

CALIFORNIA STATE WATER RESOURCES CONTROL BOARD

STATE POLICY FOR
WATER QUALITY CONTROL

I. FOREWORD

To assure a comprehensive statewide program of water quality control, the California Legislature by its adoption of the Porter-Cologne Water Quality Control Act in 1969 set forth the following statewide policy:

The people of the state have a primary interest in the conservation, control, and utilization of the water resources, and the quality of all the waters shall be protected for use and enjoyment.

Activities and factors which may affect the quality of the waters shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.

The health, safety, and welfare of the people requires that there be a statewide program for the control of the quality of all the waters of the state. The state must be prepared to exercise its full power and jurisdiction to protect the quality of waters from degradation.

The waters of the state are increasingly influenced by interbasin water development projects and other statewide considerations. Factors of precipitation, topography, population, recreation, agriculture, industry, and economic development vary from region to region. The statewide program for water quality control can be most effectively administered regionally, within a framework of statewide coordination and policy.

To carry out this policy, the Legislature established the State Water Resources Control Board and nine California Regional Water Quality Control Boards as the principal state agencies with primary responsibilities for the coordination and control of water quality. The State Board is required pursuant to legislative directives set forth in the California Water Code (Division 7, Chapter 3, Article 3, Sections 13140 Ibid) to formulate and adopt state policy for water quality control consisting of all or any of the following:

Adopted by the State Water Resources Control Board by motion of July 6, 1972.

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I. (continued)

Water quality principles and guidelines for long-range resource planning, including groundwater and surface water management programs and control and use of reclaimed water.

Water quality objectives at key locations for planning and operation of water resource development projects and for water quality control activities.

Other principles and guidelines deemed essential by the State Board for water quality control.

II. GENERAL PRINCIPLES

The State Water Resources Control Board hereby finds and declares that protection of the quality of the waters of the State for use and enjoyment by the people of the State requires implementation of water resources management programs which will conform to the following general principles:

1. Water rights and water quality control decisions must assure protection of available fresh water and marine water resources for maximum beneficial use.
2. Municipal, agricultural, and industrial wastewaters must be considered as a potential integral part of the total available fresh water resource.
3. Coordinated management of water supplies and wastewaters on a regional basis must be promoted to achieve efficient utilization of water.
4. Efficient wastewater management is dependent upon a balanced program of source control of environmentally hazardous substances^{1/}, treatment of wastewaters, reuse of reclaimed water, and proper disposal of effluents and residuals.
5. Substances not amenable to removal by treatment systems presently available or planned for the immediate future must be prevented from entering sewer systems

^{1/} Those substances which are harmful or potentially harmful even in extremely small concentration to man, animals, or plants because of biological concentration, acute or chronic toxicity, or other phenomenon.

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II. 5. (continued)

in quantities which would be harmful to the aquatic environment, adversely affect beneficial uses of water, or affect treatment plant operation. Persons responsible for the management of waste collection, treatment, and disposal systems must actively pursue the implementation of their objective of source control for environmentally hazardous substances. Such substances must be disposed of such that environmental damage does not result.

6. Wastewater treatment systems must provide sufficient removal of environmentally hazardous substances which cannot be controlled at the source to assure against adverse effects on beneficial uses and aquatic communities.
7. Wastewater collection and treatment facilities must be consolidated in all cases where feasible and desirable to implement sound water quality management programs based upon long-range economic and water quality benefits to an entire basin.
8. Institutional and financial programs for implementation of consolidated wastewater management systems must be tailored to serve each particular area in an equitable manner.
9. Wastewater reclamation and reuse systems which assure maximum benefit from available fresh water resources shall be encouraged. Reclamation systems must be an appropriate integral part of the long-range solution to the water resources needs of an area and incorporate provisions for salinity control and disposal of nonreclaimable residues.
10. Wastewater management systems must be designed and operated to achieve maximum long-term benefit from the funds expended.
11. Water quality control must be based upon latest scientific findings. Criteria must be continually refined as additional knowledge becomes available.
12. Monitoring programs must be provided to determine the effects of discharges on all beneficial water uses including effects on aquatic life and its diversity and seasonal fluctuations.

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III. PROGRAM OF IMPLEMENTATION

Water quality control plans and waste discharge requirements hereafter adopted by the State and Regional Boards under Division 7 of the California Water Code shall conform to this policy.

This policy and subsequent State plans will guide the regulatory, planning, and financial assistance programs of the State and Regional Boards. Specifically, they will (1) supersede any regional water quality control plans for the same waters to the extent of any conflict, (2) provide a basis for establishing or revising waste discharge requirements when such action is indicated, and (3) provide general guidance for the development of basin plans.

Water quality control plans adopted by the State Board will include minimum requirements for effluent quality and may specifically define the maximum constituent levels acceptable for discharge to various waters of the State. The minimum effluent requirements will allow discretion in the application of the latest available technology in the design and operation of wastewater treatment systems. Any treatment system which provides secondary treatment, as defined by the specific minimum requirements for effluent quality, will be considered as providing the minimum acceptable level of treatment. Advanced treatment systems will be required where necessary to meet water quality objectives.

Departures from this policy and water quality control plans adopted by the State Board may be desirable for certain individual cases. Exceptions to the specific provisions may be permitted within the broad framework of well established goals and water quality objectives.

Appendix 2

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

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

State of California
The Resources Agency

STATE WATER RESOURCES CONTROL BOARD

WATER QUALITY CONTROL POLICY
FOR THE
ENCLOSED BAYS AND ESTUARIES OF CALIFORNIA

MAY 1974

3/1/16

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* To be furnished upon request.

WATER QUALITY CONTROL POLICY
FOR THE ENCLOSED
BAYS AND ESTUARIES OF CALIFORNIA^{1/}

INTRODUCTION

The purpose of this policy is to provide water quality principles and guidelines to prevent water quality degradation and to protect the beneficial uses of waters of enclosed bays and estuaries. Decisions on water quality control plans, waste discharge requirements, construction grant projects, water rights permits, and other specific water quality control implementing actions of the State and Regional Boards shall be consistent with the provisions of this policy.

The Board declares its intent to determine from time to time the need for revising this policy.

This policy does not apply to wastes from vessels or land runoff except as specifically indicated for siltation (Chapter III 4.) and combined sewer flows (Chapter III 7.).

CHAPTER I.

PRINCIPLES FOR MANAGEMENT OF
WATER QUALITY IN ENCLOSED BAYS AND ESTUARIES

- A. It is the policy of the State Board that the discharge of municipal wastewaters and industrial process waters^{2/} (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge. ^{3/}
- B. With regard to the waters of the San Francisco Bay-Delta system, the State Board finds and directs as follows:
- 1a. There is a considerable body of scientific evidence and opinion which suggests the existence of biological degradation due to long-term exposure to toxicants which have been discharged to the San Francisco Bay-Delta system. Therefore, implementation of a program which controls toxic effects through a combination of source control for toxic materials, upgraded wastewater treatment, and improved dilution of wastewaters, shall proceed as rapidly as is practicable with the objective of providing full protection to the biota and the beneficial uses of Bay-Delta waters in a cost-effective manner.

lb. A comprehensive understanding of the biological effects of wastewater discharge on San Francisco Bay, as a whole, must await the results of further scientific study. There is, however, sufficient evidence at this time to indicate that the continuation of wastewater discharges to the southern reach of San Francisco Bay, south of the Dumbarton Bridge, is an unacceptable condition. The State Board and the San Francisco Regional Board shall take such action as is necessary to assure the elimination of wastewater discharges to waters of the San Francisco Bay, south of Dumbarton Bridge, at the earliest practicable date.

lc. In order to prevent excessive investment which would unduly impact the limited funds available to California for construction of publicly owned treatment works, construction of such works shall proceed in a staged fashion, and each stage shall be fully evaluated by the State and Regional Boards to determine the necessity for additional expenditures. Monitoring requirements shall be established to evaluate any effects on water quality, particularly changes in species diversity and abundance, which may result from the operation of each stage of planned facilities

and source control programs. Such a staged construction program, in combination with an increased monitoring effort, will result in the most cost-effective and rapid progress toward a goal of maintaining and enhancing water quality in the San Francisco Bay-Delta system.

2. Where a waste discharger has an alternative of in-bay or ocean disposal and where both alternatives offer a similar degree of environmental and public health protection, prime consideration shall be given to the alternative which offers the greater degree of flexibility for the implementation of economically feasible wastewater reclamation options.

7. The following policies apply to all of California's enclosed bays and estuaries:

1. Persistent or cumulative toxic substances shall be removed from the waste to the maximum extent practicable through source control or adequate treatment prior to discharge.
2. Bay or estuarine outfall and diffuser systems shall be designed to achieve the most rapid initial dilution^{4/} practicable to minimize concentrations of substances not removed by source control or treatment.
3. Wastes shall not be discharged into or adjacent to areas where the protection of beneficial uses requires spatial separation from waste fields.
4. Waste discharges shall not cause a blockage of zones of passage required for the migration of anadromous fish.
5. Nonpoint sources of pollutants shall be controlled to the maximum practicable extent.

