south toward the county line, along county line moving to the west toward approximately 17th Avenue, then north toward Virginia Avenue, west to Interstate 5 moving north towards the east boundary of Kettleman City, continuing north just west of the Highway 41 to the southern boundary of Stratford. Depth discrete boundaries, AA through DD, are shown in Figure 2- 3 and described below: • Horizontal boundary AA to a vertical boundary to the top and extending to the bottom of the A-Clay (minimum of 75 feet in depth) • Horizontal boundary BB to a vertical boundary to the top and extending to the bottom of the A-Clay (Minimum of 110 feet in depth) • Horizontal boundary CC to a vertical boundary to the top and extending to the bottom of the C-Clay (minimum of 200 feet in depth) • Horizontal boundary DD to a vertical boundary to the top and extending to the bottom of the E-Clay (Corcoran clay)	238, 241, 243, 244, 246, 255 and 259

Figure 2-1 is available at:

https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlb_figII_1.pdf

Figure 2-2 is available at:

https://www.waterboards.ca.gov/centralvalley/water_issues/basin_plans/tlb_figII-2.pdf

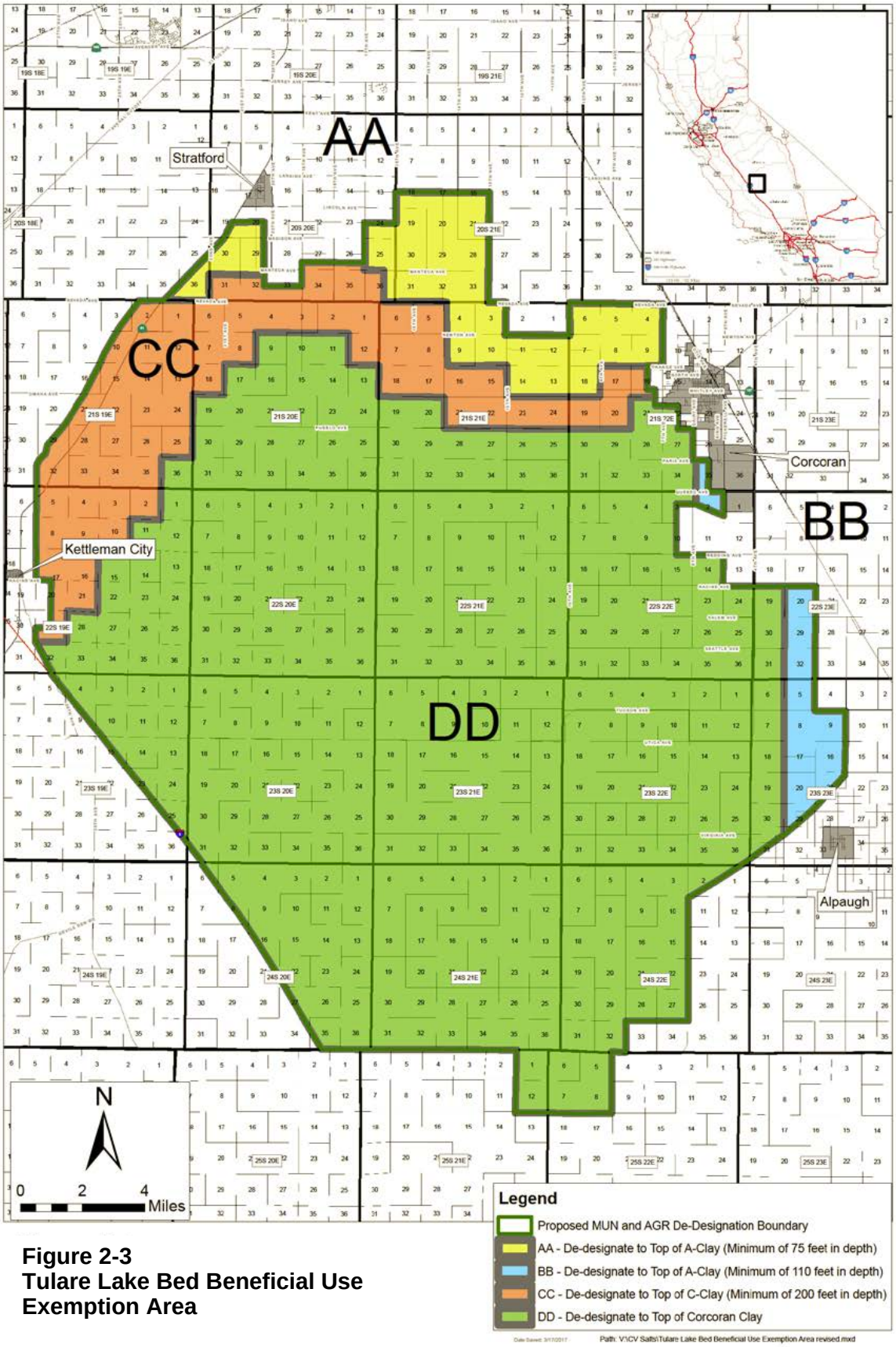


Figure 2-3
Tulare Lake Bed Beneficial Use Exemption Area

3 WATER QUALITY OBJECTIVES

The Porter-Cologne Water Quality Control Act defines water quality objectives as "...the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area" {Water Code Section 13050(h)}. It also requires the Regional Water Board to establish water quality objectives, while acknowledging that it is possible for water quality to be changed to some degree without unreasonably affecting beneficial uses. In establishing water quality objectives, the Regional Water Board must consider, among other things, the following factors:

- Past, present, and probable future beneficial uses;
- Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto;
- Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area;
- Economic considerations;
- The need for developing housing within the region;
- The need to develop and use recycled water. {Water Code Section 13241}

The federal Clean Water Act requires a state to submit for approval of the Administrator of the U. S. Environmental Protection Agency (USEPA) all new or revised water quality standards which are established for surface and ocean water. The ground water objectives contained in this plan are not required by the federal Clean Water Act. In California, water quality standards are either water body specific or are based on beneficial uses designated for a water body and the water quality objectives that protect those uses.

There are six important points about water quality objectives. The first point is that water quality objectives can be revised through the basin plan amendment process. Objectives may apply region-wide or specifically to individual water bodies or parts of water bodies. Site-specific objectives may be developed if the Regional Water Board believes they are appropriate. Federal regulations require the review of water quality standards at least every three years. These "Triennial Reviews" provide one opportunity to evaluate the effectiveness of existing water quality objectives because the reviews begin with an identification of potential and actual water quality problems. The results of the Triennial Review are used to identify and prioritize Regional Water Board actions to achieve objectives and protect beneficial uses. Actions include assessment, remediation, monitoring, or whatever else may be appropriate, to address water quality problems. For example, a beneficial use may be impacted because the existing water quality objective is inadequate. This water quality objective should be reevaluated and a proper objective should be amended into the Basin Plan, along with a plan and schedule for attainment. In other cases, the existing water quality objective may be adequate and it may be necessary to develop new implementation strategies to address the problem.

Changes to a water quality objective can also occur because of new scientific information on the effects of a specific waste constituents. A major source of information is USEPA data on the effects of chemical and other constituent concentrations on particular aquatic species and

human health. Other common information sources for data on protection of beneficial uses include the National Academy of Science, which has published data on bioaccumulation, and the federal Food and Drug Administration, which has issued criteria for unacceptable levels of chemicals in fish and shellfish used for human consumption. The Regional Water Board may also make use of other state or federal agency information sources when assessing new or revised water quality objectives.

The second point is that achievement of water quality objectives depends on applying them to regulate controllable water quality factors, although regulating controllable water quality factors may not necessarily cause water quality objectives to be achieved. Controllable water quality factors are those actions, conditions, or circumstances resulting from human activities that may influence the quality of the waters of the State, that are subject to the authority of the State Water Board or the Regional Water Board, and that may be reasonably controlled. These factors are subject to the authority of the State Water Board or the Regional Water Board. Controllable factors are not allowed to degrade water quality unless it is demonstrated that degradation is consistent with maximum benefit to the people of the State. In no cases may controllable water quality factors unreasonably affect present and anticipated beneficial uses of water nor result in water quality less than that prescribed in water quality control plans and policies. In instances where uncontrollable factors have already resulted in water quality objectives being exceeded, controllable factors are not allowed to cause further degradation of water quality. The Regional Water Board recognizes that manmade changes that alter flow regimes can affect water quality and impact beneficial uses.

The third point is that water quality objectives are achieved primarily through the adoption of waste discharge requirements (including federal NPDES permits) and enforcement orders. When adopting requirements and ordering actions, the Regional Water Board considers the beneficial uses within the area of influence of the discharge, the existing quality of receiving waters, and water quality objectives that apply to the reach or uses of the receiving water. Effluent limits may be established to reflect what is necessary to achieve water quality objectives, or, if more stringent, will reflect the technology-based standard for the type of discharge being regulated. The objectives in this plan do not require improvement over naturally occurring background concentrations. Water quality objectives contained in this plan, and any State or Federally promulgated objectives applicable to the Tulare Lake Basin, apply to the main water mass. They may apply at or in the immediate vicinity of effluent discharges, or may apply at the edge of an approved mixing zone. A mixing zone is an area of dilution or criteria for diffusion or dispersion defined in the waste discharge requirements. The Regional Water Board recognizes that immediate compliance with water quality objectives adopted by the Regional Water Board or the State Water Board, or with water quality criteria adopted by the federal Environmental Protection Agency, may not be feasible in all circumstances. Where the Regional Water Board determines it is infeasible for a discharger to comply immediately with such objectives or criteria, compliance shall be achieved in the shortest practicable period of time (determined by the Regional Water Board), not to exceed ten years after the adoption of applicable objectives or criteria. This policy shall apply to water quality objectives and water quality criteria adopted after the effective date of this Basin Plan update. The Regional Water Board will establish compliance schedules in NPDES permits consistent with the provisions of the State Water Board's Compliance Schedule Policy (Resolution 2008-0025). Time schedules in waste discharge requirements are established consistent with Water Code Section 13263.

The fourth point is that, in cases where water quality objectives are formulated to preserve historic conditions, there may be insufficient data to determine completely the temporal and hydrologic variability representative of historic water quality. When violations of such water

quality objectives occur, the Regional Water Board evaluates the reasonableness of achieving those objectives through regulation of the controllable factors in the areas of concern.

The fifth point is that the State Water Board adopts policies and plans for water quality control that can specify water quality objectives or affect their implementation. Chief among the State Water Board's policies for water quality control is State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Waters in California (Antidegradation Policy). It requires that, wherever the existing quality of surface or ground waters is better than the objectives established for those waters, the existing quality will be maintained unless as otherwise provided by Resolution No. 68-16 or any revisions thereto. This policy and others establish general objectives.

The sixth point is that water quality objectives may be in numerical or narrative form. The enumerated milligram-per-liter (mg/l) limit for dissolved oxygen is an example of a numerical objective; the objective for color is an example of a narrative objective.

3.1 WATER QUALITY OBJECTIVES FOR INLAND SURFACE WATERS

Surface water quality in the Basin is generally good, with excellent quality exhibited by most eastside streams. The Regional Water Board intends to maintain this quality. The water quality objectives below are presented by categories which, like the beneficial uses of Chapter 2, were standardized for uniformity among the regional water boards. Designated beneficial uses of the waters of the Tulare Lake Basin for which provisions should be made are identified in Chapter 2; this chapter gives the water quality objectives to protect those beneficial uses. As new information becomes available, the Regional Water Board will review the appropriateness of these objectives, and may modify them accordingly.

3.1.1 Ammonia

Waters shall not contain un-ionized ammonia in amounts which adversely affect beneficial uses. In no case shall the discharge of wastes cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/l (as N) in receiving waters.

3.1.2 Bacteria

In waters designated REC-1, the fecal coliform concentration based on a minimum of not less than five samples for any 30-day period shall not exceed a geometric mean of 200/100 ml, nor shall more than ten percent of the total number of samples taken during any 30-day period exceed 400/100 ml.

3.1.3 Biostimulatory Substances

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

3.1.4 Chemical Constituents

Waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

At a minimum, water designated MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated MUN shall not contain lead in excess of 0.015 mg/l. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

3.1.5 Color

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

3.1.6 Dissolved Oxygen

Waste discharges shall not cause the monthly median dissolved oxygen concentrations (DO) in the main water mass (at centroid of flow) of streams and above the thermocline in lakes to fall below 85 percent of saturation concentration, and the 95 percentile concentration to fall below 75 percent of saturation concentration.

The DO in surface waters shall always meet or exceed the concentrations in Table 3-1 for the listed specific water bodies and the following minimum levels for all aquatic life:

Waters designated WARM	5.0 mg/l
Waters designated COLD or SPWN	7.0 mg/l

Where ambient DO is less than these objectives, discharges shall not cause a further decrease in DO concentrations.

TABLE 3-1
TULARE LAKE BASIN
SPECIFIC DISSOLVED OXYGEN WATER QUALITY OBJECTIVES

Stream	Location	Min. DO (mg/l)
Kings River		
Reach I	Above Kirch Flat	9
Reach II	Kirch Flat to Pine Flat Dam	9
Reach III	Pine Flat Dam to Friant-Kern	9
Reach IV	Friant-Kern to Peoples Weir	7
Reach V	Peoples Weir to Island Weir	7
Kaweah River	Lake Kaweah	7
Tule River	Lake Success	7
Kern River		
Reach I	Above Lake Isabella	8
Reach II	Lake Isabella to Southern California Edison Powerhouse (KR-1)	8

3.1.7 Floating Material

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

3.1.8 Oil and Grease

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

3.1.9 pH

The pH of water shall not be depressed below 6.5, raised above 8.3, or changed at any time more than 0.3 units from normal ambient pH.

In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

3.1.10 Pesticides

Waters shall not contain pesticides in concentrations that adversely affect beneficial uses. There shall be no increase in pesticide concentrations in bottom sediments or aquatic life that adversely affect beneficial uses. (For the purposes of this objective, the term pesticide is defined as any substance or mixture of substances used to control objectionable insects, weeds,

rodents, fungi, or other forms of plant or animal life.) The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

At a minimum, waters designated MUN shall not contain concentrations of pesticide constituents in excess of the maximum contaminant levels (MCLs) specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations, which is incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

In waters designated COLD, 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, 18th Edition*, or other equivalent methods approved by the Executive Officer.

3.1.11 Radioactivity

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

At a minimum, waters designated MUN shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 64442 of Section 64442 and Table 64443 of Section 64443 of Title 22, California Code of Regulations, which are incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.

3.1.12 Salinity

Waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use of the water resources.

"The only reliable way to determine the true or absolute salinity of a natural water is to make a complete chemical analysis. However, this method is time-consuming and cannot yield the precision necessary for accurate work" {*Standard Methods for the Examination of Water and Wastewater*, 18th Edition}. Conductivity is one of the recommended methods to determine salinity.

The objectives for electrical conductivity in Table 3-2 apply to the water bodies specified. Table 3-3 specifies objectives for electrical conductivity at selected streamflow stations.

TABLE 3-2
TULARE LAKE BASIN
MAXIMUM ELECTRICAL CONDUCTIVITY LEVELS

Stream	Location	Max. Electrical Conductivity (µmhos/cm)
Kings River		
Reach I	Above Kirch Flat	100
Reach II	Kirch Flat to Pine Flat Dam	100[a]
Reach III	Pine Flat Dam to Friant-Kern	100
Reach IV	Friant-Kern to Peoples Weir	200
Reach V	Peoples Weir to Island Weir	300[b]
Reach VI	Island Weir to Stinson Weir on North Fork and Empire Weir No. 2 on South Fork	300[b]
Kaweah River		
Reach I	Above Lake Kaweah	175
Reach II	Lake Kaweah	175[c]
Reach 3	Below Lake Kaweah	[d]
Tule River		
Reach I	Above Lake Success	450
Reach II	Lake Success	450[e]
Reach III	Below Lake Success	[d]
Kern River		
Reach I	Above Lake Isabella	200
Reach II	Lake Isabella	300
Reach III	Lake Isabella to Southern California Edison Powerhouse (KR-1)	300
Reach IV	KR-1 to Bakersfield	300[f]
Reach V	Below Bakersfield	[d]

[a] Maximum 10-year average - 50 µmhos/cm

[b] During the period of irrigation deliveries. Providing, further, that for 10 percent of the time (period of low flow) the following shall apply to the following reaches of the Kings River:

Reach V 400 µmhos/cm
Reach VI 600 µmhos/cm

[c] Maximum 10-year average - 100 µmhos/cm

[d] During the irrigation season releases should meet the levels shown in the preceding reach. At other times the channel will be dry or controlled by storm flows.

[e] Maximum 10-year average - 250 µmhos/cm

[f] Maximum 10-year average - 175 µmhos/cm

TABLE 3-3
TULARE LAKE BASIN
ELECTRICAL CONDUCTIVITY OBJECTIVES AT SELECTED STREAMFLOW STATIONS

Streamflow Station Number		Location	Electrical Conductivity (µmhos/cm)		
USGS	DWR		90-Percentile	Median	Mean
--	C01140.00	Kings River below Peoples Weir	198	81	102
11-2185	C11460.00	Kings River below North Fork	68	48	47
11-2215	C11140.00	Kings River below Pine Flat Dam	54	36	42
11-2105	C21250.00	Kaweah River near Three Rivers	154	95	94
11-2032	C31150.00	Tule River near Springville	429	278	367
11-2049	C03195.00	Tule River below Success Dam	368	244	235
11-1870	C51500.00	Kern River at Kernville	177	116	118
11-1910	C5135.00	Kern River below Isabella Dam	278	141	165
11-1940	C05150.00	Kern River near Bakersfield	233	158	167

3.1.13 Sediment

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

3.1.14 Settleable Material

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

3.1.15 Suspended Material

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

3.1.16 Tastes and Odors

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

3.1.17 Temperature

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

Temperature objectives for COLD interstate waters, WARM interstate waters, and 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 of California, including any revisions. (See Appendix 10.)

Elevated temperature wastes shall not cause the temperature of waters designated COLD or WARM to increase by more than 5°F above natural receiving water temperature.

In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

3.1.18 Toxicity

All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances. Compliance with this objective will be determined by analyses of indicator organisms, species diversity, population density, growth anomalies, biotoxicity tests of appropriate duration, or other methods as specified by the Regional Water Board. The Regional Water Board will also consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for toxic substances developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

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

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

3.1.19 Turbidity

Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increases in turbidity attributable to controllable water quality factors shall not exceed the following limits:

- Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU.
- Where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20 percent.
- Where natural turbidity is equal to or between 50 and 100 NTUs, increases shall not exceed 10 NTUs.
- Where natural turbidity is greater than 100 NTUs, increases shall not exceed 10 percent.

In determining compliance with the above limits, the Regional Water Board may prescribe appropriate averaging periods provided that beneficial uses will be fully protected.

3.2 WATER QUALITY OBJECTIVES FOR GROUND WATERS

The following objectives apply to all ground waters in the Tulare Lake Basin, except for those areas with specific beneficial use exceptions as listed in Table 2-3.

3.2.1 Bacteria

In ground waters designated MUN, the concentration of total coliform organisms over any 7-day period shall be less than 2.2/100 ml.

3.2.2 Chemical Constituents

Ground waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. The Regional Water Board will consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for detrimental levels of chemical constituents developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective.

At a minimum, waters designated MUN shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCLs) specified in the following provisions of Title 22 of the California Code of Regulations, which are incorporated by reference into this plan: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) and 64449-B (Secondary Maximum Contaminant Levels-Ranges) of Section 64449. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. At a minimum, water designated MUN shall not contain lead in excess of 0.015 mg/l. To ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses, the Regional Water Board may apply limits more stringent than MCLs.

3.2.3 Pesticides

No individual pesticide or combination of pesticides shall be present in concentrations that adversely affect beneficial uses.

At a minimum, waters designated MUN shall not contain concentrations of pesticide constituents in excess of the maximum contaminant levels (MCLs) specified in Table 64444-A (Organic Chemicals) of Section 64444 of Title 22 of the California Code of Regulations, which is incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect. The Regional Water Board acknowledges that specific treatment requirements are imposed by state and federal drinking water regulations on the consumption of surface waters under specific circumstances. More stringent objectives may apply if necessary to protect other beneficial uses.

3.2.4 Radioactivity

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

At a minimum, ground waters designated MUN shall not contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) specified in Table 64442 of Section 64442 and Table 64443 of Section 64443 of Title 22, California Code of Regulations, which are incorporated by reference into this plan. This incorporation-by-reference is prospective, including future changes to the incorporated provisions as the changes take effect.

3.2.5 Salinity

All ground waters shall be maintained as close to natural concentrations of dissolved matter as is reasonable considering careful use and management of water resources, except for those areas with specific beneficial use exceptions as listed in Table 2-3.

No proven means exist at present that will allow ongoing human activity in the Basin and maintain ground water salinity at current levels throughout the Basin. Accordingly, the water quality objectives for ground water salinity control the rate of increase.

The maximum average annual increase in salinity measured as electrical conductivity shall not exceed the values specified in Table 3-4 for each hydrographic unit shown on Figure 3-1, except for those areas with specific beneficial use exceptions as listed in Table 2-3.

The average annual increase in electrical conductivity will be determined from monitoring data by calculation of a cumulative average annual increase over a 5-year period.

3.2.6 Tastes and Odors

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

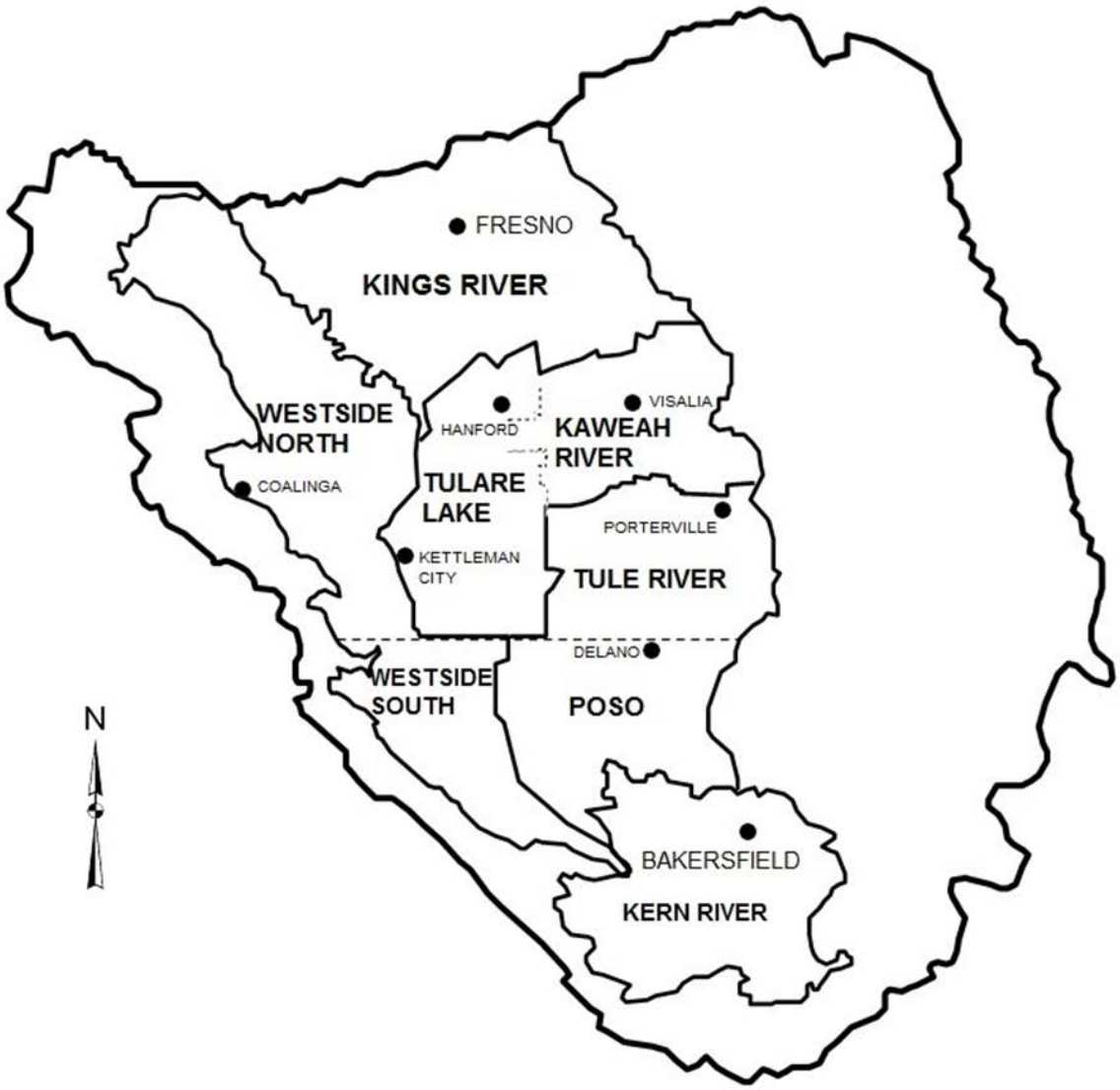
3.2.7 Toxicity

Ground waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life associated with designated beneficial use(s). The Regional Water Board will also consider all material and relevant information submitted by the discharger and other interested parties and numerical criteria and guidelines for toxic substances developed by the State Water Board, the California Office of Environmental Health Hazard Assessment, the State Water Board Division of Drinking Water Programs, the U.S. Food and Drug Administration, the National Academy of Sciences, the U. S. Environmental Protection Agency, and other appropriate organizations to evaluate compliance with this objective. This objective applies regardless of whether the toxicity is caused by a single substance or the interactive effect of multiple substances.

TABLE 3-4
TULARE LAKE BASIN
GROUND WATER QUALITY OBJECTIVES FOR SALINITY

Hydrographic Unit	Maximum Average Annual Increase in Electrical Conductivity (µmhos/cm)
Westside (North and South)	1
Kings River	4
Tulare Lake and Kaweah River	3
Tule River and Poso	6
Kern River	5

FIGURE 3-1
TULARE LAKE BASIN
GROUND WATER HYDROGRAPHIC UNITS



4 IMPLEMENTATION PLAN

The Porter-Cologne Water Quality Control Act requires that every basin plan consist of beneficial uses, water quality objectives, and a program of implementation for achieving water quality objectives {California Water Code Section 13050(j)}. This Basin Plan covers the first two components in earlier chapters. According to the Act, the implementation program must at least include:

(1) 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;

(2) A time schedule for the actions to be taken; and,

(3) A description of surveillance to be undertaken to determine compliance with the objectives. {California Water Code Section 13242}

In addition, state law requires that every new water quality control program for agriculture estimate the total cost and identify potential sources of funding as part of its implementation {California Water Code Section 13141}. This chapter of the Basin Plan contains all but the surveillance component of the implementation program. That is described in Chapter 4.

The "Water Quality Concerns" section of this chapter describes water quality concerns and how the Regional Water Board addresses them. This section is organized by discharge type (agriculture, silviculture, mines, etc.). The "Nature of Control Actions Implemented by the Regional Water Board", section lists Regional Water Board programs, and plans and policies which will result in the achievement of most of the water quality objectives in this plan. This section includes a list of Regional Water Board prohibition areas. The "Actions Recommended for Implementation by Other Agencies", section contains recommendations for appropriate action by entities other than the Regional Water Board to protect water quality. The "Continuous Planning for Water Quality Control", section describes how the Regional Water Board integrates water quality control activities into a continuous planning process.

4.1 WATER QUALITY CONCERNS

Impairment of beneficial uses or degradation of water quality generally reflect the intensity of activities of key discharge sources. The impact a discharge may have is relative to the volume, quality, and uses of the receiving waters.

Our knowledge of the number and types of problems associated with discharge activities changes over time. Early federal and state control efforts focused on the most understood and visible problems, such as discharge of raw sewage to rivers and streams. As these problems were controlled, focus shifted to prevention of nuisance and protection of ground water. As data became available on toxics in the environment and their harmful effects at low concentrations, and as toxic pollutant detection and measurement methods improved, regulatory emphasis shifted further. Control of toxic discharges now receives major emphasis. Small amounts of pesticides in drinking water wells within the Tulare Lake Basin have caused the closure of some wells.

The greatest long-term problem facing the entire Tulare Lake Basin is the increase of salinity in ground water. Even though an increase in the salinity of ground water in a closed basin is a

natural phenomenon, salinity increases in the Basin have been accelerated by man's activity, with the major impact coming from intensive use of soil and water resources by irrigated agriculture. Salinity increases in ground water could ultimately eliminate the beneficial uses of this resource. Controlled ground water degradation by salinity is the most feasible and practical short-term management alternative for the Tulare Lake Basin.

The following briefly describes the water quality impacts associated with specific discharge activities and the policies and programs developed to protect beneficial uses and achieve water quality objectives.

4.1.1 Agriculture

In 1987, agriculturally induced employment in the Basin ranged from 20 percent to more than 50 percent ["A Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley", September 1990]. Most of the agricultural activity occurs on the valley floor. However, the natural precipitation on the Valley portion of the Basin averages less than 10 inches per year. Most precipitation occurs in the Sierras and the Coast Ranges. In order to supply the water needs of agriculture, water from the mountain areas is held in reservoirs and released during irrigation periods. The released water is transported to crops through a complex distribution system crisscrossing the Valley. Irrigated agriculture, agricultural support activities, and animal confinement operations create their own unique problems.

4.1.2 Estimated Costs of Agricultural Water Quality Control Programs

4.1.2.1 Long-Term Irrigated Lands Regulatory Program

The Central Valley Water Board intends on establishing a long-term irrigated lands regulatory program (Long-Term Program) by adopting one or more general waste discharge requirements and/or conditional waivers of WDRs to regulate the discharge of waste to ground and surface waters from irrigated agricultural operations. While the Central Valley Water Board has not established the Long-Term Program yet, it will be based, in whole or in part, on six alternatives described in the Irrigated Lands Regulatory Program Final Environmental Impact Report (Final PEIR; ICF International 2011) certified by resolution R5-2011-0017. The cost estimate below is based upon and encompasses the full range of those alternatives.

The cost estimate for the Long-Term Program accounts for program administration (e.g., Board oversight and third-party activities), monitoring for groundwater and surface water quality, and implementation of management practices throughout the Central Valley. The estimated cost for the annual capital and operational costs to comply with the Long-Term Program range from $216 million to $1,321 million (2007 dollars). This cost estimate is a cumulative total that includes costs from the Sacramento River and San Joaquin River Basin, and the Tulare Lake Basin.

Potential financing sources include:

(1) The Federal Farm Bill, which authorizes funding for conservation programs such as the Environmental Quality Incentives Program (EQIP) and the Conservation Stewardship Program.

(2) Grant and loan programs administered by the State Water Resources Control Board and Department of Water Resources, which are targeted for agricultural drainage management, water use efficiency, and water quality improvement.

These programs include:

(a) Agricultural Drainage Management Program (State Water Resources Control Board)

(b) Agricultural Drainage Loan Program (State Water Resources Control Board)

(c) Clean Water Act funds (State Water Resources Control Board)

(d) Agricultural Water Quality Grant Program (State Water Resources Control Board)

(e) Clean Water State Revolving Fund (State Water Resources Control Board)

(f) Integrated Regional Water Management grants (State Water Resources Control Board, Department of Water Resources)

(3) Those identified in the San Joaquin River Subsurface Agricultural Drainage Control Program (see Water Quality Control Plan for the Sacramento River and San Joaquin River Basins), which are listed below:

(a) Private financing by individual sources.

(b) Bonded indebtedness or loans from governmental institutions.

(c) Surcharge on water deliveries to lands contributing to the drainage problem.

(d) Ad Valorem tax on lands contributing to the drainage problem.

(e) Taxes and fees levied by a district created for the purpose of drainage management.

(f) State or federal grants or low-interest loan programs.

(g) Single-purpose appropriations from federal or State legislative bodies (including land retirement programs).

4.1.2.2 Irrigated Agriculture

Irrigated agriculture accounts for most water used in the Tulare Lake Basin. Local surface water, mainly stored in foothill reservoirs, is controlled for agricultural use. Historically, ground water made up the rest of agricultural needs. However, heavy ground water extractions after the 1930s, when improvements in pump technology led to the development of large turbine pumps, caused severe overdraft and accompanying land subsidence. This led to development of water projects (i.e., the California Aqueduct, the Delta-Mendota Canal, the Friant-Kern Canal, and the Cross City Canal) in the 1950’s, 1960’s and 1970’s to import additional water into the Basin to relieve the demands on ground water. Even with the imported water, municipal, agricultural, and

industrial water users continue to pump ground water to meet demands. Ground water pumping continues to contribute to overdraft of ground water aquifers.

Another problem from irrigated agriculture is drainage, excess water not used by crops which runs off or percolates. Agricultural drainage, depending on management and location, carries varying amounts of salts, nutrients, pesticides, trace elements, sediments, and other by-products to surface and ground waters.

The crucial problem in the Tulare Lake Basin is the salts brought in with irrigation water and leached out of soils. Evaporation and crop transpiration remove water from soils, which can result in an accumulation of salts in the root zone of the soils at levels that retard or inhibit plant growth. Additional amounts of water often are applied to leach the salts below the root zone. The leached salts eventually enter ground or surface water.

The amount of salts which are leached depends on the amounts in the soil profile and the applied waters. In 1970, the Department of Water Resources estimated that 481 million tons of salt were stored in the top 20 feet of soil (or the root zone) in the San Joaquin Valley {Department of Water Resources, “Land and Water Use Aspects of San Joaquin Valley Drainage Investigations”, June 1970}. In 1971, the Department of Water Resources estimated that the four major rivers of the Tulare Lake Basin bring in 145,000 tons of salt per year. Another 63,000 tons are brought in by the Friant-Kern Canal, annually. The Delta-Mendota Canal brings in 336,000 tons per year {Department of Water Resources, “A General Survey of Electrical Conductivity in Ground Water, San Joaquin Valley”, March through June 1971}.

The movement of the salts to surface waters can occur as shallow subsurface ground water flows or it can result from the surface water discharge of agricultural subsurface collection systems (or tile drains) which are employed in areas where farm lands have naturally poor drainage. Tile drains consist of pipe systems below the root zone of crops that drain water from soils that would otherwise stay saturated. TDS concentrations in tile drained water is many times greater than in the irrigation water that was applied to the crops. Tile drain water can also contain trace elements and nutrients. Removal and export, through a valleywide drain, of perched waters will offset, in part, the Basin’s adverse salt accumulation.

Subsurface drainage will be a constant threat to surface water and usable ground water quality unless the disposal method is adequate. Disposal must be in a manner that isolates the salts in the drainage from the usable ground water body. In some areas of the Basin, evaporation basins are used to concentrate drainage water and contain salts. However, evaporation basins cannot be considered permanent solutions due to wildlife impacts, and the cost of ultimate salt disposal and basin closure. The California Department of Water Resources and other federal, state and local agencies continue to study alternative approaches for reuse and disposal of agricultural drainage waters.

The Central Valley provides critically important wetland habitat for wintering waterfowl of the Pacific Flyway. The Pacific Flyway covers the western portion of the North American Continent. Most Pacific Flyway waterfowl are from the prairies and parklands of western Canada and the river valleys and deltas of Alaska. The Central Valley supports approximately 60% of the Pacific Flyway wintering waterfowl population. Hundreds of thousands of shorebirds and other water or marsh birds annually winter or pass through the Central Valley {San Joaquin Valley Drainage Program, “Fish and Wildlife Resources and Agricultural Drainage in the San Joaquin Valley, California”, Volume I, October 1990}.

Evaporation ponds constitute attractive oases for many species of wildlife. Aquatic migratory birds of the Pacific Flyway are drawn to the ponds, in part, because almost all of the native aquatic and wetland habitats in the San Joaquin Valley (especially in the Tulare Lake Basin) have been lost and because the ponds hold surface water in a vast, relatively sterile, agricultural landscape. The ponds also produce abundant aquatic invertebrates which feed large numbers of waterbirds {San Joaquin Valley Drainage Program, "Fish and Wildlife Resources and Agricultural Drainage in the San Joaquin Valley, California", Volume I, October 1990}.

Evaporation basins have varying potentials to impact wildlife, specifically shorebirds. Various studies have been conducted on this impact. Technical reports addressing site-specific and cumulative impacts from the majority of operating basins were completed in 1993. These reports were certified as environmental impact reports (EIRs).

The EIRs focussed on impacts to wildlife and found all basins pose a risk to birds due to salinity and avian disease. To prevent and mitigate these impacts, waste discharge requirements for evaporation basins, adopted in 1993, include the following:

- Removal of attractive habitat, such as vegetation.
- A program for avian and waterfowl disease prevention, surveillance and control.
- Closure and financial assurance plans.
- Drainage operation plan to reduce drainage.

Basins with concentrations of selenium greater than 2.7 µg/l in the drainage water have potential for reduced hatchability and teratogenic impacts on waterfowl. To prevent and mitigate these impacts, waste discharge requirements for these basins, adopted in 1993, include those listed above and the following:

- Intensive hazing prior to the breeding season.
- Egg monitoring.
- Basin reconfiguration, if necessary, to minimize attractiveness to waterbirds.
- Wildlife enhancement program, alternative habitat and/or compensatory habitat.

Regional Water Board policy on agricultural subsurface drainage:

- A valleywide drain to carry salts out of the valley remains the best technical solution to the water quality problems of the Tulare Lake Basin.
- Evaporation basins are an acceptable interim disposal method for agricultural subsurface drainage and may be an acceptable permanent disposal method in the absence of a valley drain provided that water quality is protected and potential impacts to wildlife are adequately mitigated. For existing basins requiring substantial physical improvements and other mitigations, some of which are dependent upon empirically derived techniques, operators shall implement mitigations as early as feasible.

- Persons proposing new evaporation basins and expansion of evaporation basins shall submit technical reports that assure compliance with, or support exemption from, Title 27, California Code of Regulations, Section 20080, et seq., and that discuss alternatives to the basins and assess potential impacts of and identify appropriate mitigations for the proposed basins.

- Agricultural drainage may be discharged to surface waters provided it does not exceed 1,000 µmhos/cm EC, 175 mg/l chloride, nor 1 mg/l boron. Other requirements also apply. An exception from the EC and/or the chloride limit for agricultural drainage discharged to surface waters may be permitted consistent with the Program for Exception from Implementation of Water Quality Objectives for Salinity.

4.1.2.2.1 Lower Kings River

The Lower Kings River from Peoples Weir to Stinson Weir on the North Fork and Empire Weir #2 on the South Fork is a Water Quality Limited Segment (see discussion regarding water quality limited segments later in this chapter) because of high salinity. Studies indicate that the source of the salinity is either surface or subsurface agricultural drainage. Levels of boron, molybdenum, sulfates, and chlorides in the Lower Kings River are high enough to impact agricultural uses and aquatic resources. Additional information is necessary to further characterize discharges to this section of the Kings River. A monitoring program is described in Chapter VI6. In the meantime, drainage should be reduced by the use of at least the following management practices:

- Maximize distribution uniformity of irrigation systems.

- Minimize or eliminate pre-irrigation.

- Control the amount of water applied to each crop so it does not exceed the evapotranspiration needs of the crop and a reasonable leaching factor.

- Minimize seepage losses from ditches and canals to the extent feasible by lining them or replacing them with pipe.

- During periods of extreme dry conditions when dilution flows in the River are very low, farmers in the area should temporarily remove poorly drained land from production.

4.1.2.2.2 Agricultural Chemicals

Pesticides and nutrients in agricultural drainage have found their way to ground waters in many areas of the basin. Nitrate and pesticide levels exceeding the State drinking water standards occur in some ground waters in the basin, and have caused closure of domestic supply wells in several locations. One of the biggest problems facing municipal water providers is the presence of the chemical dibromochloropropane (DBCP) in their wells. The fumigant was widely used in the 1960’s to control nematodes in vineyards and can now be found in wells down gradient of the use areas. Providers sued the manufacturers to recover damages and, as of 1995, most providers within the Valley have settled. State and local agencies are searching for methods to mitigate this problem.

The Department of Pesticide Regulation investigates reported cases of pesticide residues in ground water. Where contamination is confirmed to be through legal use of a pesticide, the

Department designates a pest management zone after holding a public hearing. Use of the pesticide of concern is modified within the management zone created for it. Responsibility for water quality, however, remains with the State and Regional Water Boards. There is a Memorandum of Understanding between the State Water Board and the Department of Pesticide Regulation describing the role of each agency with regard to pesticide regulation.

Agricultural chemical applicators have been a source of pollution from spills, and improper containment and disposal of waters used to clean equipment or work areas. The application facilities fall under Regional Water Board regulatory programs. When appropriate management practices are implemented, waste discharge requirements may be waived (see Appendices 27 and 28, which are incorporated by reference into this plan). Regional Water Board staff also inspect high risk sites to evaluate compliance. Enforcement strategies are implemented as warranted.

4.1.2.3 Confined Animal Activities

The Tulare Lake Basin is a fast-growing animal and milk production area. With urban pressures increasing in other parts of the State, dairymen and poultry operators are moving into the Basin. In 1994, Tulare County had the largest number of cows in the United States. Tulare County was also the top milk producing county in the United States.

Where not controlled, surface runoff from such operations can impair both surface and ground water beneficial uses. Uncontrolled runoff can also cause nuisance conditions. Disposal of washwater and manure must occur in a manner that protects both surface and ground waters.

Animal wastes may produce significant bacteria, organic, nitrate, and TDS contamination. The greatest potential for water quality problems has historically stemmed from the overloading of the facilities' waste containment and treatment ponds during the rainy season and inappropriate application of waste water and manure. Overloading sometimes results in discharge of manure waste to canals and drainageways. Most animal confinement facilities have some crop land available for wastewater and spreading manure; the lands assimilative capacity will depend upon area, crop, crop yield, soil, and season of the year. When land and capacity is exceeded, the excessive salts and nutrients are leached to the underlying ground water. Where land is not available, agreements between the operator and other landowners can increase area available for disposal.

Title 27, California Code of Regulations contains minimum standards to protect both surface and ground waters from discharges of animal waste at confined animal facilities.

In addition to the standards in Title 27, the following is required:

- Lands that receive dry manure shall be managed to minimize erosion and runoff, and applied manure shall be incorporated into surface soils soon after manure application.

- Animal confinement areas, manure storage areas, lagoons, disposal fields, and crop lands that receive manure shall not create a nuisance.

- Salt in animal rations should be limited to the amount required to maintain animal health and optimum production.

- Animal confinement facilities, including retention ponds, shall be protected from overflow from stream channels during 20-year peak stream flows for facilities that existed as of 25 July 1975 and protected from 100-year peak stream flows for facilities constructed after 25 July 1975. Facilities constructed after 8 December 1984 must comply with the specifications in Chapter 15.

- Facilities shall be designed and constructed to retain all facility wastewater generated, together with all precipitation on, and drainage through, manured areas during a 25-year, 24-hour storm. Facilities with operation capacities equal to or greater than the capacities described in 40 CFR 412 (Feedlots Point Source Category) must obtain an National Pollutant Discharge Elimination System (NPDES) permit prior to discharge for events greater than a 25 year, 24 hour storm. (See “Storm Water” section for additional information regarding stormwater regulation.)

- New manure retention ponds shall be sited, designed, constructed, and operated to ensure that the invert of the pond will be at least 5 feet above the highest anticipated elevation of underlying ground water.

Waste discharge requirements for the land application of wastewater may be conditionally waived for animal confinement facilities that can demonstrate compliance with the above. This waiver does not waive responsibility of the facility owner or operator to apply for and comply with a storm water permit. Facilities for which waste discharge requirements are waived shall provide an annual report to the Regional Water Board describing land and waste management practices for the past year. The annual report should summarize the following:

(1) Inventory of total head of milking cows, dry cows, heifers, calves, and comparable number of animal units at the dairy during the year.

(2) Crops and acreage used for wastewater disposal (irrigation application).

(3) Estimates of the quantity of dry manure (tons) spread on site and exported off site, including the location of the fields where the manure is applied, and the names of buyers, and/or locations of application (disposal) areas, if applicable.

4.1.2.4 Unconfined Animals

Grazing animals can contribute bacteria and pathogens to surface waters, just as wildlife do. The greatest potential problem, though, is erosion resulting from overgrazing. Grazing impacts are generally considered nonpoint source pollution. Due to the diffuse nature of this type of pollution, the State Water Board’s Nonpoint Source Management Plan recommends that land use entities in an affected area develop a coordinated resource management plan with Regional Water Board assistance. Good grazing management will prevent pollution and impairment of water quality.

4.1.3 Overdraft

The elimination of overdraft is an important step in managing the rate of salinity increase in the ground water. Continued overdraft will deplete good quality water supplies and introduce salts from poorer quality aquifers.

Continued overdraft has other effects, such as increased costs to overlying landowners from greater pumping lifts, depletion of local ground water, and possible deep subsidence in certain soils with permanent loss of ground water storage capacity.

Various measures can reduce overdraft. Measures include improving efficiency of water use by domestic, industrial, and agricultural users; expanded ground water recharge; watershed management; and development of new sources of supply. The solution to the overdraft problem requires a combination of management programs.

The Regional Water Board goal is to alleviate overdraft and the water quality problems associated with overdraft, and extend the beneficial uses of the ground water resource for the longest period economically feasible. Water used to recharge ground water and imported water supplies must be of the highest quality possible. Banking of water in the ground is encouraged. Construction of storage facilities to store surplus wet-weather basin outflows is also recommended where such facilities do not adversely impact other waters of the state.

4.1.4 Salinity

Degradation of ground water in the Tulare Lake Basin by salts is unavoidable without a plan for removing salts from the Basin. A valleywide drain to carry salts out of the valley remains the best technical solution to the water quality problems of the Tulare Lake Basin. The drain would carry wastewater generated by municipal, industrial, and agricultural activities, high in salt and unfit for reuse. The only other solution is to manage the rate of degradation by minimizing the salt loads to the ground water body.

Some of the salt load to the ground water resource is primarily the result of natural processes within the Basin. This includes salt loads leached from the soils by precipitation, valley floor runoff, and native surface waters.

Salts that are not indigenous to the Basin water resources result from man's activity. Salts come from imported water, soil leached by irrigation, animal wastes, fertilizers and other soil amendments, municipal use, industrial wastewaters, and oil field wastewaters. These salt sources, all contributors to salinity increases, should be managed to the extent practicable to reduce the rate of ground water degradation.

The Regional Water Board supports construction of a valleywide drain to remove salt-laden wastewater from the Basin under the following conditions:

- All toxicants would be reduced to a level which would not harm beneficial uses of receiving water.

- The discharge would be governed by specific discharge and receiving water limits in an NPDES permit.

- Long-term continuous biological monitoring would be required.

The Regional Water Board also encourages proactive management of waste streams to control and manage salts that remain in the Basin. Application or disposal of consolidated treated effluents should be to the west, toward the drainage trough of the valley. If feasible, salts in waste streams should be processed for reuse to reduce the need to import salt. Salt import

should be reduced by assuring that imported water is of the highest quality possible. Water conveyance systems used to import water into the Basin should not be used to transport inferior quality water.

4.1.4.1 Limited-Term Exceptions from Basin Plan Provisions and Water Quality Objectives for Groundwater and for non-NPDES Dischargers to Surface Waters

Pursuant to Water Code sections 13050 and 13240 et seq., the Regional Water Board has adopted beneficial use designations and water quality objectives that apply to surface and ground waters in the basins covered by this Basin Plan as well as programs of implementation. The Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) is a stakeholder effort to develop comprehensive salt and nitrate management plans (SNMPs) by May 2016 that is expected to result in basin plan amendments that will be considered by the Regional Water Board by May 2017. CV-SALTS is undertaking technical work to analyze salt and nitrate conditions in surface and ground water in the Central Valley, identify implementation measures, and develop monitoring strategies to ensure environmental and economic sustainability. The technical work under development includes developing the models for loading and transport of salt, development and evaluation of effective management practices, and implementing activities to ensure beneficial uses are protected. Participation by all stakeholders is necessary to ensure that the work is scientifically justified, supported by broad stakeholder representation, and completed in a timely fashion. The Regional Water Board has indicated its support for the comprehensive effort through CV-SALTS in Resolutions R5-2006-0024, R5-2010-0024, and R5-2013-0149 and the March 2010 Memorandum of Agreement between the Regional Water Board, the Central Valley Salinity Coalition and the State Water Board. The Regional Water Board finds that it is reasonable to grant exceptions to the discharge requirements related to the implementation of water quality objectives for salinity for non-NPDES dischargers to surface water, and for discharges to groundwater in order to allow for development and implementation of the SNMPs.

4.1.4.1.1 Exception to Discharge Requirements Related to the Implementation of Water Quality Objectives for Salinity

(1) Any person[1] subject to waste discharge requirements and/or conditional waivers issued pursuant to Water Code 13269 that are not also NPDES permits may apply to the Regional Water Board for an exception to discharge requirements from the implementation of water quality objectives for salinity. The exception may apply to the issuance of effluent limitations and/or groundwater limitations that implement water quality objectives for salinity in groundwater, or to effluent limitations and/or surface water limitations that implement water quality objectives for salinity in surface water. For the purposes of this Program, salinity and its constituents include, and are limited to, the following: electrical conductivity, total dissolved solids, chloride, sulfate and sodium. The application for such an exception(s) shall be submitted in accordance with the requirements specified in paragraph (8), below.

(2) An exception to discharge requirements from the implementation of water quality objectives for salinity imposed as limitations in either waste discharge requirements and/or conditional waivers that are not also NPDES permits shall be set for a term not to exceed ten years. For exception terms greater than five years, the Regional Water

[1] The term “person” includes, but is not limited to, “any city, county, district, the state, and the United States, to the extent authorized by federal law.” (Wat. Code, § 13050, subd. (c).)

Board will review the exception five years after approval to confirm that the exception should proceed for the full term. The Regional Water Board review will be conducted during a public hearing. An exception may be renewed beyond the initial term if the SNMPs are still under development, and if a renewal application is submitted in accordance with the requirements specified in paragraph (8), below. A renewal must be considered during a public hearing held in accordance with paragraph (10), below.

(3) The Regional Water Board will consider granting an exception to the implementation of water quality objectives for salinity under this Program if the applicant is actively participating in CV-SALTS as indicated by the letter required under paragraph (8)(e)., below.

(4) When granting an exception to the implementation of water quality objectives for salinity under this Program, the Regional Water Board shall consider including an interim performance-based effluent limitation and/or groundwater limitation that provides reasonable protection of the groundwater or the receiving water, where appropriate. When establishing such a limitation, the Regional Water Board shall take into consideration increases in salinity concentrations due to drought, water conservation, and/or water recycling efforts that may occur during the term of the exception granted.

(5) When granting an exception to the implementation of water quality objectives for salinity under this Program, the Regional Water Board shall require the discharger to prepare and implement a Salinity Reduction Study Work Plan, or a salinity-based watershed management plan. A Salinity Reduction Study Work Plan shall at a minimum include the following:

(a) Data on current influent and effluent salinity concentrations;
(b) Identification of known salinity sources;
(c) Description of current plans to reduce/eliminate known salinity sources;
(d) Preliminary identification of other potential sources;
(e) A proposed schedule for evaluating sources; and
(f) A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

A salinity-based watershed management plan shall at a minimum include the following[2]:

(a) A discussion of the physical conditions that affect surface water or groundwater in the management plan area, including land use maps, identification of potential sources of salinity, baseline inventory of identified existing management practices in use, and a summary of available surface and/or groundwater quality data;
(b) A management plan strategy that includes a description of current management practices being used to reduce or control known salinity sources;
(c) Monitoring methods;
(d) Data evaluation; and,
(e) A schedule for reporting management plan progress.

[2] A salinity-based watershed management plan prepared to meet requirements contained within adopted waste discharge requirements, such as those contained in MRP Order R5-2012-0116, Appendix MRP-1, and that is approved by the Executive Officer of the Regional Water Board may be used in lieu of new requirements identified here.

(6) When granting an exception to the implementation of water quality objectives under this Program, the Regional Water Board will include a requirement to participate in CV-SALTS and contribute to the development and implementation of the SNMPs in accordance with the plan submitted under paragraph (8)(f), below.

(7) The granting of an exception to the implementation of water quality objectives for salinity under this Program by the Regional Water Board is a discretionary action subject to the requirements of the California Environmental Quality Act. As such, the Regional Water Board may require the applicant for the exception to prepare such documents as are necessary so that the Regional Water Board can ensure that its action complies with the requirements set forth in the California Environmental Quality Act or the Regional Water Board may use any such documents that have been prepared and certified by another state or local agency that address the potential environmental impacts associated with the project and the granting of an exception from implementation of water quality objectives for salinity in groundwater and/or surface water.

(8) A person seeking an exception to the implementation of water quality objectives for salinity under this Program must submit an application to the Regional Water Board. The person's request shall include the following:

(a) An explanation/justification as to why the exception is necessary, and why the discharger is unable to ensure consistent compliance with existing effluent and/or groundwater/surface water limitations associated with salinity constituents at this time;
(b) A description of salinity reduction/elimination measures that the discharger has undertaken as of the date of application, or a description of a salinity-based watershed management plan and progress of its implementation;
(c) A description of any drought impacts, irrigation, water conservation and/or water recycling efforts that may be causing or cause the concentration of salinity to increase in the effluent, discharges to receiving waters, or in receiving waters;
(d) Copies of any documents prepared and certified by another state or local agency pursuant to Public Resources Code section 21080 et seq.; or, such documents as are necessary for the Regional Water Board to make its decision in compliance with Public Resources Code section 21080 et seq.
(e) Documentation of the applicant's active participation in CV-SALTS as indicated by a letter of support from CV-SALTS.
(f) A detailed plan of how the applicant will continue to participate in CV-SALTS and how the applicant will contribute to the development and implementation of the SNMPs.

