

Amendments to the Water Quality Control Plan for the
Tulare Lake Basin, Second Edition

The Second Edition of the Basin Plan was adopted by the Central Valley Water Board on 17 August 1995, approved by the State Water Board on 16 November 1995 and approved by the Office of Administrative Law on 27 February 1996. The Basin Plan is in a loose-leaf format to facilitate the addition of amendments. The Basin Plan can be kept up-to-date by inserting the pages that have been revised to include subsequent amendments. The date subsequent amendments are adopted by the Central Valley Water Board will appear at the bottom of the page. Otherwise, all pages will be dated 17 August 1995.

Basin plan amendments adopted by the Central Valley Water Board must be approved by the State Water Board and 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) [40 CFR Section 131(c)]. If the standard revision is disapproved by USEPA, the revised standard 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 versions of the Basin Plan as soon as adopted amendments are approved and in effect.

The following are the amendments adopted by the Regional Water Board after 17 August 1995 that have been fully approved and are now in effect:

Subject	Date Adopted By Reg. Bd.	Regional Board Resolution No.	Date in Effect
1. Clarify and Update Language	10/17/02	R5-2002-0177	1/27/04
2. 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	12/14/12
3. 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	1/26/15
4. Amendments to Edit and Update Language	3/27/2014	R5-2014-0038	1/26/15

**California Regional Water Quality Control Board
Central Valley Region**

Water Quality Control Plan for the Tulare Lake Basin Second Edition

Revised January 2015 (with Approved Amendments)



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Water Quality Control Plan for the Tulare Lake Basin

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I. INTRODUCTION

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 I-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.

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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

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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 and from animals in confinement 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.

TABLE II-2
TULARE LAKE BASIN
GROUND WATER BENEFICIAL USES (continued)
Beneficial Use Exceptions

- ^a 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.

- ^b 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).

- ^c 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).

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* (Anti-degradation 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.

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 II, 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 II; 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.

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 (NH₃) to exceed 0.025 mg/l (as N) in receiving waters.

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.

Biostimulatory Substances

Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the

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extent that such growths cause nuisance or adversely affect beneficial uses.

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

Color

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

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 concen-

tration to fall below 75 percent of saturation concentration.

The DO in surface waters shall always meet or exceed the concentrations in Table III-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.

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.

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.

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.

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

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

<u>Stream</u>	<u>Location</u>	<u>Min DO (mg/l)</u>
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 III	Lake Isabella to Southern California Edison Powerhouse (KR-1)	8

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.

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.

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

such a manner as to cause nuisance or adversely affect beneficial uses.

Sediment

The suspended sediment load and suspended sediment discharge rate of waters shall not be altered in

Settleable Material

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

**TABLE III-2
TULARE LAKE BASIN
MAXIMUM ELECTRICAL CONDUCTIVITY LEVELS**

<u>Stream</u>	<u>Location</u>	<u>Max. Electrical Conductivity (µmhos/cm)</u>
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 III	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 III-3
TULARE LAKE BASIN
ELECTRICAL CONDUCTIVITY OBJECTIVES AT SELECTED STREAMFLOW STATIONS

Streamflow Station Number		Location	Electrical Conductivity ($\mu\text{mhos/cm}$)		
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

Suspended Material

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

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.

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.

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 bio-toxicity 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.

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.

WATER QUALITY OBJECTIVES FOR GROUND WATERS

The following objectives apply to all ground waters in the Tulare Lake Basin.

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.

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.

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.

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Radioactivity

Radionuclides shall not be present in ground waters in concentrations that are deleterious to human, plant,

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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.

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.

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 III-4 for each hydrographic unit shown on Figure III-1.

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.

Tastes and Odors

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

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 III-4
TULARE LAKE BASIN
GROUND WATER QUALITY OBJECTIVES FOR SALINITY**

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

IV. 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 VI.

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.

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 focussed 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.

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.

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.

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 VI. 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.

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.

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

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.

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.

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.

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.

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).

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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

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- 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 ($\mu\text{mhos/cm}$) or 1,000 $\mu\text{mhos/cm}$, 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 $\mu\text{mhos/cm}$, a chloride content of 175 mg/l, or a boron content of 1.0 mg/l.

In addition to the above, discharges to waters having an EC or water quality objective of less than 150 $\mu\text{mhos/cm}$ 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.

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. 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.
- 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.

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.

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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 sewerage 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.

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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 $\mu\text{mhos/cm}$ 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.
- 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).

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.

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.

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

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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.

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.

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.

able 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:

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

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.

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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.

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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.

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

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.

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.

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.

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 Regional 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.

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.

TABLE IV-2
WASTE DISCHARGE REQUIREMENT WAIVER AND LIMITATIONS
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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 contractual commitments for beneficial use.

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.

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.

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Estimated Costs of Agricultural Water Quality Control Programs

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).

V. 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.

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 "anti-degradation" 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 is 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

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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 appropri-

ate 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.

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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.

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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

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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.

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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.

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.

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 Toxic 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

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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