CHAPTER II.

QUALITY REQUIREMENTS FOR WASTE DISCHARGES

1. In addition to any requirements of this policy, effluent limitations shall be as specified pursuant to Chapter 5.5 of the Porter-Cologne Water Quality Control Act, and Regional Boards shall limit the mass emissions of substances as necessary to meet such limitations. Regional Boards may set more restrictive mass emission rates and concentration standards than those which are referenced in this policy to reflect dissimilar tolerances to wastewater constituents among different receiving water bodies.
2. All dischargers of thermal wastes or elevated temperature wastes to enclosed bays and estuaries which are permitted pursuant to this policy shall comply with the "Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California", State Water Resources Control Board, 1972, and with amendments and supplements thereto.
3. Radiological limits for waste discharges (for which regulatory responsibility is not preempted by the Federal Government) shall be at least as restrictive as limitations indicated in Section 30269, and Section 30355, Appendix A, Table II, of the California Administrative Code.
4. Dredge spoils to be disposed of in bay and estuarine waters must comply with federal criteria for determining the acceptability of dredged spoils to marine waters, and must be certified by the State Board or Regional Boards as in compliance with State Plans and Policies.

CHAPTER III.

DISCHARGE PROHIBITIONS

1. New discharges^{5/} of municipal wastewaters and industrial process waters^{2/} (exclusive of cooling water discharges) to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, which are not consistently treated and discharged in a manner that would enhance the quality of receiving waters above that which would occur in the absence of the discharge, shall be prohibited.
2. The discharge of municipal and industrial waste sludge and untreated sludge digester supernatant, centrate, or filtrate to enclosed bays and estuaries shall be prohibited.
3. The deposition of rubbish or refuse into surface waters or at any place where they would be eventually transported to enclosed bays or estuaries shall be prohibited.^{6/}
4. The direct or indirect discharge of silt, sand, soil clay, or other earthen materials from onshore operations including mining, construction, agriculture, and lumbering, in quantities which unreasonably affect or threaten to affect beneficial uses shall be prohibited.
5. The discharge of materials of petroleum origin in sufficient quantities to be visible or in violation of waste discharge requirements shall be prohibited, except when such discharges are conducted for scientific purposes. Such testing must be approved by the Executive Officer of the Regional Board and the Department of Fish and Game.
6. The discharge of any radiological, chemical, or biological warfare agent or high-level radioactive waste shall be prohibited.
7. The discharge or by-passing of untreated waste to bays and estuaries shall be prohibited.^{7/}

CHAPTER IV.

GENERAL PROVISIONS

A. Effective Date

This policy is in effect as of the date of adoption by the State Water Resources Control Board.

B. Review and Revision of Plans, Policies and Waste Discharge Requirements

Provisions of existing or proposed policies or water quality control plans adopted by the State or Regional Boards for enclosed bays or estuaries shall be amended to conform with the applicable provisions of this policy.

Each appropriate Regional Board shall review and revise the waste discharge requirements with appropriate time schedules for existing discharges to achieve compliance with this policy and applicable water quality objectives. Each Regional Board affected by this policy shall set forth for each discharge allowable mass emission rates for each applicable effluent characteristic included in waste discharge requirements.

Regional Boards shall finalize waste discharge requirements as rapidly as is consistent with the National Pollutant Discharge Elimination System Permit Program.

C. Administration of Clean Water Grants Program

The Clean Water Grants Program shall require that the environmental impact report for any existing or proposed wastewater discharge to enclosed bays and estuaries, other than the San Francisco Bay-Delta system, shall evaluate whether or not the discharge would enhance the quality of receiving waters above that which would occur in the absence of the discharge.

The Clean Water Grants Program shall require that each study plan and project report (beginning with F. Y. 1974-75 projects) for a proposed wastewater treatment or conveyance facility within the San Francisco Bay-Delta system shall contain an evaluation of the degree to which the proposed project represents a necessary and cost-effective stage in a program leading to compliance with an objective of full protection of the biota and beneficial uses of Bay-Delta waters.

D. Administration of Water Rights

Any applicant for a permit to appropriate from a water-course which is tributary to an enclosed bay or estuary may be required to present to the State Board an analysis of the anticipated effects of the proposed appropriation on water quality and beneficial uses of the effected bay or estuary.

E. Monitoring Program

The Regional Board shall require dischargers to conduct self-monitoring programs and submit reports as necessary to determine compliance with waste discharge requirements and to evaluate the effectiveness of wastewater control programs. Such monitoring programs shall comply with applicable sections of the State Board's Administrative Procedures, and any additional guidelines which may be issued by the Executive Officer of the State Board.

FOOTNOTES

- 1/ Enclosed bays are indentations along the coast which enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outer most harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes, but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Estuaries, including coastal lagoons, are waters at the mouths of streams which serve as mixing zones for fresh and ocean waters.

Mouths of streams which are temporarily separated from the ocean by sandbars shall be considered as estuaries.

Estuarine waters will generally be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater.

Estuarine waters shall be considered to extend seaward if significant mixing of fresh and saltwater occurs in the open coastal waters. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined by Section 12220 of the California Water Code, Suisun Bay, Carquinez Strait downstream to Carquinez Bridge, and appropriate areas of the Smith, Klamath, Mad, Eel, Noyo, and Russian Rivers.

- 2/ For the purpose of this policy, treated ballast waters and innocuous nonmunicipal wastewater such as clear brines, wash-water, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Boards under discharge requirements that provide protection to the beneficial uses of the receiving water.

- 3/ Undiluted wastewaters covered under this exception provision shall not produce less than 90 percent survival, 50 percent of the time, and not less than 70 percent survival, 10 percent of the time of a standard test species in a 96-hour static or continuous flow bioassay test using undiluted waste. Maintenance of these levels of survival shall not by themselves constitute sufficient evidence that the discharge satisfies the criteria of enhancing the quality of the receiving water above that which occur in the absence of the discharge. Full and uninterrupted protection for the beneficial uses of the receiving water must be maintained. A Regional Board may require physical, chemical, bioassay, and bacteriological assessment of treated wastewater quality prior to authorizing release to the bay or estuary of concern.

- 4/ Initial dilution zone is defined as the volume of water near the point of discharge within which the waste immediately mixes with the bay or estuarine water due to the momentum of the waste discharge and the difference in density between the waste and receiving water.
- 5/ A new discharge is a discharge for which a Regional Board has not received a report of waste discharge prior to the date of adoption of this policy, and which was not in existence prior to the date of adoption of this policy.
- 6/ Rubbish and refuse include any cans, bottles, paper, plastic, vegetable matter, or dead animals or dead fish deposited or caused to be deposited by man.
- 7/ The prohibition does not apply to cooling water streams which comply with the "Water Quality Control Plan for the Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California" - State Water Resources Control Board.

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 74-43

WATER QUALITY CONTROL POLICY FOR THE
ENCLOSED BAYS AND ESTUARIES OF CALIFORNIA

WHEREAS:

1. The Board finds it necessary to promulgate water quality principles, guidelines, effluent quality requirements, and prohibitions to govern the disposal of waste into the enclosed bays and estuaries of California;
2. The Board, after review and analysis of testimony received at public hearings, has determined that it is both feasible and desirable to require that the discharge of municipal wastewaters and industrial process waters to enclosed bays and estuaries (other than the San Francisco Bay-Delta system) should only be allowed when a discharge enhances the quality of the receiving water above that which would occur in the absence of the discharge;
3. The Board has previously promulgated requirements for the discharge of thermal and elevated temperature wastes to enclosed bays and estuaries (Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California - SWRCB, 1972);
4. The Board, after review and analysis of testimony received at public hearings, has determined that implementation of a program which controls toxic effects through a combination of source control for toxic materials, upgraded waste treatment, and improved dilution of wastewaters, will result in timely and cost-effective progress toward an objective of providing full protection to the biota and beneficial uses of San Francisco Bay-Delta waters;
5. The Board intends to implement monitoring programs to determine the effects of source control programs, upgraded treatment, and improved dispersion of wastewaters on the condition of the biota and beneficial uses of San Francisco Bay-Delta waters.

THEREFORE, BE IT RESOLVED, that

1. The Board hereby adopts the "Water Quality Control Policy for the Enclosed Bays and Estuaries of California".
2. The Board hereby directs all affected California Regional Water Quality Control Boards to implement the provisions of the policy.

3. The Board hereby declares its intent to determine from time to time the need for revising the policy to assure that it reflects current knowledge of water quality objectives necessary to protect beneficial uses of bay and estuarine waters and that it is based on latest technological improvements.

CERTIFICATION

The undersigned, Executive Officer of the State Water Resources Control Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 16, 1974.