(9) Upon receipt of an application for an exception to the implementation of water quality objectives for salinity under this Program, the Regional Water Board shall determine that the exception application is complete, or specify in writing any additional relevant information, which is deemed necessary to make a determination on the exception request. Failure of an applicant to submit any additional relevant information requested by the Regional Water Board Executive Officer within the applicable time period may result in the denial of the exception application.

(10) Within a reasonable time period after determining that the exception application is complete, the Regional Water Board shall provide notice, request comment, and

schedule and hold a public hearing on the application within a timely manner. The notice and hearing requirements shall comply with those set forth in Water Code section 13167.5. The exception shall be issued through a resolution or special order that amends applicable waste discharge requirements and/or conditional waiver requirements.

(11) There will be no new salinity exceptions and salinity exceptions will not be renewed after 30 June 2019.

4.1.5 Silviculture

Forest management activities, principally timber harvesting and application of herbicides, have the potential to impact beneficial uses.

Timber harvest activities occur annually on tens of thousands of acres of private and federal land in the Basin and they may affect water quality throughout the area being harvested. Logging debris may be deposited in streams. Landslides and other mass soil movements can also occur as a result of timber operations. The amount of sediment washed from a logged area is directly proportional to the density of roads and skid trails in the area. Thus, the area used for roads, skid trails, and landings should be minimized. Proper drainage should be provided. Crossings of streams and other natural channels must be kept to a minimum. Activities (particularly, use of mechanical equipment) in wet meadow areas should be minimized. Disturbed areas should be reseeded or should receive erosion control treatment. The U. S. Forest Service and the California Department of Forestry and Fire Protection designates zones in each harvest area where the activities are closely controlled to protect the quality of water in streams and lakes. These water protection zones reflect the degree of erosion hazard in the tributary areas and apply in all areas where man's activities threaten to degrade the quality of waters in the streams.

Herbicides are sometimes used in silviculture to reduce commercial timber competition from weeds, grasses, and other plants or to prepare a site for planting of commercial species by eliminating existing vegetation. Problems associated with use of herbicides in forests in the Tulare Lake Basin are not well documented, although there is concern that there may be transport from target sites to streams by wind and water runoff. The U. S. Forest Service and the California Department of Forestry and Fire Protection should keep records of all pesticides, herbicides, or fertilizers used for forest and range management, for insect and disease protection, or for fire control, listing time, place, reason for use, and amounts used. To the extent feasible, such materials shall be precluded from entering streams.

The State and Regional Water Boards entered into agreements with both the U. S. Forest Service and the California Department of Forestry and Fire Protection. These agreements require these agencies to control nonpoint source discharges by implementing control actions certified by the State Water Board as best management practices. The Regional Water Board enforces compliance with best management practices and may impose control actions above and beyond what is specified in the agreements, such as adoption of waste discharge requirements, if the practices are not applied correctly or do not adequately protect water quality.

4.1.6 Mineral Exploration and Extraction

Drainage and runoff from mines and various operations associated with mining can result in serious impacts to ground and surface water beneficial uses, if not properly managed. Efforts to control drainage have gradually expanded over the years. A staff assessment of mine water quality problems, done in 1979, identified an approach to the problems (see Appendix 29, which is incorporated by reference into this plan). Sedimentation caused by mining can be addressed by discharge requirements for existing mines, but the Regional Water Board does not have a specific program for controlling erosion from abandoned mines.

Title 23, California Code of Regulations (CCR), Division2, Chapter 15 and Title 27, CCR, Division 2, Subdivision 1 contains standards to protect both surface and ground waters from discharge of mining wastes. Surface and subsurface drainage systems should be installed to prevent or minimize contact between water and any minerals that will impair the quality of water draining from the mine. Mine tailing piles must be prevented from eroding.

Additional environmental protection regulations are found in Title 14, California Code of Regulations, Division 2, Chapter 8, Subchapter 1.

Discharges of dredge spoils and process discharges from sand and gravel operations to surface waters shall be regulated by a National Pollutant Discharge Elimination System (NPDES) permit. In addition, these operations are also subject to storm water regulations. Operators must submit a Notice of Intent to comply with the General Industrial Activities Storm Water Permit or obtain an individual NPDES permit.

Requirements for small, short-term discharges confined to land from sand and gravel operations may be waived.

4.1.7 Erosion

Erosion is one of the greatest problems in the watershed area. Erosion is a natural occurrence, but most activities of man accelerate the process. Erosion causes discoloration of streams, and the suspended matter settles to form a smothering blanket on the stream bed. Erosion is accelerated by poor drainage and soil stabilization associated with the following activities: road building, clearing land, leveling land, construction, logging, brush clearing, off-road vehicle use, agriculture, overgrazing, and fires.

Disturbance of soil, vegetation, organic debris, and other materials that control runoff should be minimized. The Regional Water Board's policies on soil disturbance activities are as follows:

- Operations and activities should be planned and conducted in a manner that will not disturb extensive areas of soil or that will disrupt local drainage.

- Areas where soil is disturbed should be promptly reseeded or stabilized to prevent erosion.

- Strict regulation of activities in water protection zones, as described above in the "Silviculture" section, should be established.

- The stream flow regimen should be stabilized and maintained, and soil control measures should be applied in a timely manner.

- Neither organic nor earthen material should be discharged into any streams nor should such materials be placed at locations where they can pass into streams in quantities that could impair any beneficial use of the water.

- Operations and activities that cause increased turbidity levels in local streams must be regulated so that streams are not affected for extended periods or for more than ten percent of the time and operations and activities shall not violate water quality objectives.

Erosion control guidelines are included in the erosion/sedimentation action plan which is Appendix 30 and is incorporated by reference into this plan.

4.1.8 Recreation

Recreational activity can cause water quality problems. Boating can cause waves which increase lake bank erosion. Other potential water quality impacts may result from boat exhausts and oils entering the water, human secretions and excretions, various waste disposal activities, or cleaning fish and other activities. In certain intensive use areas without sufficient toilet facilities, a reach of stream bank or section of trail may be marked with closely interspersed fecal deposits, a direct threat both from contact and from ready transport into surface stream channels. Another problem is the disposal of material from vault privies or chemical toilets. Most installations are far removed from conventional waste treatment plants; thus, the use of such facilities for disposal is impractical. Climate, geology, and other factors become critical when considering local disposal as a part of routine maintenance. Some installations are considering use of flush toilets and a package, biological treatment system. Such systems must meet the requirements of a domestic wastewater treatment facility (See the “Discharges to Land” subsection of the “Municipal and Domestic Wastewater” section).

Attractive, convenient, and adequate toilet facilities, fish cleaning sinks, and disposal containers should be provided to prevent disposal in or near surface waters. Measures should be implemented to reduce lake bank erosion, such as reducing boat speeds near banks. Programs and procedures, developed from studies where necessary, must be adopted for processing and disposal of solid wastes and vault toilet pumpings from recreational areas. Educational programs on proper handling and disposal of wastes must be made available to classes and groups who would apply the techniques.

4.1.9 Well Standards

Improper well construction, maintenance, abandonment, or destruction can lead to contamination of ground water. California Water Code, Section 13801, requires all counties to adopt water well standards in accordance with Department of Water Resources Bulletin No. 74-81: “Water Well Standards: State of California,” and Bulletin No. 74-90: “California Well Standards”. Counties in the Tulare Lake Basin have established well standards equal to or more stringent than those in the bulletin.

4.1.10 Controlled Burning

Controlled burning is a method to regulate growth of some chaparral species and encourage the growth of preferable trees and grasses. Controlled burning helps prevent wildfire and uncontrolled burns. Burning changes the character of eroded matter from organic to mineral and may increase the contribution of material to streams. Burned areas, whether from controlled or uncontrolled burns, should be managed to minimize erosion of materials into streams.

4.1.11 Municipal and Domestic Wastewater

Increasing population and a higher standard of living require continuing expansion of wastewater treatment facilities. Advances in technology, normal equipment deterioration, and higher performance expectations require continuing replacement of these facilities. Expansion and replacement of municipal wastewater treatment facilities are integral components of the wastewater management program. Wastewater facilities should be evaluated periodically to determine if they adequately meet long-term needs, i.e., 20 years in the future. Financial programs must include a capital replacement fund to provide for these future needs. New land developments should include collection and treatment facilities as part of the initial plans.

The Regional Water Board regulates all municipal wastewater discharges to protect the quality and beneficial uses of ground water and surface water resources, to maximize reclamation and reuse, and to eliminate waste associated health hazards.

Municipal and industrial point source discharges to surface waters are generally controlled through National Pollutant Discharge Elimination System (NPDES) permits. Although the NPDES program is established by the federal Clean Water Act, the permits are prepared and enforced by the regional water boards through program delegation to California and implementing authority in the California Water Code.

The Regional Water Board will issue NPDES permits and waste discharge requirements for municipal waste discharges to protect water quality. Dischargers will be required to reclaim and reuse wastewater whenever reclamation is feasible.

To prevent nuisance, dischargers are required to manage vegetation on their respective facilities. However, birds may utilize this same vegetation during nesting season, creating a potential conflict between the Health and Water Codes and the Fish and Game Code. In accordance with a Memorandum of Understanding between the Department of Fish and Game (now the California Department of Fish and Wildlife) and Mosquito Abatement Districts in the Tulare Lake Basin (copy is Appendix 25), vegetation management operations should be conducted so that weed removal operations are not necessary when nesting takes place, which is between April 1 and June 30.

4.1.11.1 Individual Waste Systems

Control of individual waste treatment and disposal systems can best be accomplished by local county environmental health departments if these departments are strictly enforcing an ordinance that is designed to provide complete protection to ground and surface waters as well as public health. Consistent with this approach, the Regional Water Board implements the State

Water Board's *Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems* (OWTS Policy).

The Regional Water Board will consider adoption of a ban on new septic tank systems and elimination of existing systems in areas where the systems contaminate underlying ground water or where a substantial percentage of existing systems fail annually. In making this determination, the Regional Water Board must consider the factors listed in Section 13281 of the California Water Code. (See the "Prohibitions" section of this chapter for a listing of communities with septic tank system moratoria.) The Regional Water Board will also review alternatives to protect water quality standards and beneficial uses; and prevent nuisance, pollution and contamination. Alternatives may include any combination of individual disposal systems, community collection and disposal systems with subsurface disposal, and conventional treatment systems.

A problem may develop in some agricultural areas of the Basin owing to saturation of the soil when irrigation water along the valley trough is restricted from percolating through the soil profile. As the areal extent of this condition expands, individual waste disposal systems in areas where community sewers are not an option may create surfacing waste and a public health problem.

4.1.11.2 Septage

Every three years, septage should be pumped from the average septic tank. Commercial liquid waste haulers provide this service. Small sewage treatment plants that may be in a rural area of septic tank users are reluctant to accept pumpings from individual waste disposal systems and vault toilets because of the extremely variable nature of the waste and its potential adverse effect on the plant's operation. Where regional wastewater plants have been funded with federal or state grants, one condition of the award typically requires provision for septage. Where this variability can be accommodated, haulers may find the hauling distance too great and fees too large. As a result, illegal dumps of this waste sometimes occur and cause aesthetic and public health problems.

County authorities presently license septic tank pumpers through their environmental health departments. Thus, county and municipal agencies provide effective control, treatment, and disposal of septic tank pumpings. Upon approval of the County Health Officer, septic tank pumpings may be disposed to qualified waste disposal sites, as defined in Chapter 15, or to disposal facilities specifically approved to receive these wastes.

The Regional Water Board recommends construction of facilities for septic tank pumpings at municipal sewage treatment plants where the waste will not interfere with treatment or cause nuisances.

4.1.11.3 Effluent Limits

Discharges must meet effluent and receiving water limits set forth in adopted waste discharge requirements. Point source discharges to navigable waters must comply with Section 301 of the Clean Water Act. Point source discharges to land must comply with waste discharge requirements developed according to California Water Code Section 13377 and Section 13263, respectively. NPDES permits must be renewed every 5 years. Other waste discharge requirements must be reviewed every 5, 10, or 15 years depending upon the threat to water quality of the discharge.

The effluent limits presented in the following sections of this chapter are the minimum treatment level which must be provided.

4.1.11.4 Discharges to Navigable Waters

40 CFR 125 requires publicly owned treatment works to provide secondary treatment and best practicable waste treatment technology, or provide adequate treatment to meet the water quality standards, whichever is more stringent. (40 CFR 133 defines secondary treatment as removal of 85 percent or reduction to 30 mg/l, whichever is more stringent, of both 5-day BOD and suspended solids.) Effluent limitations for other point sources are also described in 40 CFR 125. Special limitations for certain types of industrial discharges are defined in the 40 CFR 400 series. These sources must provide best practicable control technology currently available.

The following policy shall govern waste discharges to navigable waters in the Tulare Lake Basin:

- Discharges to surface waters will not be considered a permanent solution when the potential exists for wastewater reclamation.

- Discharge to ephemeral streams or to streams that have limited dilution capacity will not be considered a permanent solution unless it is accomplished in such a manner as to safeguard the public health and prevent nuisances, and the wastewater is of such a quality that it benefits streamflow augmentation.

- Dischargers in mountain areas must evaluate land disposal as an alternative. Where studies show that year-round land disposal is not practicable, dischargers must evaluate dry season land disposal as an alternative.

As a minimum, dischargers to surface waters, including stream channels, shall comply with the following effluent limits:

- All domestic discharges shall be adequately treated and disinfected to reliably meet wastewater reclamation criteria (Title 22, California Code of Regulations, Division 4, Section 60301, et. seq.).

- The maximum electrical conductivity (EC) of a discharge shall not exceed the quality of the source water plus 500 micromhos per centimeter (µmhos/cm) or 1,000 µmhos/cm, whichever is more stringent. When the water is from more than one source, the EC shall be a weighted average of all sources.

- Discharges shall not exceed an EC of 1,000 µmhos/cm, a chloride content of 175 mg/l, or a boron content of 1.0 mg/l.

- An exception from the EC and/or the chloride limitations identified here may be granted for municipal and domestic wastewater discharges to navigable waters if a variance is granted pursuant to the *Variance Policy for Surface Water*.

In addition to the above, discharges to waters having an EC or water quality objective of less than 150 µmhos/cm shall comply with the following:

- Complete removal of settleable and floatable solids
- Nutrient removal as necessary to control biostimulation
- Removal of dissolved solids to levels consistent with those of the receiving waters
- Ammonia removed as necessary to protect aquatic life.
- Substantially complete removal of any substance known to be toxic to plant and/or animal life.

4.1.11.5 Discharges to Land

Wastewater treatment facilities that discharge to land in a manner that waste may infiltrate below the ground surface and degrade ground water must also comply with effluent limits. The excellent quality of ground waters along the easterly edge of the Basin should be protected by encouraging the application or disposal of consolidated treated effluents to the west, toward the drainage trough of the valley.

The levels of treatment required of all domestic wastewater facilities with land disposal are as follows:

1. Primary: Primary treatment is acceptable only under exceptional circumstances, typically a relatively minor discharge in an isolated location where there is little risk of nuisance or water quality degradation. Treatment and disposal in some instances could be provided by septic tanks and a leach field. Increased amounts of wastewater or nuisance conditions would require an upgrade in level of treatment.

2. Advanced Primary: This treatment may be satisfactory for smaller facilities in outlying or remote areas where the potential for odors and other nuisances is low. Advanced primary shall provide removal of 60 to 70 percent or reduction to 70 mg/l, whichever is more restrictive, of both 5-day BOD and suspended solids.

3. Secondary Treatment: Secondary treatment should remove 85 percent or reduce to 30 mg/l, whichever is more restrictive, of both 5-day BOD and suspended solids. Secondary treatment may be required where public access to wastewater is not precluded.

   Most wastewater discharges will be adequately precluded from public access and secondary treatment will not be necessary. Facilities which discharge or are designed to discharge in excess of 1 million gallons per day must provide removal of 80 percent or reduction to 40 mg/l, whichever is more restrictive, of both 5-day BOD and suspended solids. Smaller facilities (less than 1 million gallons per day) in close proximity to an urbanized area or using particular methods of effluent disposal (e.g., irrigation of certain types of crops) will also be required to provide 80 percent removal or reduction to 40 mg/l, whichever is more restrictive, of both 5 day BOD and suspended solids.

4. Advanced Wastewater Treatment: Reclaimed water used for the spray irrigation of food crops must also be coagulated and filtered. Coagulated wastewater means oxidized

wastewater in which colloidal and finely divided suspended matter have been destabilized and agglomerated by the addition of suitable floc-forming chemicals or by an equally effective method. Filtered wastewater means an oxidized, coagulated, clarified wastewater which has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth, so that the turbidity does not exceed an average operating turbidity of 2 NTUs and does not exceed 5 NTUs more than 5 percent of the time during any 24-hour period {Title 22, California Code of Regulations, Section 60301, et seq.}.

Additional effluent limits follow:

- The incremental increase in salts from use and treatment must be controlled to the extent possible. In most circumstances, the maximum EC shall not exceed the EC of the source water plus 500 µmhos/cm. When the source water is from more than one source, the EC shall be a weighted average of all sources. However, under certain circumstances, the Regional Board, upon request of the discharger, may adopt an effluent limit for EC that allows EC in the effluent to exceed the source water by more than 500 µmhos/cm. This request will be granted consistent with the Policy for Exception from Implementation of Water Quality Objectives for Salinity.

- Concentration of total coliform organisms in reclaimed wastewater must be in accordance with limits established in the following provisions of Title 22, California Code of Regulations: Sections 60303 (Spray Irrigation of Food Crops), 60305 (Surface Irrigation of Food Crops), 60311 (Pasture for Milking Animals), 60313 (Landscape Irrigation), 60315 (Nonrestricted Recreational Impoundment), 60317 (Restricted Recreational Impoundment), and 60319 (Landscape Impoundment).

- In the Poso Creek Subarea, discharges shall not exceed 1,000 µmhos/cm EC, 200 mg/l chlorides, and 1.0 mg/l boron. The Poso Creek subarea consists of about 35,000 acres of land between State Highways 99 and 65 about six miles north of Bakersfield, and is defined more specifically in Regional Water Board Resolution No. 71-122, which is incorporated by reference into this plan.

- In the White Wolf Subarea, for areas overlying Class I irrigation water, discharges shall not exceed 1,000 µmhos/cm EC, 175 mg/l chlorides; 60 percent sodium, and 1.0 mg/l boron. For areas overlying Class II or poorer irrigation water, discharges shall not exceed 2,000 µmhos/cm EC, 350 mg/l chlorides, 75 percent sodium, and 2 mg/l boron. In areas where ground water would be Class I except for the concentration of a specific constituent, only that constituent will be allowed to exceed the specified limits for Class I water. In no case shall any constituent be greater than those limits specified for areas overlying Class II irrigation water. The White Wolf subarea consists of 64,000 acres within the valley floor, at the southern tip of the Tulare Lake Basin, about 20 miles south of Bakersfield. The subarea is bounded on the west by the San Emigdio Mountains, on the south and east by the Tehachapi Mountains, and on the north by the White Wolf Fault.

Criteria for mineral quality of irrigation water is described below:

Constituent	Class I	Class II	Class III
TDS (mg/l)	<700	700 - 2,000	>2,000
EC (μmhos/cm)	<1,000	1,000 - 3,000	>3,000
Chlorides (mg/l)	<175	175 - 350	>350
Sodium (percent base constituents)	<60	60 - 75	>75
Boron (mg/l)	<0.5	0.5 - 2	>2

- Discharges to areas that may recharge to good quality ground waters shall not exceed an EC of 1,000 μmhos/cm, a chloride content of 175 mg/l, or a boron content of 1.0 mg/l.

- An exception from the EC and/or the chloride limit for discharges to land may be permitted consistent with the *Program for Exception from Implementation of Water Quality Objectives for Salinity*.

4.1.11.6 Wastewater Reclamation

Reclaimed water provides a substitute source of water and provides nutrients that nourish crops. When properly managed, reclamation consumes nitrates and effluent that would normally percolate to local ground waters underlying a community and can free up potable water for growth or other uses. Extensive reclamation is a practical necessity simply to maintain present levels of development and activity in the Basin.

Wastewater reclamation shall be maximized by controlling or limiting salt pickup and evaporation during use, treatment, or disposal. Integration of final disposal into existing surface distribution systems appears to be advantageous. Wherever feasible, eventual wastewater reclamation will be requested.

Title 22, California Code of Regulations, establishes reclamation criteria for direct use of reclaimed water but has no criteria for wastewater distributed with irrigation supplies. Therefore, municipal treatment facilities producing effluent for introduction to irrigation canals for unrestricted irrigation will be required, as a minimum, to disinfect to 23 MPN coliform per 100 ml. The State Water Board Division of Drinking Water Programs will be consulted for all cases.

To facilitate the use of treated wastewater with short notice, wastewater reclamation requirements may be waived for up to one year provided that the following conditions are met:

(1) The reclaimed water will comply with any applicable criteria provided by Title 22, Division 4, California Code of Regulations;

(2) The proposed uses receive prior approval from the state and local health departments and the Executive Officer; and

(3) The reclamation project is consistent with the “Guidelines for Use of Reclaimed Water” developed by the Department of Health Services (now the State Water Board Division of Drinking Water Programs). The "Guidelines for Use of Reclaimed Water" is incorporated by reference into this plan. (See Appendix 34.)

Reclamation projects more than one year in duration may be allowed to proceed prior to final approval of reclamation requirements provided that the use complies with reclamation criteria.

Waste discharge requirements will be revised and wastewater reclamation requirements adopted as soon as possible to allow reuse. No enforcement actions will be taken against a community allowing wastewater reuse prior to revision of waste discharge requirements provided that the use complies with reclamation criteria.

Reclamation policies are as follows:

- Discharges to surface water and evaporation of reclaimable wastewater will not be acceptable permanent disposal methods where opportunity exists to replace an existing use or proposed use of fresh water with reclaimed water; a timetable for reclamation or reuse may be set by the Regional Water Board.

- The quality of waste discharges shall be regulated to promote reclamation and reuse wherever feasible.

- Rates of wastewater application that exceed reasonable agronomic rates will not be considered as reclamation or reuse.

- Project reports for new or expanded wastewater facilities shall include plans for wastewater reclamation or the reasons why this is not possible.

- Where studies show that year-round or continuous reuse of all of the wastewater is not practicable, consideration shall be given to partial reuse of the flow and seasonal reuse.

The irrigation season in the Tulare Lake Basin area typically extends 9 to 10 months, but monthly water usage varies widely. To maximize reuse, users should provide water storage and regulating reservoirs, or percolation ponds that could be used for ground water recharge of surplus waters when there is no irrigation demand.

State Water Board policy, described in Resolution No. 77-1, Appendix 4, encourages and provides funds for reclamation projects that protect beneficial uses of existing water supplies, encourage water conservation, and encourage other agencies to assist in implementation.

4.1.11.7 Consolidations

Proliferation of small treatment plants in developed areas is undesirable. Most small communities do not have adequate resources to properly manage, treat and dispose of wastewater in an urban environment. Typical problems involve nuisance and ground water pollution. Small communities and development close to other small communities may be able to construct and operate a joint wastewater treatment facility with greater treatment ability, opportunity for reclamation, and for lower cost. Policies on consolidation are as follows:

- Adjoining small communities should combine resources to construct and operate a joint or regional wastewater treatment plant.

- Consolidation, whether one or more regional facilities operated by a single sewering authority, should be cost-effective, and consider benefits to the ecology, treatment efficiencies, and effective reuse of the waters.

- Unsewered areas and new developments adjacent to or within existing wastewater collection system service areas should be connected to the system. Developments not within a service area but within the projected sphere of influence of a regional system should be developed in a manner that provides for future connection to the system when the regional sewer system becomes available. One condition of approval of individual sewage disposal systems in certain areas and of certain densities may be that developments be dry sewered in a manner that provides cost-effective sewerage infrastructure to be placed during initial construction.

- Each municipal facility should act as a regional facility and provide sewerage services within its sphere of influence. The municipality must be equitably compensated for these services.

- Areas recommended for consolidation of wastewater systems are the Parlier area, the Bakersfield area, and the City of Delano. The Selma-Kingsburg-Fowler (Tri-Cities) and Fresno-Clovis regions have been consolidated. Consolidations of other wastewater treatment plants may be justified at some future time.

The intent of this policy is to make consolidation the rule rather than the exception. Consolidation should be compared to other approaches. If such a comparison yields clear technical, environmental, or economic advantages for consolidating, then consolidation should be implemented.

4.1.11.8 Pretreatment

Many municipal facilities in the Basin treat significant volumes of industrial wastewater. Most of this wastewater is from agriculture-related industries that fluctuate seasonally. Requirements for industrial users that discharge directly to surface water or to land are in the “Industrial Wastewater” Section of this chapter. Indirect industrial users discharge to a municipal wastewater treatment system and are regulated by the municipal discharger. Policies on pretreatment are as follows:

- All publicly owned treatment works (POTWs) with a design flow greater than 5.0 million gallons per day must comply with 40 CFR 403, the federal pretreatment program requirements.

- Smaller POTWs with industrial flows which may cause pass-through or interference may also be required to develop pretreatment programs.

- All industrial users that discharge to POTWs must comply with the National Pretreatment Standards regardless of whether the POTW has an approved pretreatment program.

4.1.12 Industrial Wastewater

The number of known cases of ground water pollution or public nuisance attributable to industrial sources has increased steadily over the last decade. Much of the increase is due to

sources such as underground tanks that were never intended to discharge but which leaked undetected for years. The Region's inventory of underground storage tanks indicates a high number of leaking tanks. Ground water contamination from other industrial sources generally occurs from the illegal discharge of fluids or other materials used in production processes. Waste compounds have been discharged directly to unlined sumps, pits, or depressions and spread on soils. In some cases, these disposal practices went on for many years before they were discovered or discontinued.

There are two types of industrial dischargers: direct and indirect. Indirect dischargers are those who discharge into community wastewater systems. The federal regulations require that all indirect users abide by general National Pretreatment Standards and that certain categories of indirect users comply with specific discharge standards. (See Pretreatment Section, above.)

Direct dischargers discharge to either surface water or land. Surface water dischargers are subject to federal and state regulations. Federal regulations require dischargers to comply with best conventional pollutant control technology (BCT), best practicable control technology currently available (BPT), or best available technology economically achievable (BAT). Effluent limitations for specific industrial waste discharges to surface waters, together with standards of performance and pretreatment standards for new sources, are found in 40 CFR 400. Waste source categories of particular interest in the Tulare Lake Basin include dairy product processing, meat product and rendering processing, canned and preserved fruit and vegetable processing, beet sugar processing, and petroleum production and refining. When treatment technology is not defined, regulations specify use of best practicable judgement (BPJ).

Generally, the effluent limits established for municipal waste discharges will apply to industrial wastes. Industrial dischargers shall be required to:

(1) Comply with water quality objectives established in Chapter 3.

(2) Comply with Chapter 15 for discharges of designated or hazardous waste unless the discharger demonstrates that site conditions and/or treatment and disposal methods enable the discharge to comply with this Basin Plan and otherwise qualify for exemption from Chapter 15.

(3) Comply with effluent limitations set forth in 40 CFR 400 when discharge is to surface water.

(4) Comply with, or justify a departure from, effluent limitations set forth in 40 CFR 400 if discharge is to land.

(5) Limit the increase in EC of a point source discharge to surface water or land to a maximum of 500 µmhos/cm. A lower limit may be required to assure compliance with water quality objectives.

An exception to this EC limit may be permitted for industrial sources when the discharger technically demonstrates that allowing a greater net incremental increase in EC will result in lower mass emissions of salt and in conservation of water, provided that beneficial uses are protected.

An exception may also be permitted for food processing industries that discharge to land and exhibit a disproportionate increase in EC of the discharge over the EC of the source

water due to unavoidable concentrations of organic dissolved solids from the raw food product, provided that beneficial uses are protected. Exceptions shall be based on demonstration of best available technology and best management practices that control inorganic dissolved solids to the maximum extent feasible.

Cull fruits and wastes from food processing generally are voluminous and may have a high water content like winery wastes. Provision should be made for thin spreading of such materials on the fields, followed promptly by disking into the soil.

An exception from the EC limit may also be permitted consistent with the *Program for Exception from Implementation of Water Quality Objectives for Salinity.*

(6) The Regional Water Board encourages the reclamation and reuse of wastewater, including treated ground water resulting from a cleanup action, where practicable and requires as part of a Report of Waste Discharge an evaluation of reuse and land disposal options as alternative disposal methods. Reuse options should include consideration of the following, where appropriate, based on the quality of the wastewater and the required quality for the specific reuses: industrial and municipal supply, crop irrigation, landscape irrigation, ground water recharge, and wetland restoration. Where studies show that year-round or continuous reuse of land disposal of all the wastewater is not practicable, the Regional Water Board will require dischargers to evaluate how reuse or land disposal can be optimized, such as consideration of reuse/disposal for part of the flow and seasonal reuse/disposal options (e. g., dry season land disposal).

(7) Unless an exception is technically justified, segregate domestic waste from industrial waste, and treat and dispose of domestic waste according to the policy for municipal and domestic wastewater.

Additional specific requirements have been adopted for wastewater from oil fields and wineries.

4.1.12.1 Oil Field Wastewater

Hydrocarbon production in the San Joaquin Valley's 74 oil fields generates significant volumes of wastewater. Oil field producers continue to use hundreds of sumps as oil/wastewater separators and as wastewater disposal sumps. Some oil field wastewaters contain salts, oil and grease, metals, and organics which can present a threat to the beneficial uses of underlying good quality ground water. However, in some areas, wastewater may be of a quality which allows its reuse for reclamation or discharge to surface waters. In these instances, waste discharge requirements or NPDES permits, as appropriate, are issued. In addition, some ground water in the Basin is naturally of such poor quality that oil field wastewater will not impact its beneficial uses. Due to historical practices, degradation of ground water from oil field wastewater disposal occurred in some areas. The petroleum industry has been eliminating oilfield wastewater disposal sumps.

With the gradual elimination of the use of sumps for disposal, increased amounts of produced wastewater are being discharged to Class II injection wells. Title 14, California Code of Regulations, Section 1724.6, et seq., defines environmental protection regulations relating to oil and gas operations administered by the California Department of Conservation, Division of Oil, Gas & Geothermal Resources in cooperation with other state regulatory agencies. The Department of Conservation administers the federal underground well injection program for Class II injection wells within the state. The Regional Water Board reviews and may comment

on the permit application regarding water quality concerns. The review process is in accordance with a Memorandum of Agreement between the State Water Board and the Department of Conservation. The purpose of the agreement is to ensure that the construction or operation of Class II injection disposal wells and the land disposal of wastewaters from oil, gas, and geothermal production facilities does not cause degradation of waters of the state. The Memorandum of Agreement provides a coordinated approach that results in a single permit satisfying the statutory obligations of both agencies.

The Memorandum of Agreement also requires the Department of Conservation to notify the Board of all pollution problems, including spills associated with operators and/or new proposed oil field discharges. The agencies must work together, within certain time-lines, to review and prepare permits and coordinate enforcement actions.

Policies regarding the disposal of oil field wastewater are:

- Maximum salinity limits for wastewaters in unlined sumps overlying ground water with existing and future probable beneficial uses are 1,000 µmhos/cm EC, 200 mg/l chlorides, and 1 mg/l boron, except in the White Wolf subarea where more or less restrictive limits apply. The limits for the White Wolf subarea are discussed in the “Discharges to Land” subsection of the “Municipal and Domestic Wastewater” section.

- Discharges of oil field wastewater that exceed the above maximum salinity limits may be permitted to unlined sumps, stream channels, or surface waters if the discharger successfully demonstrates to the Regional Water Board in a public hearing that the proposed discharge will not substantially affect water quality nor cause a violation of water quality objectives.

- An exception from the EC and/or the chloride limit may be permitted consistent with the *Program for Exception from Implementation of Water Quality Objectives for Salinity*.

- Disposal sumps shall either be free of oil or effectively covered or screened to preclude entry of birds or animals. Compliance monitoring for wildlife problems shall continue to be deferred to the Department of Conservation and the California Department of Fish and Wildlife. The Regional Water Board will respond to complaints, spot check for compliance, and enforce conditions as necessary.

- Sumps adjacent to natural drainage courses shall be protected from inundation or washout, or properly closed.

- Regulation of oil field dischargers shall be coordinated with all other state and federal agencies having jurisdiction and interest in the oil field.

- The discharge of produced wastewater to land, where the concentration of constituents may cause ground water to exceed water quality objectives, shall be subject to the requirements contained in the California Code of Regulations, Title 27, Section 20005, et seq. (Title 27).

4.1.12.2 Wineries

A substantial number of wineries operate throughout the Central Valley. Many of these wineries produce substantial quantities of stillage waste which is high in concentrations of BOD, EC,

TDS, and nitrogen. As stillage is normally discharged directly to land without any prior treatment, there is significant potential for the waste to affect water quality and to create nuisance conditions if not managed properly.

A study conducted in 1980 developed recommendations for minimizing water quality effects and nuisance conditions resulting from land application of stillage waste {Metcalf and Eddy, “Land Application of Stillage Waste: Odor Control and Environmental Effects”}. Based on the study, the Regional Water Board adopted guidelines for the land disposal of stillage waste from wineries. These guidelines may not be sufficient where local soil, ground water, weather, or other conditions are not compatible with the stillage to be disposed. These guidelines prescribe the minimum requirements for disposal of stillage waste from wineries and do not preclude the establishment of more stringent requirements as necessary to comply with water quality objectives. The policy for land disposal of stillage waste is presented below.

Land Disposal of Stillage Waste from Wineries

Rapid Infiltration Method for Disposal of Stillage:

(1) Disposal Site Requirements

(a) Land for disposal should be as remote from habitation as possible.

(b) Soils should be capable of infiltrating 3 to 4 inches of stillage in 24 hours or less.

(c) Soil permeability should be greater than 2 inches per hour for the entire profile.

(d) There should be no unripped hardpan within the top 10 feet of the soil profile.

(e) Soil depth should be 10 feet or greater.

(f) Depth to ground water should be 10 feet or greater.

(2) Operational Procedures

(a) Cooling water and any other wastewater with low COD concentrations should be separated from the stillage before land application.

(b) Stillage waste should be spread on land between long, narrow, level checks. The surface should be leveled uniformly within 0.1 foot per 100 feet, without potholes.

(c) At the inlet of the checks, the flow should be distributed using splash plates or other devices to prevent deep holes from forming.

(d) The depth of each stillage application should not exceed the following:

Period of Year	Depth of Stillage Application (inches)
Aug 1 to Oct 1	3.7
Oct 1 to Dec 1	3
Dec 1 to May 1	2.5

(e) Standing stillage should not be present 24 hours after application has ceased.

(f) After stillage waste has been applied to an area, the area should be allowed to dry for at least the following period before re-application of waste:

Period of Year	Drying Time (days)
Aug 1 to Oct 1	6
Oct 1 to Dec 1	9
Dec 1 to May 1	13

(g) After stillage has been applied to an area, if leathers have not been removed, the area should be raked, rototilled, or an equivalent method should be used before re-application of stillage.

(h) Loading rates and drying times for stillage waste from raisins or pomace should follow the criteria for December 1 to May 1 operations.

(i) Land area used for disposal should equal or exceed the following:

Period of Year	Land Area † (acres per 100,000 gpd of stillage waste)
Aug 1 to Oct 1	7
Oct 1 to Dec 1	12.3
Dec 1 to May 1	20.6

† These land areas are directly related to the drying time stated in (f), above. Complete infiltration recovery to the original values may not be obtained by these relatively short resting cycles. At some application sites, the infiltration rate constantly decreases as the application season progresses. A decrease in infiltration of about 75% can be expected with only three applications. Therefore, the number of stillage applications at a specific site should be kept to a minimum. Repeated applications of stillage allowing only minimum drying times may require larger land areas.

(j) During periods when it is not used for stillage disposal, the disposal area should be planted with crops to assist in the removal of residual nitrogen concentrations from the soil if necessary.

Slow Rate Irrigation Method:

Most existing stillage disposal sites are located on relatively permeable soils. Where the available land for application of stillage is such that the limiting permeability is slow to moderately slow, the use of slow rate irrigation may be used as an alternative to rapid infiltration. The application depends on the expected evaporation and infiltration and can range from less than 0.5 to 1.5 inches (13,600 to 40,000 gal/acre). Resting periods should range from 18 to 20 days or more. The resultant average loading rates and land areas are shown in Table 4-1. All other disposal site requirements and operational procedures for the rapid infiltration method also apply to the slow rate irrigation method.

TABLE 4-1
SLOW RATE IRRIGATION AREA REQUIREMENTS

	Soil Permeability Rate	
	Slow	Moderately Slow
Limiting soil permeability, in/hr	0.06 - 0.2 (clay loam)	0.2 - 0.6 (clay loam or silt loam)
Infiltration capacity, in/day	0.5	1.0
Resting period, days	20	13
Average loading rate, gal/acre/day	670	1,940
Area required per 100,000 gal/day of stillage, acres	150	52

4.1.13 Storm Water

Runoff from residential and industrial areas can contribute to water quality degradation. Urban storm water runoff contains organics, pesticides, oil, grease, and heavy metals. Because these pollutants accumulate during the dry summer months, the first major storm after summer can flush a highly concentrated load to receiving waters and catch basins. Combined storm and sanitary systems may result in some runoff to wastewater treatment plants. In other cases, storm water collection wells can produce direct discharges to ground water. Impacts of storm water contaminants on surface and ground waters are an important concern.

EPA has promulgated regulations for municipal and industrial stormwater permits in 40 CFR 122. The State Water Board implemented these regulations by adopting a General Industrial Activities Storm Water Permit (excluding construction activity) and a General Construction Activity Storm Water Permit. Storm water dischargers indicate intention to follow the specifications in the appropriate permit by filing a Notice of Intent with the State Water Board.

The Regional Water Board will take all measures necessary to protect the quality of surface and ground waters from treatment or disposal of urban runoff.

- The Regional Water Board will issue waste discharge requirements on the discharge of urban runoff when a threat to water quality exists.

- The Regional Water Board will regulate large and medium municipal stormwater dischargers and, at its discretion, specific industrial dischargers through the issuance of individual NPDES permits. Industrial dischargers may also be regulated with individual, site-specific NPDES permits. The Regional Water Board will issue waste discharge requirements on the discharge of urban runoff to land when a threat to water quality exists.

- Combined sewer systems will not be allowed without satisfactory justification.

- The Regional Water Board will require source control programs by local agencies when water quality benefits will be realized.

- Governing agencies should provide facilities for the treatment (if necessary), storage and percolation of runoff.

4.1.14 Hazardous and Non-Hazardous Waste Disposal

Discharges of solid, semi-solid, and liquid wastes to landfills, waste piles, surface impoundments, pits, trenches, tailings ponds, natural depressions, and land treatment facilities (collectively called “waste management units”) have the potential to become sources of pollution affecting the quality of waters of the state. Unlike surface waters which often have the capacity to assimilate discharged waste constituents, ground waters have little or no assimilative capacity due to their slow migration rate, lack of aeration, lower biological activity, and laminar flow patterns. If concentrations of waste constituents in land-discharged waste are sufficiently high to prevent the waste from being classified as “inert waste” under 27 CCR, Section 20230, discharges of such wastes to waste management units require long-term containment or active treatment following the discharge in order to prevent waste or waste constituents from migrating to and impairing the beneficial uses of waters of the state. Pollutants from such discharges may continue to affect water quality long after the discharge of new waste to the unit has ceased, either because of continued leachate or gas discharges from the unit, or because pollutants have accumulated in underlying soils from which they are gradually released to ground water.

Landfills for disposal of municipal or industrial solid waste (solid waste disposal sites) are the major categories of waste management units in the region, but there are also surface impoundments used for storage or evaporative treatment of liquid wastes, waste piles for the storage of solid wastes, and land treatment units for the biological treatment of semi-solid sludges from wastewater treatment facilities and liquid wastes from cannery and other industrial operations. Sumps, trenches, and soil depressions have been used in the past for liquid waste disposal. Mining waste management units (tailings ponds, surface impoundments, and waste piles) also represent a significant portion of the waste management units in the Region. The Regional Water Board issues waste discharge requirements to ensure that these discharges are properly contained to protect the Region’s water resources from degradation, and to ensure that dischargers undertake effective monitoring to verify continued compliance with requirements. In addition, the Toxic Pits Cleanup Act of 1984 precludes the storage or disposal of liquid hazardous wastes or hazardous wastes containing free liquid. The Regional Water Board is responsible for enforcing this Act under the authority of the Health and Safety Code, Section 25208 et seq.

These discharges, and the waste management units at which the wastes are discharged, are subject to concurrent regulation by other state and local agencies responsible for land use

planning, solid waste management, and hazardous waste management. “Local Enforcement Agencies” (mainly cities and counties) implement the state’s solid waste management laws and local ordinances governing the siting, design, and operation of solid waste disposal facilities (usually landfills) with the concurrence of the California Department of Resources Recycling and Recovery (CalRecycle) (formerly the California Integrated Waste Management Board (Waste Management Board)). CalRecycle also has direct responsibility for review and approval of plans for closure and post-closure maintenance of solid waste landfills. The Department of Toxic Substances Control issues permits for all hazardous waste treatment, storage, and disposal facilities (which include hazardous waste incinerators, tanks, and warehouses where hazardous wastes are stored in drums as well as landfills, waste piles, surface impoundments, and land treatment units). The State Water Board, regional water boards, Waste Management Board (now CalRecycle), and Department of Toxic Substances Control have entered into Memoranda of Understanding to coordinate their respective roles in the concurrent regulation of these discharges.

The statutes and regulations governing the discharges of both hazardous and non-hazardous wastes have been revised and strengthened in the last few years. The discharge of municipal solid wastes to land are closely regulated and monitored; however, some water quality problems have been detected and are being addressed. Solid waste water quality assessment tests and recent monitoring efforts under the State and regional water boards’ Title 23, CCR, Division 2, Chapter 15 and Title 27, CCR, Division 2, Subdivision 1 have revealed that discharges of municipal solid wastes to unlined landfills have resulted in ground water degradation and pollution by volatile organic constituents and other waste constituents. Volatile organic constituents are components of many household hazardous wastes and certain industrial wastes that are present within municipal solid waste streams. Volatile organic constituents can easily migrate from landfills either in leachate or by vapor-phase transport. Clay liners and natural clay formations between discharged wastes and ground waters are largely ineffective in preventing water quality impacts from municipal solid waste constituents. In a recently adopted policy for water quality control, the State Water Board found the “[r]esearch 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.” {State Water Board Resolution No. 93-62, Policy for Regulation of discharges of Municipal Solid Waste}

As a result of similar information on a national scale, the U. S. Environmental Protection Agency (USEPA) adopted regulations under Subtitle D of the Resource Conservation and Recovery Act (RCRA) which require the containment of municipal solid wastes by composite liners and leachate collection systems. Composite liners consist of a flexible synthetic membrane component placed above and in intimate contact with a compacted low-permeability soil component. This liner system enhances the effectiveness of the leachate collection and removal system and provides a barrier to vapor-phase transport of volatile organic constituents from the unit. Regional water boards and CalRecycle are implementing these new regulations in California under a policy for water quality control from the State Water Board (Resolution No. 93-62) and regulations from CalRecycle. The State Water Board adopted revised regulations in 27 CCR, Division 2, Subdivision 1 to fully implement water quality-related portions of the RCRA, Subtitle D federal regulations.

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: concrete rubble and excess clean earth fill. Inert wastes do not necessarily need to be disposed of at classified waste

management units, but waste discharge requirements may be issued for their discharge at the discretion of the Regional Water Board.

4.1.15 Other Discharge Activities

Some remaining discharges of concern include small hydroelectric facility development, dredging and dredging spoils runoff.

The energy crisis of the 1970s resulted in a surge of small hydroelectric facility development in the mountains and foothills. Impairments to beneficial uses may occur from this type of stream development because of erosion from construction and changes in water temperature. The Regional Water Board has published guidelines for small hydroelectric facilities (see Appendix 31, which is included by reference into this plan) to help address some of the problems associated with small hydroelectric plants.

Dredging can result in turbidity and the reintroduction and resuspension of harmful metal or organic materials. This latter effect occurs directly as a result of the displacement of sediment at the dredging site and indirectly as a result of erosion of dredge spoil to surface waters at the deposition site. The Regional Water Board currently regulates dredging operations on a case-by-case basis. Operational criteria may result from permits or the water quality certification requirements stemming from Section 401(a) of the Clean Water Act. The opportunity may exist to regulate certain of the dredging operations under a general permit.

The Regional Water Board receives notice of spills, leaks, and overflows as they occur. These incidents are evaluated for water quality impacts and remedial actions are implemented when necessary.

4.2 THE NATURE OF CONTROL ACTIONS IMPLEMENTED BY THE REGIONAL WATER BOARD

The nature of actions to achieve water quality objectives are the following:

(1) identifying potential water quality problems;

(2) confirming and characterizing water quality problems through assessments of source, frequency, duration, extent, fate, and severity;

(3) remedying water quality problems through imposing or enforcing appropriate measures;

(4) monitoring problem areas to assess effectiveness of the remedial measures.

Generally, the actions associated with the first step consist of surveys or reviews of survey information and other data sources to isolate possible impairments of beneficial uses or water quality.

The characterization step usually involves studies that attempt to answer questions about a water quality problem’s source, extent, duration, frequency, and severity. Information on these parameters is essential to confirm a problem and prepare for remedy. The Regional Water Board may gain this information through its own work or through data submittals requested of actual or potential dischargers under Section 13267 of the California Water Code.

Problem remedy calls for the Regional Water Board to prevent or cleanup problems. A common means of prevention, as well as protection, of water quality is through the issuance of NPDES permits, waste discharge requirements, discharge prohibitions, or other discharge restrictions. The NPDES is a requirement of the Federal Clean Water Act (Section 402) and California has implementing responsibility. The national permit system only applies to certain surface water discharges. Waste discharge requirements, which encompass permits, are described in the Water Code Section 13260, et seq. The waste discharge requirements system is not as restricted as the federal NPDES.

Waste discharge requirements may be used to control any type of discharge to land, ground waters or surface waters that may affect water quality. The Regional Water Board considers existing quality of receiving waters; historical, present, and future beneficial uses and the rates of use; nature and character of the discharge and possible effect on beneficial uses and receiving water quality; particular impact on beneficial uses within the immediate area of the discharge; and water quality objectives. The Regional Water Board will make a finding as to all beneficial uses within the area of influence of the discharge, and will set waste discharge requirements to protect these uses while not allowing the discharge to violate receiving water quality objectives.

Cleanup is implemented through enforcement measures such as cease and desist and cleanup and abatement orders. Cease and desist orders and cleanup and abatement orders are two of the enforcement tools available to the Regional Water Board to correct actual or potential violations of waste discharge requirements, NPDES permits, prohibitions, and nuisance or pollution.

The details of the monitoring step are explained in Chapter 6. In general, the Regional Water Board has wide latitude to require actual and potential dischargers to submit monitoring and surveillance information, in addition to collecting its own or using State Water Board data.

Whatever actions that the Regional Water Board implements must be consistent with the Basin Plan's beneficial uses and water quality objectives, as well as certain State and Regional Water Boards' policies, plans, agreements, prohibitions, guidance, and other restrictions or requirements. These considerations are described in Chapter 5 and included in the Appendix when noted.

4.2.1 Antidegradation

The antidegradation directives of State Water Board Resolution No. 68-16 (Appendix 2) require that high quality waters of the State be maintained "consistent with the maximum benefit to the people of the State." The Regional Water Board applies these directives when issuing a permit, or in an equivalent process, regarding any discharge of waste which may affect the quality of surface or ground waters in the region.

No proven means exist at present that will allow ongoing human activity in the Basin and maintain ground water salinity at current levels throughout the Basin. Consistent with the above, the Regional Water Board has determined that controlled ground water degradation by salinity is the most feasible and practical short-term management alternative for the Tulare Lake Basin. The water quality objectives for ground water salinity control the rate of increase and maintain

beneficial uses as long as possible. A valleywide drain to carry salts out of the valley remains the best technical solution to the water quality problems of the Tulare Lake Basin.

Implementation of this policy to prevent or minimize surface and ground water degradation is a high priority for the Board. In nearly all cases, preventing pollution before it happens is much more cost-effective than cleaning up pollution after it has occurred. Once degraded, surface water is often difficult to clean up when it has passed downstream. Likewise, cleanup of ground water is costly and lengthy due, in part, to its relatively low assimilative capacity and inaccessibility. The prevention of degradation is, therefore, an important strategy to meet the policy's objectives.

The Regional Water Board will apply the directives of Resolution No. 68-16 in considering whether to allow a certain degree of degradation to occur or remain. In conducting this type of analysis, the Regional Water Board will evaluate the nature of any proposed, existing, or materially changed discharge, that could affect the quality of waters within the region. Any discharge of waste to high quality waters must apply best practicable treatment or control not only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.

Pursuant to this policy, a Report of Waste Discharge, or any other similar technical report required by the Board pursuant to Water Code Section 13267, must include information regarding the nature and extent of the discharge and the potential for the discharge to affect surface or ground water quality in the region. This information must be presented as an analysis of the impacts and potential impacts of the discharge on water quality, as measured by background concentrations and applicable water quality objectives. The extent of information necessary will depend on the specific conditions of the discharge. For example, use of best professional judgement and limited available information may be sufficient to determine that ground or surface water will not be degraded. In addition, the discharger must identify treatment or control measures to be taken to minimize or prevent water quality degradation.

4.2.2 Application of Water Quality Objectives

Water quality objectives are defined in the Water Code as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." (See Chapter 3) Water quality objectives may be stated in either numerical or narrative form. Water quality objectives apply to all waters within a surface water or ground water resource for which beneficial uses have been designated, rather than at an intake, wellhead or other point of consumption.

In conjunction with the issuance of NPDES and storm water permits, the Regional Water Board may designate mixing zones within which water quality objectives will not apply provided the discharger has demonstrated to the satisfaction of the Regional Water Board that the mixing zone will not adversely impact beneficial uses. If allowed, different mixing zones may be designated for different types of objectives, including, but not limited to, acute aquatic life objectives, chronic aquatic life objectives, human health objectives, and acute and chronic whole effluent toxicity objectives, depending in part on the averaging period over which the objectives apply. In determining the site of such mixing zones, the Regional Water Board will consider the applicable procedures and guidelines in EPA's Water Quality Standards Handbook, August 1994, and the Technical Support Document for Water Quality-based Toxics Control, March 1991, both of which are incorporated by reference into this plan. Pursuant to

EPA guidelines, mixing zones designated for acute aquatic life objectives will generally be limited to a small zone of initial dilution in the immediate vicinity of the discharge.

State Water Board Resolution No. 68-16 requires the maintenance of the existing high quality of water (i.e., “background”) unless a change in water quality “will be consistent with maximum benefit to the people of the State...”. This State Water Board policy explains how the Regional Water Board applies numerical and narrative water quality objectives to ensure the reasonable protection of beneficial uses of water and how the Regional Water Board applies Resolution No. 68-16 to promote the maintenance of existing high quality waters.

The numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect beneficial uses. Numerical receiving water limitations will be established in Board orders for constituents and parameters which will, at a minimum, meet all applicable water quality objectives. However, the water quality objectives do not require improvement over naturally occurring background concentrations. In cases where the natural background concentration of a particular constituent exceeds an applicable water quality objective, the natural background concentration will be considered to comply with the objective. Consistent with Resolution No. 68-16, the Regional Water Board will impose more stringent numerical limitations (or prohibitions) which will maintain the existing quality of the receiving water, unless, pursuant to Resolution No. 68-16, some adverse change in water quality is allowed. Maintenance of the existing high quality of water means maintenance of “background” water quality conditions, i.e., the water quality found upstream or upgradient of the discharge, unaffected by other discharges. Therefore, the water quality objectives will define the least stringent limits which will be imposed and background defines the most stringent limits which will be imposed on ambient water quality.

This Basin Plan contains numerical water quality objectives for various constituents and parameters in Chapter III3. Where numerical water quality objectives are listed, these are the limits necessary for the reasonable protection of beneficial uses of the water. In many instances, the Regional Water Board has not been able to adopt numerical water quality objectives for constituents or parameters, and instead has adopted narrative water quality objectives (e.g., for bacteria, chemical constituents, taste and odor, and toxicity). Where compliance with these narrative objectives is required (i.e., where the objectives are applicable to protect specified beneficial uses), the Regional Water Board will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives.

To evaluate compliance with the narrative water quality objectives, the Regional Water Board considers, on a case-by-case basis, direct evidence of beneficial use impacts, all material and relevant information submitted by the discharger and other interested parties, and relevant numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., State Water Board, State Water Board Division of Drinking Water Programs, California Office of Environmental Health Hazard Assessment, California Department of Toxic Substances Control, University of California Cooperative Extension, California Department of Fish and Wildlife, U. S. EPA, U. S. Food and Drug Administration, National Academy of Sciences, U. S. Fish and Wildlife Service, Food and Agricultural Organization of the United Nations). In considering such criteria, the Board evaluates whether the specific numerical criteria, which are available through these sources and through other information supplied to the Regional Water Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective. For example, compliance with the narrative objective for taste and odor may be evaluated by comparing concentrations of pollutants in water with numerical taste and odor thresholds that have been published by other

agencies. This technique provides relevant numerical limits for constituents and parameters which lack numerical water quality objectives. To assist dischargers and other interested parties, the Regional Water Board staff has compiled many of these numerical water quality criteria from other appropriate agencies and organizations in the Central Valley Regional Water Board's staff report, A Compilation of Water Quality Goals. This staff report is updated regularly to reflect changes in these numerical criteria.

Where multiple toxic pollutants exist together in water, the potential for toxicologic interactions exists. On a case by case basis, the Regional Water Board will evaluate available receiving water and effluent data to determine whether there is a reasonable potential for interactive toxicity. Pollutants which are carcinogens or which manifest their toxic effects on the same organ systems or through similar mechanisms will generally be considered to have potentially additive toxicity. The following formula will be used to assist the Regional Water Board in making determinations:

$$\sum_{i=1}^{n} \frac{[\text{Concentration of Toxic Substances}]_i}{[\text{Toxicological Limit for Substances in Water}]_i} < 1.0$$

The concentration of each toxic substance is divided by its toxicologic limit. The resulting ratios are added for substances having similar toxicologic effects and, separately, for carcinogens. If such a sum of ratios is less than one, an additive toxicity problem is assumed not to exist. If the summation is equal to or greater than one, the combination of chemicals is assumed to present an unacceptable level of toxicologic risk. For example, monitoring shows that ground water beneath a site has been degraded by three volatile organic chemicals, A, B, and C, in concentrations of 0.3, 0.4, and 0.04 µg/l, respectively. Toxicologic limits for these chemicals are 0.7, 3, and 0.06 µg/l, respectively. Individually, no chemical exceeds its toxicologic limit. However, an additive toxicity calculation shows:

$$\frac{0.3}{0.7} + \frac{0.4}{3} + \frac{0.04}{0.06} = 1.2$$

The sum of the ratios is greater than unity (> 1.0); therefore, the additive toxicity criterion has been violated. The concentrations of chemicals A, B, and C together present a potentially unacceptable level of toxicity.

Where the Regional Water Board determines it is infeasible to achieve immediate compliance with water quality objectives adopted by the Regional Water Board or the State Water Board, or with water quality criteria adopted by the federal Environmental Protection Agency, or with an effluent limitation based on these objectives or criteria, the Regional Water Board shall establish in NPDES permits a schedule of compliance. The schedule of compliance shall include a time schedule for completing specific actions that demonstrate reasonable progress toward the attainment of the objectives or criteria and shall contain a final compliance date, based on the shortest practicable time (determined by the Regional Water Board) required to achieve compliance. In no event shall an NPDES permit include a schedule of compliance that allows more than ten years (from the date of adoption of the objective or criteria) for compliance with water quality objectives, criteria or effluent limitations based on the objectives or criteria. Schedules of compliance are authorized by this provision only for those water quality objective or criteria adopted after the effective date of this provision. The Regional Water Board will establish compliance schedules in NPDES permits consistent with the provisions of the State Water Board's Compliance Schedule Policy (Resolution 2008-0025) and in accordance with

Title 23, California Code of Regulations, Section 2231, compliance schedules may be included in waste discharge requirements for discharges other than from point sources to navigable waters. Time schedules in waste discharge requirements are established consistent with Water Code Section 13263.

For permitting purposes, it is important to clearly define how compliance with the narrative toxicity objectives will be measured. Staff is currently working with the State Water Board to develop guidance on this issue.

4.2.3 Ground Water Cleanups

The Regional Water Board's strategy for managing contaminated sites is guided by several important principles, which are based on Water Code Sections 13000 and 13304, the Chapter 15 regulations and State Water Board Resolution No. 92-49:

(1) State Water Board Policy and Regulation

The Regional Water Board will require conformance with the provisions of State Water Board Resolution No. 68-16 in all cases and will require conformance with applicable or relevant provisions of Title 23, California Code of Regulations, Division 3, Chapter 15 and 27 CCR, Division 2, Subdivision 1 to the extent feasible. These provisions direct the Regional Water Board to ensure that dischargers are required to cleanup and abate the effect of discharges in a manner that promotes attainment of background water quality, or the highest water quality which is reasonable and protective of beneficial uses if background levels of water quality cannot be restored.

(2) Site Investigation

An investigation of soil and ground water to determine full horizontal and vertical extent of pollution is necessary to ensure that cleanup plans are protective of water quality. The goal of the investigation shall be to determine where concentrations of constituents of concern exceed beneficial use protective levels (water quality objectives) and, additionally, where constituents of concern exceed background levels (the zero-impact line). Investigations shall extend off-site as necessary to determine the full extent of the impact.

(3) Source Removal/Containment

Immediate removal or containment of the source, to the extent practicable, should be implemented where necessary to prevent further spread of pollution as well as being among the most cost-effective remediation actions. The effectiveness of ground water cleanup techniques often depends largely on the completeness of source removal or containment efforts (e.g., removal of significantly contaminated soil or pockets of dense non-aqueous phase liquids).

(4) Cleanup Level Approval

Ground water and soil cleanup levels are approved by the Regional Water Board through the adoption of enforcement orders or waste discharge requirements. The

Executive Officer may approve cleanup levels as appropriately delegated by the Regional Water Board.

(5) Site Specificity

Given the extreme variability of hydrogeologic conditions in the Region, cleanup levels must reflect site specific factors.

(6) Discharger Submittals

The discharger must submit the following information for consideration by the Regional Water Board in establishing cleanup levels which meet the criteria contained in Title 23, California Code of Regulations, Section 2550.4(c) through (g):

(a) water quality assessment to determine impacts and threats to the quality of water resources;

(b) risk assessment to determine impacts and threats to human health and the environment; and

(c) feasibility study of cleanup alternatives which compare effectiveness, cost, and time to achieve cleanup levels. Cleanup levels covered by this study shall include, at a minimum, background levels, levels which meet all applicable water quality objectives and which do not pose significant risks to health or the environment, and an alternate cleanup level which is above background levels and which also meets the requirements as specified in paragraphs (7)(e). and f. below.

(7) Ground Water Cleanup Levels

Ground water cleanup levels shall be established based on:

(a) background concentrations of individual pollutants;

(b) applicable water quality objectives to protect designated beneficial uses of the water body, as listed in Chapters 2 and 3;

(c) concentrations which do not pose a significant risk to human health or the environment, considering risks from toxic constituents to be additive across all media of exposure and, in the absence of scientifically valid data to the contrary, additive for all constituents having similar toxicologic effects or having carcinogenic effects; and

(d) technologic and economic feasibility of attaining background concentrations and of attaining concentrations lower than defined by b and c, above.

(e) Pursuant to Title 23, California Code of Regulations, the Regional Water Board establishes cleanup levels that are protective of human health, the environment and beneficial uses of waters of the state, as measured by compliance with b and c, above, and are equal to background concentrations if background levels are technologically or economically feasible to achieve. If background levels are

infeasible to achieve, cleanup levels are set between background concentrations and concentrations that meet all criteria in b and c, above. Within this concentration range, cleanup levels must be set at the lowest concentrations that are technologically and economically achievable. In no case are cleanup levels established below natural background concentrations.

(f) Technologic feasibility is determined by the availability of technologies which have been shown to be effective in reducing the concentrations of the constituents of concern to the established cleanup levels. Bench-scale and/or pilot-scale studies may be necessary to make this feasibility assessment in the context of constituent, hydrogeologic, and other site-specific factors. Economic feasibility does not refer to the subjective measurement of the ability of the discharger to pay the costs of cleanup, but rather to the objective balancing of the incremental benefit of attaining more stringent levels of constituents of concern as compared with the incremental cost of achieving those levels. Factors to be considered in the establishment of cleanup levels greater than background are listed in Title 23, California Code of Regulations, Section 2550.4(d). The discharger's ability to pay is one factor to be considered in determining whether the cleanup level is reasonable. However, availability of economic resources to the discharger is primarily considered in establishing reasonable schedules for compliance with cleanup levels.

(g) Compliance with c, above, shall be determined through risk assessments, performed by the discharger, using procedures consistent with those used by the Department of Toxic Substances Control, the Office of Environmental Health Hazard Assessment, and the USEPA. The Regional Water Board is not the lead agency for specifying risk assessment procedures or for reviewing risk assessments. The Board will assist the discharger, as necessary, in obtaining the appropriate, most current procedures from the above listed agencies. To prevent duplication of effort, the Regional Water Board will rely on the Department of Toxic Substances Control, the Office of Environmental Health Hazard Assessment, or appropriately designated local health agencies to review and evaluate the adequacy of such risk assessments.

(8) Compliance with Ground Water Cleanup Levels

To protect potential beneficial uses of the water resource as required by Water Code Sections 13000 and 13241, compliance with ground water cleanup levels must occur throughout the pollutant plume.

(9) The Regional Water Board may consider modifying site-specific ground water cleanup levels (that have been determined pursuant to subsection (7), above) that are more stringent than applicable water quality objectives, only when a final remedial action plan has been pursued in good faith, and all of the following conditions are met:

(a) Modified cleanup levels meet the conditions listed in 7b and c, above.

(b) An approved cleanup program has been fully implemented and operated for a period of time which is adequate to understand the hydrogeology of the site, pollutant dynamics, and the effectiveness of available cleanup technologies;

(c) Adequate source removal and/or isolation is undertaken to eliminate or significantly reduce future migration of constituents of concern to ground water;

(d) The discharger has demonstrated that no significant pollutant migration will occur to other underlying or adjacent aquifers;

(e) Ground water pollutant concentrations have reached asymptotic levels using appropriate technology;

(f) Optimization of the existing technology has occurred and new technologies have been evaluated and applied where economically and technologically feasible; and

(g) Alternative technologies for achieving lower constituent levels have been evaluated and are inappropriate or not economically feasible.

(10) Soil Cleanup Levels

For soils which threaten the quality of water resources, soil cleanup levels should be equal to background concentrations of the individual leachable/mobile constituents, unless background levels are technologically or economically infeasible to achieve. Where background levels are infeasible to achieve, soil cleanup levels are established to ensure that remaining leachable/mobile constituents of concern will not threaten to cause ground water to exceed applicable ground water cleanup levels, and that remaining constituents do not pose significant risks to health or the environment. The Regional Water Board will consider water quality, health, and environmental risk assessment methods, as long as such methods are based on site-specific field data, are technically sound, and promote attainment of all of the above principles.

(11) Verification of Soil Cleanup

Verification of soil cleanup generally requires verification sampling and follow-up ground water monitoring. The degree of required monitoring will reflect the amount of uncertainty associated with the soil cleanup level selection process. Follow-up ground water monitoring may be limited where residual concentrations of leachable/mobile constituents in soils are not expected to impact ground water quality.

(12) Remaining Constituents

Where leachable/mobile concentrations of constituents of concern remain onsite in concentrations which threaten water quality, the Regional Water Board will require implementation of applicable provisions of Title 23, CCR, Division 3, Chapter 15 and Title 27, CCR, Division 2, Subdivision 1. Relevant provisions of Title 23, CCR, Division 3, Chapter 15 and Title 27, CCR, Division 2, Subdivision 1 which may not be directly applicable, but which address situations similar to those addressed at the cleanup site will be implemented to the extent feasible, in conformance with Title 27, CCR, Section 20090(d). This may include, but is not limited to, surface or subsurface barriers or other containment systems, pollutant immobilization, toxicity reduction, and financial assurances.

4.2.4 Variance Policy for Surface Waters

As part of its state water quality standards program, states have the discretion to include variance policies. (40 C.F.R., §131.13.) This policy provides the Regional Water Board with the authority to grant a variance from application of water quality standards under certain circumstances.

4.2.4.1 Variances from Surface Water Quality Standards for Point Source Dischargers

(1) A permit applicant or permittee subject to an NPDES permit may apply to the Regional Water Board for a variance from a surface water quality standard for a specific constituent(s), as long as the constituent is not a priority toxic pollutant identified in 40 C.F.R., §131.38(b)(1). A permit applicant or permittee may not apply to the Regional Water Board for a variance from a surface water quality standard for temperature. The application for such a variance shall be submitted in accordance with the requirements specified in section 4.2.4.2. The Central Valley Water Board may adopt variance programs that provide streamlined approval procedures for multiple dischargers that share the same challenges in achieving their water quality based effluent limitation(s) (WQBELs) for the same pollutant(s). The *Variance Program for Salinity Water Quality Standards* in section 4.2..4.3, below, is a multiple discharger variance program. Permittees that qualify for the *Variance Program for Salinity Water Quality Standards* by meeting the criteria in section 4.2.5.3(1) may submit a salinity variance application in accordance with the requirements specified in section 4.2.4.3 of this Policy.

(2) The Regional Water Board may not grant a variance if:

- (a) Water quality standards addressed by the variance will be achieved by implementing technology-based effluent limitations required under sections 301(b) and 306 of the Clean Water Act, or
- (b) The variance would likely jeopardize the continued existence of any endangered species under section 4 of the Endangered Species Act or result in the destruction or adverse modification of such species' critical habitat.

(3) The Regional Water Board may approve all or part of a requested variance, or modify and approve a requested variance, if the permit applicant demonstrates a variance is appropriate based on at least one of the six following factors:

- (a) Naturally occurring pollutant concentrations prevent the attainment of the surface water quality standard; or
- (b) Natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the surface water quality standard, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating state water conservation requirements to enable surface water quality standards to be met; or
- (c) Human caused conditions or sources of pollution prevent the attainment of the surface water quality standard and cannot be remedied or would cause more environmental damage to correct than to leave in place; or
- (d) Dams, diversions, or other types of hydrologic modifications preclude the attainment of the surface water quality standard, and it is not feasible to restore

the waterbody to its original condition or to operate such modification in a way that would result in the attainment of the surface water quality standard; or

(e) Physical conditions related to the natural features of the waterbody, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality preclude attainment of aquatic life protection of surface water quality standards; or

(f) Controls more stringent than those required by sections 301(b) and 306 of the Clean Water Act would result in substantial and widespread economic and social impact.

(4) In making a determination on a variance application that is based on factor (c) in paragraph (3) above, the Regional Water Board may consider the following:

(a) Information on the type and magnitude of adverse or beneficial environmental impacts, including the net impact on the receiving water, resulting from the proposed methodologies capable of attaining the adopted or proposed WQBEL.

(b) Other relevant information requested by the Regional Water Board or supplied by the applicant or the public.

(5) In making a determination on a variance application that is based on factor (f) in paragraph (3). above, the Regional Water Board may consider the following:

(a) The cost and cost-effectiveness of pollutant removal by implementing the methodology capable of attaining the adopted or proposed WQBEL for the specific constituent(s) for which a variance is being requested.

(b) The reduction in concentrations and loadings of the pollutant(s) in question that is attainable by source control and pollution prevention efforts as compared to the reduction attainable by use of the methodology capable of attaining the adopted or proposed WQBEL.

(c) The overall impact of attaining the adopted or proposed WQBEL and implementing the methodologies capable of attaining the adopted or proposed WQBEL.

(d) The technical feasibility of installing or operating any of the available methodologies capable of attaining the WQBEL for which a variance is sought.

(e) Other relevant information requested by the Regional Water Board or supplied by the applicant or the public.

(6) A determination to grant or deny a requested variance shall be made in accordance with the procedures specified in section 4.2.4.2, below. Procedures specified in section 4.2.4.3, below, will be used for applicants that qualify for the *Variance Program for Salinity Water Quality Standards*.

(7) A variance applies only to the permit applicant requesting the variance and only to the constituent(s) specified in the variance application.

(8) A variance or any renewal thereof shall be for a time as short as feasible and shall not be granted for a term greater than ten years.

(9) Neither the filing of a variance application nor the granting of a variance shall be grounds for the staying or dismissing of, or a defense in, a pending enforcement action. A variance shall be prospective only from the date the variance becomes effective.

(10) A variance shall conform to the requirements of the State Water Board's *Antidegradation Policy* (State Water Board Resolution 68-16).

4.2.4.2 Variance Application Requirements and Processes

(1) An application for a variance from a surface water quality standard for a specific constituent(s) subject to this Policy may be submitted at any time after the permittee determines that it is unable to meet a WQBEL or proposed WQBEL based on a surface water quality standard, and/or an adopted wasteload allocation. The variance application may be submitted with the renewal application (i.e., report of waste discharge) for a NPDES permit. If the permittee is seeking to obtain a variance after a WQBEL has been adopted into a NPDES permit, the WQBEL shall remain in effect until such time that the Regional Water Board makes a determination on the variance application.

(2) The granting of a variance by the Regional Water Board is a discretionary action subject to the requirements of the California Environmental Quality Act. As such, the Regional Water Board may require the variance applicant to prepare such documents as are necessary so that the Regional Water Board can ensure that its action complies with the requirements set forth in the California Environmental Quality Act, or the Regional Water Board may use any such documents that have been prepared and certified by another state or local agency that address the potential environmental impacts associated with the project and the granting of a variance.

(3) A complete variance application must contain the following:

- (a) Identification of the specific constituent(s) and water quality standard(s) for which a variance is sought;
- (b) Identification of the receiving surface water, and any available information with respect to receiving water quality and downstream beneficial uses for the specific constituent;
- (c) Identification of the WQBEL(s) that is being considered for adoption, or has been adopted in the NPDES permit;
- (d) List of methods for removing or reducing the concentrations and loadings of the pollutants with an assessment of technical effectiveness and the costs and cost-effectiveness of these methods. At a minimum, and to the extent feasible, the methods must include source control measures, pollution prevention measures, facility upgrades and end-of-pipe treatment technology. From this list, the applicant must identify the method(s) that will consistently attain the WQBELs and provide a detailed discussion of such methodologies;
- (e) Documentation of at least one of the following over the next ten years. Documentation that covers less than ten years will limit the maximum term that the Regional Water Board can consider for the variance:
  - (i) That naturally occurring pollutant concentrations prevent the attainment of the surface water quality standard or
  - (ii) That natural, ephemeral, intermittent, or low flow conditions or water levels prevent the attainment of the surface water quality standard, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges to enable surface water quality standards to be met; or

(iii) That human caused conditions or sources of pollution prevent the attainment of the surface water quality standard from which the WQBEL is based, and it is not feasible to remedy the conditions or sources of pollution; or

(iv) That dams, diversions, or other types of hydrologic modifications preclude the attainment of the surface water quality standard from which the WQBEL is based, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in attainment of the surface water quality standard; or

(v) Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection of surface water quality standards from which the WQBEL is based; or

(vi) That installation and operation of each of the available methodologies capable of attaining the WQBEL would result in substantial and widespread economic and social impact.

(f) Documentation that the permittee has reduced, or is in the process of reducing, to the maximum extent practicable, the discharge of the pollutant(s) for which a variance is sought through implementation of local pretreatment, source control, and pollution prevention efforts; and,

(g) A detailed discussion of a proposed interim discharge limitation(s) that represents the highest level of treatment that the permittee can consistently achieve during the term of the variance. Such discussion shall also identify and discuss any drought, water conservation, and/or water recycling efforts that may cause certain constituents in the effluent to increase, or efforts that will cause certain constituents in the effluent to decrease with a sufficient amount of certainty. When the permittee proposes an interim discharge limitation(s) that is higher than the current level of the constituent(s) in the effluent due to the need to account for drought, water conservation or water recycling efforts, the permittee must provide appropriate information to show that the increase in the level for the proposed interim discharge limitation(s) will not adversely affect beneficial uses, is consistent with state and federal antidegradation policies (State Water Board Resolution No. 68-16 and 40 C.F.R., § 131.12.), and is consistent with anti-backsliding provisions specified in section 402(o) of the Clean Water Act. If the permittee indicates that certain constituents in the effluent are likely to decrease during the term of the variance due to recycling efforts or management measures, then the proposed interim discharge limitation(s) shall account for such decreases.

(h) Copies of any documents prepared and certified by another state or local agency pursuant to Public Resources Code section 21080 et seq.; or, such documents as are necessary for the Regional Water Board to make its decision in compliance with Public Resources Code section 21080 et seq.

(4) Within 60 days of the receipt of a variance application, the Regional Water Board shall determine that the variance application is complete, or specify in writing any additional relevant information, which is deemed necessary to make a determination on the variance request. Such additional information shall be submitted by the applicant within a time period agreed upon by the applicant and the Regional Water Board Executive Officer. Failure of an applicant to submit any additional relevant information requested by

the Regional Water Board Executive Officer within the agreed upon time period may result in the denial of the variance application.

(5) The Regional Water Board shall provide a copy of the variance application to USEPA Region 9 within 30 days of finding that the variance application is complete.

(6) Within a reasonable time period after finding that the variance application is complete, the Regional Water Board shall provide public notice, request comment, and schedule and hold a public hearing on the variance application. When the variance application is submitted with the NPDES permit renewal application (i.e., report of waste discharge), the notice, request for comment and public hearing requirement on the variance application may be conducted in conjunction with the Regional Water Board's process for the renewal of the NPDES permit.

(7) The Regional Water Board may approve the variance, either as requested, or as modified by the Regional Water Board. The Regional Water Board may take action to approve a variance and renew and/or modify an existing NPDES permit as part of the same Board meeting. The permit shall contain all conditions needed to implement the variance, including, at a minimum, all of the following:

(a) An interim effluent limitation for the constituent(s) for which the variance is sought. The interim effluent limitation(s) must be consistent with the current level of the constituent(s) in the effluent and may be lower based on anticipated improvement in effluent quality. The Regional Water Board may consider granting an interim effluent limitation(s) that is higher than the current level if the permittee has demonstrated that drought, water conservation, and/or water recycling efforts will cause the quality of the effluent to be higher than the current level and that the higher interim effluent limitation will not adversely affect beneficial uses. When the duration of the variance is shorter than the duration of the permit, compliance with effluent limitations sufficient to meet the water quality criterion upon the expiration of the variance shall be required;

(b) A requirement to prepare and implement a pollution prevention plan pursuant to Water Code section 13263.3 to address the constituent(s) for which the variance is sought;

(c) Any additional monitoring that is determined to be necessary by the Regional Water Board to evaluate the effects on the receiving water body of the variance from water quality standards;

(d) A provision allowing the Regional Water Board to reopen and modify the permit based on any revision to the variance made by the Regional Water Board during the next revision of the water quality standards or by EPA upon review of the variance; and

(e) Other conditions that the Regional Water Board determines to be necessary to implement the terms of the variance.

(8) The variance, as adopted by the Regional Water Board in section (7), is not in effect until it is approved by U.S. EPA.

(9) Permit limitations for a constituent(s) contained in the applicant's permit that are in effect at the time of the variance application shall remain in effect during the consideration of a variance application for that particular constituent(s).

(10) The permittee may request a renewal of a variance in accordance with the provisions contained in paragraphs (1), (2) and (3) and this section. For variances with terms greater than the term of the permit, an application for renewal of the variance may be submitted with the renewal application for the NPDES permit in order to have the term of the variance begin concurrent with the term of the permit. The renewal application shall also contain information concerning its compliance with the conditions incorporated into its permit as part of the original variance and shall include information to explain why a renewal of the variance is necessary. As part of its renewal application, a permittee shall also identify all efforts the permittee has made, and/or intends to make, towards meeting the standard(s). Renewal of a variance may be denied if the permittee did not comply with any of the conditions of the original variance.

(11) All variances and supporting information shall be submitted by the Regional Water Board to the U.S. EPA Regional Administrator within 30 days of the date of the Regional Water Board's final variance decision for approval and shall include the following:

(a) The variance application and any additional information submitted to the Regional Water Board;
(b) Any public notices, public comments, and records of any public hearings held in conjunction with the request for the variance;
(c) The Regional Water Board's final decision; and
(d) Any changes to NPDES permits to include the variance.

(12) All variances shall be reviewed during the Regional Water Board's triennial review process of this Basin Plan. For variances with terms that are greater than the term of the permit, the Regional Water Board may also review the variance upon consideration of the permit renewal.

4.2.4.3 Variance Program for Salinity Water Quality Standards

The State Water Board and the Regional Water Board recognize that salt is impacting beneficial uses in the Central Valley and management of salinity in surface and ground waters is a major challenge for dischargers. In response, the Water Boards initiated the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) in 2006. The State Water Board Recycled Water Policy requires the development of salt and nutrient management plans protective of ground water and submittal of these plans to the Regional Water Board by May 2016. These plans are to become the basis of basin plan amendments to be considered by the Regional Water Board by May 2017. CV-SALTS is the stakeholder effort working to develop comprehensive salt and nitrate management plans (SNMPs) that will satisfy the Recycled Water Policy's salt and nutrient management plans. CV-SALTS is undertaking technical work to analyze salt and nitrate conditions in surface and ground water in the Central Valley, identify implementation measures, and develop monitoring strategies to ensure environmental and economic sustainability. The technical work under development includes developing the models for loading and transport of salt, development and evaluation of effective management practices, and implementing activities to ensure beneficial uses are protected. Participation by all stakeholders is necessary to assure that the work is scientifically justified, supported by broad stakeholder representation, and completed in a timely fashion. The Regional Water Board has indicated its support for the comprehensive effort through CV-SALTS in Resolutions R5-2006-0024, R5-2010-0024, and R5-2013-0149 and the March 2010 Memorandum of Agreement between the Regional Water Board, the Central Valley Salinity Coalition and the State Water Board.

(1) During the development and initial implementation of the SNMPs by CV-SALTS, permittees who qualify may apply for a variance from salinity water quality standards if they have or will have WQBELs for salinity that they are unable to meet by submitting a salinity variance application. The *Salinity Variance Program* as described specifically herein is for municipal and domestic wastewater dischargers that have or will implement local pretreatment, source control, and pollution prevention efforts to reduce the effluent concentrations of salinity constituents and are now faced with replacing the municipal water supply with a better quality water or installing costly improvements, such as membrane filtration treatment technology, such that widespread social and economic impacts are expected consistent with the justification provided for the case study cities in the *Staff Report for the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity, June 2014*. Consistent with the planned development and implementation of the SNMPs, no salinity variance under this section shall be approved after 30 June 2019. For the purposes of the *Salinity Variance Program*, salinity water quality standards are defined to only include water quality standards for the following constituents: electrical conductivity, total dissolved solids, chloride, sulfate and sodium.

(2) An application for a variance for a specific salinity water quality standard may be submitted at any time after the permittee determines that it is unable to meet a WQBEL or proposed WQBEL based on a salinity water quality standard. Preferably, the salinity variance application should be submitted with the renewal application (i.e., report of waste discharge) for a NPDES permit. If the permittee is seeking to obtain a variance after a WQBEL has been adopted into a NPDES permit, the WQBEL shall remain in effect until such time that the Regional Water Board makes a determination on the variance application.

(3) An application for variance from WQBELs based on a salinity water quality standard must contain the following:

- (a) Identification of the salinity constituents for which the variance is sought;
- (b) Identification of the receiving surface water, and any available information with respect to receiving water quality and downstream beneficial uses for the specific constituent;
- (c) Identification of the WQBEL that is being considered for adoption, or has been adopted in the NPDES permit;
- (d) A description of salinity reduction/elimination measures that have been undertaken as of the application date, if any;
- (e) A Salinity Reduction Study Work Plan, which at a minimum must include the following:
  - (i) Data on current influent and effluent salinity concentrations,
  - (ii) Identification of known salinity sources,
  - (iii) Description of current plans to reduce/eliminate known salinity sources,
  - (iv) Preliminary identification of other potential sources,
  - (v) A proposed schedule for evaluating sources,
  - (vi) A proposed schedule for identifying and evaluating potential reduction, elimination, and prevention methods.

(f) An explanation of the basis for concluding that there are no readily available or cost-effective methodologies available to consistently attain the WQBELs for salinity.

(g) A detailed discussion explaining why the permittee's situation is similar to or comparable with the case studies supporting the *Salinity Variance Program identified in the Staff Report for the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity, June 2014*.

(h) A detailed discussion of proposed interim discharge limitation(s) that represents the highest level of treatment that the permittee can consistently achieve during the term of the variance. If the permittee indicates that certain constituents in the effluent are likely to decrease during the term of the variance due to efforts, then the proposed interim discharge limitation(s) shall account for such decreases.

(i) Documentation of the applicant's active participation in CV-SALTS as indicated by a letter of support from CV-SALTS.

(j) A detailed plan of how the applicant will continue to participate in CV-SALTS and how the applicant will contribute to the development and implementation of the SNMPs.

(4) After the receipt of a variance application for salinity, the Regional Water Board shall determine whether the variance application is complete and whether the permittee qualifies for consideration of the variance, or specify in writing any additional relevant information that is deemed necessary to make a determination on the salinity variance request. Such additional information shall be submitted by the applicant within a time period agreed upon by the applicant and the Regional Water Board Executive Officer. Failure of an applicant to submit any additional relevant information requested by the Regional Water Board Executive Officer within the time period specified by the Executive Officer may result in the denial of the variance application for salinity.

(5) After determining that the variance application for salinity is complete, the Regional Water Board shall provide notice, request comment, and schedule and hold a public hearing on the variance application for salinity. When the variance application is submitted with the NPDES permit renewal application (i.e., report of waste discharge), the notice, request for comment and public hearing requirement on the variance application may be conducted in conjunction with the Regional Water Board's process for the renewal of the NPDES permit.

(6) The Regional Water Board may approve a salinity variance, either as requested, or as modified by the Regional Water Board, after finding that the permittee qualifies for the salinity variance, the attainment of the WQBEL is not feasible, the permittee has implemented or will implement feasible salinity reduction/elimination measures and the permittee continues to participate in CV-SALTS consistent with the demonstrations based on the case studies identified in *the Staff Report for the Amendments to the Water Quality Control Plan for the Sacramento River and San Joaquin River Basins and the Water Quality Control Plan for the Tulare Lake Basin to add Policies for Variances from Surface Water Quality Standards for Point Source Dischargers, Variance Program for Salinity, and Exception from Implementation of Water Quality Objectives for Salinity, June 2014*. The Regional Water Board may take action to approve a variance and issue

a new, or reissue or modify an existing NPDES permit as part of the same Board meeting. The permit shall contain all conditions needed to implement the variance, including, at a minimum, all of the following:

(a) The interim effluent limitation(s) that are determined to be attainable during the term of the variance. When the duration of the variance is shorter than the duration of the permit, compliance with effluent limitations sufficient to meet the water quality criterion upon the expiration of the variance shall be required;
(b) A requirement to implement the Salinity Reduction Study Work Plan submitted with the variance application as required by paragraph (3)(e), above;
(c) A requirement to participate in CV-SALTS and contribute to the development and implementation of the SNMPs in accordance with the plan required by paragraph (3)(j), above.
(d) Any additional monitoring that is determined to be necessary to evaluate the effects on the receiving water body of the variance from water quality standards;
(e) A provision allowing the Regional Water Board to reopen and modify the permit based on any revision to the variance made by the Regional Water Board during the next revision of the water quality standards;
(f) Other conditions that the Regional Water Board determines to be necessary to implement the terms of the variance.

(7) Permit limitations for a substance contained in the applicant's permit that are in effect at the time of the variance application shall remain in effect during the consideration of the variance application for that particular substance.

(8) The permittee may request a renewal of a salinity variance in accordance with the provisions contained in paragraphs (2) and (3) of this section. For variances with terms greater than the term of the permit, an application for renewal of the salinity variance may be submitted with the renewal application for the NPDES permit in order to have the term of the variance begin concurrent with the term of the permit. The renewal application shall also contain information concerning its compliance with the conditions incorporated into its permit as part of the original variance, and shall include information to explain why a renewal of the variance is necessary. As part of its renewal application, a permittee shall also identify all efforts the permittee has made, and/or intends to make, towards meeting the standard. Renewal of a variance may be denied if the permittee did not comply with the conditions of the original variance.

(9) All variances shall be reviewed during the Regional Water Board's triennial review process of this Basin Plan. For variances with terms that are greater than the term of the permit, the Regional Water Board may also review the variance upon consideration of the permit renewal.

4.2.5 Dilution

Neither surface nor ground waters shall be used to dilute wastes for the primary purpose of meeting waste discharge requirements, where reasonable methods for treating the wastes exist. Blending of wastewater with surface or ground water to promote beneficial reuse of wastewater in water short areas may be allowed where the Regional Water Board determines such reuse is consistent with other regulatory policies set forth or referenced herein.

4.2.6 Prohibitions

The Porter-Cologne Water Quality Control Act allows the Regional Water Board to prohibit certain types of discharges or discharges to certain waters {California Water Code, Section 13243}. Prohibitions may be revised, rescinded, or adopted as necessary. The prohibitions applicable to the Tulare Lake Basin are identified and described below.

4.2.6.1 Leaching Systems

Discharge of wastes from new and existing leaching and percolation systems in the following areas is prohibited:

Corcoran Fringe Area, Kings County (Order No. 77-224)
East Porterville Area, Tulare County (Order No. 75-069)
Home Garden Community Services District, Kings County (Order No. 77-20)
Kettleman City County Service Area No. 1, Kings County (Order No. 75-071)

In addition, county moratoria prohibit new septic tank disposal systems in the following areas:

Del Rio, Fresno County
Delft Colony, Tulare County
El Rancho, Tulare County
Lindcove, Tulare County
Poplar, Tulare County
Seville, Tulare County
Tonyville, Tulare County
Tooleville, Tulare County
Traver, Tulare County
Wells Tract, Tulare County
Yettem, Tulare County

4.2.6.2 Petroleum

The discharge of oil or any residuary product of petroleum to the waters of the State, except in accordance with waste discharge requirements or other provisions of Division 7, California Water Code, is prohibited.

4.2.6.3 Hazardous Waste

Any discharge that may affect water quality of hazardous waste or chemicals known to cause cancer or reproductive toxicity, except in accordance with waste discharge and other federal, state, and local requirements.

4.2.7 Water Quality Limited Segments (WQLSs)

WQLSs are those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate effluent limitations for point sources {40 CFR 130, et seq.}.

Additional treatment beyond minimum federal requirements will be imposed on dischargers to a WQLS. Point source dischargers will be assigned or allocated a maximum allowable load of critical pollutants. If necessary, nonpoint source discharges will be identified and reduction goals will be developed for these sources.

The list of WQLSs is updated biennially as required by the Clean Water Act Section 303(d). The current list may be obtained by contacting the Regional Water Board office.

4.2.8 Water Quality Assessment

A second list of water bodies comprises the Water Quality Assessment. The Assessment describes the condition of water bodies within the Tulare Lake Basin to the best of the Regional Water Board's knowledge. For water bodies with impairments (actual or suspected), a fact sheet is prepared to describe the Re-gional Water Board's actions or proposed actions and to estimate the costs to correct the impairments. The Assessment is updated periodically on an as-needed basis.

4.2.9 Waivers

State law allows Regional Water Boards to conditionally waive waste discharge requirements for a specific discharge or types of discharges where the waiver is consistent with any applicable state or regional water quality control plan and it is in the public interest. A waiver may not exceed five years in duration, but may be renewed by a Regional Water Board. Waiver conditions must include monitoring requirements unless the Regional Water Board determines that the discharge does not pose a significant threat to water quality. Prior to renewing any waiver for a specific type of discharge, the Regional Water Board shall review the terms of the waiver policy at a public hearing. At the hearing, the Regional Water Board shall determine whether the discharge for which the waiver policy was established should be subject to general or individual waste discharge requirements (California Water Code, Section 13269). However, NPDES permits for discharge to surface waters may not be waived.

The Regional Water Board may, after compliance with the California Environmental Quality Act (CEQA), allow short-term variances from Basin Plan provisions, if determined to be necessary to implement control measures for vector and weed control, pest eradication, or fishery management which are being conducted to fulfill statutory requirements under California's Fish and Wildlife, Food and Agriculture, or Health and Safety Codes. In order for the Regional Water Board to determine if a variance is appropriate, agencies proposing such activities must submit to the Regional Water Board project-specific information, including measures to mitigate adverse impacts.

4.3 ACTIONS RECOMMENDED FOR IMPLEMENTATION BY OTHER AGENCIES

Consistent with the Porter-Cologne Water Quality Control Act, the Basin Plan may identify control actions recommended for implementation by agencies other than the Regional Water Board {California Water Code, Section 13242(a)}.

4.3.1 Irrigated Agriculture

The water quality concerns from irrigated agriculture are great and the Regional Water Board cannot resolve these alone. The following actions should be taken by other agencies:

(1) As a last resort and where the withholding of irrigation water is the only means of achieving significant improvements in water quality, the State Water Board should use its water rights authority to preclude the supplying of water to specific lands.

(2) The State Water Board should require all water agencies in the Central Valley, regardless of size, to submit an “informational” report on water conservation.

(3) The State Water Board should continue to declare the drainage problem in the Central Valley a priority nonpoint source problem in order to make EPA nonpoint source control funding available to the area.

(4) The Legislature should sponsor additional bond issues before the voters to provide low interest loans for agricultural water conservation and water quality projects. The bonds should incorporate provisions that would allow recipients to be private landowners, and that would allow irrigation efficiency improvement projects that reduce drainage discharges to be eligible for both water conservation funds and water quality facilities funds.

(5) The US Bureau of Reclamation should give the districts and growers subject to this program first priority in their water conservation loan program.

(6) The State Water Board should request legislation that will protect negotiated fish flow releases for instream uses in those critical reaches designated by the California Department of Fish and Wildlife from any new exercise of appropriative or riparian rights. These flow releases should recognize and protect existing

4.3.2 Mining

Agencies with jurisdiction over mineral rights should issue these rights for limited periods of time and distribute them to the Regional Water Board for review.

4.3.3 Transfer of Water

Before granting new permits for water storage or diversion which involves interbasin transfer of water, the State Water Board should require the applicant to evaluate the alternatives listed below. Permits should not be approved unless the alternatives have been thoroughly investigated and ruled out for social, environmental, or economic reasons.

(1) Make optimum use of existing water resource facilities.

(2) Store what would otherwise be surplus wet-weather basin outflows in off-stream reservoirs.

(3) Conjunctively use surface and ground waters.

(4) Give careful consideration to the impact on basin water quality of inland siting of power plants.

(5) Make maximum use of reclaimed water while protecting public health and avoiding severe economic penalties to a particular user or class of users.

4.3.4 Water Quality Planning

A core planning group should be continued within the staff of the State Water Board, which has the responsibility to integrate the statewide planning of water quality and water resources management.

4.3.5 Sole Source Aquifer

An aquifer may be designated by the U. S. Environmental Protection Agency to be a Sole Source Aquifer if it is the sole or principal drinking water source for an area and which, if contaminated, could create a significant hazard to public health.

The U. S. Environmental Protection Agency has designated a Sole Source Aquifer in Fresno County in accordance with Section 1424(e) of the Safe Drinking Water Act. The Sole Source Aquifer includes all or portions of the communities of Fresno, Clovis, Kerman, Raisin City, Selma, and Sanger. Specifically, it is the area bordered by (1) Fresno Slough Bypass on the west, (2) the San Joaquin River on the north, (3) the Friant-Kern Canal on the east, and (4) the Kings River on the south.

4.3.6 Watershed Management Plans

In many cases, particularly situations involving nonpoint source pollution, standard regulatory techniques are not appropriate or adequate to improve the quality of water. The Regional Water Board supports implementing a watershed based approach to address water quality problems. The benefits to implementing a watershed based program would include gaining participation of stakeholders and focusing efforts on the most important problems and those sources contributing most significantly to those problems.

In many instances, a watershed program is initiated by entities other than the Regional Water Board. A group of affected and concerned entities identifies water quality problems caused or exacerbated by the presence of man. This group then considers the needs and concerns of the watershed to develop a watershed management plan in a coordinated manner. In some of these groups, the Regional Water Board is in an oversight position and the solution is developed from within the group.

4.4 CONTINUOUS PLANNING FOR WATER QUALITY CONTROL

Knowledge of water quality problems changes constantly. Because of this, control actions and water quality objectives must be regularly evaluated for their effectiveness in protecting beneficial uses. As warranted, the actions, water quality objectives, or designated beneficial uses may be changed to ensure that the proper beneficial uses are protected and enhanced. The Regional Water Board has a continuous planning process to serve these functions and maintain its water quality regulatory program.

The Regional Water Board is periodically apprised of water quality problems in the Tulare Lake Basin, but the major review of water quality is done every three years as part of the Triennial Review of water quality standards.

During the Triennial Review, the Regional Water Board holds a public hearing to receive comments on actual and potential water quality problems. A workplan is prepared which identifies the control actions that will be implemented over the succeeding three years to address the problems. The actions may include or result in revision of the Basin Plan's water quality standards if that is an appropriate problem remedy. Until such time that a basin plan is revised, the Triennial Review also serves to reaffirm existing standards.

The control actions that are identified through the Triennial Review process are incorporated into the Basin Plan to meet requirements of Water Code Section 13242 (a) and (b). These requirements include describing actions to achieve water quality objectives and developing a time schedule to implement these actions.

This basin plan update serves as the Triennial Review. The following issues are identified for study during this triennial review period:

(1) Salinity in the Lower Kings River: This issue was identified during the 1987 Triennial Review. Since that time, two studies were conducted on the Lower Kings River. The result of these studies was proposed modifications to the implementation and the monitoring and surveillance portions of this plan. However, due to drought conditions, neither investigation was conclusive. Additional study will be necessary to adequately define the salinity problems and develop policy decisions.

(2) Beneficial Uses of Surface Water: The Basin Plan designated beneficial uses for all streams in the Tulare Lake Basin but recognized that those uses needed to be modified when additional studies become available. Various agencies have information on uses which were not available in 1975. This information should be used to develop a new table of beneficial uses which accurately describes the individual streams.

(3) Ground Water Monitoring Network to detect trends in water quality: The Basin Plan describes a ground water monitoring network for the Tulare Lake Basin. This network was never established. As more and more contaminants are found in the ground water, establishment of an effective monitoring system has become imperative.

(4) Ground Water Contamination: There are several areas within the Tulare Lake Basin where the ground water is adversely impacted by salts and chemicals to the extent that the ground water no longer supports all its beneficial uses. In some cases, the cause of the impact is identified and clean-up operations are proceeding. In most cases, the presence of the salts and chemicals are due to nonpoint source impacts and the source is not clear. Investigations should be done to identify potential sources of these contaminants and practices should be developed to reduce these impacts.

(5) Ground Water Quality Objectives for Salinity: The Basin Plan contains water quality objectives for salinity increases in ground water. These objectives have never been studied to determine their adequacy in promoting the Board's goal of minimizing the rate of salinity increase in the Tulare Lake Basin. A study should be conducted to confirm the adequacy of the listed objectives.

(6) Dissolved Oxygen Objectives: The dissolved oxygen objective for Reach III of the Kings River (Pine Flat Dam to Friant-Kern) may not be achievable due to natural conditions. A study should be conducted to investigate this and establish more appropriate objectives, if necessary.

5 PLANS AND POLICIES

In addition to this Basin Plan, statewide plans and policies adopted by the State Water Board direct Regional Water Board actions or clarify the Regional Water Board's intent. Agreements between other agencies and either the State or Regional Water Board also affect Regional Water Board actions. All policies, plans, and agreements may be revised. Any revision will supersede the policies, plans, and agreements described below and found in the appendices.

5.1 STATE WATER BOARD POLICIES AND PLANS

The State Water Board adopts water quality control policies and water quality control plans to direct Regional Water Board actions. Two of the policies (Policy for the Enclosed Bays and Estuaries of California, and the Pollutant Policy Document) and three of the plans (the Ocean Plan, the Delta Plan, and the Tahoe Plan) do not apply to the Tulare Lake Basin. The applicable policies and plans are described below.

(1) The State Policy for Water Quality Control

Adopted in 1972, this policy declares the State Water Board's intent to protect water quality through the implementation of water resources management programs and serves as the general basis for subsequent water quality control policies. See Appendix 1.

(2) State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining High Quality of Water in California

This policy, adopted on 28 October 1968, is intended to maintain high quality waters. It establishes criteria the Regional Water Board must satisfy before allowing discharges that may reduce water quality of surface or ground waters even though such a reduction will still protect beneficial uses.

Changes in water quality may be allowed only if the change is consistent with maximum benefit to the people of the State, does not unreasonably affect present and anticipated beneficial uses, and does not result in water quality less than that prescribed in water quality control plans and policies. U. S. EPA water quality standards regulations require each state to adopt an “antidegradation” policy and specify the minimum requirements for it {40 CFR 131.12}. The State Water Board has interpreted Resolution No. 68-16 to incorporate the federal antidegradation policy. Appendix 2 contains Resolution No. 68-16, Appendix 26 contains the federal policy.

(3) State Water Board Resolution No. 75-58, Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling

Adopted in June 1975, this policy prohibits discharge of blowdown waters to land unless in compliance with Title 23, California Code of Regulations, Chapter 15. The policy also prohibits the discharge of once through cooling water to surface waters unless existing water quality and aquatic resources can be maintained. Further, it sets forth seven principles that, among other things, establish higher priorities for use of water sources other than fresh inland waters. For the Tulare Lake Basin, the powerplant must investigate the feasibility of using wastewater for powerplant cooling. Regional water

boards are directed to adopt requirements that contain mass emission rates that maintain existing water quality. See Appendix 3.

(4) State Water Board Resolution No. 77-1, Policy and Action Plan for Water Reclamation in California

This policy was adopted on 6 January 1977. Because reclamation provides an alternate source of water suitable for irrigation, reuse is encouraged by the State Water Board. The policy also encourages water conservation and calls for other agencies to assist in implementation. See Appendix 4.

(5) State Water Board Resolution No. 87-22, Policy on the Disposal of Shredder Waste

This policy, adopted 19 March 1987, permits wastes produced by the mechanical destruction of car bodies, old appliances and similar castoffs to be disposed of into certain landfills at the discretion of and under specific conditions designated and enforced by the Regional Water Board. See Appendix 5.

(6) State Water Board Resolution No. 88-23, Policy Regarding Regulation of Underground Storage Tanks

This policy, adopted on 18 February 1988, implements a pilot program to fund oversight of remedial action at leaking underground storage tank sites, in cooperation with the California Department of Public Health. Oversight may be deferred to the regional water boards. See Appendix 6.

(7) State Water Board Resolution No. 88-63, Sources of Drinking Water Policy

This policy, adopted on 19 May 1988, specifies that, except under specifically defined exceptions, all surface and ground waters are suitable or potentially suitable for MUN. The specific exceptions are for waters with existing high total dissolved solids concentrations (greater than 3,000 mg/l), aquifers with low sustainable yield (less than 200 gallons per day for a single well), water with contamination that cannot be treated for domestic use using best management practices or best economically achievable treatment practices, waters within particular municipal, industrial and agricultural wastewater conveyance and holding facilities, and regulated geothermal ground waters. Where the Regional Water Board finds that one of the exceptions applies, it may remove the MUN designation for the particular water body through a formal Basin Plan amendment which includes a public hearing. The exception becomes effective upon approval by the State Water Board and the Office of Administrative Law. See Appendix 7.

(8) State Water Board Resolution No. 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304

These policies and procedures describe the manner in which the Regional Water Board will require dischargers to cleanup and abate the effect of discharges. This cleanup and abatement shall be done in a manner that promotes attainment of background water quality, or the highest water quality which is reasonable if background levels of water quality cannot be restored. Any cleanup less stringent than background water quality shall be consistent with State Water Board Resolution No. 68-16. These policies and

procedures, including future revisions, are specifically incorporated into this Basin Plan. See Appendix 8.

(9) State Water Board Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste

Adopted on 17 June 1993, this policy directs the Regional Water Board to amend waste discharge requirements for municipal solid waste landfills to incorporate pertinent provisions of the federal "Subtitle D" regulations under the Resource Conservation and Recovery Act (40 CFR Parts 257 and 258). Landfills which are subject to the Subtitle D regulations and this policy are those which accepted municipal solid waste on or after 9 October 1991. See Appendix 9.

(10) The Water Quality Control Plan for the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan)

This plan was adopted on 18 May 1972 and amended 18 September 1975. It specifies water quality objectives, effluent quality limits, and discharge prohibitions related to thermal characteristics of interstate waters and waste discharges. See Appendix 10.

(11) Nonpoint Source Management Plan and the Nonpoint Source Implementation and Enforcement Policy

In December 1999, the State Water Board, in its continuing efforts to control nonpoint source (NPS) pollution in California, adopted the *Plan for California's Nonpoint Source Pollution Control Program* (NPS Program Plan). The NPS Program Plan upgraded the State's first *Nonpoint Source Management Plan* adopted by the State Water Board in 1988 (1988 Plan). Upgrading the 1988 Plan with the NPS Program Plan brought the State into compliance with the requirements of Section 319 of the Clean Water Act and Section 6217 of the Coastal Zone Act Reauthorization Amendments of 1990.

The NPS Implementation and Enforcement Policy, adopted by the State Water Board on 20 May 2004 (State Water Board Resolution No. 2004-0030), explains how the Porter-Cologne Act mandates and authorities, delegated to the State Water Board and Regional Water Boards by the California Legislature, will be used to implement and enforce the NPS Program Plan. The policy also provides a bridge between the NPS Program Plan and the *SWRCB Water Quality Enforcement Policy*. The NPS Implementation and Enforcement Policy, including future revisions, is incorporated into this Basin Plan and shall be implemented according to the policy's provisions.

(12) Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (a.k.a. State Implementation Policy or SIP)

The State Water Board adopted a policy that establishes: (1) implementation provisions for priority pollutant criteria promulgated by the U.S. Environmental Protection Agency (U.S. EPA) through the National Toxics Rule (40 CFR 131.36) (promulgated on 22 December 1992 and amended on 4 May 1995) and through the California Toxics Rule (40 CFR 131.38) (promulgated on 18 May 2000 and amended on 13 February 2001), and for priority pollutant objectives established by Regional Water Boards in their basin plans; (2) monitoring requirements for 2,3,7,8-TCDD equivalents; and (3) chronic toxicity control provisions. In addition, the SIP includes special provisions for certain types of

discharges and factors that could affect the application of other provisions in the SIP. The SIP including future revisions is incorporated into this Basin Plan and shall be implemented according to the policy's provisions.

(13) Water Quality Enforcement Policy (Enforcement Policy) and Policy on Supplemental Environmental Projects (SEP Policy)

The State Water Board adopted the Enforcement Policy to create a framework for identifying and investigating instances of noncompliance, for taking enforcement actions that are appropriate in relation to the nature and severity of the violation, and for prioritizing enforcement resources to achieve maximum environmental benefits. The State Water Board adopted the SEP Policy as an adjunct to the Water Boards' enforcement program and allows for the inclusion of a supplemental environmental project in administrative civil liability actions as long as certain criteria are met to ensure that such a project has environmental value, furthers the goals of the State Water Board and Regional Water Boards, and are subject to appropriate input and oversight by the Water Boards. Both the Enforcement Policy and the SEP Policy, including future revisions, are incorporated into this Basin Plan and shall be implemented according to the policies' provisions.

(14) Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List (303(d) Listing Policy)

Pursuant to California Water Code Section 13191.3(a), this State policy for water quality control describes the process by which the State Water Board and the Regional Water Boards will comply with the listing requirements of Section 303(d) of the federal Clean Water Act. The objective of this policy is to establish a standardized approach for developing California's Section 303(d) List in order to achieve the overall goal of achieving water quality standards and maintaining beneficial uses in all of California's surface waters. The 303 (d) Listing Policy, including future revisions, is incorporated into this Basin Plan and shall be implemented in accordance with the Policy's provisions.

(15) Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options (Impaired Waters Policy)

Section 303(d) of the Clean Water Act requires states to identify waters within their borders that are not attaining water quality standards. This State policy for water quality control describes the existing tools and mechanisms that the regional water boards will use to address the water bodies listed as impaired under Section 303(d) of the federal Clean Water Act. The Impaired Waters Policy, including future revisions, is incorporated into this Basin Plan and shall be implemented in accordance with the Policy's provisions.

(16) Policy for Compliance Schedules in National Pollutant Discharge Elimination System Permits (Compliance Schedule Policy)

The Policy authorizes the Regional Water Board to include a compliance schedule in a permit for an existing discharger to implement a new, revised, or newly interpreted water quality objective or criterion in a water quality standard that results in a permit limitation more stringent than the limitation previously imposed. The Compliance Schedule Policy, including future revisions, is incorporated into this Basin Plan and shall be implemented in accordance with the Policy's provisions.

(17) Policy for Water Quality Control for Recycled Water (Recycled Water Policy)

The Recycled Water Policy establishes requirements to increase the use of recycled water in California. These requirements include the development and adoption of salt/nutrient management plans, requirements for the regulation of incidental runoff from landscape irrigation with recycled water, criteria and procedures for streamlined permitting of recycled water landscape irrigation projects, procedures for permitting ground water recharge projects including procedures for demonstrating compliance with the Resolution No, 68-16 (the State Antidegradation Policy), and provisions for addressing constituents of emerging concern. The Recycled Water Policy, including future revisions, is incorporated into this Basin Plan and shall be implemented in accordance with the Policy's provisions.