Bill B. Dendy

Bill B. Dendy
Executive Officer

Appendix 4

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

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

Appendix 5

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

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

Appendix 6

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

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

Appendix 7

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

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

Appendix 8

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

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

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

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

WHEREAS:

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

11. California Health and Safety Code (HSC) Section 25356.1 requires the Department of Toxic Substances Control (DTSC) or, if appropriate, the Regional Water Board to prepare or approve remedial action plans for sites where hazardous substances were released to the environment if the sites have been listed pursuant to HSC Section 25356 (state "Superfund" priority list for cleanup of sites);
12. Coordination with the U.S. Environmental Protection Agency (USEPA), state agencies within the California Environmental Protection Agency (Cal/EPA) (e.g., DTSC, Air Resources Control Board), air pollution control districts, local environmental health agencies, and other responsible federal, state, and local agencies:
 - (1) promotes effective protection of water quality, human health, and the environment and (2) is in the best interest of the people of the state. The principles of coordination are embodied in many statutes, regulations, and interagency memoranda of understanding (MOU) or agreement which affect the State and Regional Water Boards and these agencies;
13. In order to clean up and abate the effects of a discharge or threat of a discharge, a discharger may be required to perform an investigation to define the nature and extent of the discharge or threatened discharge and to develop appropriate cleanup and abatement measures;
14. Investigations that were not properly planned have resulted in increases in overall costs and, in some cases, environmental damage. Overall costs have increased when original corrective actions were later found to have had no positive effect or to have exacerbated the pollution. Environmental damage may increase when a poorly conceived investigation or cleanup and abatement program allows pollutants to spread to previously unaffected waters of the state;
15. A phased approach to site investigation should facilitate adequate delineation of the nature and extent of the pollution, and may reduce overall costs and environmental damage, because:
 - (1) investigations inherently build on information previously gained; (2) often data are dependent on seasonal and other temporal variations; and (3) adverse consequences of greater cost or increased environmental damage can result from improperly planned investigations and the lack of consultation and coordination with the Regional Water Board. However, there are circumstances under which a phased, iterative approach may not be necessary to protect water quality, and there are other circumstances under which phases may need to be compressed or combined to expedite cleanup and abatement;
16. Preparation of written workplans prior to initiation of significant elements or phases of investigation, and cleanup and abatement generally saves Regional Water Board and discharger resources. Results are superior, and the overall cost-effectiveness is enhanced;
17. Discharger reliance on qualified professionals promotes proper planning, implementation, and long-term cost-effectiveness of investigation, and cleanup and abatement activities. Professionals should be qualified, licensed where applicable, and competent and proficient in the fields pertinent to the required activities. California Business and Professions Code Sections 6735, 7835, and 7835.1 require that engineering and geologic evaluations and judgements be performed by or under the direction of registered professionals;
18. WC Section 13360 prohibits the Regional Water Boards from specifying, but not from suggesting, methods that a discharger may use to achieve compliance with requirements or orders. It is the responsibility of the discharger to propose methods for Regional Water Board review and concurrence to achieve compliance with requirements or orders;
19. The USEPA, California state agencies, the American Society for Testing and Materials, and similar organizations have developed or identified methods successful in particular applications. Reliance on established, appropriate methods can reduce costs of investigation, and cleanup and abatement;
20. The basis for Regional Water Board decisions regarding investigation, and cleanup and abatement includes: (1) site-specific characteristics; (2) applicable state and federal statutes and regulations; (3) applicable water quality control plans adopted by the State Water Board and Regional Water Boards, including beneficial uses, water quality objectives, and implementation plans; (4) State Water Board and Regional Water Board policies, including State Water Board Resolutions No. 68-16 (Statement of Policy with Respect to Maintaining High Quality of Waters in California) and No. 88-63 (Sources of Drinking Water); and (5) relevant standards, criteria, and advisories adopted by other state and federal agencies;
21. Discharges subject to WC Section 13304 may include discharges of waste to land; such discharges may cause, or threaten to cause, conditions of soil or water pollution or nuisance that are analogous to conditions associated with migration of waste or fluid from a waste management unit;
22. The State Water Board has adopted regulations governing discharges of waste to land (California

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

23. State Water Board regulations governing site investigation and corrective action at underground storage tank unauthorized release sites are found in 23 CCR Division 3, Chapter 16, in particular Article 11 commencing with Section 2720;
24. It is the responsibility of the Regional Water Board to make decisions regarding cleanup and abatement goals and objectives for the protection of water quality and the beneficial uses of waters of the state within each Region;
25. Cleanup and abatement alternatives that entail discharge of residual wastes to waters of the state, discharges to regulated waste management units, or leaving wastes in place, create additional regulatory constraints and long-term liability, which must be considered in any evaluation of cost-effectiveness;
26. The Porter-Cologne Water Quality Control Act allows Regional Water Boards to impose more stringent requirements on discharges of waste than any statewide requirements promulgated by the State Water Board (e.g., in this Policy) or than water quality objectives established in statewide or regional water quality control plans as needed to protect water quality and to reflect regional and site-specific conditions.

THEREFORE BE IT RESOLVED:

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

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

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

1. Documentation of historical or current activities, waste characteristics, chemical use, storage or disposal information, as documented by public records, responses to questionnaires, or other sources of information;
2. Site characteristics and location in relation to other potential sources of a discharge;
3. Hydrologic and hydrogeologic information, such as differences in

upgradient and downgradient water quality;

4. Industry-wide operational practices that historically have led to discharges, such as leakage of pollutants from wastewater collection and conveyance systems, sumps, storage tanks, landfills, and clarifiers;
 5. Evidence of poor management of materials or wastes, such as improper storage practices or inability to reconcile inventories;
 6. Lack of documentation of responsible management of materials or wastes, such as lack of manifests or lack of documentation of proper disposal;
 7. Physical evidence, such as analytical data, soil or pavement staining, distressed vegetation, or unusual odor or appearance;
 8. Reports and complaints;
 9. Other agencies' records of possible or known discharge; and
 10. Refusal or failure to respond to Regional Water Board inquiries;
- B. Make a reasonable effort to identify the dischargers associated with the discharge. It is not necessary to identify all dischargers for the Regional Water Board to proceed with requirements for a discharger to investigate and clean up;
 - C. Require one or more persons identified as a discharger associated with a discharge or threatened discharge subject to WC Section 13304 to undertake an investigation, based on findings of I.A and I.B above;
 - D. Notify appropriate federal, state, and local agencies regarding discharges subject to WC Section 13304 and coordinate with these agencies on investigation, and cleanup and abatement activities.
- II. The Regional Water Board shall apply the following policies in overseeing: (a) investigations to determine the nature and horizontal and vertical extent of a discharge and (b) appropriate cleanup and abatement measures.
 - A. The Regional Water Board shall:
 1. Require the discharger to conduct investigation, and cleanup and abatement, in a progressive sequence ordinarily consisting of the following phases, provided that the sequence shall be adjusted to accommodate site-specific circumstances, if necessary:

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- a. Preliminary site assessment (to confirm the discharge and the identity of the dischargers; to identify affected or threatened waters of the state and their beneficial uses; and to develop preliminary information on the nature, and vertical and horizontal extent, of the discharge);
 - b. Soil and water investigation (to determine the source, nature and extent of the discharge with sufficient detail to provide the basis for decisions regarding subsequent cleanup and abatement actions, if any are determined by the Regional Water Board to be necessary);
 - c. Proposal and selection of cleanup and abatement action (to evaluate feasible and effective cleanup and abatement actions, and to develop preferred cleanup and abatement alternatives);
 - d. Implementation of cleanup and abatement action (to implement the selected alternative, and to monitor in order to verify progress);
 - e. Monitoring (to confirm short- and long-term effectiveness of cleanup and abatement);
2. Consider, where necessary to protect water quality, approval of plans for investigation, or cleanup and abatement, that proceed concurrently rather than sequentially, provided that overall cleanup and abatement goals and objectives are not compromised, under the following conditions:
 - a. Emergency situations involving acute pollution or contamination affecting present uses of waters of the state;
 - b. Imminent threat of pollution;
 - c. Protracted investigations resulting in unreasonable delay of cleanup and abatement; or
 - d. Discharges of limited extent which can be effectively investigated and cleaned up within a short time;
 3. Require the discharger to extend the investigation, and cleanup and abatement, to any location affected by the discharge or threatened discharge.
 4. Where necessary to protect water quality, name other persons as dischargers, to the extent permitted by law;
 5. Require the discharger to submit written workplans for elements and phases of the investigation, and cleanup and abatement, whenever practicable;
 6. Review and concur with adequate workplans prior to initiation of investigations, to the extent practicable. The Regional Water Board may give verbal concurrence for investigations to proceed, with written follow-up. An adequate workplan should include or reference, at least, a comprehensive description of proposed investigative, cleanup, and abatement activities, a sampling and analysis plan, a quality assurance project plan, a health and safety plan, and a commitment to implement the workplan;
 7. Require the discharger to submit reports on results of all phases of investigations, and cleanup and abatement actions, regardless of degree of oversight by the Regional Water Board;
 8. Require the discharger to provide documentation that plans and reports are prepared by professionals qualified to prepare such reports, and that each component of investigative and cleanup and abatement actions is conducted under the direction of appropriately qualified professionals. A statement of qualifications of the responsible lead professionals shall be included in all plans and reports submitted by the discharger;
 9. Prescribe cleanup levels which are consistent with appropriate levels set by the Regional Water Board for analogous discharges that involve similar wastes, site characteristics, and water quality considerations;
- B. The Regional Water Board may identify ... investigative and cleanup and abatement activities that the discharger could undertake without Regional Water Board oversight, provided that these investigations and cleanup and abatement activities shall be consistent with the policies and procedures established herein;
- III. The Regional Water Board shall implement the following procedures to ensure that dischargers shall have the opportunity to select cost-effective methods for detecting discharges or threatened discharges and methods for cleaning up or abating the effects thereof. The Regional Water Board shall:
 5. Require the discharger to submit written workplans for elements and phases of the investigation, and cleanup and abatement, whenever practicable;
 6. Review and concur with adequate workplans prior to initiation of investigations, to the extent practicable. The Regional Water Board may give verbal concurrence for investigations to proceed, with written follow-up. An adequate workplan should include or reference, at least, a comprehensive description of proposed investigative, cleanup, and abatement activities, a sampling and analysis plan, a quality assurance project plan, a health and safety plan, and a commitment to implement the workplan;
 7. Require the discharger to submit reports on results of all phases of investigations, and cleanup and abatement actions, regardless of degree of oversight by the Regional Water Board;
 8. Require the discharger to provide documentation that plans and reports are prepared by professionals qualified to prepare such reports, and that each component of investigative and cleanup and abatement actions is conducted under the direction of appropriately qualified professionals. A statement of qualifications of the responsible lead professionals shall be included in all plans and reports submitted by the discharger;
 9. Prescribe cleanup levels which are consistent with appropriate levels set by the Regional Water Board for analogous discharges that involve similar wastes, site characteristics, and water quality considerations;

- A. Concur with any investigative and cleanup and abatement proposal which the discharger demonstrates and the Regional Water Board finds to have a substantial likelihood to achieve compliance, within a reasonable time frame, with cleanup goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards, and which implement permanent cleanup and abatement solutions which do not require ongoing maintenance, wherever feasible;
- B. Consider whether the burden, including costs, of reports required of the discharger during the investigation and cleanup and abatement of a discharge bears a reasonable relationship to the need for the reports and the benefits to be obtained from the reports;
- C. Require the discharger to consider the effectiveness, feasibility, and relative costs of applicable alternative methods for investigation and cleanup and abatement. Such comparison may rely on previous analysis of analogous sites, and shall include supporting rationale for the selected methods;
- D. Ensure that the discharger is aware of and considers techniques which provide a cost-effective basis for initial assessment of a discharge.
1. The following techniques may be applicable:
 - a. Use of available current and historical photographs and site records to focus investigative activities on locations and wastes or materials handled at the site;
 - b. Soil gas surveys;
 - c. Shallow geophysical surveys;
 - d. Remote sensing techniques;
 2. The above techniques are in addition to the standard site assessment techniques, which include:
 - a. Inventory and sampling and analysis of materials or wastes;
 - b. Sampling and analysis of surface water;
 - c. Sampling and analysis of sediment and aquatic biota;
 - d. Sampling and analysis of ground water;
 - e. Sampling and analysis of soil and soil pore moisture;
 - f. Hydrogeologic investigation;
- E. Ensure that the discharger is aware of and considers the following cleanup and abatement methods or combinations thereof, to the extent that they may be applicable to the discharge or threat thereof:
1. Source removal and/or isolation;
 2. In-place treatment of soil or water:
 - a. Bioremediation;
 - b. Aeration;
 - c. Fixation;
 3. Excavation or extraction of soil, water, or gas for on-site or off-site treatment by the following techniques:
 - a. Bioremediation;
 - b. Thermal destruction;
 - c. Aeration;
 - d. Sorption;
 - e. Precipitation, flocculation, and sedimentation;
 - f. Filtration;
 - g. Fixation;
 - h. Evaporation;
 4. Excavation or extraction of soil, water, or gas for appropriate recycling, re-use, or disposal;
- F. Require actions for cleanup and abatement to:
1. Conform to the provisions of Resolution No. 68-16 of the State Water Board, and the Water Quality Control Plans of the State and Regional Water Boards, provided that under no circumstances shall these provisions be interpreted to require cleanup and abatement which achieves water quality conditions that are better than background conditions;
 2. Implement the provisions of Chapter 15 that are applicable to cleanup and abatement, as follows:
 - a. If cleanup and abatement involves corrective action at a waste management unit regulated by waste discharge requirements issued under Chapter 15, the Regional Water Board shall implement the provisions of that chapter;
 - b. If cleanup and abatement involves removal of waste from the immediate place of release and discharge of the waste to land for treatment, storage, or disposal, the Regional Water Board

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

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

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

- G. Ensure that dischargers are required to clean up and abate the effects of discharges in a manner that promotes attainment of either background water quality, or the best water quality which is reasonable if background levels of water quality cannot be restored, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible; in approving any alternative cleanup levels less stringent than background, apply

Section 2550.4 of Chapter 15, or, for cleanup and abatement associated with underground storage tanks, apply Section 2725 of Chapter 16, provided that the Regional Water Board considers the conditions set forth in Section 2550.4 of Chapter 15 in setting alternative cleanup levels pursuant to Section 2725 of Chapter 16; any such alternative cleanup level shall:

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

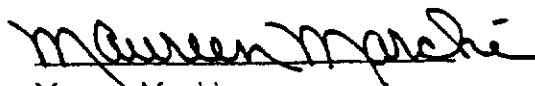
- IV. The Regional Water Board shall determine schedules for investigation, and cleanup and abatement, taking into account the following factors:

- A. The degree of threat or impact of the discharge on water quality and beneficial uses;
- B. The obligation to achieve timely compliance with cleanup and abatement goals and objectives that implement the applicable Water Quality Control Plans and Policies adopted by the State Water Board and Regional Water Boards;
- C. The financial and technical resources available to the discharger; and
- D. Minimizing the likelihood of imposing a burden on the people of the state with the expense of cleanup and abatement, where feasible.

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

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 18, 1992, and amended at a meeting of the State Water Resources Control Board held on April 21, 1994.



Maureen Marché

Administrative Assistant to the Board

9/6/6

**STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 93-62**

**POLICY FOR REGULATION OF DISCHARGES
OF MUNICIPAL SOLID WASTE**

WHEREAS:

1. **Water quality protection**—The State Water Resources Control Board (State Water Board) and each Regional Water Quality Control Board (Regional Water Board) are the state agencies with primary responsibility for the coordination and control of water quality (California Water Code Section 13001, "WC §13001");
2. **State Policy for Water Quality Control**—The State Water Board is authorized to adopt State Policy For Water Quality Control which may consist of or contain "...principles and guidelines deemed essential by the state board for water quality control" (Authority: WC §§1058, 13140, 13142);
3. **State agency compliance**—All State agencies shall comply with State Policy For Water Quality Control regarding any activities that could affect water quality (WC §13146);
4. **Waste Discharge Requirements**—Regional Water Boards regulate discharges of waste that could affect the quality of waters of the state, including discharges of solid waste to land, through the issuance of waste discharge requirements (WC §13263);
5. **Solid waste disposal**—The State Water Board is directed to classify wastes according to threat to water quality and to classify waste disposal sites according to ability to protect water quality (WC §13172);
6. **Chapter 15**—The State Water Board promulgated regulations, codified in Chapter 15 of Division 3 of Title 23 of the California Code of Regulations (23 CCR §§2510-2601, "Chapter 15"), governing discharges of waste to land. These regulations:
 - a. Contain classification criteria for wastes and for disposal sites;
 - b. Prescribe minimum standards for the siting, design, construction, monitoring, and closure of waste management units;
7. **Federal authority**—The federal Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (42 USC §6901, *et seq.*, "SWDA"), authorizes development of nationwide standards for disposal sites for municipal solid waste [MSW], including criteria for sanitary landfills (SWDA §§1007, 4004, 42 USC §§6907, 6944);
8. **Federal MSW regulations**—On October 9, 1991, the United States Environmental Protection Agency (USEPA) promulgated regulations that apply, in California, to dischargers who own or operate landfills which accept municipal solid waste on or after October 9, 1991, (MSW landfills), regardless of whether or not a permit is issued (Title 40, Code of Federal Regulations [CFR], Parts 257 and 258, "federal MSW regulations"). The majority of the federal MSW regulations become effective on what is hereinafter referred to as the "Federal Deadline" [40 CFR §258.1(e)], currently October 9, 1993;
9. **States required to apply federal MSW regulations**—Each state must "...adopt and implement a permit program or other system of prior approval and conditions to assure that each...[MSW landfill]...within such state...will comply with the...[federal MSW landfill regulations]." State regulations promulgated to satisfy this requirement are subject to approval by USEPA. (SWDA §§4003, 4005, 42 USC §§6943, 6945);
10. **Approved state's authority**—The permitting authority in an "approved state" may approve engineered alternatives to certain prescriptive standards contained in the federal MSW regulations, provided that the alternative meets specified conditions and performance standards (40 CFR 256.21);
11. **State application**—The State Water Board and the Integrated Waste Management Board submitted an application for program approval to the USEPA on February 1, 1993;
12. **Chapter 15 deficiencies**—The State Water Board's Chapter 15 regulations are comparable to the federal MSW regulations. Nevertheless, the USEPA has identified several areas of Chapter 15 which are not adequate to ensure compliance with

certain provisions of the federal MSW regulations, as summarized in Attachment I;