(18) Water Quality Control Policy for Siting, Design, Operation, and Maintenance of Onsite Wastewater Treatment Systems (OWTS Policy)

This Policy implements Water Code, Chapter 4.5, Division 7, sections 13290 through 13291.7 by establishing statewide regulations and standards for permitting onsite wastewater systems. The OWTS Policy specifies criteria for existing, replacement, and new onsite systems and establishes a conditional waiver of waste discharge requirements for onsite systems that comply with the policy. The OWTS Policy, including future revisions, is incorporated into this Basin Plan and shall be implemented according to the policy's provisions.

5.2 STATE WATER BOARD MANAGEMENT AGENCY AGREEMENTS (MAAS), MEMORANDA OF UNDERSTANDING (MOUS), AND MEMORANDA OF AGREEMENT (MOAS)

The Regional Water Board acts in accordance with State Water Board agreements with federal agencies and other State agencies which have been formalized with either an MAA, MOU, or an MOA.

(1) U. S. Forest Service Agreement

On 26 February 1981 the State Water Board Executive Director signed an MAA with the U. S. Forest Service (Forest Service) which waives discharge requirements for certain Forest Service nonpoint source discharges provided that the Forest Service implements State Water Board approved best management practices and procedures and the provisions of the MAA. The MAA covers all Forest Service lands in California. Implementation of the best management plans, in conjunction with monitoring and performance review requirements approved by the State and Regional Water Boards, is the primary method of meeting the Basin Plan's water quality objectives for the activities to which the best management plans apply. The MAA does not include Forest Service point source discharges and in no way limits the authority of the Regional Water Board to carry out its legal responsibilities for management or regulation of water quality. See Appendix 11.

(2) Department of Toxic Substances Control

On 26 January 1986, the State Water Board signed an MOA with the Department of Health Services, now the Department of Toxic Substances Control, regarding the implementation of the hazardous waste program. The agreement covers surveillance and enforcement related to water quality at landfills, surface impoundments, waste piles, and land treatment facilities that treat, store, or dispose of hazardous waste. It also covers the issuance, modification, or denial of permits to facilities, including the revision of the water quality aspects of hazardous waste management facility siting, design, closure, post-closure, and surface and ground water monitoring and protection. See Appendix 12.

(3) State Water Board Division of Drinking Water Programs

In 1988, the State Water Board signed an MOA with the Department of Health Services (now the State Water Board Division of Drinking Water Programs) regarding the use of reclaimed water. The MOA outlines the basic activities of the agencies, allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms to assure coordination for activities related to the use of reclaimed water. See Appendix 13.

(4) California Department of Forestry Agreement

In February 1988, the State Water Board signed an MAA with the California Department of Forestry and Fire Protection and the California Board of Forestry, for the purpose of carrying out, pursuant to Section 208 of the Federal Clean Water Act, those portions of the State's Water Quality Management Plan related to controlling water quality impacts caused by silvicultural activities on nonfederal forest lands. As with the Forest Service MAA, the Department of Forestry agreement requires the Department to implement certain best management plans to protect water quality from timber harvest and associated activities. Approval of the MAA as a water quality management plan component by the U. S. EPA results in the Regional Water Boards relinquishing some authority to issue waste discharge requirements for State timber operations. However, Department of Forestry and the Regional and State Water Boards must still ensure that the operations incorporate best management plans and comply with applicable water quality standards. Appendix F of the MAA also calls for the preparation of a MOU for the Regional Water Boards, the State Water Board, and the Department of Forestry to prescribe interagency procedures for implementing best management plans. See Appendix 14.

(5) Department of Conservation Agreement

A March 1988 MOA between the State Water Board and the State Department of Conservation, California Department of Oil and Gas, Gas & Geothermal Resources (Department of Conservation), outlines procedures for reporting proposed oil, gas, and geothermal field discharges and for prescribing permit requirements. The procedures are intended to provide a coordinated approach resulting in a single permit satisfying the statutory obligations of both agencies. The purpose of the new agreement is to ensure that the construction or operation of Class II injection disposal wells and the land disposal of wastewaters from oil, gas, and geothermal production facilities does not cause degradation of waters of the state. The MOA requires the Department of

Conservation to notify the Regional Water Board of all pollution problems, including spills associated with operators and/or new proposed oil field discharges. The agencies work together to review, prepare, and coordinate permits and enforcement. See Appendix 15.

(6) Department of Toxic Substances Control

On 30 July 1990, the State Water Board signed a MOU with the Department of Health Services, Toxic Substances Control Program (later reorganized into the Department of Toxic Substances Control) explaining the roles of the agencies (including the Regional Water Board) in the cleanup of hazardous waste sites. The MOU describes the protocol the agencies will follow to determine which agency will act as lead and which will act as support, the responsibilities of the agencies in their respective roles, the procedures the agencies will follow to ensure coordinated action, the technical and procedural requirements which each agency must satisfy, the procedures for enforcement and settlement, and the mechanism for dispute resolution. This MOU does not alter the Regional Water Board's responsibilities with respect to water quality protection. See Appendix 16.

(7) Soil Conservation Service, U. S. Department of Agriculture

On 31 July 1990, the State Water Board signed a MOU with the Soil Conservation Service, now the Natural Resources Conservation Service, to develop appropriate guidelines and procedures to provide technical assistance on the management of nonpoint sources. See Appendix 17.

(8) Environmental Affairs Agency, Air Resources Board, and California Department of Resources Recycling and Recovery (CalRecycle)

On 27 August 1990, the State Water Board signed a MOU with the Environmental Affairs Agency, Air Resources Board, and California Integrated Waste Management Board (now CalRecycle) to enhance program coordination and reduce duplication of effort. This MOU consists of provisions describing the scope of the agreement (including definitions of the parties and issues to which the MOU applies), the principles which will govern the conduct of the parties, and the existing statutory framework. See Appendix 18.

(9) California Department of Pesticide Regulation

On 23 December 1991, the State Water Board signed a MOU with the California Department of Pesticide Regulation to exchange information regarding pesticides in surface waters, develop water quality objectives to protect beneficial uses, and promote the identification and development of best management practices whenever necessary to protect beneficial uses. This agreement was revised on 19 January 1993 to facilitate implementation of the original agreement. See Appendix 19.

(10) Implementation of the San Joaquin Valley Drainage Program's Recommended Plan

In January 1992, the State Water Board signed a MOU with the U. S. Bureau of Reclamation, the U. S. Fish and Wildlife Service, the U. S. Soil Conservation Service (now the Natural Resources Conservation Service), the U. S. Geological Survey, the Department of Water Resources, the Department of Fish and Game (now the California Department of Fish and Wildlife), and the Department of Food and Agriculture. Subject

to the availability of funding and legal authority, these agencies agreed to use the management plan described in the September 1990 final report of the San Joaquin Valley Drainage Program as a guide for remedying subsurface agricultural drainage and related problems. See Appendix 20.

(11) California Integrated Waste Management Board (now the California Department of Resources Recycling and Recovery (CalRecycle)

On 8 January 1993, the State Water Board signed a MOU to address the Regional Water Board's review of Solid Waste Assessment Test (SWAT) reports. See Appendix 21.

(12) U. S. Bureau of Land Management

On 27 January 1993, the State Water Board signed a MOU to work cooperatively with the U. S. Bureau of Land Management to develop and implement best management practices to reduce or prevent nonpoint source pollution. See Appendix 22.

5.3 REGIONAL WATER BOARD GENERAL POLICY

(1) Regional Water Board Resolution No. 70-118, Delegation of Duties and Powers to the Regional Water Board's Executive Officer

In January 1970, the Regional Water Board adopted Resolution No. 70-118, which delegates certain duties and powers of the Board to its Executive Officer pursuant to Section 13223 of the California Water Code. See Appendix 23.

5.4 REGIONAL WATER BOARD MEMORANDA OF UNDERSTANDING (MOU)

(1) U. S. Bureau of Land Management

In September 1985, the Regional Water Board Executive Officer signed an MOU with the U. S. Bureau of Land Management, Bakersfield District. The MOU aims at improving coordination between the two agencies for the control of water quality problems resulting from mineral extraction activities on BLM administered lands. See Appendix 24.

(2) California Department of Fish and Wildlife and Mosquito Abatement and Vector Control Districts

In March 1993, the Regional Water Board Executive Officer signed a MOU with the Department of Fish and Game (now the California Department of Fish and Wildlife) and Mosquito Abatement Districts in the southern San Joaquin Valley to coordinate weed control efforts in wastewater treatment facilities. See Appendix 25.

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. This chapter describes the methods and programs that the Regional Water Board uses to acquire water quality information. Accumulation of data is required by both the Clean Water Act and the Porter-Cologne Water Quality Control Act.

Many local water agencies conduct data collection programs, as do some governmental agencies. Cost-effective management shows the benefit of utilizing local efforts for basic elements of the programs. Governmental agencies would perform valuable service by processing data, engaging in cooperative programs, and conducting special studies and intensive surveys.

Although not addressed in detail in this chapter, water quality analysis must comply with the laboratory certification program, and data must be reported to EPA in a form compatible with the STORET; the federal data storage and retrieval program.

The overall objectives of the surveillance and monitoring program are to:

- Measure the achievement of water quality goals and objectives and to aid in setting priorities for improvements;
- Measure specific effects of water quality changes on the beneficial uses;
- Measure background conditions of water quality and long-term trends in water quality;
- Locate and identify sources of water pollution that pose an acute, accumulative, or chronic threat to the environment;
- Provide information needed to relate receiving water quality to mass emissions of point and nonpoint sources of pollutants;
- Provide data for determining waste discharger compliance with NPDES permit conditions and waste discharge requirements;
- Collect data necessary to perform segment classifications and ranking for the water quality assessment;
- Form a basis for setting water quality based requirements;
- Provide data for preparing waste load allocations and total maximum daily load allocations necessary to achieve water quality control in water quality limited segments;
- Provide data needed to carry on the continuing planning process;
- Measure the effects of water rights decisions on water quality and to guide the State Water Board in its responsibility to regulate unappropriated water for the control of quality;

- Provide a clearinghouse for the collection and dissemination of water quality data gathered by other agencies and private parties cooperating in the program;

- Prepare reports on water quality conditions as required by Federal and State regulations and other users requesting water quality data.

Currently, monitoring and surveillance by the Regional Water Board within the Tulare Lake Basin is irregular and detailed information may not be available for certain areas in the Basin. In selecting sampling points, maximum use will be made of stations and data that are now a part of the program of other governmental agencies with whom cooperation has been agreed upon or favorably discussed. In order to ensure that collected data is useful to the present surveillance program, stations will be selected which can reasonably be expected to provide information consistent with the needs of this plan.

The Regional Water Board's surveillance and monitoring efforts include different types of sample collection and analysis. Surface water surveillance may involve analyses of water, sediment, or tissue samples. Ground water surveillance often includes collection and analysis of soil samples. Soil, water, and sediment samples are analyzed via standard, EPA approved, laboratory methods. The Regional Water Board addresses quality assurance through bid specifications and individual sampling actions such as submittal of split, duplicate, or spiked samples and lab inspections.

Although surveillance and monitoring efforts have traditionally relied upon measurement of key chemical or physical parameters (e.g., metals, organic and inorganic compounds, bacteria, temperature, and dissolved oxygen) as indicators of water quality, there is increasing recognition that close approximation of water quality impacts requires the use of biological indicators. This is particularly true for regulation of toxic compounds in surface waters where standard physical or chemical measurement may be inadequate to indicate the wide range of substances and circumstances able to cause toxicity to aquatic organisms. The use of biological indicators to identify or measure toxic discharges is often referred to as biotoxicity testing. EPA has issued guidelines and technical support materials for biotoxicity testing. A key use of the method is to monitor for compliance with narrative water quality objectives or permit requirements that specify that there is to be no discharge of toxic materials in toxic amounts. The Regional Water Board will continue to use biotoxicity procedures and testing in its surveillance and monitoring program.

The recommended surveillance program is composed of the following elements:

6.1 SURFACE WATER

The surface water monitoring network for the Tulare Lake Basin will be composed of a small number of fixed stations to evaluate water quality trends. If additional stations, parameters, or frequencies are required in this network, contractual funds should be budgeted by the State Water Board.

Sampling stations for the major surface waters of the Tulare Lake Basin were selected from those used by the Department of Water Resources in their surface water quality monitoring program. Areas not covered may be supplemented by other federal, state or local data on water column sampling. Table 6-1 lists the surface water sampling stations for the Tulare Lake Basin.

Surface water grab samples are expected to provide sufficient analytical detail to affirm the mineral character of the stream at key points, occurrence of toxic substances, general levels of nutrients and biological responses, and common physical characteristics.

The State Water Board manages its own Toxic Substances Monitoring Program to collect and analyze fish tissue for the presence of bioaccumulative chemicals. The Regional Water Board participates in the selection of sampling sites for its basins and annually is provided with a report of the testing results.

TABLE 6-1
SURFACE WATER SAMPLING STATIONS

DWR Station No.	Station Name
	Kings River
C1 1490.00	Above North Fork at Rogers Crossing
C1 1460.00	Below North Fork
C1 1140.00	Below Pine Flat Reservoir
C0 1140.00	Below Peoples Weir near Kingsburg
C0 1121.00	South Fork below Empire Weir 2 near Stratford
C0 1128.00	North Fork below Stinson Weir near Wheaton
	Kaweah River
C2 1250.00	At Three Rivers
C0 2185.00	Below Terminus Dam
	Tule River
C3 1150.00	Near Springville
C0 3196.00	Below Success Dam
	Kern River
C5 1500.00	At Kernville
C5 1350.00	Below Isabella Dam
C0 5150.00	Near Bakersfield
	California Aqueduct at Check 13
	California Aqueduct at Tehachapi Afterbay
B7 1910.00	Friant-Kern Canal at Friant
B0 7715.00	San Joaquin River above Mendota Dam
	San Luis Drain near Mendota
C0 0965.00	Buena Vista Slough near Lost Hills
C6 1350.00	Caliente Creek near Bena
	Grapevine Creek at Grapevine
C7 1820.00	Bitterwater Creek near Lost Hills
C0 7120.00	Avenal Creek near Avenal
C0 7050.00	Zapato Chino near Avenal
	Jacalitos Creek near Coalinga

TABLE 6-1
SURFACE WATER SAMPLING STATIONS

C7 5400.00	Warthan Creek Trib 2 near Coalinga
C7 6150.00	Los Gatos Creek above Nunez Canyon near Coalinga
C7 7050.00	Cantua Creek near Cantua
B8 1100.00	Panoche Creek below Silver Creek near Panoche
C1 5100.00	Dry Creek near Academy
C0 1555.00	Dog Creek below Dry Creek near Academy
	Redbank Creek
	Fancher Creek
C1 1120.00	Mill Creek near Piedra
C0 1185.00	Wahtoke Creek near Navelencia
C0 2520.00	Sand Creek near Monson
C0 2680.00	Cottonwood Creek near Redbank
C0 2780.00	Limekiln Creek near Terminus
C2 8170.00	Yokhohl Creek at Friant Kern Canyon near Exeter
C0 3650.00	Lewis Creek East of Lindsay
C3 5100.00	Deer Creek Foothills near Terra Bella
C4 1100.00	White River Foothills near Ducor

6.2 GROUND WATER

Ground water monitoring will be undertaken in various areas to support activities in the point and nonpoint source investigations. Sampling will be done to show long-term trends and identify problem areas for further study. Basins with the highest priority will be selected on the basis of economic importance and degree of threat to ground water quality. The first priority subtasks are:

- Designation of principal aquifers
- Selection of wells for potential inclusion in the ground water network
- Identification of potential pollution sources.

Wells for this ground water monitoring network shall be selected from a pool of qualified wells. Qualified wells are geologically and structurally described on a well log which includes perforated intervals. Qualified wells are also clearly located and accessible. Field checks of their availability, suitability, and access will be made. Final selection of wells shall be based on how representative the well is of ground water pollution and in areas of high use of ground water. This effort also relies upon information generated as part of state and federal programs' ground water surveillance efforts. A Ground Water Sampling Manual should be prepared by the State Water Board in cooperation with the Department of Water Resources to standardize sampling procedures and give guidance to local agencies when conducting ground water data programs.

6.3 SELF-MONITORING

Self-monitoring reports are normally submitted by the discharger on a monthly or quarterly basis as required by the permit conditions. Most dischargers will be required to submit self-monitoring reports. These reports will be reviewed by the Regional Water Board and entered into the data bank. This program will be continued at its present level, with additions made to the present list as additional self-monitoring requirements are imposed.

6.4 COMPLIANCE MONITORING

Compliance monitoring will determine permit compliance, validate self-monitoring reports, and provide data for enforcement actions. Discharger compliance monitoring and enforcement actions are the responsibility of Regional Water Board staff. The key element of the compliance monitoring program will be personal visits to the facility for direct observation and to review procedures that assure quality control.

The scope of the Compliance Monitoring Program for the Basin depends on the number and complexity of Waste Discharge Requirements and NPDES orders issued.

6.5 COMPLAINT INVESTIGATION

Every effort will be made to prevent conditions that give rise to complaints. When such conditions occur, complaints from citizens and public or governmental agencies stemming from the discharge of pollutants or creation of nuisance conditions will be investigated. The Regional Water Board will document observed conditions and prepare reports and letters, or take other follow-up actions as necessary.

6.6 INTENSIVE SURVEYS

Intensive monitoring surveys are specially designed to investigate problems in water quality class segments or hydrologic units requiring sampling in addition to the routine monitoring programs. Surveys are repeated at appropriate intervals depending on the parameters involved, the variability of conditions, and changes in hydrologic or effluent regimes. They usually consist of localized intermittent sampling at a higher than normal frequency. These surveys will provide detailed water quality data to locate and evaluate violations of water quality objectives and to calculate waste load allocations or total maximum daily load allocations as the case may require. The level of effort devoted to a given monitoring survey will depend upon the severity and complexity of the pollution problem in the survey area.

6.7 AERIAL SURVEILLANCE

Low-altitude flights are conducted primarily to observe variations in field conditions, gather photographic records of discharges, and document variations in water quality.

6.8 SUBSURFACE AGRICULTURAL DRAINAGE

All local agricultural water supply and drainage agencies should participate in joint, coordinated programs to monitor the volume and quality of drainage water in collection, treatment, and/or disposal systems.

6.9 LOWER KINGS RIVER

The Kings River Conservation District should continue monitoring the Lower Kings River monthly for electrical conductivity, pH and temperature.

The Regional Water Board should continue monitoring the River and specific discharges for constituents of concern on a regular basis. River samples should focus on areas of special concern, i.e. where human activity such as fishing or boating is most frequent and/or where water quality objectives are not met on a regular basis. Specific discharges should be selected based upon the electrical conductivity of the discharge. Monitoring should be conducted quarterly, at a minimum, to assess seasonal variations in flow and water quality.

The Regional Water Board should monitor storm water discharges from NAS Lemoore to check for hydrocarbons during peak flow periods and review existing pollution control procedures at the installation to insure such discharges are minimized.

7 GLOSSARY

Regional Water Board: California Regional Water Quality Control Board, Central Valley Region (Wat. Code, § 13203)

State Water Board: State Water Resources Control Board

Water Quality Control Plan for the Tulare Lake Basin
Appendix Directory

1. State Water Board Policy for Water Quality Control
2. State Water Board Resolution No. 68-16, Statement of Policy with Respect to Maintaining the High Quality of the State's Waters
3. State Water Board Resolution No. 75-58, The Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling
4. State Water Board Resolution No. 77-1, Policy with Respect to Water Reclamation in California
5. State Water Board Resolution No. 87-22, Policy on the Disposal of Shredder Waste
6. State Water Board Resolution No. 88-23, Policy Regarding the Underground Storage Tank Pilot Program
7. State Water Board Resolution No. 88-63, Sources of Drinking Water Policy
8. State Water Board Resolution No. 92-49, Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304
9. State Water Board Resolution No. 93-62, Policy for Regulation of Discharges of Municipal Solid Waste
10. State Water Board Water Quality Control Plan for Temperature (Thermal Plan)
11. State Water Board MAA with Forest Service, U. S. Department of Agriculture
12. State Water Board MOA with DHS (now the California Department of Public Health) (Implementation of Hazardous Waste Program)
13. State Water Board MOA with DHS (now the State Water Board Division of Drinking Water Programs) (Use of Reclaimed Water)
14. State Water Board MAA with California Department of Forestry and Fire Protection and the Board of Forestry
15. State Water Board MOA with California Department of Conservation, Division of Oil and Gas
16. State Water Board MOU with Department of Health Services/Department of Toxice Substances Control (later the Department of Health Services was renamed the Department of Public Health and the Toxic Substances Control Program was reorganized into the Department of Toxic Substances Control)
17. State Water Board MOU with Soil Conservation Service, U. S. Department of Agriculture
18. State Water Board MOU with Environmental Affairs Agency and the Air Resources Board
19. State Water Board MOU with Department of Pesticide Regulation
20. State Water Board MOU with ... re. Implementation of the San Joaquin Valley Drainage Program's Recommended Plan
21. State Water Board MOU with California Integrated Waste Management Board (now the

California Department of Resources Recycling and Recovery (CalRecycle))

22. State Water Board MOU with U. S. Bureau of Land Management - Nonpoint Source Issues

23. Regional Water Board Resolution No. 70-118, Delegation of Duties and Powers to the Regional Water Board's Executive Officer

24. Regional Water Board MOU with U. S. Bureau of Land Management, Bakersfield District Office

25. Regional Water Board MOU with California Department of Fish and Game (now the California Department of Fish and Wildlife) & Mosquito Abatement and Vector Control Districts of the South San Joaquin Valley

26. Federal Antidegradation Policy

~~27. Regional Water Board Resolution 89-247, Conditional Waiver of Waste Discharge Requirements at Retail Fertilizer Facilities~~ - - - Deleted 27 March 2014

~~28. Regional Water Board Resolution 90-034, Conditional Waiver of Waste Discharge Requirements at Pesticide Applicator Facilities~~ - - - Deleted 27 March 2014

29. Guideline for Mining

30. Guideline for Erosion/Sedimentation

31. Guideline for Small Hydroelectric Facilities

~~32. Guideline for Disposal from Land Developments~~ - - - Deleted 27 March 2014

~~33. Regional Water Board list of Water Quality Limited Segments~~ - - - Deleted 17 October 2002

34. Guidelines for Use of Reclaimed Water

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

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.

II. 5. (continued)

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 2

State Water Board Resolution No. 68-16
Statement of Policy with Respect to Maintaining High Quality of Waters in California

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1968/rs68_016.pdf

Appendix 3

State Water Board Resolution No. 75-58
Water Quality Control Policy on the Use and Disposal of Inland Waters Used for Powerplant Cooling

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1975/rs75_058.pdf

Appendix 4

State Water Board Resolution No. 77-1
Policy with Respect to Water Reclamation in California

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1977/rs77_001.pdf

Appendix 5

State Water Board Resolution No. 87-22
Policy on the Disposal of Shredder Waste

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1987/rs1987_0022.pdf

Appendix 6

State Water Board Resolution No. 88-23
Policy Regarding the Underground Storage Tank Pilot Program

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1988/rs1988_0023.pdf

Appendix 7

State Water Board Resolution No. 88-63
Sources of Drinking Water Policy

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2006/rs2006_0008_rev_rs88_63.pdf

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 92-49
(As Amended on April 21, 1994)

POLICIES AND PROCEDURES
FOR INVESTIGATION AND
CLEANUP AND ABATEMENT OF
DISCHARGES UNDER WATER CODE
SECTION 13304

WHEREAS:

1. California Water Code (**WC**) Section 13001 provides that it is the intent of the Legislature that the State Water Resources Control Board (**State Water Board**) and each Regional Water Quality Control Board (**Regional Water Board**) shall be the principal state agencies with primary responsibility for the coordination and control of water quality. The State and Regional Water Boards shall conform to and implement the policies of the Porter-Cologne Water Quality Control Act (Division 7, commencing with WC Section 13000) and shall coordinate their respective activities so as to achieve a unified and effective water quality control program in the state;
2. WC Section 13140 provides that the State Water Board shall formulate and adopt State Policy for Water Quality Control;
3. WC Section 13240 provides that Water Quality Control Plans shall conform to any State Policy for Water Quality Control;
4. WC Section 13304 requires that any person who has discharged or discharges waste into waters of the state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the State Water Board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance may be required to clean up the discharge and abate the effects thereof. This section authorizes Regional Water Boards to require complete cleanup of all waste discharged and restoration of affected water to background conditions (i.e., the water quality that existed before the discharge). The term waste discharge requirements includes those which implement the National Pollutant Discharge Elimination System;
5. WC Section 13307 provides that the State Water Board shall establish policies and procedures that its representatives and the representatives of the Regional Water Boards shall follow for the oversight of investigations and cleanup and abatement activities resulting from discharges of hazardous substances, including:
   a. The procedures the State Water Board and the Regional Water Boards will follow in making decisions as to when a person may be required to undertake an investigation to determine if an unauthorized hazardous substance discharge has occurred;
   b. Policies for carrying out a phased, step-by-step investigation to determine the nature and extent of possible soil and ground water contamination or pollution at a site;
   c. Procedures for identifying and utilizing the most cost-effective methods for detecting contamination or pollution and cleaning up or abating the effects of contamination or pollution;
   d. Policies for determining reasonable schedules for investigation and cleanup, abatement, or other remedial action at a site. The policies shall recognize the danger to public health and the waters of the state posed by an unauthorized discharge and the need to mitigate those dangers while at the same time taking into account, to the extent possible, the resources, both financial and technical, available to the person responsible for the discharge;
6. "Waters of the state" include both ground water and surface water;
7. Regardless of the type of discharge, procedures and policies applicable to investigations, and cleanup and abatement activities are similar. It is in the best interest of the people of the state for the State Water Board to provide consistent guidance for Regional Water Boards to apply to investigation, and cleanup and abatement;
8. WC Section 13260 requires any person discharging or proposing to discharge waste that could affect waters of the state, or proposing to change the character, location, or volume of a discharge to file a report with and receive requirements from the Regional Water Board;
9. WC Section 13267 provides that the Regional Water Board may require dischargers, past dischargers, or suspected dischargers to furnish those technical or monitoring reports as the Regional Water Board may specify, provided that the burden, including costs, of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;
10. WC Section 13300 states that the Regional Water Board may require a discharger to submit a time schedule of specific actions the discharger shall take in order to correct or prevent a violation of requirements prescribed by the Regional Water Board or the State Water Board;

11. California Health and Safety Code (**HSC**) Section 25356.1 requires the Department of Toxic Substances Control (**DTSC**) or, if appropriate, the Regional Water Board to prepare or approve remedial action plans for sites where hazardous substances were released to the environment if the sites have been listed pursuant to HSC Section 25356 (state "Superfund" priority list for cleanup of sites);

12. Coordination with the U.S. Environmental Protection Agency (**USEPA**), state agencies within the California Environmental Protection Agency (**Cal/EPA**) (e.g., DTSC, Air Resources Control Board), air pollution control districts, local environmental health agencies, and other responsible federal, state, and local agencies: (1) promotes effective protection of water quality, human health, and the environment and (2) is in the best interest of the people of the state. The principles of coordination are embodied in many statutes, regulations, and interagency memoranda of understanding (**MOU**) or agreement which affect the State and Regional Water Boards and these agencies;

13. In order to clean up and abate the effects of a discharge or threat of a discharge, a discharger may be required to perform an investigation to define the nature and extent of the discharge or threatened discharge and to develop appropriate cleanup and abatement measures;

14. Investigations that were not properly planned have resulted in increases in overall costs and, in some cases, environmental damage. Overall costs have increased when original corrective actions were later found to have had no positive effect or to have exacerbated the pollution. Environmental damage may increase when a poorly conceived investigation or cleanup and abatement program allows pollutants to spread to previously unaffected waters of the state;

15. A phased approach to site investigation should facilitate adequate delineation of the nature and extent of the pollution, and may reduce overall costs and environmental damage, because: (1) investigations inherently build on information previously gained; (2) often data are dependent on seasonal and other temporal variations; and (3) adverse consequences of greater cost or increased environmental damage can result from improperly planned investigations and the lack of consultation and coordination with the Regional Water Board. However, there are circumstances under which a phased, iterative approach may not be necessary to protect water quality, and there are other circumstances under which phases may need to be compressed or combined to expedite cleanup and abatement;

16. Preparation of written workplans prior to initiation of significant elements or phases of investigation, and cleanup and abatement generally saves Regional Water Board and discharger resources. Results are superior, and the overall cost-effectiveness is enhanced;

17. Discharger reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code Sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of registered professionals;

18. WC Section 13360 prohibits the Regional Water Boards from specifying, but not from suggesting, methods that a discharger may use to achieve compliance with requirements or orders. It is the responsibility of the discharger to propose methods for Regional Water Board review and concurrence to achieve compliance with requirements or orders;

19. The USEPA, California state agencies, the American Society for Testing and Materials, and similar organizations have developed or identified methods successful in particular applications. Reliance on established, appropriate methods can reduce costs of investigation, and cleanup and abatement;

20. The basis for Regional Water Board decisions regarding investigation, and cleanup and abatement includes: (1) site-specific characteristics; (2) applicable state and federal statutes and regulations; (3) applicable water quality control plans adopted by the State Water Board and Regional Water Boards, including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board and Regional Water Board policies, including State Water Board Resolutions No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) and No. 88-63 (Sources of Drinking Water); and (5) relevant standards, criteria, and advisories adopted by other state and federal agencies;

21. Discharges subject to WC Section 13304 may include discharges of waste to land; such discharges may cause, or threaten to cause, conditions of soil or water pollution or nuisance that are analogous to conditions associated with migration of waste or fluid from a waste management unit;

22. The State Water Board has adopted regulations governing discharges of waste to land (California

Code of Regulations (**CCR**), Title 23, Division 3, Chapter 15);

23. State Water Board regulations governing site investigation and corrective action at underground storage tank unauthorized release sites are found in 23 CCR Division 3, Chapter 16, in particular Article 11 commencing with Section 2720;

24. It is the responsibility of the Regional Water Board to make decisions regarding cleanup and abatement goals and objectives for the protection of water quality and the beneficial uses of waters of the state within each Region;

25. Cleanup and abatement alternatives that entail discharge of residual wastes to waters of the state, discharges to regulated waste management units, or leaving wastes in place, create additional regulatory constraints and long-term liability, which must be considered in any evaluation of cost-effectiveness;

26. The Porter-Cologne Water Quality Control Act allows Regional Water Boards to impose more stringent requirements on discharges of waste than any statewide requirements promulgated by the State Water Board (e.g., in this Policy) or than water quality objectives established in statewide or regional water quality control plans as needed to protect water quality and to reflect regional and site-specific conditions.

THEREFORE BE IT RESOLVED:

These policies and procedures apply to all investigations, and cleanup and abatement activities, for all types of discharges subject to Section 13304 of the Water Code.

I. The Regional Water Board shall apply the following procedures in determining whether a person shall be required to investigate a discharge under WC Section 13267, or to clean up waste and abate the effects of a discharge or a threat of a discharge under WC Section 13304. The Regional Water Board shall:

A. Use any relevant evidence, whether direct or circumstantial, including, but not limited to, evidence in the following categories:

1. Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information;

2. Site characteristics and location in relation to other potential sources of a discharge;

3. Hydrologic and hydrogeologic information, such as differences in upgradient and downgradient water quality;

4. Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers;

5. Evidence of poor management of materials or wastes, such as improper storage practices or inability to reconcile inventories;

6. Lack of documentation of responsible management of materials or wastes, such as lack of manifests or lack of documentation of proper disposal;

7. Physical evidence, such as analytical data, soil or pavement staining, distressed vegetation, or unusual odor or appearance;

8. Reports and complaints;

9. Other agencies' records of possible or known discharge; and

10. Refusal or failure to respond to Regional Water Board inquiries;

B. Make a reasonable effort to identify the dischargers associated with the discharge. It is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up;

C. Require one or more persons identified as a discharger associated with a discharge or threatened discharge subject to WC Section 13304 to undertake an investigation, based on findings of I.A and I.B above;

D. Notify appropriate federal, state, and local agencies regarding discharges subject to WC Section 13304 and coordinate with these agencies on investigation, and cleanup and abatement activities.

II. The Regional Water Board shall apply the following policies in overseeing: (a) investigations to determine the nature and horizontal and vertical extent of a discharge and (b) appropriate cleanup and abatement measures.

A. The Regional Water Board shall:

1. Require the discharger to conduct investigation, and cleanup and abatement, in a progressive sequence ordinarily consisting of the following phases, provided that the sequence shall be adjusted to accommodate site-specific circumstances, if necessary:

a. Preliminary site assessment (to confirm the discharge and the identity of the dischargers; to identify affected or threatened waters of the state and their beneficial uses; and to develop preliminary information on the nature, and vertical and horizontal extent, of the discharge);

b. Soil and water investigation (to determine the source, nature and extent of the discharge with sufficient detail to provide the basis for decisions regarding subsequent cleanup and abatement actions, if any are determined by the Regional Water Board to be necessary);

c. Proposal and selection of cleanup and abatement action (to evaluate feasible and effective cleanup and abatement actions, and to develop preferred cleanup and abatement alternatives);

d. Implementation of cleanup and abatement action (to implement the selected alternative, and to monitor in order to verify progress);

e. Monitoring (to confirm short- and long-term effectiveness of cleanup and abatement);

2. Consider, where necessary to protect water quality, approval of plans for investigation, or cleanup and abatement, that proceed concurrently rather than sequentially, provided that overall cleanup and abatement goals and objectives are not compromised, under the following conditions:

   a. Emergency situations involving acute pollution or contamination affecting present uses of waters of the state;

   b. Imminent threat of pollution;

   c. Protracted investigations resulting in unreasonable delay of cleanup and abatement; or

   d. Discharges of limited extent which can be effectively investigated and cleaned up within a short time;

3. Require the discharger to extend the investigation, and cleanup and abatement, to any location affected by the discharge or threatened discharge.

4. Where necessary to protect water quality, name other persons as dischargers, to the extent permitted by law;

5. Require the discharger to submit written workplans for elements and phases of the investigation, and cleanup and abatement, whenever practicable;

6. Review and concur with adequate workplans prior to initiation of investigations, to the extent practicable. The Regional Water Board may give verbal concurrence for investigations to proceed, with written follow-up. An adequate workplan should include or reference, at least, a comprehensive description of proposed investigative, cleanup, and abatement activities, a sampling and analysis plan, a quality assurance project plan, a health and safety plan, and a commitment to implement the workplan;

7. Require the discharger to submit reports on results of all phases of investigations, and cleanup and abatement actions, regardless of degree of oversight by the Regional Water Board;

8. Require the discharger to provide documentation that plans and reports are prepared by professionals qualified to prepare such reports, and that each component of investigative and cleanup and abatement actions is conducted under the direction of appropriately qualified professionals. A statement of qualifications of the responsible lead professionals shall be included in all plans and reports submitted by the discharger;

9. Prescribe cleanup levels which are consistent with appropriate levels set by the Regional Water Board for analogous discharges that involve similar wastes, site characteristics, and water quality considerations;

B. The Regional Water Board may identify investigative and cleanup and abatement activities that the discharger could undertake without Regional Water Board oversight, provided that these investigations and cleanup and abatement activities shall be consistent with the policies and procedures established herein;

III. The Regional Water Board shall implement the following procedures to ensure that dischargers shall have the opportunity to select cost-effective methods for detecting discharges or threatened discharges and methods for cleaning up or abating the effects thereof. The Regional Water Board shall:

A. Concur with any investigative and cleanup and abatement proposal which the discharger demonstrates and the Regional Water Board finds to have a substantial likelihood to achieve compliance, within a reasonable time frame, with cleanup goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards, and which implement permanent cleanup and abatement solutions which do not require ongoing maintenance, wherever feasible;

B. Consider whether the burden, including costs, of reports required of the discharger during the investigation and cleanup and abatement of a discharge bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;

C. Require the discharger to consider the effectiveness, feasibility, and relative costs of applicable alternative methods for investigation, and cleanup and abatement. Such comparison may rely on previous analysis of analogous sites, and shall include supporting rationale for the selected methods;

D. Ensure that the discharger is aware of and considers techniques which provide a cost-effective basis for initial assessment of a discharge.

1. The following techniques may be applicable:
   a. Use of available current and historical photographs and site records to focus investigative activities on locations and wastes or materials handled at the site;
   b. Soil gas surveys;
   c. Shallow geophysical surveys;
   d. Remote sensing techniques;
2. The above techniques are in addition to the standard site assessment techniques, which include:
   a. Inventory and sampling and analysis of materials or wastes;
   b. Sampling and analysis of surface water;
   c. Sampling and analysis of sediment and aquatic biota;
   d. Sampling and analysis of ground water;
   e. Sampling and analysis of soil and soil pore moisture;
   f. Hydrogeologic investigation;

E. Ensure that the discharger is aware of and considers the following cleanup and abatement methods or combinations thereof, to the extent that they may be applicable to the discharge or threat thereof:

1. Source removal and/or isolation;
2. In-place treatment of soil or water:
   a. Bioremediation;
   b. Aeration;
   c. Fixation;
3. Excavation or extraction of soil, water, or gas for on-site or off-site treatment by the following techniques:
   a. Bioremediation;
   b. Thermal destruction;
   c. Aeration;
   d. Sorption;
   e. Precipitation, flocculation, and sedimentation;
   f. Filtration;
   g. Fixation;
   h. Evaporation;
4. Excavation or extraction of soil, water, or gas for appropriate recycling, re-use, or disposal;

F. Require actions for cleanup and abatement to:

1. Conform to the provisions of Resolution No. 68-16 of the State Water Board, and the Water Quality Control Plans of the State and Regional Water Boards, provided that under no circumstances shall these provisions be interpreted to require cleanup and abatement which achieves water quality conditions that are better than background conditions;
2. Implement the provisions of Chapter 15 that are applicable to cleanup and abatement, as follows:
   a. If cleanup and abatement involves corrective action at a waste management unit regulated by waste discharge requirements issued under Chapter 15, the Regional Water Board shall implement the provisions of that chapter;
   b. If cleanup and abatement involves removal of waste from the immediate place of release and discharge of the waste to land for treatment, storage, or disposal, the Regional Water Board

shall regulate the discharge of the waste through waste discharge requirements issued under Chapter 15, provided that the Regional Water Board may waive waste discharge requirements under WC Section 13269 if the waiver is not against the public interest (e.g., if the discharge is for short-term treatment or storage, and if the temporary waste management unit is equipped with features that will ensure full and complete containment of the waste for the treatment or storage period); and

c. If cleanup and abatement involves actions other than removal of the waste, such as containment of waste in soil or ground water by physical or hydrological barriers to migration (natural or engineered), or in-situ treatment (e.g., chemical or thermal fixation, or bioremediation), the Regional Water Board shall apply the applicable provisions of Chapter 15, to the extent that it is technologically and economically feasible to do so; and

3. Implement the applicable provisions of Chapter 16 for investigations and cleanup and abatement of discharges of hazardous substances from underground storage tanks; and

G. Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored, 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; in approving any alternative cleanup levels less stringent than background, apply Section 2550.4 of Chapter 15, or, for cleanup and abatement associated with underground storage tanks, apply Section 2725 of Chapter 16, provided that the Regional Water Board considers the conditions set forth in Section 2550.4 of Chapter 15 in setting alternative cleanup levels pursuant to Section 2725 of Chapter 16; any such alternative cleanup level shall:

1. Be consistent with maximum benefit to the people of the state;
2. Not unreasonably affect present and anticipated beneficial use of such water; and
3. Not result in water quality less than that prescribed in the Water Quality Control Plans and Policies adopted by the State and Regional Water Boards.

IV. The Regional Water Board shall determine schedules for investigation, and cleanup and abatement, taking into account the following factors:

A. The degree of threat or impact of the discharge on water quality and beneficial uses;

B. The obligation to achieve timely compliance with cleanup and abatement goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards;

C. The financial and technical resources available to the discharger; and

D. Minimizing the likelihood of imposing a burden on the people of the state with the expense of cleanup and abatement, where feasible.

V. The State and Regional Water Boards shall develop an expedited technical conflict resolution process so when disagreements occur, a prompt appeal and resolution of the conflict is accomplished.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is 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 18, 1992, and amended at a meeting of the State Water Resources Control Board held on April 21, 1994.

Maureen Marché

Administrative Assistant to the Board

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 I 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 10

State Water Board Water Quality Control Plan for Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries in California (Thermal Plan)

https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/wqplans/thermpln.pdf

MANAGEMENT AGENCY AGREEMENT BETWEEN THE
STATE WATER RESOURCES CONTROL BOARD, STATE OF CALIFORNIA
AND THE FOREST SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE

This Management Agency Agreement is entered into by and between the State Water Resources Control Board, State of California (State Board), and the Forest Service, United States Department of Agriculture (Forest Service), acting through the Regional Forester of the Pacific Southwest Region, for the purpose of carrying out portions of the State's Water Quality Management Plan related to activities on National Forest System (NFS) lands.

WHEREAS:

1. The Forest Service and the State Board mutually desire:

   (a) To achieve the goals in the Federal Water Pollution Control Act, as amended;

   (b) To minimize duplication of effort and accomplish complementary pollution control programs;

   (c) To implement Forest Service legislative mandates for multiple use and sustained yield to meet both long- and short-term local, state, regional, and national needs consistent with the requirement for environmental protection and/or enhancement; and

   (d) To assure control of water pollution through implementation of Best Management Practices (BMPs).

2. The State Board and the Regional Water Quality Control Boards are responsible for promulgating a Water Quality Management Plan pursuant to the Federal Water Pollution Control Act, Section 208, and for approving water quality control plans promulgated by the Regional Water Quality Control Boards pursuant to state law. Both types of plans provide for attainment of water quality objectives and for protection of beneficial uses.

3. The State Board and the Regional Water Quality Control Boards are responsible for protecting water quality and for ensuring that land management activities do not adversely affect beneficial water uses.

4. Under Section 208 of the Federal Water Pollution Control Act, the State Board is required to designate management agencies to implement provisions of water quality management plans.

5. The Forest Service has the authority and responsibility to manage and protect the lands which it administers, including protection of water quality thereon.

6. The Forest Service has prepared a document entitled "Water Quality Management for National Forest System Lands in California" (hereafter referred to as the Forest Service 208 Report), which describes current Forest Service practices and procedures for protection of water quality.

7. On August 16, 1979, the State Board designated the Forest Service as the management agency for all activities on NFS lands effective upon execution of a management agency agreement.

NOW, THEREFORE, the parties hereto agree as follows:

1. The Forest Service agrees:

   (a) To accept responsibility of the Water Quality Management Agency designation for NFS lands in the State of California.

   (b) To implement on NFS lands statewide the practices and procedures in the Forest Service 208 Report.

   (c) To facilitate early State involvement in the project planning process by developing a procedure which will provide the State with notification of and communications concerning scheduled, in-process, and completed project Environmental Assessments (EAs) for projects that have potential to impact water quality.

   (d) To provide periodic project site reviews to ascertain implementation of management practices and environmental constraints identified in the EA and/or contract and permit documents.

   (e) To review annually and update the Forest Service documents as necessary to reflect changes in institutional direction, laws and implementation accomplishment as described in Section IV of the Forest Service 208 Report. A prioritization and schedule for this updating is provided in Attachment A to this Agreement.

   (f) That in cases where two or more BMPs are conflicting, the responsible Forest Service official shall assure that the practice selected meets water quality standards and protects beneficial uses.

   (g) That those issues in Attachment B to this agreement have been identified by the State and/or Regional Boards as needing further refinement before they are mutually acceptable to the Forest Service and the State Board as BMPs.

2. The State Board agrees:

   (a) The practices and procedures set forth in the Forest Service 208 Report constitute sound water quality protection and improvement on NFS lands, except with respect to those issues in Attachment B. The State and Regional Boards will work with the Forest Service to resolve those issues according to the time schedule in Attachment B.

   (b) That Section 313 of the Federal Water Pollution Control Act mandates federal agency compliance with the substantive and procedural requirements of state and local water pollution control law. It is contemplated by this agreement that Forest Service reasonable implementation of those practices and procedures and of this agreement will

2. (b) (cont.)

constitute compliance with Section 13260, subdivision (a) of Section 13263, and subdivision (b) of Section 13264, Water Code. It is further contemplated that these provisions requiring a report of proposed discharge and issuance of waste discharge requirements for nonpoint source discharges will be waived by the Regional Board pursuant to Section 13269, Water Code provided that the Forest Service reasonably implements those practices and procedures and the provisions of this agreement. However, waste discharges from land management activities resulting in point source discharges, as defined by the Federal Water Pollution Control Act, will be subject to NPDES permit requirements, since neither the State Board nor the Regional Board has authority to waive such permits.

(c) That implementation will constitute following the Implementation Statement, Section I of the Forest Service 208 Report.

3. It is mutually agreed:

(a) To meet no less than annually to maintain coordination/communication, report on water quality management progress, review proceedings under this agreement, and to consider revisions as requested by either party.

(b) To authorize the respective Regional Boards and National Forests to meet periodically, as necessary, to discuss water quality policy, goals, progress, and to resolve conflicts/concerns.

(c) That the development and improvement of BMPs will be through a coordinated effort with federal and state agencies for adjacent lands and areas of comparable concern.

(d) To meet periodically, as necessary, to resolve conflicts or concerns that arise from and are not resolved at the Forest and Regional Board meetings. Meetings may be initiated at the request of either party, a National Forest, or a Regional Board.

(e) To coordinate present and proposed water quality monitoring activities within or adjacent to the National Forests and to routinely make available to the other party any unrestricted water quality data and information; and to coordinate and involve one another in subsequent/continuing water quality management planning and standard development where appropriate.

(f) That nothing herein shall be construed in any way as limiting the authority of the State Board or the Regional Boards in carrying out their legal responsibilities for management or regulation of water quality.

3. (cont.)

(g) That nothing herein shall be construed as limiting or affecting in any way the legal authority of the Forest Service in connection with the proper administration and protection of National Forest System lands in accordance with federal laws and regulations.

(h) That this Agreement shall become effective as soon as it is signed by the parties hereto and shall continue in force unless terminated by either party upon ninety (90) days notice in writing to the other of intention to terminate upon a date indicated.

IN WITNESS WHEREOF, the parties hereto, by their respective duly authorized officers, have executed this Agreement in duplicate on the respective dates indicated below.

FOREST SERVICE,
U. S. DEPARTMENT OF AGRICULTURE

By _____
Regional Forester
Pacific-Southwest Region

Date: 3/17/81

By _____
Regional Forester
Intermountain Region

Date: 4-1-81

By _____
Regional Forester
Pacific Northwest Region

Date: 5-26-81

STATE WATER RESOURCES CONTROL BOARD
STATE OF CALIFORNIA

By _____
Executive Director

Date: FEB 26 1981

ATTACHMENT A

Schedule for Completing the BMPs

Priority	Best Management Practice	Completion Date (F.Y.)
1	Cumulative Watershed Impacts	'81
2	Closure or Obliteration of Temporary Roads (2.26)	'81
3	Minimization of Sidecasting (2.11)	'81
4	Stabilization of Road Prisms and of Spoil Disposal Areas	'82
5	Control of Road Maintenance Chemicals	'83-'86*
6	Tractor Windrowing on the Contour (5.5)	'83-'86*
7	Sanitary and Erosion Control for Temporary Camps	'84-'86*
8	Administering Terms of the U. S. Mining Laws (3.1)	'84-'86*

* To be firmed up to a specific fiscal year two years in advance at the annual meeting called for in Section 3(a) of this Agreement.

ATTACHMENT B

Schedule for Resolving Regional Board Issues

Region	Issue	Completion Date (F.Y.)
1	Herbicide Use (Resolution 80-5)	'81
1	Protection of Wild and Scenic Rivers	'82

MEMORANDUM OF AGREEMENT
BETWEEN
THE DEPARTMENT OF HEALTH SERVICES
AND
THE STATE WATER RESOURCES CONTROL BOARD
ON IMPLEMENTATION OF THE HAZARDOUS WASTE PROGRAM

This Memorandum of Agreement (hereinafter "MOA") sets forth those principles and procedures to which the Department of Health Services (hereinafter "Department") and the State Water Resources Control Board [hereinafter "Board", which also includes and represents the nine Regional Water Quality Control Boards (RWQCBs)] commit themselves to implement the State's Hazardous Waste Program, including support of the State's implementation of Subtitle C of the Resource Conservation and Recovery Act (RCRA, 42 USC 6921 et seq.). Specifically, the MOA covers surveillance and enforcement related to water quality at landfills, surface impoundments, waste piles, and land treatment facilities which treat, store, or dispose of hazardous waste (all hereinafter referred to as "hazardous waste management facilities"). This MOA also covers the issuance, modification, or denial of permits to facilities, including the revision of the water quality aspects of hazardous waste management facility siting, design, closure and post-closure, and surface and ground water monitoring and protection. This MOA hereby includes by reference Exhibit A, entitled "General Procedures for Permit Development for Hazardous Waste Management Facilities". This MOA and subsequent amendments shall be effective as of the date of signature by both the Director of the Department and the Chairperson of the Board. It shall be considered binding on both agencies, to the fullest extent allowed by law. No provision of this memorandum is intended to nor shall be interpreted as amending in any way the provisions of any statute, regulation, order, or permit.

BACKGROUND

The United States Environmental Protection Agency (hereinafter "EPA") may authorize states to administer and enforce a hazardous waste program pursuant to Subtitle C of RCRA, provided that the states can demonstrate to EPA that their state hazardous waste laws, regulations, and program procedures are equivalent to and consistent with the federal counterparts. The first phase of EPA's RCRA regulations were promulgated on May 19, 1980. They included hazardous waste criteria, standards for generators and transporters, and interim status standards for treatment, storage, and disposal facilities.

The remaining regulations were issued in three components, with standards for storage and treatment promulgated on January 12, 1981, standards for incinerators promulgated on January 26, 1981, and standards for land disposal promulgated on July 26, 1982. These regulations have undergone subsequent revisions and amendments to reflect changes in EPA policy and to provide for more effective environmental protection.

The Department has been designated under State law as the agency to administer and enforce the State's hazardous waste management program authorized under Section 3006(c) of RCRA. The State was granted interim RCRA Phase I authorization on June 4, 1981 and Phase IIA authorization on January 11, 1983. Interim authorization was dependent upon the existence of a state program that is "substantially equivalent" to the federal RCRA program.

Substantial equivalency was demonstrated by using existing California laws governing hazardous waste control and water quality protection, and the administrative regulations of the Department and the Board.

The Department applied for final authorization, with full input from the Board on all water quality areas, for all phases of RCRA on November 7, 1985. Final authorization of the State program depends upon the State's ability to demonstrate equivalency to and consistency with the federal program. Any inconsistencies which would make the State program less stringent must be resolved.

The Department and the Board have promulgated and will maintain regulations which make the State program equivalent to or more stringent than federal laws and regulations.

AUTHORITY

The RCRA regulations are codified in Title 40 of the Code of Federal Regulations (40 CFR) in Parts 124 and 260 through 271, inclusive.

Unless otherwise stated, all references to "federal law" shall refer to RCRA and references to federal regulations shall refer to 40 CFR, parts 124 and 260 through 271, inclusive. Because EPA may continue to amend their hazardous waste regulations, it may be necessary to revise the aforementioned list of federal regulations from time to time. Such revisions may be proposed by either party and, if agreed to by both parties, may be appended to this MOA, provided such revisions do not change the meaning of the Agreement or otherwise alter its intent.

With the exception of Article 9.5 ("Toxic Pits Cleanup Act of 1984") the Department has the authority to implement and enforce the State's Hazardous Waste Control Law, Health and Safety Code (HSC), Divison 20, Chapter 6.5. The Department also has the authority, pursuant to Sections 25159.5 and 25159.7 of the HSC, to enforce federal law until such time as the Department adopts regulations corresponding to and equivalent to, or more stringent or extensive than, federal regulations. The Department has promulgated regulations which establish, in detail, standards for the handling, processing, use, storage, and disposal of wastes, California Administrative Code, Title 22, Division 4, Chapter 30.

The Board has the authority to implement and enforce the Porter-Cologne Water Quality Control Act, Water Code, Division 7; Article 9.5 of Chapter 6.5 of Division 20 of the HSC; and to develop standards for local implementation and enforcement of Chapter 6.7 (Underground Storage of Hazardous Substances) of Division 20 of the HSC. The Board has promulgated regulations which

establish, in detail, water quality protection standards for discharges of waste to land: California Administrative Code, Title 23, Chapter 3, Subchapter 15. The Board also has regulations governing other discharges of waste which could affect the quality of waters of the State, and regulations implementing Chapter 6.7 of the HSC. The Board also is the lead agency for implementation of the Federal Clean Water Act in California.

Nothing in this MOA shall be construed as a waiver of the Department's authority to administer and enforce the State hazardous waste management program authorized under Section 3006(c) of RCRA.

PRINCIPLES OF AGREEMENT

For the purpose of this MOA, the Department and the Board agree to the following principles:

1. Only one Hazardous Waste Facility Permit, encompassing all Department and Board standards, shall be issued. It is the intent of the Department and Board to hold a joint public hearing prior to the issuance of a Hazardous Waste Facility Permit and in accordance with Exhibit A. The Department shall be responsible for issuing the Hazardous Waste Facility Permit.

   The Board will adopt necessary waste discharge requirements and agrees to ensure that such requirements are consistent with and no less stringent than 40 CFR 264, Subpart F. Further, in other regulatory areas of this program where the Board's Waste Discharge Requirements may contain water quality requirements or standards which parallel RCRA, the Board agrees to ensure, subject to the availability of supporting resources, that such requirements and standards are consistent with and no less stringent than counterpart Federal regulations at 40 CFR 264.

   The Department shall be responsible for providing assurance to EPA that all applicable RCRA standards are incorporated into the Hazardous Waste Facility Permit issued by the Department.

   The Hazardous Waste Facility Permit shall incorporate as a condition of the permit any applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board, and shall be consistent with all applicable water quality control plans adopted pursuant to Section 13170 of the Water Code and Article 3 (commencing with Section 13240) of Chapter 4 of Division 7 of the Water Code and state policies for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7 of the Water Code, and any amendments made to these plans, policies or requirements. The Hazardous Waste Facility Permit shall also include such additional provisions as may be required by the Federal RCRA program. The Board may also issue and enforce additional requirements and orders authorized by state law.

The Board shall notify and provide two copies to the Department of any proposed revision of waste discharge requirements for hazardous waste management facilities at least 30 days before such requirements are issued except where such requirements are issued to correct a deficiency of interim status or permit requirements, in which case the Board shall promptly notify the Department of such action.

The Department shall notify and provide two copies to the Board of any proposed change in a Hazardous Waste Facility Permit or Interim Status Document. Such notice shall occur at least 30 days before modification of an Interim Status Document or public notice of a permit modification except when such a modification is issued to correct a deficiency of interim status documents or permit requirements, in which case the Department shall promptly notify the Board of such action.

The Department and the Board shall develop detailed procedures for permit processing as necessary to ensure an effective and efficient hazardous waste permit program and shall forward draft and final versions and modifications to each other in a timely manner. When finalized, such procedures are included and made part of this MOA.

As a condition of final RCRA authorization, EPA has requested assurance that the Department has the authority to impose RCRA-equivalent water quality standards as hazardous waste facility permit conditions in the unlikely event that the Board's waste discharge requirements for a facility are not RCRA-equivalent. The Department has given EPA the requested assurances with recognition of the Board's primary role in adopting water quality control plans (Basin Plans) and waste discharge requirements for all hazardous waste management facilities.

If EPA or the Department identify a lack of RCRA equivalency in water quality control plans or waste discharge requirements applicable to a Hazardous Waste Facility Permit, the Department will notify the appropriate Regional Board in writing requesting necessary corrections or additions to the applicable water quality control plans or waste discharge requirements. If the Regional Board fails to act on the Department's notice, or if the response is inadequate to correct the deficiency, the Department agrees to petition the matter to the State Board for a final ruling. In the interim, the Department may impose the necessary water quality requirements in the permit in order to assure RCRA equivalency. Even if the appeal to the State Board is resolved in favor of the Regional Board, the Department may impose any additional water quality requirements on Hazardous Waste Facility Permits that are necessary to assure RCRA equivalency.

2. The Board shall be responsible for conducting the RCRA surveillance activities for hazardous waste management facilities in accordance with the annually negotiated Interagency Agreement and with the terms and conditions of this MOA.

3. The Department and the Board recognize the separate, but parallel, enforcement authorities of each agency. It is the intent of the Department and Board to strive to eliminate duplicative enforcement action.

The Department agrees that in instances where the Board's authorities are similar to those of the Department's and where the Board uses, subject to the availability of supporting resources, those activities in a timely and appropriate manner, the Department may decide that a particular Board action is sufficient for purposes of RCRA and the authorized State hazardous waste management program, and that further or separate action by the Department is not necessary.

The Department also agrees to provide the Board with notice of any hazardous waste management facility compliance inspection which indicates the violation of water quality protection requirements. If the Board does not act in a timely manner to bring the facility into compliance or demonstrate that the indicated violation does not exist, to the satisfaction of the Department, the Department will take separate action to bring the facility into compliance and shall notify the Board prior to taking such action. The Board shall notify the Department of any enforcement action taken relating to hazardous waste land disposal prior to such action.

If EPA advises the Department of a violation of RCRA water quality standards needing corrections, EPA will also send a copy of the letter to the appropriate Regional Board. If the Board has taken or intends to take action in response to EPA's letter, the Board agrees to notify, in a timely manner, the appropriate DHS regional office that an action has been, or will be, taken. If EPA or the Department is not satisfied with the timeliness or appropriateness, with respect to RCRA, of the Board's action, the Department or EPA will take separate action to bring the facility into compliance. The Department will contact the Board prior to taking such action.

The Department and the Board shall develop detailed surveillance and enforcement procedures to ensure an effective and efficient hazardous waste compliance program and shall forward draft and final versions and modifications to each other in a timely manner. The Department and the Board shall prepare jointly and incorporate into this MOA "General Procedures for Surveillance and Enforcement Activities for Hazardous Waste Land Disposal".

4. The Board shall be responsible for providing the Department with water quality protection requirements consistent with and no less stringent than 40 CFR 264 and 265, Subpart F for facilities operating under interim status or Hazardous Waste Facility Permit.

The Department shall be responsible for all aspects outside of 40 CFR 264 and 265, Subpart F for hazardous waste management facilities operating under interim status or Hazardous Waste Facility Permit.

The Department and Board recognize that the Board also has separate regulatory authority that parallels RCRA regulations at Subparts in addition to 40 CFR 264 and 265, Subpart F. For this area of parallel authority, subject to the availability of supporting resources, the Board's responsibilities shall include:

a. the review and evaluation of the water quality aspects of facility siting and design, ground water (including that found in the unsaturated zone) and surface water monitoring and protection programs, the water quality aspects of facility closure plans and post-closure monitoring programs; and

b. the development of appropriate water quality protection requirements and permit conditions to prevent water quality degradation.

These responsibilities shall be carried out in a manner that is sufficient to assure compliance with applicable RCRA regulations. The specific commitments and responsibilities will be negotiated annually through the Interagency Agreement.

5. The Department and the Board agree to develop jointly and sign an interagency agreement, prior to the beginning of each fiscal year, which clearly defines the tasks, work products, time of performance, and associated costs for the Board's performance of the responsibilities described in this MOA. The Department, contingent upon availability of funding, agrees to reimburse the Board in fulfillment of their responsibilities under the interagency agreement.

6. As the State does not allow intervention as a right in any civil action by any citizen having an interest which may be or is adversely affected, the Board agrees, at a minimum, to provide public participation, relative to enforcement actions taken on behalf of the Department at hazardous waste management facilities, in a manner that is not less stringent than RCRA statute or regulations.

7. The Board agrees that any information obtained or used in the administration of those portions of Subchapter 15 and the Porter-Cologne Act that relate to the terms and conditions of this MOA or the annually negotiated Interagency Agreement shall be available to the Department without restriction. If the information has been submitted to the Board under a claim of confidentiality, the Board agrees to submit that claim to the Department when providing the information. The Department shall acknowledge and respond to such claims of confidentiality as required by state law.

8. On or before September 30 of each year, the Board shall submit to the Department a final accounting of all costs incurred by the Board for all work performed in compliance with this MOA during the previous fiscal year.

9. This MOA may be amended by mutual agreement as necessary to assure effective and timely implementation and operation of the State's hazardous waste program.

10. The Secretary for Environmental Affairs and the Secretary for the Department of Health Services shall make the final determination in any jurisdictional dispute between the Department and the Board concerning the implementation of this memorandum, to the extent such dispute resolution does not render the State's authorization program inconsistent with, or less stringent then, the Federal RCRA program.

Kenneth W. Kizer, M.D., M.P.H.
Director
Department of Health Services

Date

Raymond R. Stone, Chairperson
State Water Resources Control Board

11/27/86
Date

EXHIBIT A

General Procedures for Permit Review Process for Hazardous Waste Land Disposal Facilities*

1. The Department Requests Permit Application (Part B)

The Department will request Board [State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs)] recommendations when selecting facilities for Part B call-in. All recommendations by the Board for Part B call-ins will be considered by the Department. The Department will issue a formal written request for the Part B of the application for a Hazardous Waste Facility Permit. The Department's request will also state the authority under which the request is made, set a due date, describe the consequences of a failure to submit a Part B application, and give the number of copies to be submitted.

2. Orientation Meetings for Permit Applicants

Orientation or pre-application meetings for permit applicants will be provided to each applicant upon request by representatives from the Department. The Board (RWQCB and SWRCB, where appropriate) will attend these meetings to discuss the permitting process and application requirements. Subsequent meetings with individual applicants will be part of the technical assistance portion of the Program.

3. Technical Assistance for Permit Applicants

During preparation of the application (Part B), the Department and the Board (RWQCB and SWRCB, where appropriate) will provide technical assistance to permit applicants and track the progress of application development. This assistance will include reviews of preliminary materials prepared for the application package (including documents required under Interim Status), attendance at technical and progress meetings, and inspection of facilities. Areas of technical assistance will include, but not be limited to, design features, ground water monitoring, closure/post-closure plans, and the amount of detail required in general throughout the Part B application.

4. Part B Received by the Department

The Department will request at least five copies of the Part B application. The Department will forward one copy to the SWRCB, one copy to the appropriate RWQCB, and two copies to the appropriate Department regional office. The Department headquarters will retain one copy and maintain records of transmittal.

* After program authorization by EPA

5. Review of Application

The Department (regional office or headquarters, where appropriate) and the Board (RWQCB and SWRCB, where appropriate) will review the Part B for completeness and for compliance with RCRA in the respective areas in which these groups will be working. As part of the review, one or more hazardous waste management facility inspections may be needed. The Department and the RWQCB's will strive to make joint inspections of the facilities whenever feasible. The Department and the Board (RWQCB and SWRCB, where appropriate) will complete their review using applicable state and federal guidance documents. Cost estimates submitted by the applicant for closure/post-closure will be "verified" by Department staff and used during the review for financial responsibility. The Department will track the progress of the application reviews. The RWQCB (and SWRCB, where appropriate) will submit comments to the Department in accordance with guidance documents and checklists provided by the Department.

6. The Department Prepares Responses to Permit Applicant

The Department will consolidate all comments. The Department will incorporate all comments from the Board (RWQCB and SWRCB, where appropriate) relevant to the Board's responsibilities outlined in the interagency agreement. The Department will prepare a Notice of Deficiency (NOD) to the permit applicant regarding the completeness and compliance of the applicant. The Department will seek the Board's input and concurrence prior to sending the NOD to the applicant.

7. Permit Applicant Responds to NOD or Prepares and re-Submits Application, when Required

If more information is needed to complete the Part B application, the applicant will submit such information as directed. At least five copies shall again be submitted to the Department for distribution as previously discussed. Once the application is judged by the Department (with input from the appropriate RWQCB and SWRCB, where appropriate) to be complete, the Department will notify the applicant in writing and the permitting process begins. If the application is judged incomplete, the Department will inform the applicant in writing and a resubmittal will be necessary.

8. RWQCB Prepares Draft Waste Discharge Requirements

The appropriate Department Regional Office shall coordinate a permitting schedule with the appropriate RWQCB. The appropriate RWQCB will prepare draft waste discharge requirements (WDR) or a draft revision of existing WDR and forward these to the Department.

NOTE: The Department will notify and give to the Air Resources Board (ARB) a copy of the complete Part B application whenever air quality could be affected by the facility. ARB comments on the application will be submitted to the Department.

9. The Department Prepares Preliminary Draft Hazardous Waste Facility Permit

The Department will prepare a preliminary draft Hazardous Waste Facility Permit which incorporates the draft WDR and other appropriate input from the SWRCB and RWQCB. The Department will transmit a copy of the draft Hazardous Waste Facility Permit to the RWQCB, SWRCB, and ARB (when appropriate) for concurrence.

10. The Department prepares final draft Hazardous Waste Facility Permit incorporating requirements and input from the SWRCB and RWQCB.

11. The Department gives notice of the proposed permit and public hearing to be held by the Department, as lead agency, and jointly with the RWQCB. The Department shall give notice to the public and all interested parties. With the concurrence of the Department and the appropriate RWQCB, the joint hearing may be held by the RWQCB provided that such a hearing is conducted in a manner that is not less stringent than RCRA statute or regulations.

12. Joint public hearing by the Department and the RWQCB.

13. The RWQCB (and SWRCB, where appropriate) shall provide comments to the Department within 30 days after the hearing. The Department will prepare a joint response to comments from the hearing.

14. RWQCB Adopts the WDR

The adoption of the WDR will occur concurrently with the processing of the permit application. The WDR adoption may also occur following the joint public hearing. A copy of the WDR, as adopted, will be forwarded to the Department and incorporated into the permit.

15. The Department will adopt and issue the final Hazardous Waste Facility Permit.

MEMORANDUM OF AGREEMENT
BETWEEN
THE DEPARTMENT OF HEALTH SERVICES
AND
THE STATE WATER RESOURCES CONTROL BOARD
ON USE OF RECLAIMED WATER

This Memorandum of Agreement (hereafter MOA) is made between the Department of Health Services (hereafter the Department) and the State Water Resources Control Board (hereafter the State Board). This MOA sets forth principles, procedures and agreements to which these agencies commit themselves relative to use of reclaimed water in California.

I. PURPOSE AND SCOPE OF MOA.

This MOA is intended to assure that the respective authority of the Department, the State Board and the nine California Regional Water Quality Control Boards (hereafter the State Board and the Regional Boards) relative to use of reclaimed water will be exercised in a coordinated and cohesive manner designed to eliminate overlap of activities, duplication of effort, and inconsistency of action. To that end, this MOA establishes basic principles relative to activities of the agencies hereto and the Regional Boards, allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to use of reclaimed water in this State.

The initial MOA is intended to serve as an umbrella agreement between the agencies hereto. It will be supplemented, as appropriate, by addenda which will reflect any additional agreements, commitments and understandings arrived at by the agencies hereto.

II. GENERAL BACKGROUND.

In order to supplement existing surface and underground water supplies to help meet water needs in the State, it is state policy that use of reclaimed water in the State be promoted to the maximum extent commensurate with protection of public health. (See Chapter 7, Div. 7, California Water Code.)

So long as its use is compatible with public health and water quality objectives, reclaimed water can be used in a variety of ways to assist in meeting the water needs of this State. Uses of reclaimed water include use for crop and landscape irrigation, supply for recreation impoundments, industrial cooling, and groundwater recharge including protection against saltwater intrusion.

The Department is the primary state agency responsible for protection of public health. To assure protection of public health where reclaimed water use is involved, the Department has been statutorily directed to establish statewide reclamation criteria for the various uses of reclaimed water. (Water Code Section 13521.) The Department has promulgated regulatory criteria, which are currently set forth in the California Code of Regulations, Title 22, Division 4, Section 60301 et seq. The Department's regulatory criteria include numerical limitations and requirements, treatment method requirements, and provisions and requirements related to sampling and analysis, engineering

reports, and design, operation, maintenance and reliability of facilities. The Department's regulations also permit the granting of exceptions to reclaimed water quality requirements in some cases, call for a case-by-case review of groundwater recharge projects, and allow use of alternative methods of treatment so long as the alternative methods used are determined by the Department to assure equivalent treatment and reliability. Many of the regulatory requirements related to sampling, analysis, engineering reports, personnel, operation and design are narrative in nature and leave room for discretionary decisions based on the individual situation in each case.

The Department has also developed Guidelines For Use of Reclaimed Water (hereafter Guidelines). The Guidelines, except insofar as they may incorporate provisions of the Department's regulatory criteria, are not considered binding or mandatory upon permit issuing agencies, such as the Regional Boards.

The State Board and the Regional Boards are the primary state agencies charged with protection, coordination and control of water quality in the State. Where regulatory reclamation criteria have been adopted by the Department, all persons who reclaim or propose to reclaim water, or who use or propose to use reclaimed water, must file a report with the appropriate Regional Board. (Water Code Section 13522.5.) Where regulatory reclamation criteria have been adopted, no person may either reclaim water or use reclaimed water until the appropriate Regional Board has either issued reclamation requirements or waived the necessity for such requirements. (Water Code Section 13524.) In the process of issuing reclamation requirements, the Regional Boards must consult with and consider recommendations of the Department. (Water Code Section 13523.) Any reclamation requirements which are issued by the Regional Boards, whether applicable to the reclaimer or to the user of reclaimed water, must include or be in conformance with any regulatory reclamation criteria adopted by the Department.

Where reclaimed water use is involved or proposed, both the Department and the Regional Boards have authority to require construction reports and such other reports as may be necessary to assure protection of both public health and water quality.

Where use of reclaimed water is involved, both the Department and the Regional Boards have enforcement authority. The Department may take steps to abate any contamination which may result from use of reclaimed water. The Regional Boards may undertake various actions, both of a civil nature and relative to criminal sanctions, for failure to file necessary reports, for reclamation or use of reclaimed water without reclamation requirements, or for violation of any reclamation requirements imposed by a Regional Board.

There are other specific areas involving or associated with use of reclaimed water where interaction between the Department, the State Board and the Regional Boards is required. These areas include direct injection of reclaimed water into groundwater which is suitable for domestic water supply and use of reclaimed water for irrigation of greenbelt areas.

In addition to the authority vested in the Department, the State Board and the Regional Boards relative to use of reclaimed water, various local health authorities have an independent and autonomous role and authority in assuring protection of public health and water quality in areas subject to their jurisdiction.

III. GENERAL PRINCIPLES.

The general principles agreed to by the Department and the State Board are as follows:

(A) Reclamation requirements issued by the Regional Boards will impose all absolute reclamation criteria established by the Department's regulations.

(B) All recommendations of the Department which involve areas of critical or essential health concern shall be included in any reclamation requirements issued by a Regional Board or by the State Board, unless variation therefrom is adequately documented and justified by the Regional Board. This principle encompasses all absolute criteria contained in the Department's Guidelines.

(C) Each agency hereto and the Regional Boards shall, to the maximum extent compatible with fulfillment of its primary responsibility to protect and preserve public health or water quality, promote and facilitate use of reclaimed water in this State.

IV. PROGRAM PROVISIONS AND COMMITMENTS.

To assure fulfillment of the purposes and principles set forth in the MOA, the agencies hereto commit themselves to the following programmatic approaches:

(A) Issuance and Enforcement of Reclamation Requirements:

1. The Regional Boards will consult with and seek recommendations from the Department prior to the issuance of any reclamation requirements. The Department will be provided with a copy of any reclamation requirements which a Regional Board proposes to issue as a part of the consultation process, and shall have reasonable opportunity to comment thereon prior to any adoption thereof. Any comments or recommendations which the Department intends to make on proposed reclamation requirements will be expeditiously provided. As a part of the consultation process, the Regional Boards will notify the Department of any intended departure from any absolute criteria contained in the Department's Guidelines.

2. Any Department recommendations to the Regional Boards relative to proposed reclamation requirements will identify those nonregulatory recommendations which the Department believes are critical and essential for protection of public health. In the event that the staff of any Regional Board does not intend to recommend inclusion of any such recommendation in the proposed reclamation requirements which will be submitted to the Regional Board, the Department will be notified at the Branch Chief level. The Regional Board Executive Officer and the appropriate Department Branch Chief will attempt to resolve any differences over the terms of the proposed reclamation requirements. If the differences cannot be resolved at this level, the matter will be brought to the attention of the Chief of the Department's Environmental Health Division. If the differences are not resolved at this level, the Regional Board staff will proceed toward presentation of the proposed reclamation requirements to

the Regional Board. The Department will be given adequate notice of any meeting or hearing relative to adoption of the proposed reclamation requirements, and a reasonable opportunity to present its perspectives, arguments and rationale to the Regional Board prior to adoption of the reclamation requirements.

In the event that a Regional Board determines not to impose any nonregulatory recommendations which have been identified by the Department as critical and essential for the protection of public health, the Regional Board will expeditiously provide the Department with a full and detailed written explanation of the basis and rationale for its decision.

3. Other recommendations of the Department, not identified by the Department as critical or essential for the protection of public health, will be included by the Regional Boards in their reclamation requirements in the manner and to the extent determined to be appropriate by the Regional Boards after full consideration of the Department's recommendations. In each case where there is any significant variation from any such recommendation given by the Department to which the Department has not agreed, the Regional Boards will notify the Department in writing that changes have been made to the Department's recommendations. Such notice will clearly identify the changes that have been made and provide a statement of the reasons and rationale for variation from the Department's recommendations.

4. If a Regional Board accepts and imposes any recommendation made by the Department and the requirement so imposed is challenged by any person, the Department will supply justification for, and otherwise reasonably support and defend, such recommendation.

5. The provisions of Paragraphs 2 and 3 above are intended to apply, as appropriate, to all recommendations of the Department, including but not limited to, recommendations related to treatment requirements, treatment methods, necessary facilities, monitoring, sampling requirements and analyses thereof, reporting requirements, reliability features, operation and maintenance requirements, alarm and warning systems, cross connection protections, set back and buffer zones, and pipeline separation.

6. The Regional Boards will not waive the necessity of reclamation requirements for any proposed use of reclaimed water without consultation with the Department.

7. The Regional Boards shall be primarily responsible for reasonable surveillance and monitoring of all activities subject to reclamation requirements. The Regional Boards will expeditiously notify the Department of all significant violations of reclamation requirements or improper reclamation uses within their jurisdictions. The Department will expeditiously notify the appropriate Regional Board of improper reclamation uses or violation of reclamation requirements which become known to the Department.

8. As between the agencies hereto, it is understood that the Regional Boards shall have primary responsibility for enforcement of reclamation requirements and prevention of improper reclamation uses in their respective jurisdictions. The Regional Boards and the State Board will commit sufficient staff resources to assure adequate enforcement of reclamation requirements and reclamation uses within their regions. It is recognized, however, that enforcement action may be undertaken by the Department and by local health authorities for violation of reclamation requirements or improper reclamation use where action by the Department or local health authorities is deemed essential for adequate protection of public health.

9 The Department will take reasonable steps to assure consistency of action between its various regions and offices.

10. The State Board will take reasonable steps to assure consistency of action between the Regional Boards.

(R) Revision of Department Guidelines For Use of Reclaimed Water.
The agencies hereto recognize that the current Department Guidelines need to be reviewed and revised as appropriate. The Department will undertake to develop updated, mutually acceptable Guidelines, in the following manner:

1. The Department will forward a copy of the current Guidelines and relevant and related material to the Regional Boards, the State Board, the California Conference of Local Health Officers (CCLHO) and the California Conference of Directors of Environmental Health (CCDEH) soliciting comments regarding the Guidelines including any changes or revisions desired.

2. The recipients will expeditiously, and in any event not later than November 10, 1988, provide any comments which they intend to make.

3. The Department will prepare and distribute the first draft of proposed revised Guidelines by January 1, 1989.

4. The agencies hereto will form a Joint Task Force to provide advice to the Department on development of Guidelines. It is anticipated that this Task Force will be comprised of three representatives from the Department, two Regional Board Executive Officers, two representatives from the State Board, one representative from Tri-TAC, and two representatives on behalf of local health authorities, presumably from CCLHO and/or CCDEH.

5. It is anticipated that final revised Guidelines will be concurred in by the agencies hereto and that, in addition, the revised Guidelines will be endorsed and concurred in by both CCDEH and CCLHO.

6. In addition to advising the Department on development of revised Guidelines, the Task Force will also make recommendations to the Department concerning what portions of the revised Guidelines should be promulgated in the formally adopted regulations of the Department.

(C) Review of the Department's Regulatory Reclamation Criteria. The agencies hereto recognize that the Department's regulatory reclamation criteria, presently set forth in the California Code of Regulations, Title 22, Division 4, Section 60301 et seq., should be reviewed. In addition, concerns have been periodically expressed over the adequacy of the Department's justification for its current Title 22 reclamation criteria. In the light of these circumstances, the agencies hereto agree as follows:

1. The Department will undertake and expeditiously complete a review of its Title 22 reclamation criteria. The Joint Task Force which is to be formed under Part IV, (B) 4 above will review the current regulatory criteria and provide its comments and recommendations to the Department. Dependent upon the recommendations of the Task Force, the Department may reestablish and reconstitute its Health Effects Advisory Committee to provide additional assistance in the development of revised regulatory criteria. The State Board will supply reasonable support and resources to the Department toward the effort of revision of the regulatory criteria upon request of the Department. The Department anticipates that, by July 1, 1989, it will be able to determine whether the Title 22 regulations do require modification. If modification is determined to be appropriate, the Department will expeditiously undertake the necessary revision.

2. The Department will develop and make available an issue paper which explains and sets forth the justification and rationale for the Current Title 22 reclamation criteria. It is anticipated that the necessary document will be developed by January 1, 1989.

(D) Groundwater Recharge. The State Board and the Department, in conjunction with the Department of Water Resources, are in the process of development of an interagency policy and guidelines relative to use of reclaimed water for groundwater recharge. It is anticipated that the policy and guidelines will be developed in two phases, will address planned, unplanned, and incidental recharge, and will also address mutual goals, objectives, principles and coordination of activities of the agencies hereto relative to groundwater recharge. The State Board and the Department will continue their efforts to develop the necessary interagency policy and guidelines in accordance with the following schedule:

Completion of final draft of Phase I	January 15, 1989
Completion of final draft of Phase II	January 15, 1990

It is anticipated that the final policy/guidelines will be approved and adopted jointly by the Department and the State Board, and that, upon concurrence of the Regional Boards, the final approved policy/guidelines will be incorporated by addendum into this MOA.

(E) Inconsistencies Between Regulation of Use of Reclaimed Water and Nonregulation of Reuse of Treated Wastewater (Incidental Reuse); Development of Programs and Strategies. The agencies hereto recognize that, unlike the strict regulation that occurs where use of

reclaimed water is involved, there are instances where somewhat similar uses of treated wastewater are presently unregulated. It is also recognized that some instances of nonregulation of reuse of treated wastewater may result in cases which involve significant health concerns, and that additional work needs to be done to develop those programs and strategies necessary to assure protection of public health and water quality in such situations. The agencies hereto, however, also recognize that the issues involved are complex. As the other requirements of this MOA are fulfilled and as staff and resources become available, the agencies hereto commit themselves to resolve the problems and issues noted in this paragraph.

As an interim measure, pending further action pursuant to the foregoing paragraph, if the Department notifies a Regional Board of any instance of unregulated reuse of treated wastewater which the Department believes involves critical or essential health concerns, the Regional Board which is involved shall take whatever action is appropriate to protect public health. If the Regional Board declines to take any action, or if the Regional Board in taking action decides not to impose any recommendation of the Department, the Regional Board will expeditiously provide the Department with a full and detailed written explanation of the basis and rationale for its decision.

(F) Coordination with Local Health Authorities. The agencies hereto acknowledge the need to and desirability of working with and cooperating with local health authorities to assure coordination of activities relative to use of reclaimed water, to reduce conflicts, and to promptly and effectly resolve any conflict which may arise. The Task Force formed under Part IV, B 4 above will undertake to ~~attempt~~ develop appropriate mechanisms to promote cooperation and coordination between state agencies and local health authorities in the reclamation area and to resolve any disputes that may arise. Proposed mechanisms when developed will be presented to the agencies hereto for consideration of appropriate action.

SC 12/5/88

V. DISPUTE AND CONFLICT RESOLUTION.

(A) It is the desire of the agencies hereto to establish a speedy, efficient, informal method for resolution of interagency problems, disputes or conflicts. To that end, except as otherwise provided in this MOA, and to the extent not inconsistent with any formal administrative appeals which may be pending:

1. Department concerns with Regional Board action or inaction, which cannot otherwise be informally resolved, will be brought to the attention of the State Board Executive Director who will attempt to resolve the same with the appropriate Regional Board or Boards. In the event that such concerns still cannot be resolved to the satisfaction of the Department, the matter shall be referred to the Director of the Department and the Chairman of the State Board for consideration and appropriate action toward resolution.

2. Regional Board concerns with Department action or inaction, which cannot otherwise be informally resolved, will be referred to the

State Board Executive Director who will attempt to resolve the same with the Department's Deputy Director for Public Health. In the event that the concerns still cannot be resolved to the satisfaction of the Regional Board or Boards involved, the matter shall be referred to the Director of the Department and the Chairman of the State Board for consideration and appropriate action for resolution.

3. Concerns between the Department and the State Board which cannot otherwise be informally resolved will be referred to the State Board Executive Director and the Department's Deputy Director for Public Health. In the event that the concerns still cannot be resolved to the mutual satisfaction of the State Board and the Department, the matters in issue shall be referred to the Director of the Department and the Chairman of the State Board for appropriate action.

4. Nothing contained herein shall be construed to deprive the Department of formal appeal rights relative to any alleged Regional Board action or inaction. In the event of such an appeal, the State Board will expedite any review process.

VI. MODIFICATION AND PERIODIC REVIEW.

This MOA may be modified in writing at any time by mutual agreement of the agencies hereto. Proposed modifications may be suggested by any agency hereto at any time.

The agencies hereto will meet periodically, not less than once each year, to discuss the actions of each agency relative to this agreement, to devise and agree to appropriate activities for the forthcoming fiscal year, and to consider additional actions and activities which each agency can take to better coordinate their activities and further promote use of reclaimed water in the State.

Director
Department of Health Services

12-5-88

Chairman
State Water Resources Control Board

11-15-88

MANAGEMENT AGENCY AGREEMENT BETWEEN
THE WATER RESOURCES CONTROL BOARD,
THE BOARD OF FORESTRY, AND THE
DEPARTMENT OF FORESTRY AND FIRE PROTECTION,
STATE OF CALIFORNIA

This Management Agency Agreement (Agreement) is entered into by and between the State Water Resources Control Board (Water Board), the State Board of Forestry (BOF), and the State Department of Forestry and Fire Protection (Department, CDF), State of California, for the purpose of carrying out, pursuant to Section 208 of the Federal Clean Water Act, those portions of the State's Water Quality Management Plan related to silvicultural activities on nonfederal lands in the State of California.

WHEREAS:

1. The Board of Forestry has the authority and responsibility, pursuant to the State's Z'berg-Nejedly Forest Practice Act, to promulgate Forest Practice Rules (Rules) and policies to specify practices related to timber operations on non-federal lands in order to restore, enhance and maintain the maximum sustained production of high-quality timber while giving consideration to other natural resources, including the quality and beneficial uses of water.

2. The Department has the authority and responsibility to administer these Rules and policies.

3. The Water Board and the Regional Water Quality Control Boards (Regional Boards) have the authority and responsibility, pursuant to the State Porter-Cologne Act and the Federal Clean Water Act (as amended), to promulgate Water Quality Management (WQM) plans and water quality control plans (Basin Plans) which set forth objectives for restoring, enhancing, and maintaining the quality and beneficial uses of the State's waters, to promulgate regulations and policies to attain these objectives, and to administer these regulations and policies to ensure that waste discharges, including those from silvicultural activities, do not degrade the quality and beneficial uses of the State's waters.

4. The Water Board has the authority and responsibility, pursuant to Section 208 of the Federal Clean Water Act and Title 40, Part 35, Subchapter G, of the Code of Federal Regulations, to designate appropriate management agencies for implementing certain provisions of 208 WQM plans and to certify 208 WQM plans which incorporate Best Management Practices (BMPs) for control of nonpoint sources of pollution, including silvicultural land uses.

5. The Board of Forestry, the Department and the Water Board mutually desire:

   a. To achieve the goals of the Federal Clean Water Act (as amended), of the State Porter-Cologne Act, and of the State Z'berg-Nejedly Forest Practice Act by restoring, enhancing, and maintaining the quality and beneficial uses of the State's waters;

   b. To achieve the water quality objectives set forth in applicable Basin Plans of the State;

   c. To minimize duplication of effort and to establish complementary resource protection programs; and

   d. To assure protection of the quality and beneficial uses of the State's waters through development and implementation of BMPs.

6. The Board of Forestry has promulgated, and the Department administers, Rules which are intended to be BMPs for protection of the quality and beneficial uses of the State's waters from waste discharges due to timber operations on nonfederal lands. The BOF has requested certification of these Rules and the procedures (Process) by which they are promulgated and implemented.

7. On January 21, 1988 and effective upon execution of this Agreement, the Water Board designated the Board of Forestry and the Department as joint management agencies for timber operations on nonfederal lands in the State and certified a 208 WQM plan consisting of: (a) the water quality-related Rules effective through December 31, 1986 (See Item C. 1.), (b) the Process by which they are promulgated and implemented, and (c) this Agreement.

NOW, THEREFORE, the parties hereto agree as follows:

A. The Board of Forestry agrees:

   1. To refine, continue to develop, and adopt BMPs based on consideration of the potential for protecting the quality and beneficial uses of water, technical soundness, and economic and institutional feasibility, in accordance with the Forest Practice Act and with the issues and anticipated schedules set forth in the following attachments:

Attachment A - ITEMS FOR DEVELOPMENT
Attachment B - ITEMS FOR REFINEMENT
Attachment C - ITEMS FOR FURTHER CONSIDERATION

2. That BOF in consultation with the interagency liaison committee (as described in Item D. 8. et. seq.) and others, will approach each issue in Attachments A and B by defining the problem, stating suggested solutions, drafting Rule language and presenting any alternative non-rule approaches which would implement such solutions. Recommendations will be referred through the BOF chairman to the appropriate BOF committee and then, as appropriate, to the BOF District Technical Advisory Committees (DTACs). The DTACs will then review issues and make recommendations after hearing from the public, industry, and concerned agencies. The DTACs' recommendations will be reported to the BOF.

   Following receipt of recommendations from DTACs and/or other appropriate committees, BOF will, as part of its regular agenda (including public hearings), do the following in accordance with the anticipated schedules in Attachments A and B:

   a. Evaluate any recommended Rule language and adopt that found to be appropriate;

   b. Evaluate any recommended non-Rule approaches, and in cooperation with other appropriate parties, affect implementation of those found to be appropriate; and

   c. Report results to the Water Board in accordance with Items B.4 and B.5 below.

B. The Board of Forestry and the Department jointly agree:

1. To each accept designation as, and the responsibilities of, a water quality management agency for timber operations on nonfederal lands in the State of California.

2. To consider, in consultation with the interagency liaison committee (as described in Item D. 7. et. seq.) and others, the best means of resolving issues regarding improvement of BMPs and their implementation which are set forth in Attachment C and to develop and implement appropriate improvements.

3. To develop and carry out improved auditing of agency performance in implementing BMPs.

4. To jointly provide progress reports at Water Board workshops regarding resolution of the issues specified herein:

   a. Semi-annually for the first two years following the date of certification; and

   b. As mutually deemed necessary thereafter, but not more frequently than semi-annually.

5. To submit, with the annual BOF report to the Legislature, a concurrent written report to the Water Board which:

   a. Summarizes the following:

      (1) Progress in resolving issues in accordance with any attachment hereto,

      (2) Any significant additions, deletions, or amendments of the laws, Rules and Process which have or will become effective after January 1, 1987 and which may affect protection of the quality and beneficial uses of water, with explanation for each such change, and

      (3) The results of any agency studies or audits of the performance of foresters, timber operators, and agency personnel, and of the Rules and implementation Process; and

   b. Presents any suggestions for needed studies and for changes in the Rules, the Process, or in this Agreement.

C. The Water Board agrees:

1. That those provisions of the Rules which were in effect before January 1, 1987, and which are set forth in the following Subchapters and Articles of the California Administrative Code, Title 14, Division 1.5, Chapter 4 constitute BMPs:

   Subchapter 1 (Abbreviations and Definitions)

   Article 1

Subchapters 4, 5, and 6 (Coast, Northern, and Southern Forest Districts, respectively)

Article 2 (Definitions, Ratings, and Standards),
Article 3 (Silvicultural Methods),
Article 4 (Harvesting Practices and Erosion Control), and
Article 6 (Watercourse and Lake Protection)

Subchapter 4 (Coast Forest District)

Article 11 (Coastal Commission Special Treatment Areas), and

Article 12 (Logging Roads and Landings)

Subchapters 5 and 6 (Northern and Southern Forest Districts, Respectively)

Article 11 (Logging Roads and Landings)

2. That this Agreement, together with the Rules referenced in Item C.1 above, and the Process (including interagency Review Teams) constitute a 208 WQM plan for control of nonpoint source pollution from timber operations on nonfederal lands which:

   a. Is consistent with relevant provisions of the State/EPA Agreement and Work Program, Federal regulations, and the Federal Clean Water Act;

   b. Is technically sound and economically feasible;

   c. Is consistent with other relevant and approved WQM plans; and

   d. Represents substantial progress toward achievement of water quality goals.

3. To review the annual written report specified in Item B.5, and to identify any concerns regarding protection of water quality due to changes in the Rules or Process made or proposed by BOF and/or CDF.

4. To direct Regional Boards, upon EPA approval of the 208 WQM plan, to cease issuance of Waste Discharge Requirements for timber operations on nonfederal lands except as provided in Section 4514.3 of the Public Resources Code.

D. The Water Board, the Board of Forestry, and the Department agree:

1. That Rule modifications or other means to resolve, in a manner acceptable to the parties hereto, the issues set forth in Attachments A and B will be pursued through normal BOF procedures.

2. That resolution of the issues in Attachment C will be pursued in a manner acceptable to the parties hereto, after further study.

3. That improved methods for implementing BMPs shall be developed and carried out as follows:

   a. Implementation of guidance documents developed in accordance with Attachment D shall begin within 2 years after the effective date of certification or as soon thereafter as feasible;

   b. Training and education programs, and participation therein, shall be pursued on a continuing basis in accordance with Attachment E; and

   c. State agency procedures which are acceptable to the parties hereto and which are developed in accordance with Attachment F shall be incorporated into appropriate Memoranda of Understanding (MOUs) within one year after the effective date of certification.

4. That improved private sector procedures for implementing BMPs shall be encouraged on a continuing basis in accordance with Attachment G.

5. That additional studies to further assess the effects of timber operations on water quality and to provide for continued evaluation, development, and improvement of BMPs and their implementation shall be developed in accordance with Attachment H. Study workplans will be submitted to the parties no more than 2 years after the effective date of certification or as soon thereafter as feasible.

6. That the development and implementation of BMPs and the additional studies conducted by the parties hereto shall be coordinated with concerned state agencies, especially the Department of Fish and Game (DFG) and Regional Boards, with Federal agencies, with BOF DTACS, and with the private sector.

7. That activities needed to carry out Items D.1 through D.5 above shall begin within 30 days after the effective date of certification.

8. That the Chairpersons of BOF and the Water Board (or another Board member) and the Director of CDF shall serve as an interagency liaison committee, and the Director of DFG shall be invited to serve with them.

9. That each agency liaison shall:

   a. Designate an alternate liaison member, if necessary; and

   b. Coordinate the activities of the designating agency as set forth herein with the activities of the other parties hereto, as well as with DFG, Regional Boards, and Federal agencies.

10. That the liaison committee shall seek mutually acceptable technical support, as needed.

11. That the liaison committee members shall meet no less than annually to maintain coordination and communication, to review and discuss the BOF/CDF annual report, to review activities under this agreement, and to consider any revisions to this Agreement, including anticipated target dates and schedules, which are requested by any party hereto. The Director of DFG, or an authorized representative, shall be invited to participate in such meetings.

12. That the parties hereto shall work together to resolve any conflicts which may arise.

13. That representatives of Regional Boards and CDF Regions shall meet with each other, and with DFG representatives, as needed to resolve conflicts and concerns, and shall submit brief written summaries of the reasons for and results of such meetings to the designated liaison in each agency.

14. That the liaison committee shall meet as necessary to resolve conflicts or concerns which arise from and are not resolved by other meetings or reports. Meetings may be initiated at the request of the Executive Director of BOF and the Water Board, the Director of CDF and DFG, or the Executive Officer of a Regional Board.

15. That this Agreement may be terminated upon a 90 day notice by either board.

16. That another multidisciplinary assessment, in a mutually accepted format, of the adequacy of the Rules and the Process shall be conducted by the parties hereto not more than 5 years after certification. DFG shall be invited to participate in such assessment.

17. That, based on the results of said assessment, certification of the Rules and Process as part of a 208 WQM plan shall be formally reviewed no more than 6 years from the date of certification.

18. That future assessments and related review of certification may again be carried out at such time thereafter as may be mutually agreed upon among the parties.

19. That 208 WQM plan certification or management agency designation shall be reviewed in one or more Water Board hearings under any of the following conditions:

    a. If, for other than financial reasons, the assessments specified herein cannot be implemented;

    b. If, at any time, there is substantial evidence that BOF or CDF have failed to maintain a water quality regulatory program consistent with certification or have failed to satisfy terms of this Agreement; or

    c. If BOF requests such a review.

20. That, except for the provisions of Item C.4 above, nothing herein shall be construed in any way as limiting the legal authority or responsibility of the Water Board or Regional Boards in carrying out their mandates for control of water pollution and protection of the quality and beneficial uses of the State's waters.

21. That nothing herein shall be construed in any way as limiting the legal authority or responsibility of the Board of Forestry or of the Department in carrying out their mandates for regulation of timber and other natural resources on nonfederal lands.

IN WITNESS WHEREOF, the parties hereto, by their respective duly authorized officers, have executed this Agreement in triplicate, on the respective dates indicated below.

STATE BOARD OF FORESTRY,
STATE OF CALIFORNIA

By Harold R. Walt
Harold R. Walt,
Chairman

Date: 2/3/88

STATE WATER RESOURCES CONTROL BOARD
STATE OF CALIFORNIA

By W. Don Maughan
W. Don Maughan,
Chairman

Date: FEB 1 1988

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
STATE OF CALIFORNIA

By Jerry Partain
Jerry Partain,
Director

Date: Feb 3, 1988

ATTACHMENT A

ITEMS FOR DEVELOPMENT

(These issues are not covered by current Rules. Consistent with the process set forth in Item A.2, language for new Rules will be proposed, evaluated and, if appropriate, adopted by BOF. Non-Rule resolutions will also be evaluated and, if appropriate, implemented.)

	Issue		Suggested Resolution		Target Date
1.	Practices for site preparation after timber harvesting	1.	Regulation of site preparation activities pursuant to AB 1629 (Statute 87; Chapter 987).	1.	11/88
2.	Long-term maintenance of erosion control facilities	2.	Regulation of long-term maintenance of erosion control facilities in logging area pursuant to AB 1629 (Statute 87; Chapter 987).	2.	11/88
3.	Evaluation of cumulative watershed effects	3.	Improved requirements and procedures for evaluating cumulative effects.	3.	12/88
4.	Notification of startup date of operations	4.	Requirement that licensed timber operator (LTO) or landowner notify CDF of actual date logging starts.	4.	12/89
5.	Timber operator licensing requirements	5.	Requirements for mandatory training for timber operator's license.	5.	12/89

ATTACHMENT B

ITEMS FOR REFINEMENT

(These issues are at least partially covered by existing Rules. Consistent with the process set forth in Item A.2, Rule language to refine and supplement the existing Rules will be proposed, evaluated and, if appropriate, adopted by BOF. Non-Rule resolutions will also be evaluated and, if appropriate, implemented.)

	Issue		Suggested Resolution		Target Date
1.	Transfer of Timber Harvesting Plan (THP) information from preparer to LTO	1.	Pre-operation meeting between THP preparer and timber operator, and operator's signature on any THP or amendment.	1.	9/88
2.	Extra protection measures where tractor operations, or roads or landings are near or within standard watercourse and lake protection zone (WLPZ) widths or on very highly erodible slopes	2.	THP specification of extra protective measures.	2.	12/88
3.	Performance standard for planning, locating, constructing, and maintaining all roads to protect water-related values	3.	Improved language in 14 CAC 923, 943, 963 to provide enforceable protection performance standards.	3.	12/88
4.	Road and landing construction standards	4.	Additional specifications for road and landing construction standards.	4.	12/89
5.	Temporary road crossing removal	5.	Improved specifications for appropriate removal procedures.	5.	12/88
6.	Disposal of landing debris over edge of landing above water courses	6.	Improved requirements for disposal of landing debris.	6.	12/88

Issue	Suggested Resolution	Target Date
7. Alternative protection practices	7. Clarification of Section 916.2(c), 936.2(c), 956.2(c) regarding "feasible practices" and "adequate protection".	7. 12/88
8. Vegetative canopy and structure in WLPZ	8. Improved criteria and methods for retaining vegetative canopy within WLPZ and for retaining riparian vegetation.	8. 12/88
9. Ground cover retention in WLPZ	9. Improved language in 14 CAC 916.5e, 936.5e, 956.5e, to require retention of adequate ground cover.	9. 12/88
10. Terms used in determination of WLPZ width	10. Rule definitions for "bank" and "change in slope".	10. 12/88
11. Flood prone area protection	11. Inclusion of flood prone areas in WLPZ and/or extra protection to prevent erosion or debris flotation.	11. 12/88
12. Determination of WLPZ width and protection measures	12. Inclusion of geological, hydrological and biological factors in determining appropriate WLPZ width and protection measures.	12. 12/88
13. Standards for existing roads	13. Application of new-road standards for drainage facilities, ditch drains, soil stabilization, etc., to existing roads.	13. 12/88

Issue	Suggested Resolution	Target Date
14. Domestic water supply protection	14. Requirements for: (a) protection for water supply springs and pipelines, and identification in THP; (b) identification of potable water supplies within an appropriate distance downstream from operation; (c) notification of THP filing to the owners of such water supplies; and (d) protection for likely potential and restorable human uses.	14. 12/88
15. Clear, enforceable performance standards for water quality protection	15. Clarification of intent Sections 914, 916, 934, 936, 954, and 956, to provide clear, enforceable performance standards.	15. 12/89
16. Skid trail erosion control requirements	16. Requirements for: (a) extra protective measures where skid trails are close to other skid trails, roads and landings; (b) temporary road maintenance and abandonment provisions when skid trails are equivalent to a temporary road; and (c) application of temporary road crossing, drainage stabilization and removal provisions to temporary skid trail crossings.	16. 12/89

Issue	Suggested Resolution	Target Date
17. Winter operations procedures	17. THP justification for using 914.7c, 934.7c, 954.7c, in lieu of a winter operating plan.	17. 12/89
18. Sensitive area operations	18. THP specification of methods and equipment for road and landing construction, disposal, drainage, stabilization, maintenance, and abandonment.	18. 12/89
19. Erosion control on roads	19. Requirements for: (a) THP specification of erosion and drainage control on road crossings; (b) THP specification measures to prevent or reduce future failure of road areas being reconstructed; and (c) improved seasonal abandonment of temporary roads.	19. 12/89

ATTACHMENT C

ITEMS FOR FURTHER CONSIDERATION

(These issues need further study to determine the most appropriate resolutions. Both Rule and non-Rule approaches will be considered. Evaluation of Rule language will occur consistent with the process set forth in Item A.2.)

	Issue		Suggested Resolution		Target Date
1.	Erosion hazard rating	1.	Improved use of erosion hazard rating system and minor adjustments to rating system.	1.	12/89
2.	Retention of riparian hardwood and non-commercial trees	2.	Improved treatment of riparian hardwoods and noncommercial trees, especially after conifer harvest.	2.	12/89
3.	Registered Professional Forester (RPF) responsibility	3.	Evaluation of: (a) increased RPF accountability for THP adequacy; (b) addition of RPF supervision and (c) reevaluation of present rules for suspension or revocation of RPF and LTO licenses for serious violations of the Rules.	3.	12/89
4.	Repeal of 14 CAC 898.2e	4.	Consider reinstatement 14 CAC 898.2e which required denial of THPs if implementation would violate state or federal standards.	4.	12/89
5.	Culvert sizing	5.	THP specification of culvert sizing method used.	5.	12/89
6.	Agency disagreement over approval of plan	6.	Provide dispute resolution procedure through MOU or consider head-of-agency appeal.	6.	12/88

	Issue		Suggest Resolution		Target Date
7.	Confusion over meaning of "in lieu" practice	7.	Evaluate use of "in lieu" concept in Rules.	7.	12/88
8.	Agency consultation prior to approving in-stream cleanup	8.	Provide for such consultation through MOU	8.	12/88
9.	Improved participation by public and nonreview agencies in review process	9.	Improved procedures for participation	9.	12/88
10.	Reevaluation by review team after response by RPF	10.	Provide for such re-evaluation through MOU	10.	12/88
11.	Point of RPF transfer of responsibility to LTO	11.	Study need for Rule.	11.	12/89
12.	Recognition of and protection against mass wasting hazard	12.	Improved criteria and methods for evaluating and protecting against mass wasting hazard.	12.	12/89
13.	Use of guidance documents	13.	Requirements for use of guidance documents (if necessary) after development of documents.	13.	12/89

ATTACHMENT D

DEVELOPMENT AND IMPLEMENTATION OF GUIDANCE DOCUMENTS TO COMMUNICATE INFORMATION TO PRACTITIONERS

A. Develop or improve guidance documents on the following topics:

1. Criteria and methods for identifying and evaluating (or rating) the following types of sensitive areas or conditions:

   a. Erodible and unstable slopes;
   b. Near-stream geological and hydrological conditions;
   c. Near-stream biological conditions, including riparian zone, canopy cover, and windthrow potential;
   d. Instream structure, habitat, and wildlife value; and
   e. Offsite beneficial uses of water.

2. Criteria and methods for evaluating potential adverse effects and for selecting measures to protect any of the above from adverse effects of:

   a. Felling, yarding, and stream clearing activities;
   b. Road and landing location, construction, and maintenance; and
   c. Site preparation activities; and
   d. Cumulative watershed effects.

3. Criteria and methods for road and landing construction, maintenance and abandonment.

4. THP content needed to:

   a. Describe the following:

      (1) site environmental conditions,
      (2) proposed practices, especially if non-standard, and
      (3) probable environmental effects of practices;

   b. Describe and justify proposed protection measures; and

   c. Set forth the above in a manner which provides for:

      (1) thorough disclosure and environmental review,
      (2) clear and comprehensive guidance to LTOs and other responsible parties, and
      (3) specific and enforceable standards.

B. Determine the most effective and appropriate methods of assuring use of the guidance documents, considering the following:

1. Incorporation into training and education programs;
2. Promotion through professional meetings and publications;
3. Implementation by THP review teams;
4. Amendment of THP forms to demonstrate use where appropriate;
5. Amendment of Rules to require use; and
6. Adoption as Technical Rule Addendum.

C. In carrying out the above, perform the following tasks:

1. Compile and review available reference material to determine whether, for each subject area, available material is adequate, can be readily supplemented, or whether new guidance documents are needed.

2. Determine the need for additional financial and administrative assistance, for scientific or technical assistance, and/or for additional studies in order to carry out the foregoing tasks.

ATTACHMENT E

IMPROVEMENT AND DEVELOPMENT OF TRAINING AND EDUCATION PROGRAMS

A. Continue to develop and upgrade training and education programs on the topics set forth in Attachment D and on any other topics deemed appropriate by the liaison committee.

B. In carrying out the above, the following tasks are recommended:

1. Review existing programs and training materials to determine whether, for each topic, existing programs are adequate, could be adequately supplemented, and/or whether new programs are needed.

2. Determine the most important training and education needs of:

a. Foresters involved in planning, supervising, or monitoring timber operations;

b. Non-foresters (agency personnel) involved in planning, reviewing, inspecting, and monitoring timber operations;

c. Timber operators, timber owners, and other parties responsible for operations and environmental protection.

3. Determine the most appropriate program formats and materials (e.g., guidelines, handouts, video cassettes, seminars, workshops, tailgate sessions, etc.).

4. Determine the most appropriate parties (including review team agency representatives) to develop and present program materials.

5. Determine any administrative and financial needs and feasible methods for satisfying these needs.

6. Determine the most appropriate methods of encouraging participation (e.g., credits toward education requirements, payment or waiver of fees, etc.).

C. Continue to update training programs to meet changing needs.

ATTACHMENT F

INTERAGENCY PROCEDURES FOR BMP IMPLEMENTATION

A. Determine appropriate interagency procedures for each of the following:

1. Improved training programs in forestry and protection of water-related values for Review Team agencies and assuring adequate agency participation.

2. Procedures by which Review Team agencies shall more consistently seek and provide consultation before, during, and after timber operations, giving special consideration in the following:

   a. Appropriate use of watercourse classification system, especially for Class II and III watercourses;

   b. Sensitivity of onsite geological, hydrological, and biological conditions which may affect water-related values;

   c. Probable effects of timber operations on sensitive conditions and water-related values, especially where:

      (1) Yarding, roads, or landings will be, are or were within or close to standard WLPZ widths, reducing density of ground cover or canopy cover,

      (2) Sensitive geological, hydrological, or biological conditions exist onsite which are likely to be disturbed by operations,

      (3) Non-standard practices will be, are, or were used, and

      (4) Special concerns have been raised;

   d. Appropriateness of practices and protection measures which may be, are, or were used.

3. Procedures to provide for cooperative monitoring studies to better determine the effects of forest practices, especially under the conditions listed in Item A.2.

4. Access by DFG and Regional Board representatives onto nonfederal timberlands.

5. Improved procedures for assuring the adequacy of THP content.

C. Study criteria and methods for evaluating actual and potential cumulative watershed effects. The methods shall be:

1. Feasible and reasonably accurate.

2. Mutually acceptable to State and Federal agencies and capable of being used in areas of mixed Federal and nonfederal ownership of land.

3. Capable of evaluating contributions to cumulative effects from every significant land use or activity within a watershed.

4. Capable of evaluating the variability of individual cumulative effects with time and location.

D. Study long-term effects on mass wasting and water-related values caused by timber harvesting and related activities, especially in sensitive near-stream locations.