13. **Rulemaking to amend Chapter 15**—There is insufficient time, prior to October 9, 1993, for the State Water Board to amend Chapter 15 to ensure complete consistency with the federal MSW regulations and subsequently for the USEPA to carry out a review of the revised chapter and to render a decision approving California's permit program;
14. **Composite liner(s) needed**—Solid Waste Assessment Test Reports, submitted to Regional Water Boards pursuant to WC §13273, have shown that releases of leachate and gas from MSW landfills that are unlined are likely to degrade the quality of underlying ground water. Research on liner systems for landfills indicates that (a) single clay liners will only delay, rather than preclude, the onset of leachate leakage, and (b) the use of composite liners represents the most effective approach for reliably containing leachate and landfill gas;
15. **Lack of compliance with Chapter 15**—WDRs for many MSW landfills have not been revised to meet the most recent Chapter 15 amendments;
16. **CEQA**—Adoption of this policy is categorically exempt from the provisions of the California Environmental Quality Act (Division 13, commencing with §21000, of the Public Resources Code, "CEQA") because it is an action by a regulatory agency for the protection of natural resources, within the meaning of §15307 of the *Guidelines For Implementation of California Environmental Quality Act* in Title 14 of the California Code of Regulations;
17. **Public notice**—Notice of the State Water Board's proposal to adopt a State Policy for Water Quality Control regarding Regulation of Discharges of Municipal Solid Waste was published on March 31, 1993, and a public hearing on the matter was held on June 1, 1993; and
18. **Reference**—This Policy implements, interprets, or makes specific the following Water Code Sections: §13142, §13160, §13163, and §13172.

THEREFORE BE IT RESOLVED:

I. Implementation of the Chapter 15 and federal MSW regulations:

- A. **WDR revision**—In order to insure compliance with SWDA §§4003, 4005 (42 USC §§6943, 6945), each Regional Water Board shall henceforth implement in waste discharge requirements for discharges at MSW landfills,

both the Chapter 15 regulations and those applicable provisions of the federal MSW regulations that are necessary to protect water quality, particularly the containment provisions stipulated in Section III of this Policy and the provisions identified in Attachment I to this Policy, and shall revise existing waste discharge requirements to accomplish this according to the schedule provided in Section II of this Policy;

- B. **Alternatives limited**—The Regional Water Board shall not rely upon any exemption or alternative allowed by Chapter 15 if such an exemption or alternative would not be allowed under the federal MSW regulations, nor shall the Regional Water Board waive waste discharge requirements for the discharge of municipal solid waste at landfills;
- C. **Applicability in the absence of useable waters**—Although all other provisions of this Policy would continue to apply, the Regional Water Board shall have the discretion to prescribe requirements for containment systems and water quality monitoring systems that are less stringent than the design and construction standards in this Policy, in the federal MSW regulations, and in Chapter 15 if the Regional Water Board finds that the containment systems satisfy the performance standard for liners in the federal MSW regulations [40 CFR §§258.40(a)(1) and (c)], that the prerequisite for an exemption from ground water monitoring in the federal MSW regulations is satisfied [40 CFR §258.50(b)], and that either of the following two conditions is satisfied:
 1. A hydrogeologic investigation shows that:
 - a. There is no aquifer (i.e., a geological formation, group of formations, or portion of a formation capable of yielding significant quantities of ground water to wells or springs) underlying the facility property; and
 - b. It is not reasonably foreseeable that fluids—including leachate and landfill gas—migrating from the landfill could reach any aquifer or surface water body in the ground water basin within which the landfill is located; or
 2. The ground water in the basin underlying the facility has no beneficial uses and a hydrogeologic investigation shows that it is not reasonably foreseeable that fluids—including leachate and landfill gas—migrating from the landfill could reach any aquifer or surface water body having beneficial uses.

II. Implementation schedule:

A. **MSW landfills**—By the Federal Deadline (e.g., October 9, 1993), each Regional Water Board shall amend the waste discharge requirements for discharges of waste at all MSW landfills in its region (including discharges to any area outside the actual waste boundaries of an MSW landfill as they exist on that date ["lateral expansion" hereinafter]), to require persons who own or operate such landfills to:

1. Except for the ground water monitoring and corrective action requirements under 40 CFR §§258.50-258.58, comply with all applicable portions of the federal MSW regulations by the Federal Deadline; and
2. Achieve full compliance with Chapter 15 and with the federal ground water monitoring and corrective action requirements under 40 CFR §§258.50-258.58 as follows:
 - a. For all MSW landfills that are less than one mile from a drinking water intake (surface or subsurface), by no later than October 9, 1994; and
 - b. For all other MSW landfills that have accepted waste prior to the effective date of this Policy, by no later than October 9, 1995;

B. **Proposed MSW landfills**—As of the date of the Federal Deadline, waste discharge requirements for the discharge of waste at all MSW landfills that have not accepted waste as of that date shall ensure full compliance both with Chapter 15 and with the federal MSW regulations prior to the discharge of waste to that landfill.

III. **Containment**—As of the Federal Deadline, discharges of waste to either an MSW landfill that has not received waste as of that date or to a lateral expansion of an MSW landfill unit are prohibited unless the discharge is to an area equipped with a containment system which is constructed in accordance with the standard of the industry and which meets the following additional requirements for both liners and leachate collection systems:

A. Standards for liners

1. **Post-Federal Deadline construction**—Except as provided in either §III.A.3. (for steep sideslopes) or §III.A.2. (for new discharges to pre-existing liners), after the Federal Deadline, all containment systems shall include a composite liner that consists of an upper synthetic flexible membrane

component (Synthetic Liner) and a lower component of soil, and that either:

a. Prescriptive Design:

- i. **Upper component**—Has a Synthetic Liner at least 40-mils thick (or at least 60-mils thick if of high density polyethylene) that is installed in direct and uniform contact with the underlying compacted soil component described in paragraph III.A.1.a.ii; and
- ii. **Lower component**—Has a layer of compacted soil that is at least two feet thick and that has an hydraulic conductivity of no more than 1×10^{-7} cm/sec (0.1 feet/year); or

b. **Alternative design**—Satisfies the performance criteria contained in 40 CFR §§258.40(a)(1) and (c), and satisfies the criteria for an engineered alternative to the above Prescriptive Design [as provided by 23 CCR §2510(b)], where the performance of the alternative composite liner's components, in combination, equal or exceed the waste containment capability of the Prescriptive Design;

2. **New discharges to liners constructed prior to the Federal Deadline**—Except as provided in §III.A.3. (for steep sideslopes), containment systems that will begin to accept municipal solid waste after the Federal Deadline, but which have been constructed prior to the Federal Deadline, are not required to meet the provisions of §III.A.1. if the containment system includes a composite liner that:

a. **Prescriptive Design**—Features as its uppermost component a Synthetic Liner at least 40-mils thick (or at least 60-mils if high density polyethylene) that is installed in direct and uniform contact with the underlying materials; and

b. **Performance**—Meets the performance criteria contained in 40 CFR §§258.40(a)(1) and (c);

3. **Steep sideslopes**—Containment systems installed in those portions of an MSW landfill where an engineering analysis shows, and the Regional Water Board finds, that sideslopes are too steep to permit construction of a stable composite liner that meets the prescriptive standards contained in §III.A.1 or 2. shall include an alternative liner that meets the performance criteria

contained in 40 CFR §§258.40(a)(1) and (c) and that either:

- a. Is a composite system and includes as its uppermost component a Synthetic Liner at least 40-mils thick (or at least 60-mils if high density polyethylene) that is installed in direct and uniform contact with the underlying materials; or
 - b. Is not a composite system, but includes a Synthetic Liner at least 60-mils thick (or at least 80-mils if of high density polyethylene) that is installed in direct and uniform contact with the underlying materials; and
- B. Standards for leachate collection—Include a leachate collection and removal system which conveys to a sump (or other appropriate collection area lined in accordance with §III.A.) all leachate which reaches the liner, and which does not rely upon unlined or clay-lined areas for such conveyance.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 17, 1993.