ATTACHMENT H

DEVELOPMENT AND IMPLEMENTATION OF PROGRAMS FOR ADDITIONAL STUDIES

A. Study appropriate criteria and methods for evaluating or rating sensitive conditions listed in Attachment D, Item A.

B. Develop and conduct studies of the best feasible methods for the following:

1. Establishing natural resource databases which are:

   a. Located in state agencies (including DFG, CDMG, CDF, Water Board, and Regional Boards) and Federal agencies involved with natural resource management.

   b. Mutually compatible in structure and format in order to facilitate interagency use;

   c. Capable of using the existing files, databases, and unorganized information currently in the State agencies, and, to the degree feasible, in Federal agencies, educational institutions, and the private sector;

   d. Capable of expanding to incorporate new information developed by additional studies of natural resources;

   e. Accessible to users in the private sector, educational institutions, and Federal agencies;

   f. Descriptive of the characteristics and geographical distribution of geologic, topographic and climatic features, soils, vegetation, animals, wildlife habitats, land uses (past, present, and potential), water quality, and beneficial uses.

2. Establishing watershed planning programs which are:

   a. Capable of facilitating evaluation of the location and sensitivity of unstable or erodible slopes, near-stream geological, hydrological, and biological conditions, instream or lacustrine aquatic habitats, and human uses of water; and

   b. Capable of facilitating evaluation of the probable effects of alternative courses of action or combinations of activities within a watershed.

ATTACHMENT G

DEVELOPMENT AND IMPROVEMENT OF VOLUNTARY PROCEDURES FOR PRIVATE SECTOR BMP IMPLEMENTATION

A. Encourage adoption of clear comprehensive policy statements by landowners, companies and/or professional associations by doing the following:

1. Working with representatives of the timber industry and related professional associations to assist in development of policy statements regarding environmental protection for use by the private sector.

2. Where feasible, developing key concepts and suggested language for incorporation into policy statements.

B. Encourage private sector implementation of BMPs by suggesting feasible procedures, such as the following:

1. Encouraging foresters to more frequently consult with other subject matter experts when warranted.

2. Training employees using appropriate techniques.

3. Improving communication between foresters and operators regarding desired site-specific environmental results of operations.

4. Improving and standardizing flagging and marking codes used in site layout to assist operator.

5. Improving supervision of operations by foresters.

6. Improving inhouse monitoring of effects of operations to ensure that desired results are being achieved.

7. Improving auditing of operator performance.

8. Improving self-policing within industry and professional associations of persons who repeatedly violate environmental protection policies.

6. Improved procedures for THP review, including the following:

   a. Increased review agency attendance at Review Team meetings and preharvest inspections;

   b. Increased participation by public and non-Review Team agencies in Timber Harvesting Plan review;

   c. Increased review times if needed;

   d. Review Team re-evaluation of any post-review changes made to THP between review and approval of THP; and

   e. Improved resolution of conflicts between representatives of Review Team agencies, including a stepwise time-certain process for negotiating or appealing disagreements to higher levels of authority within each agency.

7. Procedures to improve operator compliance with Rule and THP requirements, including the following:

   a. Increased use of unannounced inspections;
   b. Increased use of inspections focused on operations in sensitive areas which may threaten water-related values;
   c. Increased participation in compliance inspections by other Review Team representatives;
   d. Increased and improved inspection of road construction practices; and
   e. Increased use of DFG and Regional Boards in support of CDF enforcement actions.

B. Incorporate appropriate improvements in agency procedures into any needed and mutually acceptable MOUs (or other agreements) which specify:

1. The authority and responsibility (including decision-making and advisory roles) given to each agency for implementing such improvements; and

2. The levels of adequately trained staff and other resources to be maintained by each agency in order to implement these improvements.

MEMORANDUM OF AGREEMENT
BETWEEN THE
STATE WATER RESOURCES CONTROL BOARD
AND THE
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

Purpose

The purpose of this Memorandum of Agreement (MOA) is to outline the procedures for reporting proposed oil, gas, and geothermal field discharges and for prescribing permit requirements. These procedures are intended to provide a coordinated approach resulting in a single permit satisfying the statutory obligations of both parties to this MOA. These procedures will ensure that construction or operation of oil, gas, and geothermal injection wells and surface disposal of waste water from oil and gas and geothermal production does not cause degradation of waters of the State of California.

General

Responsibilities of the Agencies

The Department of Conservation, Division of Oil and Gas (CDOG) has the statutory responsibility to prevent, as far as possible, damage to underground and surface waters suitable for irrigation or domestic purposes resulting from the drilling, operation, maintenance, or abandonment of oil, gas, and geothermal wells (Public Resources Code Sections 3106 and 3714). In March 1983, CDOG received primacy from the Environmental Protection Agency (EPA) pursuant to the provisions of Section 1425(a) of the federal Safe Drinking Water Act that gives CDOG additional authority and responsibility to regulate Class II wells in the State. Class II wells are used to inject fluids into the subsurface that are related to oil and gas production.

The State Water Resources Control Board (SWRCB) and the nine California Regional Water Quality Control Boards (collectively RWQCB) have statutory responsibility to protect the waters of the State and to preserve all present and anticipated beneficial uses of those waters (Water Code, Division 7, Chapters 1 through 7).

Scope of Agreement

The following procedures have been formulated and adopted by the CDOG and SWRCB to: (1) simplify reporting of proposed waste discharges by the oil, gas, and geothermal operators; (2) achieve coordination of activity; and, (3) eliminate duplication of effort among the State agencies. As far as these agencies are concerned, the method of reporting proposed oil, gas, and geothermal underground injection and surface discharges will be uniform throughout the State. The attached maps show district and regional boundaries and office addresses.

The following procedures will not generally be applicable to injection wells or surface disposal methods used by operators to dispose of wastes other than produced water and fluids defined by the EPA as Class II. Other discharges (e.g., refinery wastes) must be issued waste discharge requirements or waivers through the appropriate Regional Water Quality Control Board (Water Code, Division 7, Chapter 4). Such discharges will not be subject to regulation by CDOG unless the subject disposal well is within the administrative limits of an oil, gas, or geothermal field. In such case, the CDOG must also issue a permit for the well construction (Public Resources Code Sections 3008 and 3203). The conditions of this permit should be in agreement with the waste discharge requirements for this well.

The CDOG personnel shall report all pollution problems, including spills to the ground surface or surface streams, to the appropriate Regional Board.

Procedures

Underground Injection

1. Application: Oil, gas, or geothermal operators must file an application for all proposed injection projects with the appropriate CDOG District office. The District office will forward a copy of the application to the appropriate Regional Board for its review and comment. Data to be included with the application shall include: (1) a chemical analysis, as appropriate, to characterize the proposed injection fluid considering the source of the fluid and/or the exposures the fluid has or will undergo before disposal; (2) a chemical analysis, as appropriate, from the proposed zone of injection considering the characteristics of the zone (to include name, location, depth and formation for well from which zone fluid was sampled); and, (3) depth, location, and injection formation of the proposed well. If the Regional Board wishes to comment prior to the issuance of a draft permit for review, comments shall be received by CDOG within 14 days.

2. Review and Consultation: During the review of the application, the CDOG, the Regional Board and the State Board shall consult with one another and local agencies, as necessary, and may require the applicant to submit additional data, as necessary, to demonstrate that the proposed injection will not cause a water quality problem. Additional data required by the RWQCB, if reasonably available, shall be forwarded upon request. Data regarded as confidential by CDOG, or the applicant, will be identified and kept confidential by the RWQCB.

3. Permit Preparation and Issuance:

a. CDOG will prepare a draft permit, including monitoring requirements, for the injection in accordance with statutory obligations, furnishing a copy of the draft document to the appropriate Regional Board.

b. The Regional Board will have the opportunity to comment on the draft requirements during the public review period established pursuant to the Memorandum of Agreement (MOA) between the CDOG and the Environmental Protection Agency (EPA).

c. The Regional Board shall determine whether or not the draft requirements provide protection to ground and surface waters having present or anticipated beneficial uses. If the draft requirements are not adequate, the Regional Board shall, within 30 days, propose conditions or revisions which would satisfy Regional Board concerns. CDOG will not issue final requirements until Regional Board concerns have been satisfied.

If no response is received from the Regional Board by the end of the public comment period, the requirements will be presumed to be acceptable to the Regional Board.

CDOG will furnish a copy of the final requirements to the Regional Board.

Surface Discharge

1. Application: The oil, gas, or geothermal operator shall file a Report of Waste Discharge with the appropriate Regional Board. The Regional Board will review the Report of Waste Discharge in accordance with applicable state and federal requirements, including 40 CFR Part 435. No report need be filed when such a requirement is waived by the Regional Board pursuant to Water Code Section 13269.

When a Report of Waste Discharge is not adequate in the judgment of the Regional Board, the Board may require the applicant to supply additional information as it deems necessary. If a surface disposal site is within the administrative limits of an oil, gas, or geothermal field, the Regional Board shall send a copy of the Report of Waste Discharge to the CDOG for review and comment when the report is complete. If CDOG wishes to comment, the Regional Board should receive comments within 14 days to ensure consideration of these comments during the drafting of waste discharge requirements.

2. Preparation and Adoption of Waste Discharge Requirements:

a. The Regional Board will prepare draft waste discharge requirements for the disposal of production waters by surface discharge. If a surface disposal site is within the administrative limits of an oil, gas, or geothermal field, a copy of the draft document shall be furnished to the appropriate CDOG District office.

b. The CDOG shall determine whether or not the draft requirements fulfill CDOG's statutory obligations related to water quality. If the draft requirements are not adequate, the CDOG shall, within 30 days, propose conditions to the Regional Board which would meet these statutory obligations. The Regional Board will not issue final requirements until CDOG concerns have been satisfied.

If no response is received from CDOG by the end of the public comment period, the requirements will be presumed to be acceptable to CDOG. The Regional Board will furnish a copy of the final requirements to CDOG.

Enforcement Coordination

After construction, CDOG will notify the appropriate Regional Board of any pollution problems noticed during its inspection activities. The Regional Boards will notify CDOG of any suspected violations of CDOG requirements uncovered during the Regional Boards' inspection activities.

If a determination is made by CDOG, or by the Regional Board, or the SWRCB, that an injection or surface disposal operation is violating the terms of its permit or is causing an unacceptable water quality problem, the permitting agency shall take any necessary actions to assure that compliance is achieved, or that the practice causing water pollution is abated forthwith. If necessary, the permitting agency shall order work to be done and/or order operation to be halted. Enforcement actions involving both statutory authorities should be coordinated among the parties involved in this MOA, but neither agency is precluded from taking independent enforcement action.

Modification of this Agreement

This agreement will be effective upon signature by the designated parties. The agreement may be modified upon the initiative of either party for the purpose of ensuring consistency with State or Federal statutes or regulations, or for any other purpose mutually agreed upon. Any such modifications must be in writing and must be signed by the Director of the Department of Conservation, the State Oil and Gas Supervisor, and the Chairman of the SWRCB.

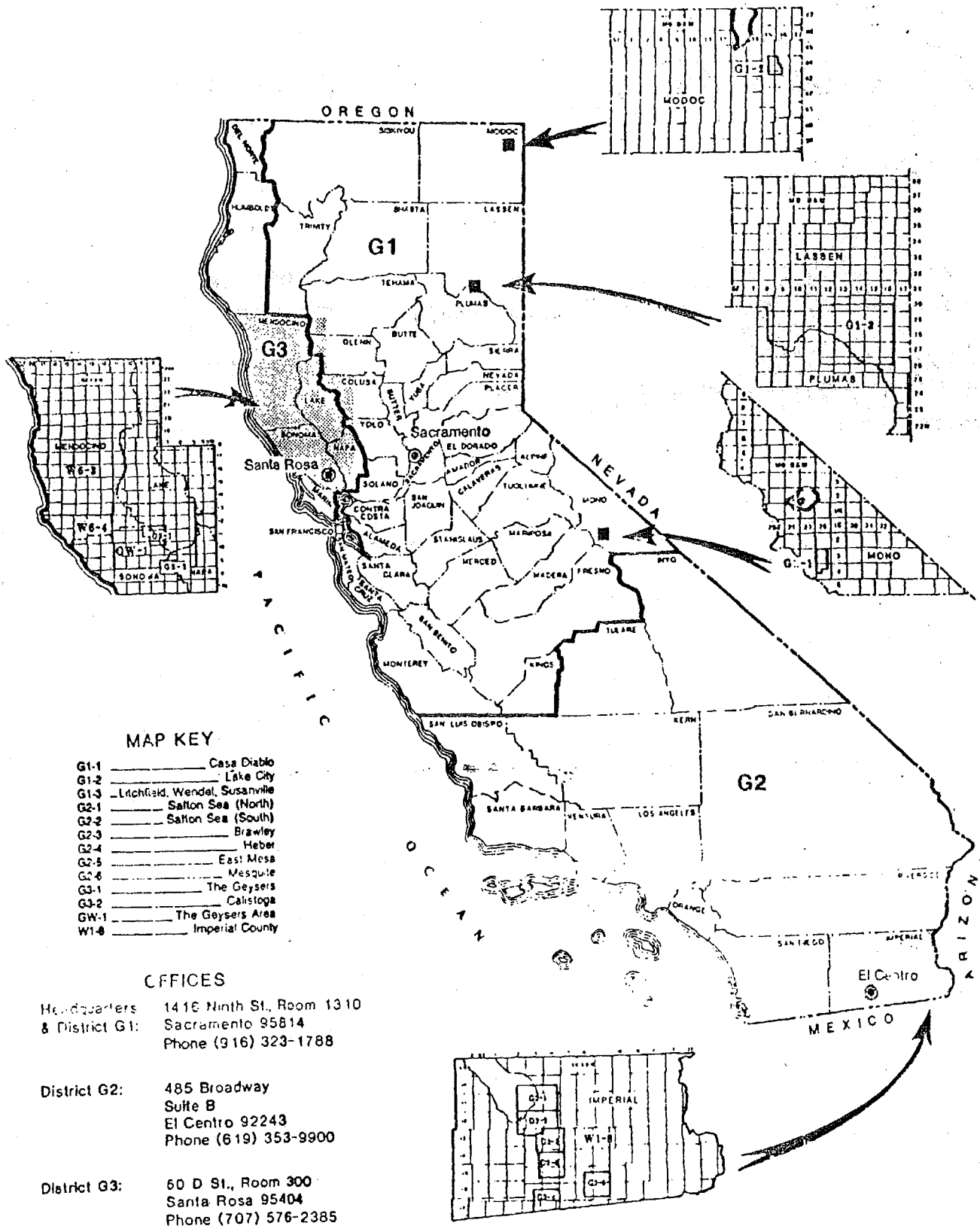
Randall M. Ward — 3-9-88
State Department of Conservation — Date

M. G. Mefferd — 3-4-1988
State Oil and Gas Supervisor — Date

W. Don Maughan — MAY 19 1988
Chairman, State Water Resources Control Board — Date

James L. Belton — MAY 19 1988
Executive Director, State Water Resources Control Board — Date

GEOTHERMAL DISTRICT AND FIELD MAPS



MAP KEY

G1-1	Casa Diablo
G1-2	Lake City
G1-3	Litchfield, Wendel, Susanville
G2-1	Salton Sea (North)
G2-2	Salton Sea (South)
G2-3	Brawley
G2-4	Heber
G2-5	East Mesa
G2-6	Mesquite
G3-1	The Geysers
G3-2	Calistoga
GW-1	The Geysers Area
W1-8	Imperial County

OFFICES

Headquarters & District G1: 1416 Ninth St., Room 1310
Sacramento 95814
Phone (916) 323-1788

District G2: 485 Broadway
Suite B
El Centro 92243
Phone (619) 353-9900

District G3: 50 D St., Room 300
Santa Rosa 95404
Phone (707) 576-2385

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION 88- 61

APPROVAL OF AMENDMENTS TO THE MEMORANDUM OF AGREEMENT BETWEEN THE STATE WATER RESOURCES CONTROL BOARD AND THE DEPARTMENT OF CONSERVATION, DIVISION OF OIL AND GAS REGARDING CLASS II INJECTION WELLS

WHEREAS:

1. The State Water Resources Control Board (State Board) and the Department of Conservation, Division of Oil and Gas executed a Memorandum of Agreement (MOA) in August 1982 that outlined the procedures for reporting proposed oil, gas, and geothermal field discharges and the procedures for prescribing permit requirements for said discharges.

2. The CDOG received primacy to administer the federal Underground Injection Control Program for Class II wells in California from the U.S. Environmental Protection Agency (EPA) in March 1983.

3. The EPA revised its classification of materials that are considered Class II fluids in July 1987.

4. The EPA revised classification requires revisions to the MOA for consistency.

5. Additional revisions to the MOA are necessary to clarify procedures.

THEREFORE BE IT RESOLVED:

That the State Board approves the revised MOA with CDOG and directs the Chairman and Executive Director to sign said agreement.

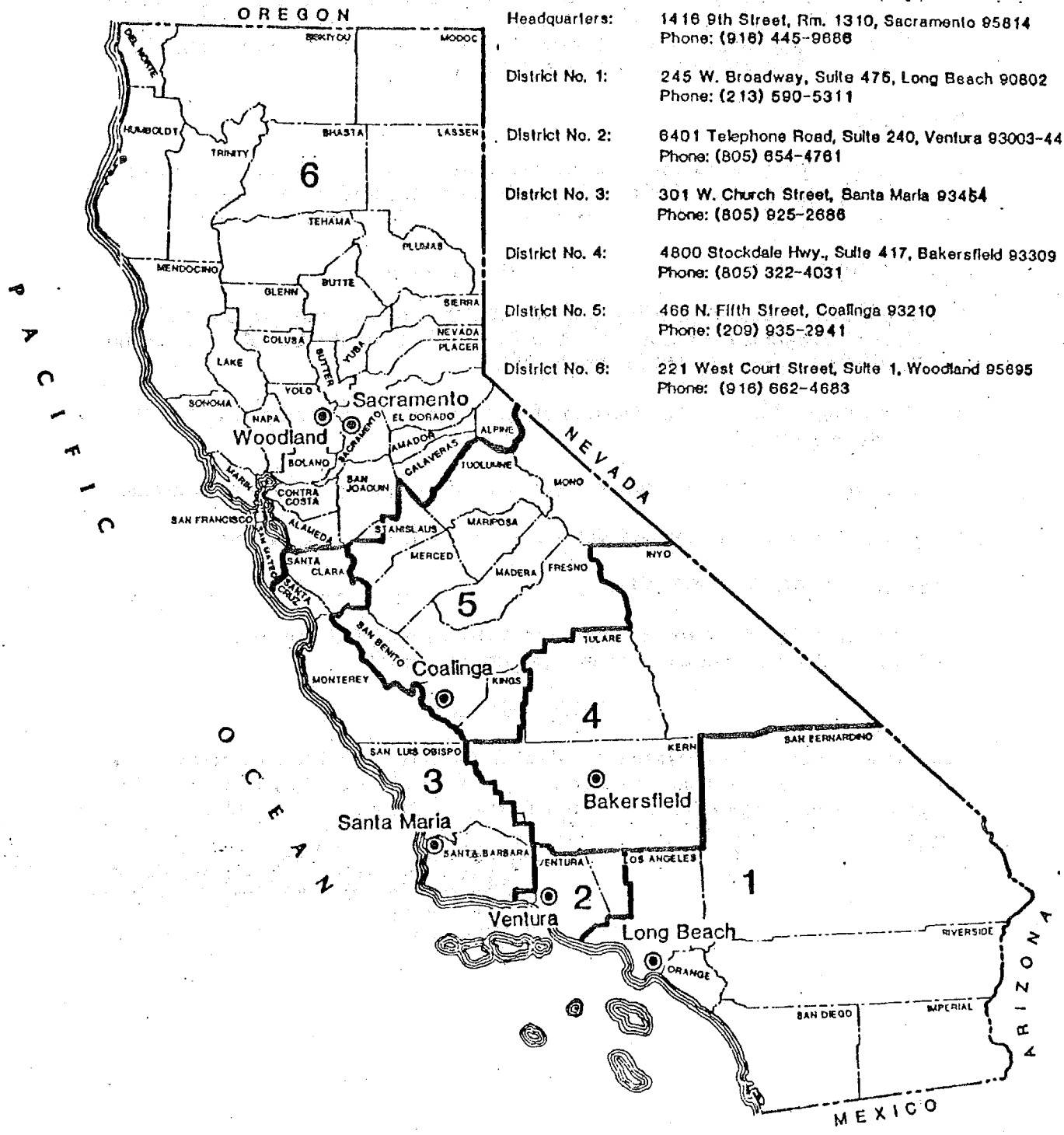
CERTIFICATION

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

MAY 19 1988

Maureen Marche'
Administrative Assistant to the Board

OIL AND GAS DISTRICT BOUNDARIES



Offices

Headquarters: 1416 9th Street, Rm. 1310, Sacramento 95814
Phone: (916) 445-9686

District No. 1: 245 W. Broadway, Suite 475, Long Beach 90802
Phone: (213) 590-5311

District No. 2: 6401 Telephone Road, Suite 240, Ventura 93003-4458
Phone: (805) 654-4761

District No. 3: 301 W. Church Street, Santa Maria 93454
Phone: (805) 925-2686

District No. 4: 4800 Stockdale Hwy., Suite 417, Bakersfield 93309
Phone: (805) 322-4031

District No. 5: 466 N. Fifth Street, Coalinga 93210
Phone: (209) 935-2941

District No. 6: 221 West Court Street, Suite 1, Woodland 95695
Phone: (916) 662-4683

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE DEPARTMENT OF HEALTH SERVICES
AND
THE STATE WATER RESOURCES CONTROL BOARD
THE REGIONAL WATER QUALITY CONTROL BOARDS
FOR THE CLEANUP OF HAZARDOUS WASTE SITES

August 1, 1990

INTRODUCTION

This Memorandum of Understanding (MOU) consists of general and specific provisions for the cleanup of hazardous waste sites. General provisions include the scope of the agreement, which defines the parties and the type of sites to which the MOU applies; the principles, not found in law or regulation, which govern the conduct of the parties; and the methods for implementation, which explain the manner by which the parties will execute, and perform according to, this MOU.

Specific provisions, which address the protocol the parties will follow for the cleanup of hazardous waste sites, include: the method by which the lead agency and, consequently, the support agency are determined; the responsibilities of the lead and support agencies, which are defined in terms of tasks to be accomplished; procedures to be followed to ensure coordination; outputs to be produced to ensure that minimum technical requirements are satisfied; the manner by which the parties will enforce their respective authorities and settle their claims against hazardous waste site owners, operators, or dischargers; and the manner by which the parties will settle their disputes.

BACKGROUND

Based on a recommendation of the Governor's Task Force on Toxics, Waste, and Technology, Governor Deukmejian issued Executive Order D-55-86, which states, in part, that the Department of Health Services (DHS), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Boards (RWQCB) shall enter into an MOU that specifies each agency's responsibilities in hazardous waste site cleanup, defines standards and criteria for use in Remedial Action Plan (RAP) development, and identifies a conflict resolution process to resolve interagency disputes. Subsequently, the Legislature included a provision in the Supplemental Report of the 1988 Budget Act requiring the development of this MOU.

Statutes of the State of California, embodied in the state codes, authorize certain actions or express fundamental principles which must govern the intent and goals of the MOU. Relevant code sections include, but are not limited to, the following:

A. DHS is mandated to carry out all hazardous waste management responsibilities imposed or authorized by the Resources Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and any regulations promulgated pursuant to these federal acts (Health and Safety Code [HSC] 25159.7).

B. DHS shall prepare a plan for the expeditious implementation of the Hazardous Substance Cleanup Bond Act of 1984 which shall include procedures required for the development and adoption of final RAPs by DHS and RWQCB (HSC 25351.6 and 25334.5).

C. DHS, or if appropriate, the RWQCB shall prepare or approve RAPs for all sites listed by DHS for Remedial Action (RA) (HSC 25356.1 and 25356).

D. DHS or the RWQCB shall review and consider any public comments, revise the draft plan if appropriate, and then issue the final RAP. (HSC 25356).

E. DHS shall implement procedures for the abatement of an imminent and substantial endangerment (HSC 25358.3).

F. DHS is authorized to spend funds from the Hazardous Substance Account or the Hazardous Substance Cleanup Fund for removal or remedial actions on any site included on the list established pursuant to HSC 25356 only if DHS enters into an enforceable agreement or issues an order and determines in writing that the potential responsible party(s) is not in compliance with the order or agreement. (HSC 25355.5)

G. The SWRCB and each RWQCB shall be the principal state agencies with primary responsibility for the coordination and control of water quality (Water Code [WC] 13001).

H. Each RWQCB shall obtain coordinated action in water quality control, including the prevention and abatement of water pollution and nuisance (WC 13225).

Under direction from the Governor, DHS signed a Defense (Department)-State Memorandum of Agreement (DSMOA) in May 1990, which allows for funding state oversight of remedial actions at military facilities in California. Although both DHS and the State and Regional Boards are eligible to receive payment for their oversight costs, federal funding is limited and qualified. Separate agreements between DHS regional offices and the RWQCBs for specific sites will be required in order to allocate available funding. This MOU provides a basis for DHS and the Boards to agree on funding and performance at military facilities.

DHS, also, has recently signed an Agreement in Principle (AIP) with the U.S. Department of Energy (DOE). The AIP will provide reimbursement of state costs for oversight of specified environmental compliance activities at DOE facilities. An Interagency Agreement between the DHS Environmental Health Division and the SWRCB will specify water quality oversight tasks which the State and Regional Boards will perform.

THE DHS AND THE SWRCB AND THE RWQCBS AGREE TO THE FOLLOWING:

I. SCOPE

This MOU is effective immediately and is binding upon DHS, the SWRCB, and the nine RWQCBs. It covers the cleanup of hazardous substances at all sites or facilities where such substances must be cleaned up in order to protect public health or the environment. The cleanup of other substances is not covered under this agreement. Sites include, but are not limited to, sites listed on the National Priorities List (NPL) and in the DHS Site Mitigation annual work plan. This MOU shall be used to determine the relationship of the parties and to guide the site-specific communications between them on activities at the sites. The provisions of this MOU are applicable both at sites where a state agency is the lead agency as well as at sites where the U.S. Environmental Protection Agency, Region 9 (EPA) is the lead agency. In the latter case, the provisions of this MOU shall be utilized to determine which state agency will act as the liaison between the State and EPA and how the state agencies will coordinate their review and comment on site-specific documents submitted by EPA.

Contracts and agreements also exist which involve DHS, SWRCB, RWQCB, and local agencies in the cleanup of leaking underground storage tanks. There are also other specific agreements between state and/or federal agencies. This MOU is not intended to conflict with the provisions of those contracts and agreements nor is it intended to add procedure and requirements which the agencies agree are not necessary for the satisfactory cleanup of leaking underground storage tanks.

A Memorandum of Agreement (MOA) exists between DHS and the SWRCB regarding coordination of activities at facilities subject to regulation pursuant to RCRA. For coordination of cleanup activities at these facilities, the agencies should refer to both this MOU and the RCRA MOA.

II. PRINCIPLES

The parties recognize that certain principles, not found in law or regulation, should govern their conduct. One principle is that the participation of both agencies acting within their respective authorities, jurisdiction, and expertise, whether acting as lead agency or support agency, is essential for the successful cleanup of hazardous waste sites and is in the best interest of the State.

In the cleanup of hazardous waste sites, mutual trust, confidence, cooperation, and communication between the parties are to be expected. It is a basic aim of this MOU and the policy of the parties that duplication of effort in the site cleanup program be avoided. Public health and the environment are best served by each party minimizing duplication of effort on the greatest number of sites possible. Both parties do, however, recognize that there are certain situations where one or the other will have the necessary technical resources, expertise, or authority. To the extent staff and other resources allow, and in a manner set forth in this MOU, the parties agree to assist each other. This cooperative approach is in the best interest of public health and the environment.

Finally, the parties recognize that cleanup of hazardous waste sites throughout California can best be achieved if the state agencies act with consistency and predictability. Both the public and the responsible parties expect that state government will apply rational methodologies and standards to site cleanup. Compliance with the terms of this MOU will eliminate or significantly reduce any apparent inconsistencies between the agencies. Consistency will be achieved by agreement on minimum technical and procedural requirements, coordination of enforcement actions, close and constant communication between project staff, and exchange of Applicable or Relevant and Appropriate Requirements (ARARs) or state standards for site cleanup. If either agency is developing such standards, that agency will involve the other agency in the development at an early stage so that consistency in technical issues can be maintained.

III. IMPLEMENTATION

In order to facilitate implementation of this MOU, the parties will establish an "MOU Technical Advisory Committee" (TAC) within four months of the effective date of this MOU. The TAC will serve to provide guidance and advice to management and staff on technical issues that develop during performance under this agreement and will assist, if called upon, in the settlement of technical disputes. The TAC will also evaluate the achievement of the goals of the Executive Order and the compliance principles of this MOU and will provide an annual report to management. This report will be submitted by March 1 of each year, will cover the prior calendar year and will, if appropriate, include recommendations for modifications to this MOU to improve attainment of the principles of the parties. The TAC will consist of a total of six members, each at a level equivalent to Supervising Engineer, Supervising Hazardous Materials Specialist, or above, as follows: one member from DHS Headquarters, two members from DHS Regional Sections, one member from SWRCB, and two members from RWQCBs. Annually the TAC will elect one of its members as chairman who will be responsible for coordinating the activities of the TAC.

IV. LEAD AGENCY DETERMINATION

DHS Regional Offices and RWQCBs will meet to determine the lead agency as appropriate under this section.

A. The agency which first discovers a potential or actual hazardous waste site shall serve as the lead agency until the criteria of this MOU are utilized to determine a lead agency.

B. Within 180 days after the effective date of this MOU, the agencies shall determine the lead and support agencies for each hazardous waste site on which either agency plans to work in Fiscal Year 1990-91. Each Regional Board Executive Officer (EO) and Department Regional Administrator (RA) shall compile an inventory of hazardous waste sites within their respective regions and shall determine whether resources are or will be available to perform the tasks required by this MOU. The EO and RA shall then agree on which agency shall be lead and which shall be support for sites of common jurisdiction. Sites for which neither agency has resources shall be listed in a holding pool until resources become available or priorities change. This process shall be repeated for each subsequent fiscal year as necessary to implement this MOU. The designation of lead agency may be changed at any time by agreement of the agencies.

C. The determination of a lead agency shall be made by considering the factors listed in Paragraph D of this section. It is probable that more than one factor may be applicable to a site. In these situations, more weight should be given to those factors listed first.

D. The lead agency as between DHS and SWRCB/RWQCB, for the cleanup of hazardous waste sites shall be determined using the following guidance:

1. DHS should be the lead agency at sites where there is no responsible party.

2. If the site does not meet the criteria in number 1 above, then the following conditions apply:

   a. If after reasonable enforcement actions are implemented, the responsible party is unwilling or is financially unable to perform cleanup and the expenditure of state Superfund monies is deemed appropriate to perform actual site cleanup, then DHS should be the lead agency.

   b. If the site is on the NPL, then DHS should be the lead agency.

   c. If one agency has a significantly longer history of involvement working to clean up the site, then it should be the lead agency.

   d. If the source of the contamination is a leaking underground storage tank, then the RWQCB or a local agency, upon delegation by a Regional Board, or by contracting with the state Board, should be the lead agency.

   e. If the contamination is primarily airborne, then DHS should be the lead agency in consultation with the Air Resources Board and the appropriate Air Quality Management District.

   f. If the site is primarily a result of agricultural activities, then the RWQCB should be the lead agency.

   g. If the source of the contamination is an inactive mine, then the RWQCB should be the lead agency.

   h. If the contamination is confined to soils, then DHS should be the lead agency.

   i. If the contamination is primarily impacting surface waters, then the RWQCB should be the lead agency.

j If the source of the contamination is a RCRA regulated disposal facility, then DHS should be the lead.

k. If the source of the contamination is a non-RCRA surface impoundment, then the RWQCB should be the lead agency.

l. If the source of the contamination is a landfill which would not normally be regulated by DHS, then the RWQCB should be the lead agency in consultation with the California Integrated Waste Management Board.

E. Notwithstanding a determination under Paragraph D of this section, DHS Regional Offices and the RWQCB may otherwise agree which agency shall be lead agency at a particular site. Specific examples of situations where this provision may be used are where multiple sources are contributing to the same problem or where resource availability affects the determination; however, other situations may warrant a decision using this provision.

F. The agency determined to be the lead agency for purposes of site cleanup under this MOU is not necessarily the lead agency for implementing programs or tasks that are applicable to the site but not within its authority or jurisdiction. Where the support agency happens to have sole or primary responsibility or exclusive capability for a program or task related to cleanup activities, then that agency shall perform those required tasks pursuant to its exclusive lead authority in a manner consistent with its role under this MOU. Examples of such tasks and programs include, but are not limited to, issuance of a National Pollutant Discharge Elimination System permit, approval of a transportation plan, regulation of nonhazardous wastes, enforcement of the Toxic Pits Control Act, approval of a solid waste water quality assessment test report, performance of a public health evaluation, or the imposition of restrictions for land use. The support agency will coordinate all activities described in this paragraph with the lead agency.

G. Any dispute regarding the determination of the lead agency shall be resolved pursuant to Section VII.

V. RESPONSIBILITIES OF LEAD AND SUPPORT AGENCIES

A. Coordination Procedures

1. General

a. The lead agency is responsible for coordinating and communicating with the support agency in a timely manner. This includes, but is not limited to, providing schedules, technical reports, correspondence, and enforcement papers; soliciting and responding to comment, analysis, evaluation, and advice; and meeting, conferring and discussing the project.

b. The support agency is responsible for coordinating and communicating with the lead agency in a timely manner. This includes, but is not limited to, providing notification that selected sites are of particular interest; providing comment, analysis, evaluation, and advice, especially that within the unique expertise of the agency; and meeting, conferring, and discussing the project.

c. EPA will be the lead agency for many sites listed on the NPL. The State will designate a state lead agency using the criteria specified in Section IV. The agency so designated has the responsibility of maintaining communications between the State and EPA. This agency does not have responsibility for ensuring completion of the tasks listed in Section V B. However, this agency shall ensure that comments from all state agencies

are transmitted to EPA and shall coordinate the resolution of any disputes so that the State presents only one position to EPA.

d. Neither agency will significantly change its procedures for the cleanup of hazardous substances without notification to and review and comment from the other agency. Examples of such changes include technical guidance documents and applicable regulations.

2. Specific

a. Each agency will coordinate with the other agencies on its enforcement activities as specified in Section VI.

b. The lead agency shall provide to the support agency any California Environmental Quality Act (CEQA) documents at least ten working days prior to sending these documents to the state clearinghouse. If the support agency decides to comment, it shall do so within ten working days after receipt, or during the formal review process as mandated by CEQA.

c. The lead agency shall contact the support agency to identify ARARs for each specific site at the following times:

(1) During the scoping phase of the remedial investigation/ feasibility study (RI/FS) or equivalent.

(2) During the site characterization phase of the RI or equivalent.

(3) During the development of alternatives in the FS or equivalent.

(4) During Remedial Design (RD).

The support agency shall respond within 30 calendar days after a request for ARARs. The lead agency shall apply the ARARs identified by the support agency or it shall provide to the support agency, at least 20 calendar days prior to informing the responsible party or the public, a written memorandum which identifies ARARs that will not be applied and the reasons for such decisions.

For those sites where EPA is the lead agency, the state lead agency as determined according to this MOU, shall notify EPA of all ARARs identified by the parties to this agreement. However, the party identifying the ARARs shall be responsible for defending the application of its ARARs should EPA elect not to apply them.

d. The lead agency shall prepare or have the responsible party(ies) prepare the draft RAP or equivalent cleanup plan as an internal working draft document and provide a copy to the support agency at least 20 working days prior to general public distribution. If the support agency decides to comment, it will do so within 20 working days after receipt. Unless a shorter period of time is mutually agreed upon, any dispute shall be resolved by Section VII.

e. The lead agency shall provide all other technical documents, as specified in Section V.B.9., and not otherwise referred to above, within a time sufficient for review and comment. In all cases, the lead agency shall provide at least 15 working days for review and response by a support agency unless a shorter period of time is mutually agreed upon. The support agency shall respond, as appropriate, in a timely manner.

B. Tasks

1. For sites listed on the NPL or in the DHS Site Mitigation annual work plan:

a. The lead agency shall be responsible for ensuring completion of the following tasks:

(1) Identifying imminent threats and initiate removal actions (if necessary).

(2) Identifying responsible parties.

(3) Issuing an order or entering into an enforceable agreement (if necessary).

(4) Coordinating enforcement actions (see Enforcement and Settlement Section VI).

(5) Establishing and maintaining an administrative record.

(6) Providing project oversight:

(i) Assigning a remedial project manager.

(ii) Maintaining a field presence including, if necessary, providing an on-scene coordinator.

(iii) Preparing and maintaining site schedules and workplans.

(iv) Reviewing technical documents listed in Section 9 of this paragraph for comment or approval.

(v) Managing applicable contracts.

(vi) Accounting for project costs.

(7) Preparing and/or reviewing RI/FS which includes:

(i) Site characterization.

(ii) RA alternatives.

(iii) Risk assessment.

(8) Requiring and approving the Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plan (SAP).

(9) Providing technical documents to the support agency, including, but not limited to, as appropriate:

(i) Site schedule.

(ii) RI/FS workplan.

(iii) RI report.

(iv) FS report.

(v) Health and Safety Plan.

(vi) QAPP.

(vii) SAP.

(viii) Community relations plan.

(ix) RAP.

(x) CEQA documents.

(xi) Transportation plan.

(10) Maintaining community relations:

(i) Developing and implementing a community relations program.

(ii) Managing any technical assistance grants.

(11) Compiling ARARs.

(12) Conducting a complete Public Health Evaluation (PHE) (as appropriate).

(13) Preparing and approving the RAP.

(14) Preparing and/or approving RD/RA

(15) Complying with CEQA.

(16) Recovering cost (if necessary).

(17) Overseeing operations and maintenance, including long-term monitoring (if necessary).

(18) Restricting land use (as appropriate).

b. The support agency shall be responsible for reviewing and, if appropriate, providing comments on the documents listed in Section V.B.1.a.(9) within the time periods determined utilizing Section V.A.2. or the lead agency may assume that the support agency does not have any comments. Additionally, the support agency shall always respond to a request for ARARs, and shall perform tasks as appropriate according to its exclusive authority or capability.

2. For sites not listed on the NPL nor on the DHS Site Mitigation annual work plan:

a. The lead agency shall be responsible for ensuring completion of the following tasks:

(1) Conducting removal actions (if necessary).

(2) Identifying a responsible party.

(3) Coordinating enforcement action (see Enforcement and Settlement, Section VI).

(4) Establishing and maintaining an administrative record.

(5) Providing project oversight.

(i) Assigning a project manager.

(ii) Preparing and maintaining site schedules and workplans.

(iii) Reviewing technical documents.

(iv) Maintaining a field presence, as necessary.

(6) Preparing or approving an Employee Health and Safety Plan.

(7) Characterizing the nature and extent of the problem.

(8) Requiring and approving quality assurance and sampling plans.

(9) Evaluating cleanup alternatives.

(10) Complying with CEQA.

(11) Conducting community relations.

(12) Preparing or approving the cleanup plan.

(13) Overseeing cleanup.

(14) Providing technical reports to the support agency.

b. The support agency shall be responsible for reviewing and, if appropriate, providing written comments on the documents submitted pursuant to Section V.B.2.a within the time periods determined utilizing Section V.A.2. or the lead agency may assume that the support agency does not have any comments. Additionally, the support agency shall always respond to a request for ARARs, and shall perform tasks as appropriate according to its exclusive authority or capability.

C. Technical Requirements

1. The following outputs or items, in whole or in part, are required to be addressed for the completion of RAs at hazardous waste sites:

a. For sites Listed on the NPL or in the DHS Site Mitigation annual work plan:

(1) RAs (if needed).

(2) Identification of responsible parties.

(3) Enforceable agreement or order.

(4) Cooperative agreement.

(5) Administrative record.

(6) Remedial project manager.

(7) On-scene coordinator.

(8) Site schedule.

(9) Workplans.

(10) Community relations plan.

(11) QAPP.

(12) SAP.

(13) RI.

(i) Site history.

(ii) Identification of sources.

(iii) Site characterization.

(14) ARARs.

(15) FS.

(16) Record of decision (ROD)/RAP

(17) RD

(18) RA.

(19) PHE.

(20) CEQA document.

(21) Health and Safety Plan.

(22) Transportation plan (if needed).

b. For sites not listed on the NPL nor in the DHS Site Mitigation annual work plan:

(1) RAs.

(2) Identification of responsible parties.

(3) Administrative record.

(4) Remedial project manager.

(5) Site schedule.

(6) Workplan.

(7) Quality assurance plan.

(8) Sampling and analysis plan.

(9) RAP or cleanup plan.

(i) Site history.

(ii) Identification of sources.

(iii) Site characterization.

(iv) Feasible remedial alternative.

(v) RD.

(10) Community relations plan.

(11) RA.

(12) Employee Health and Safety Plan.

(13) Community Health and Safety Plan (if needed).

(14) CEQA compliance.

(15) Transportation plan (if needed).

2. The agencies shall define these requirements, as appropriate, according to 40 CFR 300 et seq. , and HSC 25350 et seq., in addition to the guidance documents listed in Attachment A.

VI. ENFORCEMENT AND SETTLEMENT

A. For purposes of this MOU, enforcement means the action by an agency to compel performance by a responsible party, such as the issuance of an order or the filing of a complaint. Settlement means the resolution by agreement with the responsible party, in whole or in part, of matters in dispute, such as the performance required for satisfactory remedial action, claims for money, or liability.

B. The lead agency will communicate with the other agencies regarding its enforcement and settlement activities for hazardous waste sites. Communication means, for example, notification at least 10 working days in advance, if feasible, of a decision to issue an order or to initiate settlement negotiations; provision of enforcement or settlement documents for information or for review and comment; and, to the extent feasible, modification of a proposed order or agreement to incorporate the other agency's concerns. Staffs will meet and confer, as necessary, during drafting of enforcement and settlement documents.

C. Unnecessary or redundant enforcement documents are to be avoided. Neither agency will take enforcement actions that are not compatible or complementary to the enforcement actions of the other agencies. To the extent possible, consistent with preserving their respective authority or mandates, each agency will coordinate time schedules and demands so that responsible parties can respond to consistent direction.

D. To the extent practicable, each agency will assist the other in enforcement. Information that may be used to determine compliance or noncompliance will be transmitted to the enforcing agency as soon as possible but no later than 15 working days after being obtained and formalized.

E. Upon a determination of noncompliance with an administrative order and a decision to pursue litigation (i.e. , referral to the Attorney General or filing a complaint), the responsible agency will notify the other agencies at least seven working days prior to referring a matter to the Attorney General. Each agency will coordinate its legal actions to the extent practicable so that the Attorney General may bring joined or consolidated causes of action.

F. Negotiations may be commenced with a responsible party to enter into an enforceable agreement either to take cleanup action without the issuance of an order, to resolve noncompliance with an order that has been issued, or to resolve causes of action alleged in complaint. All decisions to negotiate with a responsible party will be coordinated between the agencies.

G. The lead agency will act as lead spokesperson for the negotiating team. The lead spokesperson will be responsible only for initiating and maintaining communications with the responsible parties, for coordinating the State's position, and for directing the agenda for settlement. The negotiating team will be composed of representatives from each agency with authority, with legitimate claims, and electing to participate. For purposes of dispute resolution in Federal Facility Agreements (FFAs), the lead agency and support agency may agree to designate which state agency will cast the State's vote.

Each agency is responsible for presenting its respective position. If an agency fails to attend negotiations or to meet other negotiating responsibilities without good cause, or without notifying the other participating agency in advance, then that agency must either defer to negotiating participants on issues discussed at the missed negotiation or withdraw from further negotiations relative to that particular site.

However, where practicable, in order to avoid unnecessary expenditure of resources for conducting negotiations, the support agency, after prior notification to and agreement by the lead agency, may elect to withdraw from or not participate in active negotiations, either temporarily or permanently. In such cases, the support agency is responsible for providing to the lead agency the details of their specific concerns regarding settlement. If this information is not provided, the lead agency will negotiate in the best interest of the State, but will have no responsibility to negotiate on behalf of the support agency issues for which the lead agency has neither authority nor assistance.

When the support agency does not attend negotiations, the lead agency is responsible for obtaining for the support agency terms of settlement identical to its own, provided that: the support agency provides the necessary information and assistance to the lead agency pursuant to this section; and the terms requested by the support agency are similar in scope and documentation to that of the lead agency ("identical terms" means similar percentage of settlement request or similar conditions as opposed to a dollar-for-dollar separation). Moreover, the lead agency is responsible for notifying the support agency if new issues arise which may be within the sole authority of the support agency, in order that the support agency has the opportunity to participate in those portions of the negotiations addressing such issues. The negotiation of FFAs with the federal government is an example of when this situation may occur. In this example, the lead agency will not settle for recovery of their costs without including those similarly justifiable costs of the support agency.

H. All communications with a responsible party related to negotiations will be coordinated by the lead spokesperson. Documents related to negotiations will be shared freely between the agencies and such documents which are confidential will be maintained in a manner consistent with any applicable requirements for confidentiality.

I. Each agency will support the other during negotiations. A single position is essential, and the agency advocating the most conservative or stringent position will be responsible for defending its position. A disagreeing agency will remain silent or request a recess. All agencies involved should meet prior to each negotiating session in order to minimize disagreements.

J. Before agreement or settlement with responsible parties can be reached, the concerns and claims of each agency regarding the issues to be agreed upon or settled will be resolved. An agency will not settle independently with responsible parties without advance concurrence by the other participating parties. Disputes shall be settled pursuant to the procedure described in Section VII.

K. Settlement with a responsible party will include provision for payment by the responsible party for all oversight costs incurred or to be incurred by any negotiating agency that will participate in the RA procedure.

VII. DISPUTE RESOLUTION

A. Disputes shall be resolved, if at all possible, through informal discussion, negotiation, and consensus. Such informal discussions may, if necessary, include staff at all levels, including those listed in Section VII.B.1. If the dispute cannot be resolved informally within a reasonable length of time or if continuing nonresolution of the dispute would place either party at a disadvantage, then either party may notify the other party that such a dispute exists and exercise the formal dispute resolution procedure described below.

B. Disputes shall be resolved formally using the following procedure:

1. Jointly the staffs of the agencies involved in the dispute shall prepare a memorandum describing the dispute. The lead agency shall provide copies to the appropriate RA of the Toxic Substances Control Program (TSCP) and to the Executive Officer (EO) of the appropriate Regional Board. The memorandum shall address and explain all sides to the dispute, shall state the consequences of each recommended decision and shall provide a date by which a decision is needed. The lead staff person for each agency shall co-sign the memorandum prior to submitting it to management.

2. If the DHS RA and the RWQCB EO cannot resolve the dispute within the time requested in the memorandum, then they will jointly present written notification of the dispute to both the Executive Director (ED) of the SWRCB and the Deputy Director of the TSCP.

3. If the SWRCB ED and the TSCP Deputy Director cannot resolve the dispute within 30 calendar days from the day the memorandum is delivered to them, then the memorandum shall be delivered to the SWRCB and the Director of DHS. If within 30 calendar days they cannot resolve the dispute, the memorandum shall be delivered to the Secretary of Environmental Affairs and to the Secretary of Health and Welfare. If within 30 calendar days they cannot resolve the dispute, the memorandum shall be delivered to the Governor.

4. When the dispute is resolved, a written decision shall be provided to all parties to this MOU.

C. During such time that any formal or informal dispute is not yet resolved, neither agency will comment adversely in public. The time required to resolve a dispute shall not be used to unnecessarily or unfairly delay action by either agency.

John J. Kearns
Acting Deputy Director
Toxic Substances Control Program
Department of Health Services
State of California

Date: 7/30/90

James W. Baetge
Executive Director
State Water Resources Control Board
State of California

Date: 7-31-90

ATTACHMENT A

APPLICABLE LAWS, REGULATIONS, AND GUIDANCE DOCUMENTS

A. California Water Code.

B. California Health and Safety Code.

C. Titles 22/23 (Subchapter 15) California Code of Regulations.

D. California Environmental Quality Act.

F. National Oil and Hazardous Substances Contingency Plan.

G. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA.

H. Superfund Public Health Evaluation Manual.

I. Superfund Exposure Assessment Manual.

J. Methodology for Characterization of Uncertainty in Exposure Assessments.

K. RCRA Ground-Water Monitoring Technical Enforcement Guidance Document.

L. The Endangerment Assessment Handbook.

M. Superfund Remedial Design and Remedial Action Guidance.

N. Standard Operation Safety Guides (OSWER).

O. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (DHS [NIOSH]).

P. Data Quality Objectives for Remedial Response Activities (OSWER).

Q. Samplers and Sampling Procedures for Hazardous Waste Sources (EPA).

R. A Compendium of Superfund Field Operations Methods.

S. Handbook on Remedial Action on Waste Disposal Sites.

T. Uncontrolled Hazardous Waste Site Ranking System--A User's Manual.

U. Community Relations in Superfund: A Handbook (EPA) 03/86.

V. The California Site Mitigation Decision Tree Manual.

W. Small Site Cleanup Guidance Document (to be completed).

X. Leaking Underground Fuel Tank Manual.

ATTACHMENT B

ACRONYMS USED IN THE MEMORANDUM OF UNDERSTANDING

1.	AIP	Agreement In Principle
2.	ARARS	Applicable or Relevant and Appropriate Requirements
3.	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
4.	CEQA	California Environmental Quality Act
5.	DHS	Department of Health Services
6.	DOE	U.S. Department of Energy
7.	DSMOA	Defense (Department)-State Memorandum of Agreement
8.	ED	Executive Director
9.	EO	Executive Officer
10.	EPA	U.S. Environmental Protection Agency, Region 9
11.	FFA	Federal Facility Agreement
12.	FS	Feasibility Study
13.	HSC	Health and Safety Code
14.	MOA	Memorandum of Agreement
15	MOU	Memorandum of Understanding
16.	NPL	National Priorities List
17	PHE	Public Health Evaluation
18	QAPP	Quality Assurance Project Plan
19.	RA	Remedial Action or Regional Administrator
20.	RAP	Remedial Action Plan (State equivalent to ROD)
21.	RCRA	Resource Conservation and Recovery Act
22.	RD	Remedial Design
23.	RI	Remedial Investigation
24.	ROD	Record of Decision (Federal equivalent to RAP)
25.	RWQCB	Regional Water Quality Control Board

26.	SAP	Sampling and Analysis Plan
27	SWRCB	State Water Resources Control Board
28.	TAC	Technical Advisory Committee
29.	TSCP	Toxic Substances Control Program
30.	WC	Water Code

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE
AND THE
STATE WATER RESOURCES CONTROL BOARD
FOR
PLANNING AND TECHNICAL ASSISTANCE RELATED TO
WATER QUALITY POLICIES AND ACTIVITIES

I. PURPOSE:

The purpose of this Memorandum of Understanding (MOU) is to formalize cooperation between U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS) and the State Water Resources Control Board (State Board), and to develop appropriate guidelines and procedures related to water quality activities. The SCS and State Board share a common interest in maintaining, protecting, and improving the quality of waters (surface and ground water) of the State.

Through this MOU, the State Board seeks to utilize the personnel and expertise of SCS to increase the assistance available to California in the development and implementation of water quality programs and projects. Coordination and cooperation between SCS and State Board will reduce unnecessary duplication of effort, accelerate the implementation of best management practices (BMPs) and other nonpoint source (NPS) measures, and increase overall program effectiveness.

II. AUTHORITIES:

This MOU is entered into under the authorities of the Soil Conservation and Domestic Allotment Act (16 U.S.C. Section 590-f), as amended, Division 7 of the California Water Code (Porter-Cologne Act), and the authorities of the Clean Water Act (CWA), [Section 304(l), 314, 319, and 320], as amended.

Nothing in this MOU alters the statutory or regulatory authority of SCS or the State Board. This MOU is intended to strengthen those statutory requirements through the development of cooperative federal-State efforts.

III. BACKGROUND:

USDA Regulation 9500-7, Nonpoint Source Water Quality Policy, December 5, 1986 and USDA Regulation 9500-8, Policy for Groundwater Quality, November 9, 1987 established policy for integrating surface and ground water quality protection and improvement into the appropriate programs and activities.

The report to the Congress by the Secretary of Agriculture in the National Program for Conservation of Soil and Water: The 1988-90 Update gives top priority to the solution of soil erosion on agricultural land. The second priority is the "protection of the quality of surface and ground water from harmful contamination from nonpoint sources".

SCS, a technical agency of the USDA and, in cooperation with Resource Conservation Districts in California, provides technical assistance for implementation of water quality programs. SCS has a number of field offices which can provide technical assistance to most of the counties within California.

The Porter-Cologne Act, administered by the State Board, establishes a comprehensive program for the protection of water quality and the beneficial uses of the waters of the State. The Porter-Cologne Act is intended to provide a "statewide program for water quality control".

Section 319 of the CWA, as amended, requires the State to develop a NPS management program for controlling NPS pollution. The State Board has developed a State NPS Management Program which lists the SCS as providing technical and financial assistance to improve and protect land and water resources.