Maureen Marchè
Administrative Assistant to the Board

ATTACHMENT I

To Resolution No. 93-62

Pursuant to §I.A., in writing or revising the waste discharge requirements for MSW landfills, Regional Water Boards shall implement those portions of the following sections of the federal MSW regulations that either are more stringent than, or do not exist within, Chapter 15.

- o Floodplains—40 CFR §§258.11 and 258.16
- o Wetlands—40 CFR §258.12
- o Unstable areas—40 CFR §§258.15 and 258.16
- o Run-on/Run-off control systems—40 CFR §258.26
- o Liquids acceptance—40 CFR §§258.28 [esp. §(a)(2)]
- o Design Criteria—40 CFR §258.40, according to the provisions of Section III
- o Well/piezometer performance—40 CFR §258.51
- o Ground-water sampling/analysis—40 CFR §258.53
- o Monitoring Parameters—40 CFR §258.54 and Appendix I to Part 258
- o Constituents of Concern—40 CFR §258.55 and Appendix II to Part 258
- o Response to a release—40 CFR §§258.55 [esp. §(g)(1)(ii, iii)]
- o Establishing corrective action measures—40 CFR §§258.56 [esp. §§(c and d)] and 258.57
- o Ending corrective action program—40 CFR §258.58 [esp. §(e)]
- o Closure/post-closure—40 CFR §§258.60-258.61 [esp. §§258.60(a-g)]
- o Deed notation—40 CFR §258.60(i)
- o Ending post-closure—40 CFR §258.61 [esp. §§(a and b)]
- o Corrective action financial assurance—40 CFR §258.73

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Appendix 11

State Water Board Water Quality Control Plan for Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries in California (Thermal Plan)

https://www.waterboards.ca.gov/water_issues/programs/ocean/docs/wgplans/thermpln.pdf

Appendix 12

State Water Board Resolution No. 92-82 Exception to the Thermal Plan for Sacramento Regional County Sanitation District

https://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/1992/rs1992_0082.pdf

MANAGEMENT AGENCY AGREEMENT BETWEEN THE
STATE WATER RESOURCES CONTROL BOARD, STATE OF CALIFORNIA
AND THE FOREST SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE

This Management Agency Agreement is entered into by and between the State Water Resources Control Board, State of California (State Board), and the Forest Service, United States Department of Agriculture (Forest Service), acting through the Regional Forester of the Pacific Southwest Region, for the purpose of carrying out portions of the State's Water Quality Management Plan related to activities on National Forest System (NFS) lands.

WHEREAS:

1. The Forest Service and the State Board mutually desire:
 - (a) To achieve the goals in the Federal Water Pollution Control Act, as amended;
 - (b) To minimize duplication of effort and accomplish complementary pollution control programs;
 - (c) To implement Forest Service legislative mandates for multiple use and sustained yield to meet both long- and short-term local, state, regional, and national needs consistent with the requirement for environmental protection and/or enhancement; and
 - (d) To assure control of water pollution through implementation of Best Management Practices (BMPs).
2. The State Board and the Regional Water Quality Control Boards are responsible for promulgating a Water Quality Management Plan pursuant to the Federal Water Pollution Control Act, Section 208, and for approving water quality control plans promulgated by the Regional Water Quality Control Boards pursuant to state law. Both types of plans provide for attainment of water quality objectives and for protection of beneficial uses.
3. The State Board and the Regional Water Quality Control Boards are responsible for protecting water quality and for ensuring that land management activities do not adversely affect beneficial water uses.
4. Under Section 208 of the Federal Water Pollution Control Act, the State Board is required to designate management agencies to implement provisions of water quality management plans.
5. The Forest Service has the authority and responsibility to manage and protect the lands which it administers, including protection of water quality thereon.
6. The Forest Service has prepared a document entitled "Water Quality Management for National Forest System Lands in California" (hereafter referred to as the Forest Service 208 Report), which describes current Forest Service practices and procedures for protection of water quality.

7. On August 16, 1979, the State Board designated the Forest Service as the management agency for all activities on NFS lands effective upon execution of a management agency agreement.

NOW, THEREFORE, the parties hereto agree as follows:

1. The Forest Service agrees:

- (a) To accept responsibility of the Water Quality Management Agency designation for NFS lands in the State of California.
- (b) To implement on NFS lands statewide the practices and procedures in the Forest Service 208 Report.
- (c) To facilitate early State involvement in the project planning process by developing a procedure which will provide the State with notification of and communications concerning scheduled, in-process, and completed project Environmental Assessments (EAs) for projects that have potential to impact water quality.
- (d) To provide periodic project site reviews to ascertain implementation of management practices and environmental constraints identified in the EA and/or contract and permit documents.
- (e) To review annually and update the Forest Service documents as necessary to reflect changes in institutional direction, laws and implementation accomplishment as described in Section IV of the Forest Service 208 Report. A prioritization and schedule for this updating is provided in Attachment A to this Agreement.
- (f) That in cases where two or more BMPs are conflicting, the responsible Forest Service official shall assure that the practice selected meets water quality standards and protects beneficial uses.
- (g) That those issues in Attachment B to this agreement have been identified by the State and/or Regional Boards as needing further refinement before they are mutually acceptable to the Forest Service and the State Board as BMPs.

2. The State Board agrees:

- (a) The practices and procedures set forth in the Forest Service 208 Report constitute sound water quality protection and improvement on NFS lands, except with respect to those issues in Attachment B. The State and Regional Boards will work with the Forest Service to resolve those issues according to the time schedule in Attachment B.
- (b) That Section 313 of the Federal Water Pollution Control Act mandates federal agency compliance with the substantive and procedural requirements of state and local water pollution control law. It is contemplated by this agreement that Forest Service reasonable implementation of those practices and procedures and of this agreement will

2. (b) (cont.)

constitute compliance with Section 13260, subdivision (a) of Section 13263, and subdivision (b) of Section 13264, Water Code. It is further contemplated that these provisions requiring a report of proposed discharge and issuance of waste discharge requirements for nonpoint source discharges will be waived by the Regional Board pursuant to Section 13269, Water Code provided that the Forest Service reasonably implements those practices and procedures and the provisions of this agreement. However, waste discharges from land management activities resulting in point source discharges, as defined by the Federal Water Pollution Control Act, will be subject to NPDES permit requirements, since neither the State Board nor the Regional Board has authority to waive such permits.

(c) That implementation will constitute following the Implementation Statement, Section I of the Forest Service 208 Report.

3. It is mutually agreed:

- (a) To meet no less than annually to maintain coordination/communication, report on water quality management progress, review proceedings under this agreement, and to consider revisions as requested by either party.
- (b) To authorize the respective Regional Boards and National Forests to meet periodically, as necessary, to discuss water quality policy, goals, progress, and to resolve conflicts/concerns.
- (c) That the development and improvement of BMPs will be through a coordinated effort with federal and state agencies for adjacent lands and areas of comparable concern.
- (d) To meet periodically, as necessary, to resolve conflicts or concerns that arise from and are not resolved at the Forest and Regional Board meetings. Meetings may be initiated at the request of either party, a National Forest, or a Regional Board.
- (e) To coordinate present and proposed water quality monitoring activities within or adjacent to the National Forests and to routinely make available to the other party any unrestricted water quality data and information; and to coordinate and involve one another in subsequent/continuing water quality management planning and standard development where appropriate.
- (f) That nothing herein shall be construed in any way as limiting the authority of the State Board or the Regional Boards in carrying out their legal responsibilities for management or regulation of water quality.

3. (cont.)

- (g) That nothing herein shall be construed as limiting or affecting in any way the legal authority of the Forest Service in connection with the proper administration and protection of National Forest System lands in accordance with federal laws and regulations.
- (h) That this Agreement shall become effective as soon as it is signed by the parties hereto and shall continue in force unless terminated by either party upon ninety (90) days notice in writing to the other of intention to terminate upon a date indicated.

IN WITNESS WHEREOF, the parties hereto, by their respective duly authorized officers, have executed this Agreement in duplicate on the respective dates indicated below.