The State Board and SCS recognize the need to improve, conserve, and protect the quality of surface and ground water by undertaking efforts to avoid harmful NPS contamination and, thereby maintain the quality and quantity of water available for safe drinking supplies, irrigated agriculture, fisheries, and other beneficial uses. A coordinated effort is necessary to address these issues.

IV. SCS AGREES TO:

A. Integrate water quality concepts and management techniques into all programs and activities to address surface and ground water NPS pollution.

B. Implement internal policies that elevate the importance of water quality in all SCS programs and assure consistency of SCS actions with the State NPS Management Program.

C. Provide technical assistance to the State Board in the support and development of BMPs appropriate for the control and reduction of NPS pollution.

D. Encourage the targeting of water resource projects to hydrologic units that are tributary to the high priority waterbodies identified in the State Board's Clean Water Strategy and Water Quality Assessment Process.

E. Encourage the California Association of Resource Conservation Districts (CARCDs) and their more than 100 member districts to cooperate with appropriate State and local agencies in addressing the water quality priorities of federal agencies and the State Board.

F. Provide technical assistance through RCDs to landowners in dealing with NPS pollution problems.

V. STATE BOARD AGREES TO:

A. Use the SCS Field Office Technical Guide as a resource reference in the development and implementation of BMPs.

B. Assist the SCS in the selection of priority hydrologic units for the implementation of water resource projects.

C. Jointly develop with the SCS and CARCD demonstration projects addressing water quality concerns.

D. Encourage the voluntary or cooperative approach as the first step in the development and implementation of solutions to the NPS problem.

E. Consider the development of a statewide water quality policy for reducing NPS pollution of surface and ground waters and achieving water quality standards by working with other agencies.

F. Coordinate the activities of the California Regional Water Quality Control Boards with those activities being proposed and implemented by the SCS.

G. Define the goals and objectives of the NPS Interagency Advisory Committee and conduct regular meetings.

VI. SCS AND STATE BOARD MUTUALLY AGREE TO:

A. Develop a process for BMP selection and implementation to reduce or prevent agricultural pollution in priority waterbodies.

B. Continue to upgrade and update the SCS's Field Office Technical Guide and BMPs as new technology is developed.

C. Develop agricultural BMPs for NPS pollution control with input from the NPS Interagency Advisory Committee, and others.

D. Develop implementation priorities and policies for NPS pollution activities.

E. Provide guidance and technical assistance to implementation agencies.

F. Encourage participation of other federal, State, and local agencies in the control of NPS pollution.

VII. OTHER CONDITIONS OF THE MOU:

A. This is not a fiscal or a funds obligation document. Endeavors involving reimbursements or transfer of funds between SCS and the State Board for the purposes of this Agreement will be in accordance with USDA/SCS and State Board financial procedures. Any reimbursement agreement will be contingent upon the availability of funds and upon limitations of appropriations authorized by law.

B. This MOU complies with the nondiscrimination provisions of Title VI of the Civil Rights Act of 1964 and other nondiscrimination statutes, namely, Section 504, Title IX and the Age Discrimination Act of 1975 provides that no person in the United States shall, on the grounds of race, color, national origin, age, sex, religion, or handicap be excluded from participation in, or be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal or State assistance.

C. This MOU becomes effective on the date of signature by both parties and shall continue indefinitely. It may be modified at any time upon the mutual consent of the parties and it may be terminated by either party giving a 30-day advance written notice to the other party.

BY: W. Don Maughan
W. Don Maughan
Chairman
State Water Resources
Control Board
Sacramento, California

Date: Jul 31, 1990

BY: Pearlie S. Reed
Pearlie S. Reed
State Conservationist
Soil Conservation Service
Davis, California

Date: July 31, 1990

MEMORANDUM OF UNDERSTANDING

AMONG

ENVIRONMENTAL AFFAIRS AGENCY
AIR RESOURCES BOARD
STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD

I. INTRODUCTION

This Memorandum of Understanding (MOU) expresses the desire of the Air Resources Board (ARB), State Water Resources Control Board (SWRCB), California Integrated Waste Management Board (CIWMB), and Environmental Affairs Agency (Agency) to enhance program coordination. We undertake this task to minimize risks to public health and the environment, eliminate duplication of effort, and provide regulatory consistency.

The MOU consists of general and specific provisions. General provisions include (A) the scope of the agreement, which defines the parties and issues to which the MOU applies, (B) the principles which will govern the conduct of the parties and, (C) the existing statutory framework.

Specific provisions, which address the protocols the parties will follow, include (A) the responsibilities of the Boards and the Agency, (B) procedures to be followed to ensure communication and program coordination, (C) the manner by which the parties will settle their disputes, (D) implementation steps, and (E) procedures for amending, withdrawing from, and repealing this MOU.

II. BACKGROUND

California has a decentralized environmental management system. At the state level, the ARB, SWRCB, CIWMB, and Department of Health Services (DHS) formulate policies and regulations pertaining to air quality, water quality, solid waste, and hazardous waste, respectively. At the regional and local levels, the Air Quality Management Districts, Air Pollution Control Districts, Regional Water Quality Control Boards, and Local Enforcement Agencies conduct permitting and enforcement activities.

Many environmental issues cut across organizational lines. These interagency issues stem from the fact that pollutants do not recognize the boundaries of environmental media or political and institutional subdivisions. To effectively deal with interagency issues, the management of the Boards and the Agency set forth in this MOU some guiding principles and procedures to govern our conduct.

III. GENERAL PROVISIONS

A. SCOPE

This MOU is binding upon the ARB, SWRCB, CIWMB, and Agency. This MOU is effective immediately.

This MOU covers all activities of the Boards, and shall be used to determine the relationship of the Boards and guide communication among them and with the Agency.

An MOU is being prepared by the three Boards regarding solid waste disposal site testing and remediation (the SWAT program). For coordination of SWAT program activities, the parties should refer to both this MOU and the SWAT program MOU.

It is anticipated that in a limited number of instances, other, program-specific MOUs may be developed as a result of the problem identification and dispute resolution provisions of this MOU.

Although the local air districts, regional water quality control boards, and solid waste local enforcement agencies are not signatories to this agreement, the three Boards understand and agree that it is each Board's responsibility to inform and coordinate with their respective local or regional counterparts as outlined in Section IV(B)(3)(a) below.

B. PRINCIPLES

The Boards and the Agency recognize that we share a common goal--protection of public health and the environment. We also recognize that the resources available to achieve this goal are limited, and that duplication of effort, conflict, and confusion detract from our collective efforts. It therefore is the policy of the Agency and the Boards that the parties work together, in an atmosphere of mutual trust, confidence, cooperation and communication, to maximize the efficient use of our resources. Accordingly, the ARB, SWRCB, CIWMB, and the Agency are committed to work together, with other state agencies and other levels of government, to closely follow these guiding principles:

- We will resolve conflicts promptly.
- We will promote a multimedia approach to pollution control and pollution prevention that minimizes the total exposure to pollution faced by humans and the environment.
- We will avoid duplication of effort, and maximize the efficient use of resources.

C. EXISTING STATUTORY FRAMEWORK

1. Statutes of the State of California authorize certain actions or provide fundamental authority which must govern the operation of this MOU. Relevant sections include:

   a. The ARB has the responsibility for control of emissions from motor vehicles and shall coordinate, encourage, and review the efforts of all levels of government as they affect air quality (Health and Safety Code Section 39500).

      The ARB is the air pollution control agency for all purposes set forth in federal law (Health and Safety Code Section 39602).

   b. The SWRCB is the principal state agency with primary responsibility for the coordination and control of water quality (Water Code Section 13001).

      The SWRCB is the state water pollution control agency for all purposes stated in the Federal Water Pollution Control Act and any other federal act (Water Code Section 13160).

   c. The CIWMB shall adopt and revise minimum standards for solid waste handling and disposal for the protection of air, water and land from pollution (Public Resources Code Section 43020). The Board shall adopt rules and regulations, as necessary, to carry out Division 30 of the Public Resources Code (Public Resources Code Section 40502). The standards which the CIWMB must adopt shall include the design, operation, maintenance and ultimate reuse of solid waste processing or disposal facilities (Public Resources Code Section 43021).

      The CIWMB is the state solid waste management agency for all purposes stated in the Federal Resources Conservation and Recovery Act of 1976 and any other federal act affecting solid waste (Public Resources Code Section 40508).

   d. The Chairperson of the ARB serves as the principal advisor to the Governor on, and assists the Governor in establishing, major policy and program matters on environmental protection. The Chairperson also serves as the principal communications link for the effective transmission of policy problems and decisions to the Governor relating to the activities of the SWRCB and the CIWMB (Health and Safety Code Section 39511).

2. Other statutory provisions, noted below, speak to the interaction of the Boards. In particular, these provisions address the interaction of the Boards with respect to control of the air quality and water quality impacts of solid waste management facilities. However, these provisions do not adequately cover all

situations that arise, they are themselves subject to interpretation, and in general they need to be viewed in the context of each Board's general authority as outlined above. Section IV(A)(4) below sets forth procedures to be used to address such issues.

3. The statutory provisions which speak to the interaction of the Boards are as follows:

   a. The CIWMB shall consider any recommendations of the ARB for the prevention of air pollution and the SWRCB for the prevention of water pollution (Public Resources Code Section 43020).

   b. Division 30 of the Public Resources Code (which confers CIWMB authority) is not a limitation on the power of any state agency in the enforcement or administration of any provision of law which it is specifically authorized or required to enforce or administer, including, but not limited to, the exercise by the state water board or the regional water boards of any of their powers and duties pursuant to Division 7 (commencing with Section 13000) of the Water Code, and the exercise by the State Air Resources Board or any air pollution control district or air quality management district of any of its powers and duties pursuant to Part 3 (commencing with Section 40000) of Division 26 of the Health and Safety Code. (Public Resources Code Section 40055 (a)).

   c. The exercise of CIWMB authority under Division 30, including, but not limited to, the adoption of regulations, plans, permits, or standards and enforcement actions shall not duplicate or be in conflict with any determination relating to water quality control made by the state water board or regional water boards. (Public Resources Code Section 40055(b)).

   d. Any plans, permits, standards, or corrective action taken by the CIWMB pursuant to Division 30 shall incorporate, as a condition of the action, any applicable waste discharge requirements issued by the state water board or a regional water board, and shall be consistent with all applicable water control plans adopted pursuant to Section 13170, and Article 3 (commencing with Section 13240) of Chapter 4 of Division 7, of the Water Code and the state policies for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7 of the Water Code existing at the time of the action or proposed action. (Public Resources Code Section 40055(c)).

   e. No provision of Division 7 of the Water Code (which confers SWRCB authority) or any ruling of the state [water] board or a regional board is a limitation . . . on the power of a state agency in the enforcement or administration of any provision of law which it is specifically permitted or required to enforce or administer (Water Code Section 13002).

IV. SPECIFIC PROVISIONS

A. BOARD AND AGENCY RESPONSIBILITIES

1. The ARB is responsible for development of standards and regulations pertaining to air quality, the SWRCB is responsible for development of standards and regulations pertaining to water quality, and the CIWMB is responsible for development of standards and regulations pertaining to waste management.

2. It is the responsibility of all Boards to act in a fashion to minimize overlap and duplication of effort. Management of the Boards has an affirmative responsibility to identify areas of duplication and overlap, work towards a mutually-agreeable delineation of activity, and foster a multimedia approach to pollution prevention and pollution control. The Agency will, as a back-up mechanism, screen Board material to identify issues with potential multi-Board implications.

3. It is the intent of the Boards and the Agency that regulations pertaining to issues of mutual interest, to the extent possible, be jointly developed by the affected Boards. The development of regulations by the Boards shall be governed by the following procedure:

   a. When a Board determines that it intends to develop or modify regulations, it shall notify the other Boards and the Agency in writing as to the subject matter of any proposed new regulation, and the section numbers of any existing regulations proposed to be modified.

   b. The other Boards shall review the notice and, within 30 days, notify the originating Board and the Agency in writing as to which proposals, if any, deal with issues that are of concern.

   c. For issues so identified, regulatory language shall be jointly developed by the affected Boards. The resulting language shall be adopted by each affected Board and placed in the relevant portion of the California Administrative Code for each affected Board.

   d. Any disputes that arise during this process shall be resolved according to the dispute resolution procedure outlined in Section IV(C) below. If the dispute cannot be resolved in a manner that results in the adoption of identical language by each affected Board, then any Board may proceed with individually developed regulations.

4. The Boards shall apply the following procedures when interpreting and implementing the statutory provisions regarding the interaction of the Boards cited in Section III(C)(3) above:

a. Any disagreement as to the interpretation of the above-referenced statutory provisions shall be resolved according to the dispute resolution procedure outlined in Section IV(C) below.

b. The CIWMB shall be the principal coordinating agency for all matters concerning the collection and disposal of solid waste in California, acting in concert with other affected state agencies. To "act in concert" means to act in a manner consistent with the intent and the provisions of this MOU.

c. As a pro-active measure to prevent potential conflict, the Executive Officers, at the first quarterly meeting convened pursuant to Section IV(D) below, shall identify critical waste management-related regulatory-areas where cooperative work is needed. ("Executive Officers" refers to the Executive Officer of the ARB, the Executive Director of the SWRCB, and the Chief Executive Officer of the CIWMB). The Executive Officers shall define tasks and milestones necessary to address the identified issues.

d. At subsequent quarterly meetings the Executive Officers shall review progress on waste management coordination, take corrective action as needed, and identify future needs.

5. It is the responsibility of each Board to:

a. Communicate with the other Boards in a timely manner.

b. Forward applicable draft policies, regulations, guidance documents or other relevant materials to the Agency for screening.

c. Notify other Boards when a particular facility, site or issue is of interest.

d. Provide comment, analysis, evaluation and advice on areas within its unique expertise.

e. Carry forward to other Boards the concerns and positions expressed by advocacy groups active in its issue areas.

6. It is the responsibility of the Agency to:

a. Screen the draft materials forwarded pursuant to Section IV(A)(5)(b) above to identify areas with potential multi-Board impact. If the Agency identifies such a potential impact, the Agency will provide comments to all Boards.

B. COMMUNICATION

The parties recognize that achieving the goals of this MOU rests upon effective communication across programmatic and organizational lines. This MOU therefore sets forth procedures addressing communication at the management level, at the staff level, with other levels of government, and with regulated facilities. The purpose of these procedures is to systematize and formalize the existing communication mechanisms.

1. At the management level, the Executive Officers or their designees will meet quarterly as described in Section (IV)(D) below.

2. Another essential step is fostering an awareness, at the staff level, that our environmental programs are inter-related, and that actions taken in one program can have an effect upon other programs. In order to encourage such an awareness, the Executive Officers will:

   a. Identify the issues where inter-staff communication is needed.

   b. Designate, for each Board, a contact person on that issue.

   c. Ensure that the contact persons meet on a regular basis.

   d. Provide regular opportunities for cross-program training and orientation.

   e. Provide copies of Office of Administrative Law rulemaking calendars to Agency and to the other Boards.

3. Local government and the federal government are essential components of California's environmental regulatory system. The Boards and the Agency recognize that the state must work with other levels of government in a clear, consistent fashion, and that each Board has a unique relationship with its local and federal counterparts.

   a. Each Board and the Agency agrees to work through the appropriate Board when communicating with local and regional agencies on a statewide basis. Any communication addressed to all local air pollution districts shall be routed through the ARB, communication addressed to all Regional Boards shall be routed through the SWRCB, and communication addressed to all Local Enforcement Agencies shall be routed through the CIWMB. Communication addressed to a single local or regional agency on a site-specific basis need not be routed through the appropriate Board. In such cases, however, the Board shall receive a copy of the correspondence.

   b. When providing comments to or otherwise communicating with federal agencies, each Board shall work with the other Boards to ensure that a consistent, coordinated state position is expressed.

4. It also is important that the Boards and the Agency deal with regulated facilities in a consistent, predictable fashion. The long-term credibility and effectiveness of our environmental programs suffers whenever regulatory agencies impose conflicting or duplicative requirements on facilities.

   In order to prevent such occurrences, each Board will establish procedures to ensure that appropriate notification is provided to other Boards regarding activities which affect facilities which are also regulated by other Boards.

C. DISPUTE RESOLUTION

1. It is the intent of the three Boards and the Agency that programmatic conflicts be resolved, to the extent possible, through informal discussion, negotiation, and consensus. However, it is also the intent that conflicts be resolved promptly.

   If a dispute cannot be resolved informally within a reasonable length of time or if continuing nonresolution of the dispute would place a Board at a disadvantage, then any Board may notify the other Boards and the Agency that a dispute exists and invoke the formal dispute resolution procedure described below.

2. Disputes shall be resolved formally using the following procedure:

   a. A meeting shall be convened involving staff from the affected Boards. At the meeting the staffs shall clarify the issues subject to dispute, identify alternative solutions, identify the consequences that would result from each alternative, and determine the date by which a decision is needed. This information shall be provided to the relevant Division Chiefs, who shall have no more than 30 days to resolve the issue.

   b. If the Division Chiefs from the affected Boards cannot resolve the dispute within the time allowed, then they will jointly notify the Executive Officers of the affected Boards, and the Agency Secretary.

      The affected Boards shall jointly be responsible for resolving the dispute. If the dispute is not resolved within 30 days, then the issue shall be referred to the Agency Secretary for resolution. The Agency Secretary, acting in consultation with the affected Boards, shall develop a recommended course of action and act as coordinator to bring about a resolution to the dispute.

   c. If the Agency Secretary is unable to develop a consensus course of action acceptable to all affected Boards within 30 calendar days of referral from the Boards, then each affected Board shall prepare a memorandum providing direction to their respective staffs as to how to proceed in the case. These memoranda will not necessarily describe a single course of action, but are intended to communicate and document each Board's future direction.

d. If the dispute is resolved by the Agency Secretary, then a written decision shall be provided to all parties of this MOU.

3. If, on an issue for which the formal dispute resolution mechanism has been invoked, a formal petition for review of an action or inaction by a Board is filed by a third party, the statutory or regulatory time periods required for action on the petition shall take precedence over those in Section IV(C)(2) above. However, the parties shall attempt to complete the actions described in Section IV(C)(2) to resolve the dispute within the statutory or regulatory time periods associated with the petition.

D. IMPLEMENTATION

1. In order to facilitate implementation of this MOU, the Executive Officers or their designees and the Secretary of Environmental Affairs designee will meet quarterly. This group will provide guidance and advice to the Agency Secretary and Board staff on technical issues that develop during performance under this agreement, and will assist, if called upon, in the settlement of technical disputes. The group will also evaluate the achievement of the principles of this MOU and will provide an annual report to the Agency Secretary. This report will be submitted by March 1 of each year, will cover the prior calendar year and will, if appropriate, include recommendations for modifications to this MOU to improve attainment of the principles of the parties.

   The quarterly meetings will be held on a rotating chair basis, with each Executive Officer or designee and the Agency Secretary designee being responsible, in turn, for organizing and hosting the meeting and preparing the agenda.

2. The first quarterly meeting of the Executive Officers or their designees will be held within 30 days of the execution of this MOU.

E. AMENDMENT, WITHDRAWAL, AND REPEAL

1. This MOU may be amended with the mutual written approval of all signatories or their successors.

2. Any signatory to the MOU, or his or her successor, may withdraw from the MOU by sending written notification to the Agency Secretary. In the event that one party withdraws from the MOU, the MOU continues in full force for the remaining parties and continues to govern their activities.

3. This MOU may be repealed in its entirety with the mutual written approval of all signatories or their successors.

The parties hereto have caused this MOU to be duly executed on the respective dates set forth opposite their signatures.

Janaine Sharpless
Secretary of Environmental Affairs

8/27/90
Date

James Boyd, Executive Officer
Air Resources Board

8/27/90
Date

James Baetge, Executive Director
State Water Resources Control Board

8/27/90
Date

George Larson, Chief Executive Officer
California Integrated Waste Management Board

8/27/90
Date

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
STATE WATER RESOURCES CONTROL BOARD
AND THE
CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION
FOR THE PROTECTION OF
WATER QUALITY (SURFACE AND GROUND WATER)
FROM POTENTIALLY ADVERSE
EFFECTS OF PESTICIDES

BACKGROUND

The State Water Resources Control Board (SWRCB) and the California Department of Pesticide Regulation (CDPR) have responsibilities relating to the protection of water quality from the potentially adverse effects of pesticides. Both agencies believe that the State will benefit by a unified and cooperative program to address water quality problems related to the use of pesticides.

The purpose of this Memorandum of Understanding (MOU) between the SWRCB and CDPR is to ensure that pesticides registered in California are used in a manner that protects water quality and the beneficial uses of water while recognizing the need for pest control.

The Food and Agricultural Code, as amended by the 1991 Governor's Reorganization Plan No. 1, charges CDPR with the responsibility of ensuring the orderly regulation of pesticides while protecting the quality of the total environment (including water quality) and the health, and safety of the public.

SCOPE

This MOU is intended to assure that the respective authorities of the SWRCB and CDPR, relative to the protection of water quality and beneficial uses from impairment by the use of pesticides, will be exercised in a coordinated and cohesive manner designed to eliminate overlap of activities, duplication of effort, and inconsistency of action. To that end, this MOU establishes principles of agreement regarding activities of the signatory agencies, identifies primary areas of responsibility and authority between these agencies, and provides methods and mechanisms necessary to assure ongoing coordination of activities relative to such purposes. This MOU also describes how the agencies will work cooperatively to achieve the goals of the respective agencies.

STATUTORY AUTHORITIES

The Porter-Cologne Water Quality Control Act establishes a comprehensive water quality control program for California. The Federal Clean Water Act adds additional water quality control provisions to be implemented nationwide. The SWRCB and the nine California Regional Water Quality Control Boards (CRWQCB) are responsible for protecting the beneficial uses of water in California and for controlling all discharges of waste into waters of the State. The SWRCB sets overall State policy, adopts or approves all water quality control plans, and hears petitions to review CRWQCB decisions. The CRWQCBs have primary responsibility for permitting, inspection, and enforcement actions. The CRWQCBs implement and enforce the policies adopted by the SWRCB.

CDPR is the lead agency for pesticide regulation in California. California law requires CDPR to register and regulate the use of pesticides and protect public health and safety by providing for environmentally sound pest management.

The Pesticide Contamination Prevention Act of 1985 (Article 15, Chapter 2, Division 7 of the Food and Agricultural Code) authorizes CDPR to:

1. Collect and analyze environmental fate data on all pesticides registered for agricultural use in California to determine ground water data gaps and identify and monitor potential ground water contaminants;

2. Review any pesticide or related chemical found in ground water or in soil under certain conditions to determine if that chemical pollutes or threatens to pollute ground water as a result of legal agricultural use and take appropriate corrective action when necessary; and

3. Compile and maintain a statewide database of wells sampled for pesticide active ingredients and to make an annual report on that inventory and any corrective actions taken by CDPR and/or the SWRCB.

The Pesticide Contamination Prevention Act (Act) also prescribes a cooperative working relationship between CDPR, as the lead agency, and the SWRCB for the purpose of protecting ground water from pesticide pollution as a result of agricultural uses. A subcommittee of CDPR's Pesticide Registration and Evaluation Committee (PREC) is established by the Act for this purpose.

The local administration of CDPR's pesticide regulatory program is the responsibility of the County Agricultural Commissioners (Commissioners), with coordination, supervision, and training provided by CDPR. The Commissioners enforce pesticide laws and regulations and evaluate permit requests for the use of restricted pesticides. In addition, the Commissioners monitor and inspect pesticide handling and use operations, investigate suspected pesticide misuse, and take enforcement action against violators.

PRINCIPLES OF AGREEMENT

The SWRCB and CDPR agree that the use of certain pesticides may degrade water quality and threaten beneficial uses. To protect the State's water, it is necessary to prevent water pollution by pesticides by establishing water quality objectives and by implementing control measures for those pesticides which have a potential to unreasonably affect beneficial uses.

In order to provide for better protection of water quality and beneficial uses for the people of California, the SWRCB and CDPR mutually agree to:

1. Promote both technical and policy consultations concerning pesticide water quality issues through formal channels, such as standing interagency committees and SWRCB workshops and meetings, as well as through informal staff exchanges of information. The SWRCB and CRWQCBs and CDPR will consult during the early stages of planning any investigation related to pesticides and water quality. The agencies will provide technical assistance to each other upon request.

2. Implement a pesticide detection notification system to ensure mutual awareness of pesticide finds in the waters of the State. Results of pesticide monitoring will be provided in an expeditious manner. Results of pesticide monitoring related to ground water will be provided in compliance with "Minimum Reporting Requirements for Well Sampling" approved by the SWRCB, California Department of Food and Agriculture, and California Department of Health Services in July 1986. Reporting requirements and procedures for data referrals relative to surface water will be described in an implementation document.

3. Collect, exchange, and disseminate information on (a) the use of pesticides, (b) impacts on the quality of the State's waters from such uses, and (c) any efforts to mitigate those impacts.

4. Share information on pesticide formulations and environmental fate and toxicity of active ingredients, inert ingredients, and break-down products. Procedures to protect proprietary information will be described in an implementation document.

5. Consult each other in developing or revising water quality objectives for pesticides and in developing or revising regulations which may impact water quality.

6. Participate in the development of State policies, guidelines, and management plans relative to pesticide use and water quality control.

7. Promote the development and implementation of Best Management Practices (BMPs) whenever necessary to protect the beneficial uses of the waters of the State from the potentially adverse effects of the use of certain pesticides. CDPR's plans to implement BMPs, as furnished to the SWRCB and/or CRWQCBs, should (a) describe the nature of the actions which are necessary to achieve the objectives, including recommendations for appropriate actions by any entity, public or private; (b) set a time schedule for actions to be taken; and (c) describe the points of application and the monitoring to be undertaken to determine compliance with the water quality objectives.

8. Implement BMPs initially upon voluntary compliance to be followed by regulatory-based encouragement of BMPs as circumstances dictate. Mandatory compliance will be based, whenever possible, on CDPR's implementation of regulations and/or pesticide use permit requirements. However, the SWRCB and CRWQCBs retain ultimate responsibility for compliance with water quality objectives. This responsibility may be implemented through the SWRCB and CRWQCBs' Basin Planning Programs or other appropriate regulatory measures consistent with applicable authorities and the provisions of the Nonpoint Source Management Plan approved by the SWRCB in November 1988.

9. Develop an implementation plan to (a) provide uniform guidance and direction to the CRWQCBs and to the Commissioners regarding the implementation of this MOU, (b) describe in detail procedures to implement specific sections of this MOU, and (c) make specific the respective roles of units within the signatory agencies.

DISPUTE AND CONFLICT RESOLUTION

It is the desire of both agencies to establish a speedy, efficient, and informal method for the resolution of interagency conflicts. Conflicts between the SWRCB and CRWQCBs, CDPR, and the Commissioners which cannot otherwise be informally resolved will be referred to the Executive Director of the SWRCB and the Director of CDPR. Conflicts which cannot be resolved at this level will be elevated to the Secretary of the California Environmental Protection Agency.

To assist the Executive Director of the SWRCB and the Director of CDPR in resolving conflicts, two staff persons will be appointed by the Chairman of the SWRCB and the Director of CDPR representing the interests of the SWRCB and CRWQCBs and CDPR and Commissioners, respectively.

This MOU shall become effective upon the date of final signature and shall continue in effect until modified by the mutual written consent of both parties or until terminated by either party upon a thirty (30) day advance written notice to the other party.

STATE WATER RESOURCES CONTROL BOARD

W. Don Maughan — Dec. 23, 1991

W. Don Maughan, Chairman — Date

CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION

James W. Wells — Dec 23, 1991

James W. Wells, Interim Director — Date

alifornia Environmental Protection Agency
nes M. Strock, Secretary for Environmental Protection

State of California
Pete Wilson, Governor

EP RTMENT OF PESTICIDE REGULATION
ne . Wells, Director

January 4, 1993

TO: ALL SWRCB DIVISION CHIEFS
ALL DPR BRANCH CHIEFS
ALL REGIONAL BOARD EXECUTIVE OFFICERS
ALL COUNTY AGRICULTURAL COMMISSIONERS

SUBJECT: IMPLEMENTING THE PESTICIDES-WATER QUALITY MEMORANDUM OF UNDERSTANDING (MOU)

The Department of Pesticide Regulation (DPR) and the State Water Resources Control Board (SWRCB) executed a Memorandum of Understanding (MOU) on December 23, 1991, to ensure that pesticides registered in California are used in a manner that protects water quality and the beneficial uses of water while recognizing the need for pest control. The MOU established principles of agreement regarding activities of both agencies, identifies primary areas of responsibility and authority between these agencies, and provides methods and mechanisms necessary to assure ongoing coordination of activities at both the State and local levels.

In order to provide for better protection of water quality and beneficial uses for the people of California, the SWRCB and DPR mutually agreed, in part, to develop an implementation plan to (1) provide uniform guidance and direction to the Regional Water Quality Control Boards (RWQCBs) and to the County Agricultural Commissioners (CACs) regarding the implementation of this MOU, (2) describe in detail procedures to implement specific sections of this MOU, and (3) make specific the respective roles of units within both agencies.

Despite our mutual best efforts, the implementation document has not been completed. We remain committed to making the drafting of an implementation plan and/or a water quality management plan a high priority activity leading to an eventual Management Agency Agreement.

However, it has come to our attention that, in the absence of a completed implementation document, many staff at the State and local levels of both agencies remain unaware of the MOU and its principles of agreement and/or are unsure of its implications for their respective assignments and projects. In fact, the CACs were informed that "the MOU places no immediate requirements on county staff or programs" until an implementation document has been developed.

In January, 1992, such instructions made sense, but today we cannot afford to delay any longer the integration of the MOU and its principles of agreement into policy development and program implementation. We have long ago agreed to exercise our respective authorities "in a coordinated and cohesive manner designed to eliminate overlap of activities, duplication of effort, and inconsistency of action." While coordination is occurring, efforts could be improved. Therefore, we have mutually agreed to provide the following interim guidance for implementation of our MOU.

I. Appointment of Staff Persons for Dispute Resolution

The MOU declares, and we reaffirm, that it is the mutual intent of both agencies to resolve any interagency conflicts in "a speedy, efficient, and informal" way. However, in the event that conflict resolution between any parties to this agreement (SWRCB, RWQCBs, DPR, or CACs) cannot be reached informally, the dispute will be referred to the SWRCB Executive Director and DPR Director.

The MOU specifies that "two staff persons will be appointed" by each agency to "assist the Executive Director of the SWRCB and the Director of DPR in resolving conflicts." Jesse M. Diaz, Chief of the Division of Water Quality, and Jack Hodges, Chief of the Nonpoint Source Agriculture Unit, will be appointed by Eliseo M. Samaniego, Acting Chairman, to these roles on behalf of the SWRCB. Ronald J. Oshima, Assistant Director for the Division of Enforcement, Environmental Monitoring, and Data Management, and Steven C. Monk, Regulatory Coordinator, will be appointed by James W. Wells, Director, to represent DPR in these roles.

II. Designation of State-Level Interim MOU Coordinators

To facilitate the integration of the MOU principles of agreement into the mainstream of policy development and program implementation at both the State and local levels, we hereby designate two State-level interim MOU coordinators. Jack Hodges and Steven Monk will serve their respective agencies in this role. The MOU Coordinators will be the key point of contact on <u>all</u> matters related to the implementation of the MOU. In that capacity, Jack and Steven should be added to any appropriate State and local "interested parties" mailing lists. The MOU Coordinators will be a source of information, will facilitate interagency contacts, and generally

promote the MOU principles of agreement. Jack and Steven can be reached as follows:

Jack Hodges, Chief
Nonpoint Source Agriculture Unit
Division Of Water Quality
STATE WATER RESOURCES CONTROL BOARD
901 P Street, P.O. Box 100
Sacramento, California 95801-0100
(916) 657-0682 or 8-437-0682
FAX (916) 657-2388

Steven C. Monk,
Regulatory Coordinator
DEPARTMENT OF PESTICIDE REGULATION
Environmental Monitoring
1220 N Street, P.O. Box 942871
Sacramento, California 94271-0001
(916) 654-1141 or 8-464-1141
FAX (916) 654-0539

III. Implementation of Interim Staff Guidance

It is not our intent to disrupt the ongoing activities of either state or local programs. On the other hand, we fully intend that the process of integration and coordination begin in earnest. Therefore, we are providing the following interim guidelines for implementation:

(a) Appropriate staff should be informed of the existence of the MOU and provided access to a reference copy.

(b) It is our intent that interagency staff communication take place at all levels in a frequent and meaningful manner. Staff should be encouraged to seek and provide technical assistance, and to explore the opportunities for joint projects. In addition, we propose that an interagency staff briefing be convened at least quarterly to highlight existing and proposed projects of mutual interest. On a routine basis, Jesse Diaz, Ron Oshima, and the MOU Coordinators will coordinate these briefings and ensure that appropriate staff are invited to discuss items of mutual interest. An executive summary of each quarterly briefing will be sent to the CACs, RWQCBs, and appropriate State staff.

(c) To facilitate consultation "during the early stages of planning", staff should be informed to, at least, contact the MOU Coordinators in any of the following situations <u>when related to pesticides and water quality</u>:

(1) <u>Prior</u> to the issuance of any public notice of either:

regulations; or workshops, hearings, or public meetings where policies or projects of mutual interest will be discussed or adopted.

(2) Prior to the release of any pertinent reports.

(3) Prior to finalizing the study design or contract workplan for any field monitoring or other investigations of mutual interest.

(4) Prior to proposing legislation, budget change proposals, or grant workplans which impact mutual program interests.

(5) Prior to setting or revising any water quality objectives or other standards.

(6) During the development of policies, guidelines, and management plans for federal and/or State projects.

(d) To "implement a pesticide detection notification system", staff should be informed to, at least, contact the MOU Coordinators as soon as any pesticide detections are confirmed in violation of any water quality objective or other known standard. In the case of surface water detections which do not violate an objective or standard, monitoring results should be made available within a reasonable period after the study is completed.

All ground water sampling results, both positive and negative, must be reported in a timely manner to DPR pursuant to the Pesticide Contamination Prevention Act of 1985. Minimum reporting requirements for ground water sampling were established by DPR, SWRCB, and the Department of Health Services in 1986. To obtain a copy of the minimum reporting requirements or to report sampling results, please contact:

Candace Maes
Associate Environmental Research Scientist
Environmental Monitoring and Pest Management Branch
Department of Pesticide Regulation
1220 N Street, P.O. Box 942871
Sacramento, California 94271-0001
(916) 654-1141 or 8-461-1441
FAX (916) 654-0539

(e) While recognizing that the SWRCB and RWQCBs retain ultimate responsibility for compliance with water quality objectives, staff should ensure that programs and workplans are consistent with and support DPR's responsibility to develop and implement voluntary and regulatory-based "best management practices" to control the potentially adverse impacts of pesticide use on water quality.

Finally, we would encourage staff to operate under the following maxim --when in doubt, consult. A reason for designating the MOU Coordinators is to encourage staff to presume that consultation promotes efficient and effective discharge of our respective roles and responsibilities.

Thank you all for your assistance in giving substance and value to the MOU and our principles of agreement.

DEPARTMENT OF PESTICIDE REGULATION

James W. Wells
James W. Wells, Director

Jan. 5, 1993
Date

STATE WATER RESOURCES CONTROL BOARD

Walter G Pettit
Walter G. Pettit, Executive Director

Jan 19, 1993
Date

cc: Jesse M. Diaz, Water Quality Division Chief
Ronald J. Oshima, Assistant Director
Jack Hodges
Steven Monk

SWRCB Approved 1/23/92

MEMORANDUM OF UNDERSTANDING (MOU)
FOR IMPLEMENTATION OF
THE SAN JOAQUIN VALLEY DRAINAGE PROGRAM'S RECOMMENDED PLAN
DECEMBER 1991

The U. S. Bureau of Reclamation, U. S. Fish and Wildlife Service, U. S. Soil Conservation Service, U. S. Geological Survey, Department of Water Resources, Department of Fish and Game, Department of Food and Agriculture, and the State Water Resources Control Board agree to the following:

1. Background. A management plan for agricultural subsurface drainage and related problems on the westside San Joaquin Valley was developed by the Federal-State San Joaquin Valley Drainage Program (SJVDP) during the period 1985-1990, and published in a September 1990 report by the same name.

2. Purpose. All parties to this MOU will use the management plan described in the September 1990 final report of the San Joaquin Valley Drainage Program (SJVDP Recommended Plan) as the principal guide for remedying subsurface agricultural drainage and related problems. All parties will work together to identify and define specific tasks and associated responsible parties, to seek needed funding and authorities, and to determine schedules for accomplishment, as necessary to implement all components of the SJVDP Recommended Plan.

3. Program. The parties will use the strategy described in "A Strategy for Implementation of the Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley", December 1991, as the initial step in developing an action plan. Based on it, the parties will prepare an annual work plan to establish priorities and coordinate activities to address the objectives of the Recommended Plan. During 1992, the parties will prepare work plans for 1992 and 1993. Subsequent work plans will be prepared two years in advance to facilitate budget development and funding requests. The parties will prepare an annual report that will outline and evaluate accomplishments during the year.

4. Funding and Legal Authority. It is understood by all parties that implementation of this MOU and the SJVDP Recommended Plan are subject to the availability of funding and legal authority. All parties to this MOU agree to support attempts by signatory agencies to secure the funding and authority necessary to implement work plans adopted pursuant to this MOU.

   In order to enhance efficiency and economy, and reduce duplications or conflicts in efforts, all parties to this MOU agree to coordinate requests for funding and authority.

5. Amendments. This MOU may be modified by mutual agreement as necessary to accomplish drainage management objectives.

6. Withdrawal. Any party to this MOU may withdraw by submitting a written notice to each of the other parties 120 days in advance of the intended withdrawal.

7. MOU not a contract. In entering into this MOU, it is the intention of the parties that this MOU shall not be construed to be an enforceable contract or agreement, but is rather a statement of principles.

8. Term of MOU. This MOU shall remain in effect until all components of the SJVDP Recommended Plan have been fully implemented or until it is dissolved by unanimous agreement of the signatory parties.

SIGNATURES

U. S. Bureau of Reclamation

Department of Water Resources

U. S. Fish and Wildlife Service

Howard A Sarasohn for
Department of Fish and Game

U. S. Soil Conservation Service

Department of Food and Agriculture

U. S. Geological Survey

W. Don Maughan
State Water Resources Control Board

MEMORANDUM OF UNDERSTANDING
BETWEEN
THE STATE WATER RESOURCES CONTROL BOARD
AND
THE CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD
FOR THE REVIEW OF
BACKLOGGED SOLID WASTE ASSESSMENT TEST REPORTS

INTRODUCTION

This Memorandum of Understanding (MOU) consists of general and specific provisions for the review of Solid Waste Assessment Test (SWAT) reports as required by Assembly Bill 3348 (Eastin), signed by the Governor September 29, 1992.

BACKGROUND

1. **Agency Authority:**

   The California Water Code, Division 7 designates the State Water Resources Control Board (State Water Board) as the State's lead regulatory agency for water quality protection.

   The California Public Resources Code, Division 30 designates the California Integrated Waste Management Board (CIWMB) as the state's lead regulatory agency for solid waste disposal.

2. **Solid Waste Assessment Test Program:**

   In 1984, the Legislature adopted California Water Code §13273 which, among other things, required:

   A. The State Water Resources Control Board (State Water Board) to group all solid waste disposal sites (both active and closed) in ranks of 150 each in accordance with their threat to water quality,

   B. All landfill owner/operators, one rank per year, to conduct a SWAT (a determination whether the landfill is leaking hazardous waste) and to submit to the appropriate California Regional Water Quality Control Boards (Regional Water Boards) a report signed by a specified professional containing the findings of the SWAT together with appropriate conclusions,

   C. The Regional Water Boards are to review this report and determine whether, (1) the monitoring system was adequate to determine whether hazardous waste had leaked for the site and (2) the report author's conclusions were credible.

3. Current SWAT Program Status:

Between the start up of the SWAT program and June 30, 1991, 195 SWAT reports were approved and 15 SWAT waivers granted (for those cases where hazardous waste leakage was already well known). In addition, another 231 SWAT reports had been received, but not approved. Because of the heavy demands on the State's General Fund, funding for SWAT report review was eliminated in July 1991, leaving this large backlog of unreviewed SWAT reports.

4. Assembly Bill Number 3348 (Eastin):

In 1992, the Legislature adopted Assembly Bill 3348 (Eastin) which contains in Section 10, the following language:

"The following sums are hereby appropriated from the Solid Waste Disposal Site Cleanup and Maintenance Account in the Integrated Waste Management fund to the State Water Resources Control Board:

"(a) (1) Two million five hundred thousand dollars ($2,500,000), as a one-time allocation, but without regard to fiscal year, to complete a review of all solid waste assessment test reports that are required to be submitted to the appropriate regional water quality control boards by July 1, 1991, that have been classified in ranks one through five in the Solid Waste Assessment Test (SWAT) program pursuant to Section 13273 of the Water Code.

"(2) The expenditure of these funds shall be subject to the conditions specified in a memorandum of understanding which shall be entered into by the California Integrated Waste Management Board and the State Water Resources Control Board and which shall include, but need not be limited to, provisions linking the review and ranking of solid waste landfill facilities by the State Water Resources Control Board with the Solid Waste Disposal Site Cleanup and Maintenance Program implemented by the California Integrated Waste Management Board."

and the following:

"(c) The Legislature encourages the State Water Resources Control Board to complete the review performed pursuant to paragraph (1) of subdivision (a) on or before June 30, 1995."

THE CIWMB AND THE STATE WATER BOARD AGREE TO THE FOLLOWING:

1. Scope:

This MOU is effective immediately and is binding upon CIWMB, the State Water Board, and the nine Regional Water Boards.

This MOU includes provisions for sharing data, ensuring that activities at sites of common interest are coordinated, and conflict resolution.

2. Sharing of Data:

A. SWAT Report Summaries: The State Water Board will provide the CIWMB copies of all SWAT Report Summaries as prepared by the Regional Water Boards. Newly prepared Summaries shall be transmitted quarterly.

B. Quarterly Progress Report: Every three months, the State Water Board will provide the CIWMB an updated SWAT Status Report showing the current SWAT report review status for each landfill included in Ranks 1 through 5. For those SWAT reports which have not been approved yet, these status reports shall include for each, the name of the staff person assigned to work on it and the anticipated quarters (1) the review will start, (2) a corrected Report will be submitted, or (3) the SWAT report will be approved.

C. Final Report: The State Water Board will prepare a Summary Report of the findings of all the SWAT reports to date including, but not limited to, discussions of the following:

1. Hazardous waste presence in landfills,

2. General characterization of solid waste disposal site leakage,

3. Chemical characterization of leakage,

4. Impact of leakage on quality of nearby waters,

5. Impact of leakage on beneficial uses of nearby waters, especially of drinking water supply wells, and

6. Completed or proposed remedial actions.

In addition, this report shall contain a discussion of needed improvements in landfill designs and monitoring to reduce the threat which landfills pose to the beneficial uses of the State's waters.

A copy of this report shall be provided to the CIWMB by June 30, 1995.

3. Ensuring that Activities of Common Interest are Coordinated:

Whenever the CIWMB has a need for expedited Regional Water Board review of any landfill's SWAT report, CIWMB shall:

A. Request such a review in writing to the State Water Board and

B. State the date by which they need these data.

The State Water Board shall respond within 10 working days of the receipt of the request with:

A. The anticipated date the review will be completed, and

B Reasons for delay should it be impossible to meet the CIWMB's due date.

4. Conflict Resolution:

Any dispute arising out of the implementation of this Agreement shall be resolved in the following manner:

A. The designated Program Managers for the CIWMB and the State Water Board shall meet within ten (10) days of a request by either party. The party calling the meeting shall provide, in writing, at least five (5) days in advance of the meeting, a clear description of the dispute and a proposed solution. Following the meeting, the CIWMB Program Manager shall make a determination on the dispute, in writing, including reasons for the determination. The determination shall be sent to the State Water Board Program Manager within ten (10) days of the meeting.

B. If the State Water Board does not agree with the determination, the State Water Board may make a written request for a meeting between the Deputy Executive Director of the CIWMB , and the Chief of the Division of Clean Water Programs of the State Water Board. Such a meeting should occur within fifteen (15) days of the receipt of such request. The request must be accompanied by a statement of the disputed issues and a proposed solution. The CIWMB shall make a determination, in writing, and shall send this to the Chief, Division of Clean Water Programs, State Water Board, within fifteen (15) days of the meeting.

C. If the two Division Chiefs cannot resolve the issue in dispute, the matter shall be elevated to the Executive Directors of the two agencies for resolution.

D. Unresolved issues may be elevated to the Board Chairpersons of the State Water Board and the CIWMB.

E. Any issues which cannot be resolved by the Board Chairpersons shall be forwarded to the Secretary for Environmental Protection for a final and binding decision.

Ralph Chandler
Executive Director
California Integrated Waste
Management Board
State of California

Date: 1/8/93

for Walt Pettit
Executive Director
State Water Resources Control Board
State of California

Date: DEC 16 1992

SOLID WASTE ASSESSMENT TEST (SWAT)/AB 3348 PROGRAM
QUARTERLY STATUS REPORT
EXAMPLE FORMAT

For each landfill included in Rands 1 through 5:

1. Rank: 4

2. Name (including SWIS and WMUDS numbers): Klamath County Landfill, 59-AA-001, 1A123456789

3. Location (County and Nearest Community): Klamath, Deadman's Bar

4. Review Status:

   A. Approved, |___|

   B. Awaiting Review, |___|

   C. In Review, |___|

   D. Returned to Owner/Operator for Corrections, or |_x_|

   E. Never received. |___|

5. Regional Water Board (if status 4B, 4C, or 4D above, name and telephone number of review): North Coast, Jane Doe, (209) 555-1212

6. Review Target Dates (by Quarter)

   A. State of Review:

   B. Due date for Owner/Operator to have corrections made: 3rd Quarter, FY 1992-93

   C. Approval of SWAT Report:

7. Comments: No ground water sample taken. SWAT Investigation was clearly inadequate. Letter to owner/operator ordering correction of deficiencies was sent out February 1992 with a March 1993 deadline.

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
BUREAU OF LAND MANAGEMENT
U.S. DEPARTMENT OF THE INTERIOR
AND THE
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
FOR
PLANNING AND COORDINATION OF
NONPOINT SOURCE WATER QUALITY POLICIES AND ACTIVITIES

I. PURPOSE:

The purpose of this Memorandum of Understanding (MOU) is to formalize cooperation between the Bureau of Land Management (BLM), U.S. Department of the Interior, and the State Water Resources Control Board (SWRCB) and to develop appropriate procedures and clarify responsibilities related to nonpoint source (NPS) water quality issues and activities. The BLM and SWRCB share a common interest in maintaining, protecting, and improving the quality of waters (surface and ground water) of the State.

II. OBJECTIVES:

Through this MOU, SWRCB seeks to utilize the personnel and expertise of BLM to increase the development and implementation of water quality programs and projects relative to, but not limited to, agricultural, animal husbandry, silvicultural, mining, and construction activities on the public lands managed by BLM within the State of California. Coordination and cooperation between BLM and SWRCB will reduce unnecessary duplication of effort, accelerate the implementation of best management practices (BMPs), management measures (MM), and other NPS measures (NPSM) and increase overall program effectiveness.

The SWRCB and BLM recognize the need to improve, conserve, and protect the quality of surface and ground water by undertaking efforts to avoid pollution by NPSs and thereby maintain the quality and quantity of water available for safe drinking water supplies, irrigated agriculture, fisheries, and other beneficial uses. A coordinated effort will improve the likelihood of meeting these goals.

III. AUTHORITIES:

This MOU is entered into under the authorities of Division 7 of the California Water Code (Porter-Cologne Water Quality Control Act [Porter-Cologne Act]), the

authorities of the federal Clean Water Act (CWA), [Section 304(1), 314, 319, and 320], as amended, and the Federal Land Policy and Management Act of 1976, as amended, 43 U.S.C. 1701, et seq.

BLM Manual Section 7000.06(D-E), March 8, 1984, established BLM's policy for coordination with State agencies for related programs and provided for compliance with applicable State and federal water pollution control laws, standards, programs, and implementation plans.

BLM Instruction Memorandum No. 88-511, June 17, 1988, provides guidance to BLM field offices regarding coordination with State agencies on NPS pollution control activities. Instruction Memorandum No. 88-511 also addresses how BLM's NPS actions will be incorporated into the BLM planning process and into BLM's overall multiple-use resource objectives.

BLM has management responsibility for over 17 million acres of federal public lands throughout California. BLM's land-use oversight is provided through four district offices which are further subdivided into 15 resource area offices.

The Porter-Cologne Act, administered by SWRCB and the California Regional Water Quality Control Boards (CRWQCBs) establishes a comprehensive program for the protection of water quality and the beneficial uses of the waters of the State. The Porter-Cologne Act provides a "statewide program for water quality control."

SWRCB sets overall State policy, adopts statewide water quality control plans, approves all water quality control plans adopted by the CRWQCBs, and hears petitions to review CRWQCBs actions or inactions. The CRWQCBs have primary responsibility for permitting, inspecting, and enforcing actions regarding dischargers of waste. The CRWQCBs implement and enforce the policies and plans adopted by SWRCB.

Section 319 of CWA, as amended, requires the State to develop an NPS management program for controlling NPS pollution. SWRCB has developed a State NPS management program which lists the BLM as an agency with BMP/MM/NPSM implementation capability.

IV. PROCEDURES:

A. BLM AGREES TO:

1. Integrate water quality concepts and management techniques into the BLM planning system and into environmental review and clearance of land-use proposals to address surface and ground water NPS pollution.

2. Provide copies of draft Resource Management Plans, draft Environmental Impact Statements, and draft Environmental Assessments which have significant water quality issues to the CRWQCBs responsible for the affected area.

3. Provide BLM activity plans for those actions which have NPS issues as a primary concern to the responsible CRWQCBs for review and comment.

4. Incorporate BMP/MM/NPSM into BLM land uses and BLM permitted land uses, when necessary, to protect or maintain water quality.

B. SWRCB AGREES TO:

1. Encourage the voluntary or cooperative approach as the first step in the development and implementation of solutions to the NPS problem.

2. Coordinate the activities of the CRWQCBs with those activities being proposed and implemented by the BLM.

3. Define the goals and objectives of the NPS Interagency Advisory Committee and conduct regular meetings.

4. Emphasize to the CRWQCBs the importance of a timely response to BLM documents submitted for review.

C. BLM AND SWRCB MUTUALLY AGREE TO:

1. Encourage participation of other federal, State, and local agencies and land users in the control of NPS pollution.

2. Develop a process for BMP/MM/NPSM selection and implementation to reduce or prevent NPS pollution from public lands.

3. Develop BMP/MM/NPSM for federal land uses with input from the NPS Interagency Advisory Committee and other affected parties.

4. Develop implementation priorities and policies for NPS pollution activities.

5. Provide NPS guidance and technical assistance to parties responsible for implementation of NPS pollution control on public lands.

6. Encourage the participation of BLM, SWRCB, and CRWQCB staffs in on-the-ground inspections and tours to discuss public land NPS issues and proposed, ongoing, or completed BMPs.

7. Develop a Water Quality Management Plan and a Management Agency Agreement for the purpose of carrying out portions of the State's NPS Management Program on BLM lands.

8. Wherever appropriate, encourage the development and implementation of comprehensive management plans covering entire or significant portions of watersheds. These plans would be developed using the principles of Coordinated Resource Management and Planning and, as appropriate, would seek to resolve issues relating to biological diversity as they relate to NPS pollution.

V. ADMINISTRATION:

A. Nothing in this MOU alters the statutory or regulatory authority of BLM or SWRCB or requires the participants to obligate or expend funds in excess of available appropriations.

B. The terms of this MOU may be renegotiated at any time at the initiative of one of the participants following at least 30 days notice to the other participant.

C. This MOU may be cancelled at any time by one of the participants following at least 30 days notice to the other participant.

D. Any participant may propose changes to the MOU during its term. Such changes will be in the form of an amendment and will become effective upon signature by all of the participants.

E. The need for this MOU is expected to continue until the Water Quality Management Plan and Management Agency Agreement are in effect.

F. This MOU will become effective upon the date of signature by both parties.

APPROVED:

Ed Hastey — 2/5/93
Ed Hastey, California State Director — Date
U.S. Bureau of Land Management

Eliseo M. Samaniego — January 27, 1993
Eliseo M. Samaniego, Vice Chairman — Date
State Water Resources Control Board

RESOLUTION
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

DELEGATION OF CERTAIN DUTIES AND POWERS OF THE BOARD
TO ITS EXECUTIVE OFFICER PURSUANT TO SECTION 13223
CALIFORNIA WATER CODE

Resolution No: 70-118 Adopted: 1-22-70

WHEREAS, Section 13223 of the Porter-Cologne Water Quality Control Act provides that the Regional Board may delegate any of its powers and duties, with certain exceptions, to its Executive Officer, be it, therefore;

RESOLVED, that the California Regional Water Quality Control Board, Central Valley Region, does hereby delegate to its Executive Officer, under the general direction and control of the Board, all of the powers and duties of the Board under Division 7 of the California Water Code except those specified in Section 13223(a); and,

RESOLVED further, That the Executive Officer is authorized, and he is hereby directed to certify and submit copies of this resolution to such agencies and individuals as may have need therefor or as may request same; and

RESOLVED further, That any action that may be taken by the Regional Board pursuant to Division 7, California Water Code, includes such action by its Executive Officer pursuant to powers and duties delegated to him by the Board.

Norma L. Clevenger
Chairman

ATTEST:

Executive Officer

Memorandum of Understanding

Between

Bakersfield District
U.S. Bureau of Land Management

and

California Regional Water Quality
Control Board, Central Valley Region

This agreement expresses an understanding made this date between the Bureau of Land Management, Bakersfield District, hereinafter referred to as the BLM, and the California Regional Water Quality Control Board, Central Valley Region, hereinafter referred to as the "Board."

Whereas:

The State Water Resources Control Board and Regional Water Quality Control Boards have overall responsibility for water quality protection and, as such, must ensure that land management activities do not cause adverse impacts on beneficial water uses, and

Whereas:

The BLM is responsible for management and protection of the public land,

Therefore:

This agreement is hereby entered into between the BLM and the Board in order to improve and facilitate future coordination between these agencies, thereby ensuring that environmental degradation resulting from actions taken on the BLM lands relating to locatable minerals, solid leasable minerals, and other leasable minerals including oil and gas and geothermal activities in California is minimized.

Agreement

I. Permitting:

1) BLM approval of plans of operations, permits, leases or other use authorization on the BLM lands that involve the potential for a discharge of hazardous wastes or substances[1/] into the environment will be conditioned on the approval by the Board of waste discharge requirements for the proposed activity, when applicable prior to commencement of any discharge.

2) The Board agrees to notify the BLM of the earliest possible time of any new applications for waste discharge requirements or permits for activities located on BLM lands and to provide the BLM with the opportunity to recommend requirements necessary to ensure adequate bonding for site closure, neutralization and surface reclamation, i.e., removal and/or neutralization necessary for full cleanup.

3) BLM agrees to notify the Board of and to circulate documents prepared pursuant to the National Environmental Protection Act (NEPA) which involve the interests of the State, such as the issuance of waste discharge requirements. This action is consistent with the Memorandum of Understanding entered into between the State and BLM on November 23, 1983.

4) BLM will supply lists of mining operations that may involve the use of hazardous materials when 3809 "Notice" has been submitted for a plan of operations (operations under 5 acres), to ensure the Board is aware of all operations occurring on the BLM lands and to ensure that operators required to obtain waste discharge requirements have applied for them.

II. Compliance

1) The Board will provide the BLM with a list identifying the operator/discharger and locations of all sites on BLM lands where hazardous materials are used or stored onsite that are currently regulated under waste discharge requirements.

2) The Board will provide BLM with a list of indicators of potential waste discharge violations that BLM inspectors can use to assist in the identification of potential violations, i.e., lists of the types of indicators at a site that should be noted when performing an inspection.

3) The BLM will notify the Board of any potential violations of waste discharge requirements established by the Board on the BLM lands discovered during routine compliance checks or otherwise brought to the BLM's attention.

4) The Board will provide BLM with a summary of all compliance inspection reports issued for sites on the BLM lands and copies of those reports which document violation.

5) Upon the Board's determination that a violation exists, the Board will take appropriate action to enforce the stipulations found in waste discharge requirements with assistance from BLM.

6) BLM will assist the Board in obtaining the operator/discharger's compliance with State and Federal regulations during any cleanup/detoxification of a site.

III. Abandonment

For purposes of this agreement, "abandonment cases" means sites located on the BLM lands where the operator/discharger is unknown.

Prior to taking any formal enforcement action for violations of federal, state, or local requirements respecting waste discharges on abandoned sites located on the BLM lands, the Board will notify the BLM of the violation and provide the BLM with an opportunity to meet with the Board staff to explore methods of abating the violation. It is understood that this may not be possible in emergency situations. It is jointly agreed that this MOU can be canceled with 30 days notice and this agreement does not commit funds.

William H Crooks — 9-30-85

William Crooks
EXECUTIVE OFFICER
Central Valley RWQCB

Date

Robert D Rheiner Jr — 8/13/85

Robert D. Rheiner, Jr.
DISTRICT MANAGER
BLM, Bakersfield District

Date

1/ As defined in Title 22 of the California Administrative Code, Division 4, Chapter 30.

MEMORANDUM OF UNDERSTANDING BETWEEN THE CALIFORNIA DEPARTMENT OF FISH AND GAME, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD AND MOSQUITO ABATEMENT AND VECTOR CONTROL DISTRICTS OF THE SOUTH SAN JOAQUIN VALLEY REGARDING VEGETATION MANAGEMENT IN WASTEWATER TREATMENT FACILITIES.

A meeting of representatives of the California Department of Fish and Game and the California Regional Water Quality Control Board, Central Valley Region and representatives from Mosquito Abatement and Vector Control Districts (Districts) from the Southern San Joaquin Valley Region was held on June 22, 1992 in the Department of Fish and Game office in Fresno, California. Also present at the meeting, though not in a participatory function, were representatives from the United States Fish and Wildlife Service and the California Department of Health Services, Environmental Management Branch. The purpose of the meeting was to discuss concerns regarding the vegetation management operations of Wastewater Treatment Facilities in the region.

During the course of the meeting several areas of agreement between the Department of Fish and Game, the Regional Water Quality Control Board and the Districts were reached. It is the intent of this Memorandum of Understanding to record and formalize these understandings.

Whereas, it is understood and agreed that:

1. The Districts have the legal authority to abate mosquitoes and mosquito breeding sources pursuant to California Health and Safety Code Section 2270.

2. The Department of Fish and Game has the legal authority for the protection of nesting birds, eggs and nests pursuant to California Fish and Game Code Section 3503.

3. The Regional Water Quality Control Board has the legal authority to order abatement of nuisances created by and to regulate discharges from wastewater treatment facilities, and may establish conditions in waste discharge requirements to prevent nuisance and pollution pursuant to California Water Code Sections 13304 and 13263.

4. Wastewater treatment facility operators are subject to waste discharge requirements and are responsible for the vegetation management operations at their respective facilities. Vegetation management includes the chemical or physical control of weeds in and around water impoundments

5. Vegetation associated with impounded water promotes mosquito breeding and the production of mosquitoes constitutes a public health nuisance.

6. Effective, on site, vegetation control by operators of wastewater treatment facilities is essential for the reduction of mosquito breeding in water impoundments and to maintain accessibility to the impoundments for inspection and mosquito control activities.

7. Birds, including waterfowl, shorebirds and passerines, utilize wastewater treatment facilities during the nesting season that occurs from April 1 through June 30.

8. Weed control operations, during the nesting season, are potentially detrimental and may result in the destruction of nesting birds, nests and eggs.

9. The diverse authorities of the various regulatory agencies has led to confusion on the part of wastewater treatment facility operators with regard to weed control operations.

Therefore, it is understood and agreed that:

1. The District will act as the lead agency in determining the adequacy of vegetation management operations in abating mosquito breeding sources.

2. On site, vegetative management operations at wastewater treatment facilities should include the maintenance of weed-free embankments, water edges and peripheral access roads, and the elimination of emergent and floating vegetation in all water impoundments.

3. Vegetation management operations in areas that attract nesting birds at wastewater treatment facilities should be carried out either before or after, but not during, the April 1 to June 30 bird nesting season.

4. In the event the District determines the existence of a potential public health nuisance from mosquito breeding, weed control may be conducted during the nesting season; provided that wastewater treatment facility personnel first survey the area and flag all existing nests and assure that these nests and birds are avoided during the weed control activities. Prior to conducting the survey, the Department of Fish and Game must be notified and given the opportunity to advise or assist facility personnel.

5. Should a public health threat create a situation where the destruction of nests and eggs due to weed control activity is unavoidable, the District will first contact the Department of Fish and Game and the U.S. Fish and Wildlife Service to request the issuance of an incidental take permit.

6. Areas away from impounded water may be left in a vegetated (weedy) state to attract nesting birds and to offer nesting habitat throughout the nesting season. These areas cannot be flooded unless vegetation is removed and vegetation cannot be removed during the nesting season.

These understandings were reached and this memorandum is signed in a spirit of cooperation among the signatory agencies. It is signed in the belief that a healthy environment and the protection of natural resources and the concern for and protection of the public health are compatible issues.

These understandings may be amended or terminated at any time provided that the Department of Fish and Game, the Regional Water Quality Control Board and the Districts agree in writing.

Concurrence:

By _____ Dated 3/16/93
CALIFORNIA DEPARTMENT OF
FISH AND GAME

By _____ Dated 2-24-93
CALIFORNIA REGIONAL WATER QUALITY
CONTROL BOARD, CENTRAL VALLEY REGION

By _____ Dated 3-25-93
COALINGA-HURON MOSQUITO ABATEMENT
DISTRICT

By _____ Dated 2-25-93
CONSOLIDATED MOSQUITO ABATEMENT
DISTRICT

By _____ Dated 2-24-93
DELANO MOSQUITO ABATEMENT DISTRICT

By Michael W. Altwater — Dated 2-25-93
DELTA VECTOR CONTROL DISTRICT

By [signature] — Dated 3-18-93
FRESNO MOSQUITO AND VECTOR CONTROL DISTRICT

By Elizabeth Ann Clerie — Dated 2/25/93
FRESNO WESTSIDE MOSQUITO ABATEMENT DISTRICT

By Harmon L Clement — Dated 2-25-93
KERN MOSQUITO AND VECTOR CONTROL DISTRICT

By [signature] — Dated 02-25-93
KINGS MOSQUITO ABATEMENT DISTRICT

By [signature] — Dated 2-25-93
MADERA COUNTY MOSQUITO ABATEMENT DISTRICT

By Marshall Hoogaard — Dated 2-25-93
TULARE MOSQUITO ABATEMENT DISTRICT

By [signature] — Dated 2-25-93
WEST SIDE MOSQUITO AND VECTOR CONTROL DISTRICT

The Federal Antidegradation Policy
(40 CFR 131.12)

(a) The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:

(1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.

(2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State Finds, after full satisfaction of the continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.

(3) Where high quality waters constitute and outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

(4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with Section 316 of the (Clean Water) Act.

Amendment to Water Quality Control Plan and Action Plan
for Mining

Problem Statement

Although water quality problems from active mines are effectively controlled through traditional avenues of waste discharge requirements, permits, and enforcement, acid mine drainage and heavy metals from inactive mines have created sterile stream conditions in isolated locations throughout central and northern California. Most of those mines known to be causing water quality problems are in the Central Valley Region.

Action Plan and Development

In planning to correct water quality problems caused by past mining activity, the Board undertook several related studies, the summaries and general recommendations of which are given below.

Tables 1 and 2 show, respectively, an inventory and ranking of problem mines in the Central Valley Region. A report was prepared describing the method used to rank the mines.

A study of enforcement and funding options was also completed.

Technical feasibility studies were conducted or are underway. These site-specific studies at Walker Mine in Plumas County; Malakoff Diggins in Nevada County; and Leviathan Mine in Alpine County will be used to promote cleanup at those sites and serve as examples of the application of BMPs for tunnel, open pit spoils, and sediment problems, respectively, with transfer value to other mines. The abatement project a Penn Mine, Calaveras County, begun as a 208 project, will also aid in identifying controls and techniques for other mines. A summary of acid mine drainage control technology has been prepared. control methods (BMPs) that appear most promising for application in California are suggested in Figure 1. A Memorandum of Understanding among the State Water Resources Control Board, the US Bureau of Reclamation, and the Department of Fish and Game was prepared which outlines a program of correction for the Spring Creek watershed, Iron Mountain Mine, Shasta County.

The Board will take the following approach in applying the results of the studies described above:

1. The Board finds there are serious water quality problems related to inactive mines and will take necessary actions to control those problems using the priorities shown in Table 2 as a guide.

2. In implementing necessary controls, the Board will take appropriate actions identified in the legal, institutional, and funding studies conducted during the 208 planning program.

3. As an important initial step in implementation and enforcement, feasibility studies should be developed for all high priority problem mines. Owners and operators will be required to prepared such plans, or in some cases, as appropriate, the Board will seek funds from the identified sources to conduct the studies. BMPs shown in Figure 1 should be considered in developing those plans.

4. The State Board and EPA should assist the Region in pursuing promising funding sources and other appropriate measures as recommended in the legal, institutional, and funding studies.

5. To prevent future problems, the Board will require owners and operators of active mines to prepare plans for closure and reclamation. Closure and reclamation plans for all operations will meet the minimum requirements of regulations in the Surface Minign and Reclamation Act of 1975 and will be coordinated with the State Board of Mining and Geology.

Public Participation

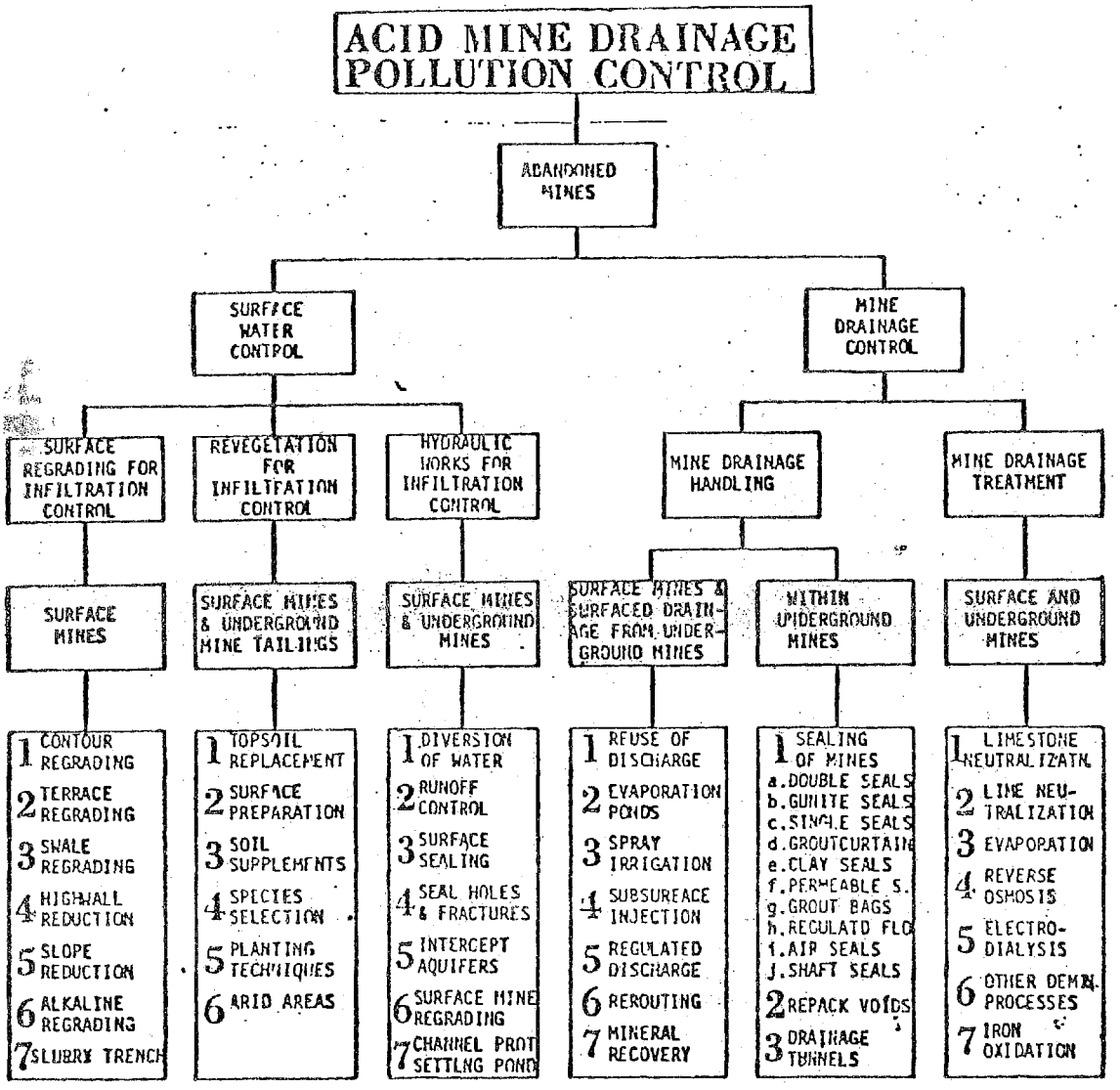
Work plans and products were reviewed by a Mining Technical Advisory Group (MTAG) and individuals and groups on the Regional and State Board agenda lists. A Penn Mine subcommittee toured the mine site and reviewed proposed abatement plans. One meeting with the MTAG was held to review the draft inventory and assessment report, discuss the legal study, and evaluate staff proposals for the site-specific feasibility studies.

Negative Declaration

A Negative Declaration was prepared for this project.

FIGURE 1

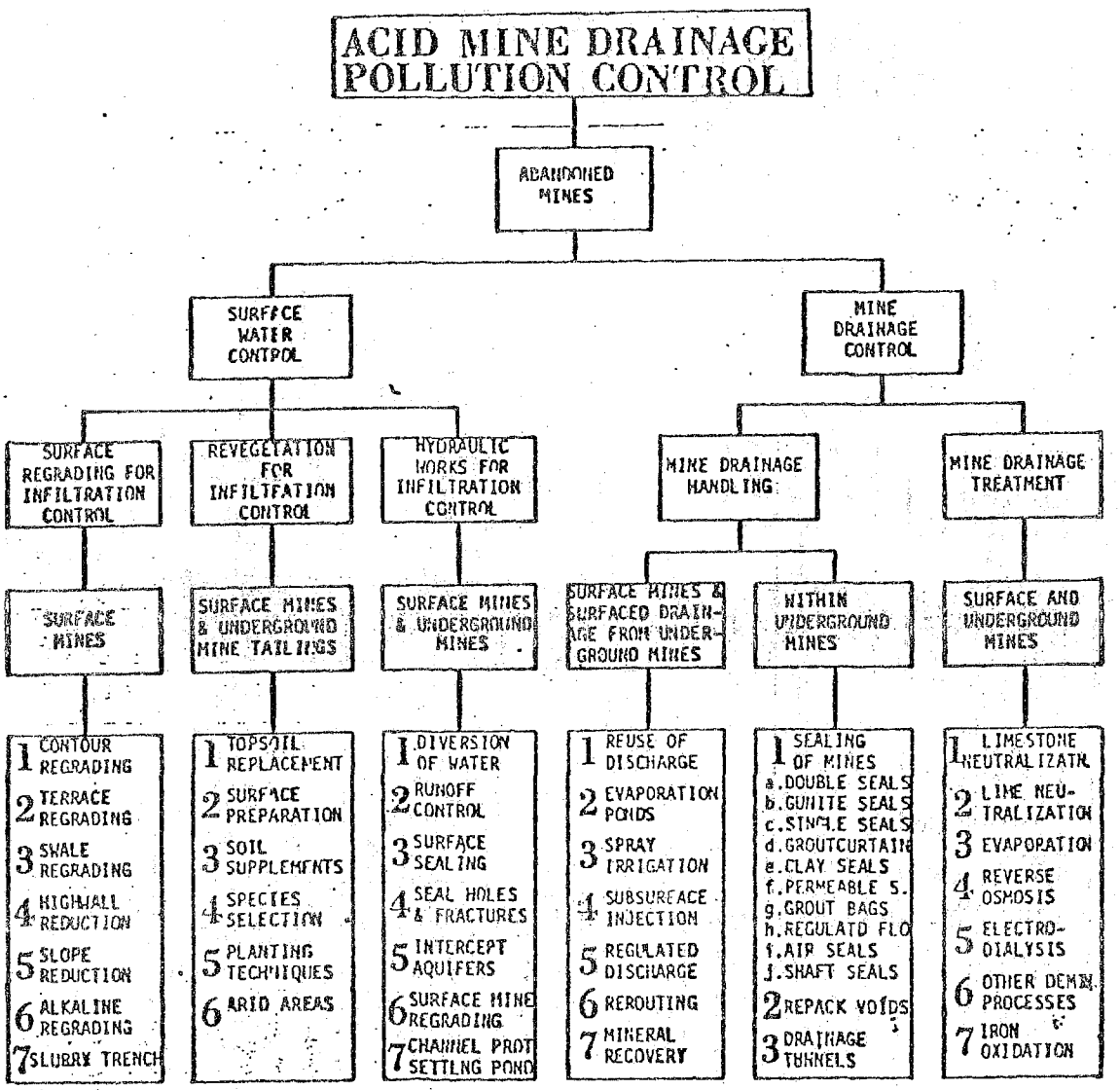
BEST MANAGEMENT PRACTICES AVAILABLE FOR
CONTROL OF AMD FROM ABANDONED MINES



adapted from unpublished literature review by the Sanitary Engineering Research Lab, U.C. Berkeley

FIGURE 1

BEST MANAGEMENT PRACTICES AVAILABLE FOR
CONTROL OF AMD FROM ABANDONED MINES



adapted from unpublished literature review by the Sanitary Engineering Research Lab, U.C. Berkeley

TABLE 2 MINE RANKING

Mine Name	Rank	Chemical C	Chemical Q	Pollution Problem	Data Source
Iron Mountain	H	30	5-70	acid,Cu,Zn,Fe from tailings and adits to creeks	USGS WRI78-32, CDFG, CDMG reports, and CVRWQCB inspections
Mammoth	H	30	3	acid,Cu,Zn,Fe from adits to creek	USGS WRI78-32
Penn	H	26	680.	acid,Cu,Zn,Fe from tailings and shafts to river	CDFG and CVRWQCB reports and inspections
Balaklala	H	26	5	acid,Cd,Cu,Zn from adits and dump to creek	USGS WRI78-32 and DWR report
Keystone	H	26	5	acid,Cd,Cu,Zn from adits and dump to creek	USGS WRI78-32 and DWR report
Afterthought	H	24	68	acid,Cd,Cu,Zn from main portal to creek	CDFG report
Mount Diablo	H	23	.6-1	acid,Hg,Fe from tailings and overburden to creek	CVRWQCB and DWR inspections and reports
Bully Hill	H	21	1.8	acid,Cd,Cu,Zn from mine to creek	USGS WRI78-32
Walker	H	17	11	Cu,Zn from tailings and portal to creek	CVRWQCB, CONOCO, and AMAX inspections and sampling
Sulfur Bank	H	15	5	Hg from open pit to lake	USGS and DWR reports
Newton	M	30	.3	acid,Cu,Fe from tailings to creek	CVRWQCB inspections
Greenhorn	M	19	.6-5	Cu,Zn,Fe from tailings to creek	CDFG inspection
New Idria	M	19	.6-5	Hg,Fe from mine to creek	CVRWQCB inspection
Corona	M	17	1.2	acid,Hg,Fe from adits to creek	CVRWQCB inspections
Manzanita	M	15	3.5	Hg from mine area to creek	CVRWQCB inspection
Cherokee	M	15	.6-5	Hg from mine area to creek	CVRWQCB inspection
Copper Hill	M	5	474	Cu,Zn from mine area to river	STORET and USGS-DWR data
Empire	L	20	.3	Cu from tailings to creek	CVRWQCB inspection
Abbott	L	15	.1	Hg from tailings to creek	CVRWQCB inspections
Knoxville	L	10	2	Hg from mine area to creek	CVRWQCB inspection
Keystone	L	4	2	none observed but Cu suspected, perhaps Fe	CVRWQCB inspection
Lava Cap-Banner	L	3	1.3	none detected in creek but As,Ag,Hg are possible	CVRWQCB inspection
Great Western	L	3	1	none detected but Hg suspected	CVRWQCB inspection
Alhambra Shumway	L	2	1	none detected and sedimentation suspected	CVRWQCB inspection
Anderson	L	0	13	none detected but Hg suspected	CVRWQCB inspection
Big Injun	L	0	8	none detected but Hg suspected	CVRWQCB inspection
Kenton	L	0	5	none detected but As possible	STORET data and CVRWQCB inspections of creek
16 to 1	L	0	5	none detected but As possible	STORET data and CVRWQCB inspections of creek
Engel	L	0	3	none detected but Cu suspected	STORET data
China Gulch	L	0	3	none detected but Cu suspected	STORET data
Oat Hill	L	0	3	none detected in creek but mine runoff high in Hg,Fe	CVRWQCB inspections
Aetna	L	0	.5	none detected but Hg suspected	CVRWQCB inspection
Shasta King	L	0	.1	none detected in creek but mine water high in acid,Cu	USGS WRI78-32 and DWR report
Golinsky	L	0	0	none observed (no flow from mine) but Cu,Zn are possible	USGS WRI78-32
Iron Dyke	L	0	0	none observed (no flow from mine) but Cu is possible	CVRWQCB inspections
Argonaut	L	0	0	none observed (no flow from mine) but acid is possible	CVRWQCB inspection
Dairy Farm	L	0	0	none observed but acid,Cu are possible	CVRWQCB communication with S. Sutter Water District
Plumbago	UNKNOWN			no inspection due to remote location, As suspected	
Reid	UNKNOWN			no inspection due to inaccessibility, acid,Hg suspected	
Malakoff Diggings	SPECIAL			high sediment and turbidity from mine area to creek	CVRWQCB inspection
Mineral Slide	SPECIAL			sediment and turbidity from mine area to creek	CVRWQCB observation

Basin Plan Amendment and Action Plan
for Erosion/Sedimentation

Problem Statement

Accelerated erosion from man's disturbance of soil resources (construction, agricultural operations, highway construction, etc.) contributes to turbidity and sedimentation in basin streams. For example, the US Army Corps of Engineers removes over 10 million cubic yards of sediment yearly from the Sacramento River.

There exists a tremendous push by the urban population for construction of primary residences and second-homes (with support activities) in the rural lands of the Central Valley. Exposure of soil during construction of house pads and access roads, and the subsequent earth disturbing cuts and fills can accelerate erosion many times above that which occurs in undeveloped watershed lands.

Agricultural activities can cause a long-term persistent erosion/sedimentation problem. Conversion of steeper sloping lands for agricultural production is occurring as new water sources become available and flatter land becomes more scarce. The conversion of these lands involves the removal of natural vegetation and alteration of natural drainage patterns, which can increase erosion from irrigation and rainfall runoff.

Highway construction, management of forest lands and federal grazing lands are also sources of accelerated erosion; however, these are dealt with in other 208 issues.

Sediment from erosion can have both short and long-term effects on water quality/ beneficial uses. The immediate effect is increased turbidity in adjacent water ways, resulting in adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, increased municipal/industrial water treatment costs for turbidity removal, and impaired recreation and aesthetic value. Some of the long-term effects are reduced reservoir capacity, increased flooding hazard from reduced channel capacities, increased irrigation system maintenance and increased dredging costs. Sediment is also a carrier of other pollutants such as pesticides, heavy metals, and nutrients.

Action Plan

The State and Regional Boards contracted with several agencies to collect existing data and make recommendations for developing a statewide policy and a regional action plan for the control of erosion/sedimentation. These studies have been completed and used as supportive studies (Attachment 1) for this Regional Board action plan.

Objective are:

1. Beneficial uses of receiving waters that are presently significantly impacted by sediment should be restored to a water quality level consistent with state and federal water quality standards.

2. Beneficial uses of receiving waters presently unimpaired but threatened by impacts of sediment should be protected.

3. Sediment control standards and program performance evaluation criteria should be based upon Best Management Practices and understanding of the impacts of sediment on beneficial uses.

4. Local units of government should have the lead role, with the Regional Board involving and assisting them, in the assessment of sediment problems, the determination of problem areas, and the estimate of sediment control priorities within their jurisdiction.

5. Land use activities that produce significant sediment impacts upon beneficial uses should be addressed by local voluntary programs that provide for inclusion of Best Management Practices applied in the context of management plans acceptable to the affected land users..

6. Minimum county-wide erosion control and surface runoff management criteria should be enacted to address impacts of sediment produced by construction activities.

7. Regional Board participation in sediment control programs shall include assistance in the establishment of local control programs, participation in the determination of water quality problem areas and a cooperative program evaluation with local units of government. Upon failure of local programs to address impacts, waste discharge permits shall be issued for sediment control purposes.

8. In critical water quality problem areas, counties and cities in the Central Valley should submit action plans to the Regional Board within a reasonable time frame that sets forth local sediment control programs consistent with basin plan objectives and criteria. The control features of such action plans shall be incorporated into subsequent water quality management plans.

<u>Guidelines for Existing Erosion/Sedimentation Problems</u>

1. The resource management subsystem approach developed by the USDA-Soil Conservation Service and reported in their "Recommended Plan for Best Management Practices" shall be considered as Best Management Practices to control or reduce erosion/sedimentation.

2. The Regional Board recognizes the sediment problem area maps developed by the USDA-Soil Conservation Service as the most comprehensive regional assessment of erosion problems for private lands presently available. These maps will be refined to assess significantly impacted water with the help of SCS/RCD, county, and interested agencies.

3. Regional Board will cooperate with counties to establish county erosion control committees, composed of interest groups including those representing the public interest, and local, state, and federal agencies with resource management skills. Committee duties are:

   a. Provide local input and assistance to develop a control plan for the problem area.

   b. Define with the Regional Board, seasonal water quality and soil loss standards for their area.

   c. Seek technical assistance from agencies in planning, review, and implementation of Best Management Practices.

   d. Seek funding for implementation of Best Management Practices.

   e. Provide leadership in working with land users in the problem area.

   f. Encourage development and/or implementation of local erosion/sedimentation control ordinance.

Guidelines for Potential Erosion/Sediment Problems

A. Agriculture

Potential problems stem from conversion of one type of agricultural land use to another (i.e., range to cultivated agriculture) which result in soil disturbing activities and removal of vegetative cover.

1. Local units of government should identify areas where such conversions are likely to occur and erosion sedimentation will have adverse impacts on water quality.

2. The county erosion control committees should work with the county to develop a control plan for identified areas.

3. Local USDA-Soil Conservation Service/RCD and UC Cooperative Extension offices should establish education and information programs to assist agricultural land users in planning and applying Best Management Practices to mitigate erosion during and after conversion.

B. Construction

1. Plans for erosion/sedimentation control should be a requirement for issuance of a county or city grading and/or building permit for construction activities that will disturb greater than 10,000 square feet of surface area and/or more than 100 cubic yards of excavated material.

2. Plans for erosion/sedimentation control should meet the following minimum criteria:

   a. During development and/or construction, adequate measures to protect against erosion/sedimentation shall be provided.

   b. Land shall be developed in increments of workable size that can be completed during a single construction season. Erosion and sediment control measures shall be coordinated with the sequence of grading, development and construction operations.

   c. Vegetation shall be removed only when absolutely necessary.

   d. Every effort shall be made to conserve top soil for reuse in revegetation of disturbed areas.

   e. All disturbed soil surfaces shall be stabilized and revegetated before the rainy season.

   In addition, plans should address the need for the following criteria:

   a. Sediment basins and traps shall be installed in conjunction with the initial grading operation.

   b. The drainage and storm water runoff control system and its component facilities shall be designed to fit the hydrology of the area under full development and have adequate capacity to transport the flow from all upstream areas.

   c. The drainage and storm water runoff control system and its component facilities shall be nonerosive in design, shall conduct runoff to a stable outlet, and be installed prior to the rainy season.

3. A combination and cities that have adopted and are implementing ordinances and programs compatible with these guidelines shall transmit tentative maps for land developments containing 100 lots or more with sufficient information that the proposed development will meet these guidelines or the approved county/city erosion control ordinances.

4. Construction activities in counties and cities having no erosion control programs or one which is not in compliance with the Regional Board guidelines may be required to file a report of waste discharge.

Attachment 1

Supportive Studies

The following studies were performed to provide much of the technical and institutional information on which the recommendations of this plan are based:

1. Recommended Plan of Best Management Practices, Soil Conservation Service, 1979.

2. 208 Institutional Study, John Muir Institute, 1979.

3. Nevada County Sediment Control Plan, Nevada County RCD and Nevada County, 1979.

4. Placer County Sediment Control Plan, Placer County RCD and Placer County, 1979.

5. A Water Quality Study for Spanish Grant Drainage District and Crow Creek Watershed, G.L. Gustafson and Orestimba RCD, 1978.

6. A Gully Control Demonstration Project, Cottonwood RCD, 1979.

7. Erosion and Sediment Control Handbook, Department of Conservation Resources Agency, State of California, 1978.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. 83-135

AMENDING THE WATER QUALITY CONTROL PLAN
FOR
GUIDELINES FOR PROTECTION OF WATER QUALITY
DURING CONSTRUCTION AND OPERATION OF
SMALL HYDRO PROJECTS

WHEREAS, the California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) adopted a Water Quality Control Plan on 25 July 1975; and

WHEREAS, high energy costs and attractive economic benefits have resulted in a recent boom in the development of small hydropower projects in Central Valley watersheds; and

WHEREAS, these projects can adversely affect water quality, aquatic and riparian habitat. and recreational/aesthetic uses of streams; and

WHEREAS, guidelines have been developed which set forth Regional Board policy on small hydro development, project standards for water quality protection, and procedures for project approval; and

WHEREAS, the Regional Board has conducted an environmental assessment pursuant to Title 14, California Administrative Code, and has determined that the proposed action will not have a significant effect on the environment; and

WHEREAS, the Regional Board, on 23 September 1983 in Sacramento and on 28 October 1983 in Redding, held public hearings and considered all evidence concerning this matter: Therefore be it

RESOLVED, That the Board hereby adopts the Guidelines for Protection of Water Quality During Construction and Operation of Small Hydro Projects as an amendment to the Water Quality Control Plan; and be it further

RESOLVED, That the Executive Officer is instructed to transmit the Water Quality Control Plan amendments to the State Water Resources Control Board for its consideration and approval.

I, WILLIAM H. CROOKS, 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 Valley Region, on 28 October 1983.

WILLIAM H. CROOKS, Executive Officer

GUIDELINES FOR PROTECTION OF WATER QUALITY DURING CONSTRUCTION AND OPERATION OF SMALL HYDRO PROJECTS

I. POLICIES AND PRINCIPLES

All beneficial instream uses, including water quality, aquatic and riparian habitat, recreational and aesthetic uses, should be protected.

The Regional Board will be responsible for addressing water quality-related impacts of small hydro projects. Nonwater quality-related impacts will be addressed by other authorities; i.e., Department of Fish and Game; State Water Resources Control Board, Division of Water Rights; federal land management agencies; and local governments.

Construction and operation of small hydro projects shall not result in a violation of adopted water quality objectives as contained in the Board's Water Quality Control Plan. The following objectives are considered of particular importance in protecting beneficial uses from adverse impacts of small hydro projects.

A. TEMPERATURE

Water temperature shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration does not adversely affect beneficial uses. At no time shall temperature be increased by more than 5°F above background levels. Where temperature increases would threaten fisheries or other beneficial uses, the applicant may be required to establish baseline temperature conditions.

B. TURBIDITY

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

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

- Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20%.
- Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU.
- Where natural turbidity is greater than 100 JTU, increases shall not exceed 10%.

The above turbidity limits will be eased during any working period when construction work must occur in flowing water, to allow a turbidity increase of 15 JTU as measured 300 feet below the discharge.

C. SEDIMENT

The suspended sediment load and concentration shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Where suspended or settleable sediment would threaten fisheries or other beneficial uses, the applicant may be required to establish baseline sediment conditions.

D. SETTLEABLE MATERIAL

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

E. DISSOLVED OXYGEN

Dissolved oxygen shall not be depressed below levels specified in the Board's Water Quality Control Plan.

II. PROJECT STANDARDS AND REQUIREMENTS

A. CONSTRUCTION

The project applicant shall submit to the Regional Board an Erosion Control Plan specifying those measures which will be used to prevent erosion/sedimentation problems during project construction. The plan shall include a map of the project site delineating where erosion control measures will be applied. The erosion control plan shall include the following minimum criteria.

1. Construction equipment shall not be operated in flowing water except as may be necessary to construct crossings or barriers.

2. Where working areas are adjacent to or encroach on live streams, barriers shall be constructed which are adequate to prevent the discharge of turbid water in excess of those limits specified above.

3. Material from construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows.

4. All permanent roads shall be surfaced with material sufficient to maintain a stable road surface.

5. All disturbed soil and fill slopes shall be stabilized in an appropriate manner.

6. Surface drainage facilities shall be designed to transport runoff in a nonerosive manner.

7. Riparian vegetation shall be removed only when absolutely necessary.

8. There shall be no discharge of petroleum products, cement washings or other construction materials.

9. Erosion control measures shall be in place by October 15 of each year.

10. Stream diversion structures should be designed to preclude accumulation of sediment. If this is not feasible, the applicant must develop an operation plan that will prevent adverse downstream effects from sediment discharges.

11. The project shall be designed to avoid erosion and degradation of water quality in the event of a failure in the water transport system. An automatic, immediate shutoff mechanism is an acceptable method (in many cases, the only feasible method).

III. PROJECT REVIEW AND REGULATION

A. Applicants should seek early consultation with the Regional Board to determine water quality concerns and to arrange a site inspection if needed.

B. Where appropriate, the Regional Board will participate with the applicant and other reviewing agencies to determine the scope of the project's environmental assessment.

C. The Regional Board will review the FERC application which should include the following water quality-related information:

1. All environmental assessment information.

2. A copy of the Erosion Control Plan.

3. A description of all project mitigations for water quality protection.

D. The Regional Board will issue a letter addressing the need for Water Quality Certification and waste discharge requirements.

Waste Discharge Requirements

1. The Regional Board believes the standard specifications contained in Section II of these guidelines will provide water quality protection from small hydro construction and operation. In most instances, the Regional Board will waive the need for Reports of Waste Discharge and waste discharge requirements for projects which comply with these standard specifications.

2. Waste discharge requirements may be required for projects having high potential for water quality impairment or for major projects where construction work will be continued beyond one year.

Water Quality Certification

1. Regulations under Section 401 of the Clean Water Act require applicants for federal licenses or permits (such as FERC licenses or U.S. Corps Dredge and Fill Permits) to obtain state certification of conformance with water quality standards.

2. In most instances, the Regional Board will waive water quality certification provided the project includes the standards specified in Section II of these guidelines and it is determined that project operation will not violate adopted water quality objectives.

IV. ENFORCEMENT

When investigations by staff reveal that a project is impairing, or threatens to impair, beneficial uses of water, the project owner/operator is required to take corrective action as follows:

A. The responsible party shall be promptly notified and asked to submit a description of actions and a time schedule to be taken to bring the project into compliance with these guidelines.

B. A Cleanup and Abatement Order may be issued where the discharge of waste to surface waters is imminent and normal administrative procedures will not afford timely water quality protection. Upon failure to comply with such Cleanup and Abatement Order, the matter shall be referred to the Attorney General for appropriate action.

C. The Regional Board may expend available monies to perform any cleanup and abatement work which, in its judgment, is required to prevent substantial adverse impacts on water quality and beneficial uses. The discharger shall be liable for all costs incurred in taking the cleanup and abatement action.

State of California
Department of Health Services

GUIDELINES FOR USE OF RECLAIMED WATER

I. General

A. Reclaimed water shall meet the Regional Water Quality Control Board (RWQCB) requirements and the requirements specified in the "Wastewater Reclamation Criteria." (Title 22, Div. 4, Section 60301 through 60355). These guidelines apply to those reclaimed water use areas supplied water from sewage treatment plants having reliability features and operational histories meeting the Regional Water Quality Control Board and "Wastewater Reclamation Criteria" requirements. Additional precautions may be required where these conditions are not met.

B. Reclaimed water should be confined to the authorized use area.

1. Direct or windblown spray should be confined to the area designated and approved for reclamation.

2. Precautions should be taken to assure that reclaimed water will not be sprayed on any facility or area not designated for reclamation such as passing vehicles, buildings, domestic water facilities or food handling facilities.

C. Notification should be provided to inform the public that reclaimed wastewater is being used. The notification should include the posting of conspicuous warning signs with proper wording of sufficient size to be clearly read.

D. Public contact with reclaimed water should be minimized except where specifically approved by the health agencies and the Regional Water Quality Control Board.

E. The reclaimed water distribution and transmission system piping should comply with the design requirements contained in the California-Nevada Section AWWA publication "Guidelines for Distribution of Nonpotable Water."

1. All piping, valves and outlets should be marked to differentiate reclaimed water from domestic or other water.

2. All reclaimed water controllers, valves, etc., should be affixed with reclaimed water warning signs.

F. All reclaimed water valves, outlets, quick couplers, and sprinkler heads should be of a type or secured in a manner that only permits operation by personnel authorized by the user.

G. Use or installation of hose bibbs on any irrigation system presently operating or designated to operate with reclaimed water, regardless of the hose bibb construction or identification, should not be permitted.

H. There should be at least a 10-foot horizontal and 1-foot vertical separation (with the domestic water above the reclaimed water pipeline) between all pipelines transporting reclaimed water and those transporting domestic water.

I. Plans and specifications for the reclaimed and domestic water systems should be submitted to the Sanitary Engineering Branch of the State Department of Health Services and the local health department for review and approval before construction of new reclamation facilities or system conversion.

J. An air-gap separation or reduced pressure principle device shall be provided at all domestic water service connections to reclaimed water use areas. (Title 17, Chapter 5, Section 7604).

K. There shall be no connection between the potable water supply and piping containing reclaimed water. Supplementing reclaimed water with water used for domestic supply shall not be allowed except through an air-gap separation. (Title 17, Chapter 5, Section 7604).

L. Supplementing reclaimed water with water from irrigation or industrial wells should not be allowed except through an air gap or reduced pressure principle device.

M. Drinking water facilities should be protected from direct or windblown reclaimed water spray.

N. Tank trucks and other equipment which are used to distribute reclaimed water should be clearly identified with warning signs.

O. There should be no irrigation or impoundment of reclaimed water within 500 feet of any well used for domestic supply or 100 feet of any irrigation well unless it can be demonstrated that special circumstances justify lesser distances to be acceptable.

P. Adequate measures should be taken to prevent the breeding of insects and other vectors of health significance, and the creation of odors, slimes or unsightly deposits.

Q. A user supervisor should be appointed by the user. The user supervisor should be responsible for installation, operation and maintenance of the reclamation system, prevention of potential hazards, implementing these Guidelines, and coordination with the cross-connection control program of the water purveyor or the local health department.

R. The user should maintain as-built plans of the use area showing all buildings, domestic and reclaimed water facilities, the sewage collection system, etc. Plans should be updated as modifications are made.

S. A contingency plan including notification of the RWQCB and health agencies should be developed outlining the action to be taken in the event effluent quality fails to meet required standards.

T. Inspection, supervision and employee training should be provided by the user to assure proper operation of the reclaimed water system. Records of inspection and training should be maintained by the user.

U. The producer and/or user should submit a monthly report to the State Department of Health Services and the local health agencies containing:

1. The quality and quantity of water reclaimed.

2. The use (the method of irrigation and the crop(s) and area(s) irrigated).

3. The reason for noncompliance with standards, if appropriate and the corrective action taken.

II. Landscape Irrigation

A. At parks, playgrounds, schoolyards, other areas (e.g. golf courses with contiguous residential development) where the public has similar access or exposure, and other areas irrigated with oxidized, coagulated, clarified, filtered, disinfected wastewater having a 7- day median number of coliform organisms not exceeding 2.2/100 ml, and a maximum concentration of coliform organism not exceeding 23/100 ml in any sample:

(The reclaimed water treatment and quality stated above also applies at use areas having adjacent property where the public may be subject to direct or indirect contact with reclaimed water spray for example; golf courses with contiguous residential development).

1. Adequate signs should be posted indicating that reclaimed wastewater is used for irrigation and is not safe for drinking (e.g. ATTENTION: RECLAIMED WASTEWATER - DO NOT DRINK).

B. At golf courses not included in A. above irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml or any two consecutive coliform samples not exceeding 240/100 ml:

1. Irrigation should only be practiced when golfers are not present.

2. Adequate signs should be posted indicating that reclaimed wastewater is used for irrigation and it is not safe for drinking or contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).

3. Score cards should indicate that reclaimed wastewater is used.

4. Irrigation with reclaimed water should not occur in areas where food is handled or consumed.

5. Irrigation should be controlled to prevent ponding and runoff of reclaimed water unless acceptable to the Regulatory Agency.

C. At cemeteries irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml or any two consecutive coliform samples not exceeding 240/100 ml:

1. Irrigation should be scheduled for times the public is not present.

2. Adequate signs should be posted indicating that reclaimed wastewater is used for irrigation and it is not safe for drinking or contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).

3. Potable water should be supplied for flower containers.

4. Irrigation should be controlled to prevent ponding and runoff of reclaimed water unless acceptable to the Regulatory Agency.

D. Highway landscape and other landscaped areas irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml or any two consecutive coliform samples not exceeding 240/100 ml:

1. Signs should be posted along the perimeter at points of access to the use area indicating that reclaimed wastewater is used for irrigation and it is not safe for drinking or contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).

2. Irrigation should be controlled to prevent ponding and runoff of reclaimed water unless acceptable to the Regulatory Agency.

III. Impoundments

A. Nonrestricted recreational impoundments containing oxidized, coagulated, clarified filtered, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml and a maximum concentration of coliform organisms not exceeding 23/100 ml in more than one sample in a 30-day period:

1. Impoundments should have perimeter signs indicating that the wastewater stored is not safe for drinking (e.g. ATTENTION: RECLAIMED WASTEWATER - DO NOT DRINK).

2. Runoff should be prevented from entering the pond unless the impoundment is sized to accept the runoff without discharge or an NPDES permit has been issued for the discharge.

3. There should be no discharge of reclaimed water to any pond with less than one foot of freeboard unless discharge from the pond is allowed by NPDES permit.

B. Restricted recreational impoundments containing oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml:

1. Impoundments should have perimeter signs indicating that the wastewater stored is not safe for drinking or body contact (e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).

2. Runoff should be prevented from entering the pond unless the impoundment is sized to accept the runoff without discharge or an NPDES permit has been issued for the discharge.

3. There should be no discharge of reclaimed water to any pond with less than one foot of freeboard unless discharge from the pond is allowed by NPDES permit.

C. Landscape impoundments containing oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml:

1. Impoundments should have perimeter signs indicating that the wastewater stored is not safe for drinking or body contact(e.g. ATTENTION: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK).

2. Runoff should be prevented from entering the pond unless the impoundment is sized to accept the runoff without discharge or an NPDES permit has been issued for the discharge.

3. There should be no discharge of reclaimed water to any pond with less than one foot of freeboard unless discharge from the pond is allowed by NPDES permit.

IV. Agricultural Reuse Area Guidelines

A. At areas irrigated with undisinfected primary or undisinfected seconday effluent:

1. Warning signs reading "SEWAGE DISPOSAL AREA - KEEP OUT" should be posted at least every 500 feet with a minimum of one sign at each corner and one at each access road.

2. Fencing or other barriers should be installed where needed to restrict public access.

3. The perimeter of the disposal area should be graded to prevent ponding along public roads or other public areas.

4. Setbacks

a. Surface Irrigation - setbacks should be established where needed to restrict public contact.

b. Spray Irrigation - there should be no irrigation within 500 feet of the authorized spray boundary. A setback of less than 500 feet may be approved if warranted by the use area design. Some of the use area characteristics to be taken into account are: wind velocity and direction, topography, sprinkler characteristics and controls.

B. At areas irrigated with oxidized, disinfected, wastewater having a 7-day median number of coliform organisms not exceeding 23/100 ml:

1. Perimeter warning signs indicating that the reclaimed wastewater is not safe for drinking or contact (e.g. WARNING: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK) should be posted at least every 500 feet with a minimum of one sign at each corner and one at each access road.

2. Fencing should be installed where needed to restrict public access.

3. The perimeter of the disposal area should be graded to prevent ponding along public roads or other public areas.

4. Setbacks

a. Surface Irrigation - Setbacks should be established where needed to restrict public contact.

b. Spray Irrigation - The amount of setback is to be determined by the use of the adjoining property.

C. At areas irrigated with oxidized, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml:

1. Warning signs indicating that the reclaimed wastewater is not safe for drinking or contact (e.g. WARNING: RECLAIMED WASTEWATER AVOID CONTACT - DO NOT DRINK) should be posted with a minimum of one sign at each corner and one at each access road.

2. Fencing or other barriers should be installed where needed to restrict public access.

3. The perimeter of the disposal area should be graded to prevent ponding along public roads or other public areas.

4. Setbacks

   a. Surface Irrigation - Setbacks should be established where needed to restrict public contact.

   b. Spray Irrigation - The amount of setback is to be determined by the use of the adjoining property.

D. At areas irrigated with oxidized, disinfected, coagulated, clarified, filtered, disinfected wastewater having a 7-day median number of coliform organisms not exceeding 2.2/100 ml:

   a. Warning signs indicating that the reclaimed wastewater is unsafe to drink (e.g. WARNING: RECLAIMED WASTEWATER - DO NOT DRINK) should be posted every 500 feet with a minimum of one sign at each corner and one at each access road.

E. The following table indicates the minimum degree of treatment for the specific types of crops and methods of application:

TREATMENT GUIDELINES FOR
AGRICULTURAL USE OF RECLAIMED WATER

MINIMUM DEGREE OF TREATMENT FOR TYPE OF CROP AND METHOD OF APPLICATION

TYPE OF CROP	PRIMARY EFFLUENT	OXIDIZED, DISINFECTED TO 23 mpn/100 ml	OXIDIZED, DISINFECTED TO 2.2 mpn/100 ml	OXIDIZED, COAGULATED, CLARIFIED, FILTERED, DISINFECTED TO 2.2 mpn/100 ml
GENERAL				
ood Crops	*	*	Surface(1)	Surface or Spray
rocessed Food rops (2)	*	Surface or Spray	Surface or Spray	Surface or Spray
rchards and Vineyards	Surface(3)	Surface(3)	Surface(3)	Surface or Spray
odder, Fiber and eed (4) Crops	Surface or Spray	Surface or Spray	Surface or Spray	Surface or Spray
asture for ilking Animals	*	Surface or Spray	Surface or Spray	Surface or Spray
SPECIFIC				
roduce General (Lettuce, Carrots, etc.)	*	*	*	Surface or Spray
Tomatoes (unprocessed)	*	*	Surface (3)	Surface or Spray
Tomatoes(2) (Processed - No gleaning)	*	Surface or Spray	Surface or Spray	Surface or Spray
Strawberries	*	*	*	Surface or Spray
Artichokes	*	*	Surface (3)	Surface or Spray
Watercress	*	*	*	Surface or Spray
ugar Beets	*	Surface or Spray	Surface or Spray	Surface or Spray
rain - for human consumption	*	*	Surface (3)	Surface or Spray
ice	No effluent allowed in irrigation water because of mosquito propagation problems.			

TYPE OF CROP	PRIMARY EFFLUENT	OXIDIXED, DISINFECTED TO 23 mpn/100 ml	OXIDIZED, DISINFECTED TO 2.2 mpn/100 ml	OXIDIZED, COAGULATED, CLARIFIED, FILTERED, DISINFECTED TO 2.2 mpn/100 ml
rees and Vines Frost Protection	Surface	Surface or Spray (5)	Surface or Spray (5)	Surface or Spray
Pistachio or Walnut	*	*	*	Surface or Spray
Almond	*	*	*	Surface or Spray
Citrus	Surface (3)	Surface (3)	Surface (3)	Surface or Spray
Avocado	Surface (3)	Surface (3)	Surface (3)	Surface or Spray
Olive	Surface (3)	Surface (3)	Surface or Spray	Surface or Spray
:her Crops Sod	*	*	Surface or Spray	Surface or Spray
:rnamental Nursery Stock	*	*	Surface or Spray	Surface or Spray
hristmas Trees	*	Surface or Spray	Surface or Spray	Surface or Spray
irewood Customer Cut	*	Surface or Spray	Surface or Spray	Surface or Spray
irewood Not Customer Cut	Surface or Spray	Surface or Spray	Surface or Spray	Surface or Spray

- Not Allowed

.. Not acceptable for root crops or crops where edible parts touch the ground.

.. Processed food crops must undergo extensive commercial, physical or chemical processing sufficient to destroy pathogenic agents. Processing does not include washing, pickling, fermenting, or milling.

.. Edible portion of plant does not contact the ground.

.. Not for human ingestion.

. No spraying within 30 days of fruit formation.

V. Guidelines for Worker Protection

A. Workers should be informed of the potential health hazards involved with contact or ingestion of reclaimed water, and should be educated regarding proper hygienic procedures to protect themselves and their families.

B. Precautionary measures should be taken to minimize worker contact with reclaimed water.

1. Workers should not be subjected to reclaimed water sprays.

2. Workers should be provided with protective clothing when there will be more than casual contact with the reclaimed water.

3. Where oxidized, coagulated, clarified, filtered, disinfected wastewater is used, less stringent precautions may be allowed.

C. Safe drinking water should be supplied for workers. Where bottled water is provided, the water should be in contamination-proof containers and protected from reclaimed water and dust.

D. Handwashing facilities should be provided.

E. Precautions should be taken to avoid contamination of food taken into reclaimed water use areas. Food should not be taken into areas still wet with reclaimed water.

F. Workers should be notified that reclaimed water is in use. Notification should include the posting of conspicuous warning signs with proper wording of sufficient size to be clearly read.

In those locations where English is not the primary language of the workers, the signs should be in the appropriate language as well as English.

G. An adequate first aid kit should be available on location.