FOREST SERVICE,
U. S. DEPARTMENT OF AGRICULTURE

STATE WATER RESOURCES CONTROL BOARD
STATE OF CALIFORNIA

By *James H. Smith, Jr.*
Regional Forester
Pacific-Southwest Region

By *C. W. [Signature]*
Executive Director

Date: 3/17/81

Date: FEB 26 1981

By *J. M. [Signature]*
Regional Forester
Intermountain Region

Date: 4-1-81

By *James F. [Signature]*
Regional Forester
Pacific Northwest Region

Date: 5-26-81

ATTACHMENT A

Schedule for Completing the BMPs

<u>Priority</u>	<u>Best Management Practice</u>	<u>Completion Date (FY.)</u>
1	Cumulative Watershed Impacts	'81
2	Closure or Obliteration of Temporary Roads (2.26)	'81
3	Minimization of Sidecasting (2.11)	'81
4	Stabilization of Road Prisms and of Spoil Disposal Areas	'82
5	Control of Road Maintenance Chemicals	'83-'86*
6	Tractor Windrowing on the Contour (5.5)	'83-'86*
7	Sanitary and Erosion Control for Temporary Camps	'84-'86*
8	Administering Terms of the U. S. Mining Laws (3.1)	'84-'86*

* To be firmed up to a specific fiscal year two years in advance at the annual meeting called for in Section 3(a) of this Agreement.

ATTACHMENT B

Schedule for Resolving Regional Board Issues

<u>Region</u>	<u>Issue</u>	<u>Completion Date (F.Y.)</u>
1	Herbicide Use (Resolution 80-5)	'81
1	Protection of Wild and Scenic Rivers	'82

MEMORANDUM OF AGREEMENT
BETWEEN
THE DEPARTMENT OF HEALTH SERVICES
AND
THE STATE WATER RESOURCES CONTROL BOARD
ON IMPLEMENTATION OF THE HAZARDOUS WASTE PROGRAM

This Memorandum of Agreement (hereinafter "MOA") sets forth those principles and procedures to which the Department of Health Services (hereinafter "Department") and the State Water Resources Control Board [hereinafter "Board", which also includes and represents the nine Regional Water Quality Control Boards (RWQCBs)] commit themselves to implement the State's Hazardous Waste Program, including support of the State's implementation of Subtitle C of the Resource Conservation and Recovery Act (RCRA, 42 USC 6921 et seq.). Specifically, the MOA covers surveillance and enforcement related to water quality at landfills, surface impoundments, waste piles, and land treatment facilities which treat, store, or dispose of hazardous waste (all hereinafter referred to as "hazardous waste management facilities"). This MOA also covers the issuance, modification, or denial of permits to facilities, including the revision of the water quality aspects of hazardous waste management facility siting, design, closure and post-closure, and surface and ground water monitoring and protection. This MOA hereby includes by reference Exhibit A, entitled "General Procedures for Permit Development for Hazardous Waste Management Facilities". This MOA and subsequent amendments shall be effective as of the date of signature by both the Director of the Department and the Chairperson of the Board. It shall be considered binding on both agencies, to the fullest extent allowed by law. No provision of this memorandum is intended to nor shall be interpreted as amending in any way the provisions of any statute, regulation, order, or permit.

BACKGROUND

The United States Environmental Protection Agency (hereinafter "EPA") may authorize states to administer and enforce a hazardous waste program pursuant to Subtitle C of RCRA, provided that the states can demonstrate to EPA that their state hazardous waste laws, regulations, and program procedures are equivalent to and consistent with the federal counterparts. The first phase of EPA's RCRA regulations were promulgated on May 19, 1980. They included hazardous waste criteria, standards for generators and transporters, and interim status standards for treatment, storage, and disposal facilities.

The remaining regulations were issued in three components, with standards for storage and treatment promulgated on January 12, 1981, standards for incinerators promulgated on January 26, 1981, and standards for land disposal promulgated on July 26, 1982. These regulations have undergone subsequent revisions and amendments to reflect changes in EPA policy and to provide for more effective environmental protection.

The Department has been designated under State law as the agency to administer and enforce the State's hazardous waste management program authorized under Section 3006(c) of RCRA. The State was granted interim RCRA Phase I authorization on June 4, 1981 and Phase IIA authorization on January 11, 1983. Interim authorization was dependent upon the existence of a state program that is "substantially equivalent" to the federal RCRA program.

Substantial equivalency was demonstrated by using existing California laws governing hazardous waste control and water quality protection, and the administrative regulations of the Department and the Board.

The Department applied for final authorization, with full input from the Board on all water quality areas, for all phases of RCRA on November 7, 1985. Final authorization of the State program depends upon the State's ability to demonstrate equivalency to and consistency with the federal program. Any inconsistencies which would make the State program less stringent must be resolved.

The Department and the Board have promulgated and will maintain regulations which make the State program equivalent to or more stringent than federal laws and regulations.

AUTHORITY

The RCRA regulations are codified in Title 40 of the Code of Federal Regulations (40 CFR) in Parts 124 and 260 through 271, inclusive.

Unless otherwise stated, all references to "federal law" shall refer to RCRA and references to federal regulations shall refer to 40 CFR, parts 124 and 260 through 271, inclusive. Because EPA may continue to amend their hazardous waste regulations, it may be necessary to revise the aforementioned list of federal regulations from time to time. Such revisions may be proposed by either party and, if agreed to by both parties, may be appended to this MOA, provided such revisions do not change the meaning of the Agreement or otherwise alter its intent.

With the exception of Article 9.5 ("Toxic Pits Cleanup Act of 1984") the Department has the authority to implement and enforce the State's Hazardous Waste Control Law, Health and Safety Code (HSC), Division 20, Chapter 6.5. The Department also has the authority, pursuant to Sections 25159.5 and 25159.7 of the HSC, to enforce federal law until such time as the Department adopts regulations corresponding to and equivalent to, or more stringent or extensive than, federal regulations. The Department has promulgated regulations which establish, in detail, standards for the handling, processing, use, storage, and disposal of wastes, California Administrative Code, Title 22, Division 4, Chapter 30.

The Board has the authority to implement and enforce the Porter-Cologne Water Quality Control Act, Water Code, Division 7; Article 9.5 of Chapter 6.5 of Division 20 of the HSC; and to develop standards for local implementation and enforcement of Chapter 6.7 (Underground Storage of Hazardous Substances) of Division 20 of the HSC. The Board has promulgated regulations which

establish, in detail, water quality protection standards for discharges of waste to land: California Administrative Code, Title 23, Chapter 3, Subchapter 15. The Board also has regulations governing other discharges of waste which could affect the quality of waters of the State, and regulations implementing Chapter 6.7 of the HSC. The Board also is the lead agency for implementation of the Federal Clean Water Act in California.

Nothing in this MOA shall be construed as a waiver of the Department's authority to administer and enforce the State hazardous waste management program authorized under Section 3006(c) of RCRA.

PRINCIPLES OF AGREEMENT

For the purpose of this MOA, the Department and the Board agree to the following principles:

1. Only one Hazardous Waste Facility Permit, encompassing all Department and Board standards, shall be issued. It is the intent of the Department and Board to hold a joint public hearing prior to the issuance of a Hazardous Waste Facility Permit and in accordance with Exhibit A. The Department shall be responsible for issuing the Hazardous Waste Facility Permit.

The Board will adopt necessary waste discharge requirements and agrees to ensure that such requirements are consistent with and no less stringent than 40 CFR 264, Subpart F. Further, in other regulatory areas of this program where the Board's Waste Discharge Requirements may contain water quality requirements or standards which parallel RCRA, the Board agrees to ensure, subject to the availability of supporting resources, that such requirements and standards are consistent with and no less stringent than counterpart Federal regulations at 40 CFR 264.

The Department shall be responsible for providing assurance to EPA that all applicable RCRA standards are incorporated into the Hazardous Waste Facility Permit issued by the Department.

The Hazardous Waste Facility Permit shall incorporate as a condition of the permit any applicable waste discharge requirements issued by the State Water Resources Control Board or a California Regional Water Quality Control Board, and shall be consistent with all applicable water quality control plans adopted pursuant to Section 13170 of the Water Code and Article 3 (commencing with Section 13240) of Chapter 4 of Division 7 of the Water Code and state policies for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7 of the Water Code, and any amendments made to these plans, policies or requirements. The Hazardous Waste Facility Permit shall also include such additional provisions as may be required by the Federal RCRA program. The Board may also issue and enforce additional requirements and orders authorized by state law.

The Board shall notify and provide two copies to the Department of any proposed revision of waste discharge requirements for hazardous waste management facilities at least 30 days before such requirements are issued except where such requirements are issued to correct a deficiency of interim status or permit requirements, in which case the Board shall promptly notify the Department of such action.

The Department shall notify and provide two copies to the Board of any proposed change in a Hazardous Waste Facility Permit or Interim Status Document. Such notice shall occur at least 30 days before modification of an Interim Status Document or public notice of a permit modification except when such a modification is issued to correct a deficiency of interim status documents or permit requirements, in which case the Department shall promptly notify the Board of such action.

The Department and the Board shall develop detailed procedures for permit processing as necessary to ensure an effective and efficient hazardous waste permit program and shall forward draft and final versions and modifications to each other in a timely manner. When finalized, such procedures are included and made part of this MOA.

As a condition of final RCRA authorization, EPA has requested assurance that the Department has the authority to impose RCRA-equivalent water quality standards as hazardous waste facility permit conditions in the unlikely event that the Board's waste discharge requirements for a facility are not RCRA-equivalent. The Department has given EPA the requested assurances with recognition of the Board's primary role in adopting water quality control plans (Basin Plans) and waste discharge requirements for all hazardous waste management facilities.

If EPA or the Department identify a lack of RCRA equivalency in water quality control plans or waste discharge requirements applicable to a Hazardous Waste Facility Permit, the Department will notify the appropriate Regional Board in writing requesting necessary corrections or additions to the applicable water quality control plans or waste discharge requirements. If the Regional Board fails to act on the Department's notice, or if the response is inadequate to correct the deficiency, the Department agrees to petition the matter to the State Board for a final ruling. In the interim, the Department may impose the necessary water quality requirements in the permit in order to assure RCRA equivalency. Even if the appeal to the State Board is resolved in favor of the Regional Board, the Department may impose any additional water quality requirements on Hazardous Waste Facility Permits that are necessary to assure RCRA equivalency.

2. The Board shall be responsible for conducting the RCRA surveillance activities for hazardous waste management facilities in accordance with the annually negotiated Interagency Agreement and with the terms and conditions of this MOA.

3. The Department and the Board recognize the separate, but parallel, enforcement authorities of each agency. It is the intent of the Department and Board to strive to eliminate duplicative enforcement action.

The Department agrees that in instances where the Board's authorities are similar to those of the Department's and where the Board uses, subject to the availability of supporting resources, those activities in a timely and appropriate manner, the Department may decide that a particular Board action is sufficient for purposes of RCRA and the authorized State hazardous waste management program, and that further or separate action by the Department is not necessary.

The Department also agrees to provide the Board with notice of any hazardous waste management facility compliance inspection which indicates the violation of water quality protection requirements. If the Board does not act in a timely manner to bring the facility into compliance or demonstrate that the indicated violation does not exist, to the satisfaction of the Department, the Department will take separate action to bring the facility into compliance and shall notify the Board prior to taking such action. The Board shall notify the Department of any enforcement action taken relating to hazardous waste land disposal prior to such action.

If EPA advises the Department of a violation of RCRA water quality standards needing corrections, EPA will also send a copy of the letter to the appropriate Regional Board. If the Board has taken or intends to take action in response to EPA's letter, the Board agrees to notify, in a timely manner, the appropriate DHS regional office that an action has been, or will be, taken. If EPA or the Department is not satisfied with the timeliness or appropriateness, with respect to RCRA, of the Board's action, the Department or EPA will take separate action to bring the facility into compliance. The Department will contact the Board prior to taking such action.

The Department and the Board shall develop detailed surveillance and enforcement procedures to ensure an effective and efficient hazardous waste compliance program and shall forward draft and final versions and modifications to each other in a timely manner. The Department and the Board shall prepare jointly and incorporate into this MOA "General Procedures for Surveillance and Enforcement Activities for Hazardous Waste Land Disposal".

4. The Board shall be responsible for providing the Department with water quality protection requirements consistent with and no less stringent than 40 CFR 264 and 265, Subpart F for facilities operating under interim status or Hazardous Waste Facility Permit.

The Department shall be responsible for all aspects outside of 40 CFR 264 and 265, Subpart F for hazardous waste management facilities operating under interim status or Hazardous Waste Facility Permit.


The Department and Board recognize that the Board also has separate regulatory authority that parallels RCRA regulations at Subparts in addition to 40 CFR 264 and 265, Subpart F. For this area of parallel authority, subject to the availability of supporting resources, the Board's responsibilities shall include:

- a. the review and evaluation of the water quality aspects of facility siting and design, ground water (including that found in the unsaturated zone) and surface water monitoring and protection programs, the water quality aspects of facility closure plans and post-closure monitoring programs; and
- b. the development of appropriate water quality protection requirements and permit conditions to prevent water quality degradation.

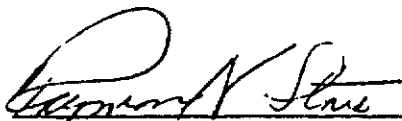
These responsibilities shall be carried out in a manner that is sufficient to assure compliance with applicable RCRA regulations. The specific commitments and responsibilities will be negotiated annually through the Interagency Agreement.

5. The Department and the Board agree to develop jointly and sign an interagency agreement, prior to the beginning of each fiscal year, which clearly defines the tasks, work products, time of performance, and associated costs for the Board's performance of the responsibilities described in this MOA. The Department, contingent upon availability of funding, agrees to reimburse the Board in fulfillment of their responsibilities under the interagency agreement.
6. As the State does not allow intervention as a right in any civil action by any citizen having an interest which may be or is adversely affected, the Board agrees, at a minimum, to provide public participation, relative to enforcement actions taken on behalf of the Department at hazardous waste management facilities, in a manner that is not less stringent than RCRA statute or regulations.
7. The Board agrees that any information obtained or used in the administration of those portions of Subchapter 15 and the Porter-Cologne Act that relate to the terms and conditions of this MOA or the annually negotiated Interagency Agreement shall be available to the Department without restriction. If the information has been submitted to the Board under a claim of confidentiality, the Board agrees to submit that claim to the Department when providing the information. The Department shall acknowledge and respond to such claims of confidentiality as required by state law.

8. On or before September 30 of each year, the Board shall submit to the Department a final accounting of all costs incurred by the Board for all work performed in compliance with this MOA during the previous fiscal year.
9. This MOA may be amended by mutual agreement as necessary to assure effective and timely implementation and operation of the State's hazardous waste program.
10. The Secretary for Environmental Affairs and the Secretary for the Department of Health Services shall make the final determination in any jurisdictional dispute between the Department and the Board concerning the implementation of this memorandum, to the extent such dispute resolution does not render the State's authorization program inconsistent with, or less stringent than, the Federal RCRA program.



Kenneth W. Kizer, M.D., M.P.H.
Director
Department of Health Services



Raymond R. Stone, Chairperson
State Water Resources Control Board

Date

1/27/86

Date

EXHIBIT A

General Procedures for Permit Review Process for Hazardous Waste Land Disposal Facilities*

1. The Department Requests Permit Application (Part B)

The Department will request Board [State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs)] recommendations when selecting facilities for Part B call-in. All recommendations by the Board for Part B call-ins will be considered by the Department. The Department will issue a formal written request for the Part B of the application for a Hazardous Waste Facility Permit. The Department's request will also state the authority under which the request is made, set a due date, describe the consequences of a failure to submit a Part B application, and give the number of copies to be submitted.

2. Orientation Meetings for Permit Applicants

Orientation or pre-application meetings for permit applicants will be provided to each applicant upon request by representatives from the Department. The Board (RWQCB and SWRCB, where appropriate) will attend these meetings to discuss the permitting process and application requirements. Subsequent meetings with individual applicants will be part of the technical assistance portion of the Program.

3. Technical Assistance for Permit Applicants

During preparation of the application (Part B), the Department and the Board (RWQCB and SWRCB, where appropriate) will provide technical assistance to permit applicants and track the progress of application development. This assistance will include reviews of preliminary materials prepared for the application package (including documents required under Interim Status), attendance at technical and progress meetings, and inspection of facilities. Areas of technical assistance will include, but not be limited to, design features, ground water monitoring, closure/post-closure plans, and the amount of detail required in general throughout the Part B application.

4. Part B Received by the Department

The Department will request at least five copies of the Part B application. The Department will forward one copy to the SWRCB, one copy to the appropriate RWQCB, and two copies to the appropriate Department regional office. The Department headquarters will retain one copy and maintain records of transmittal.

* After program authorization by EPA

5. Review of Application

The Department (regional office or headquarters, where appropriate) and the Board (RWQCB and SWRCB, where appropriate) will review the Part B for completeness and for compliance with RCRA in the respective areas in which these groups will be working. As part of the review, one or more hazardous waste management facility inspections may be needed. The Department and the RWQCB's will strive to make joint inspections of the facilities whenever feasible. The Department and the Board (RWQCB and SWRCB, where appropriate) will complete their review using applicable state and federal guidance documents. Cost estimates submitted by the applicant for closure/post-closure will be "verified" by Department staff and used during the review for financial responsibility. The Department will track the progress of the application reviews. The RWQCB (and SWRCB, where appropriate) will submit comments to the Department in accordance with guidance documents and checklists provided by the Department.

6. The Department Prepares Responses to Permit Applicant

The Department will consolidate all comments. The Department will incorporate all comments from the Board (RWQCB and SWRCB, where appropriate) relevant to the Board's responsibilities outlined in the interagency agreement. The Department will prepare a Notice of Deficiency (NOD) to the permit applicant regarding the completeness and compliance of the applicant. The Department will seek the Board's input and concurrence prior to sending the NOD to the applicant.

7. Permit Applicant Responds to NOD or Prepares and re-Submits Application, when Required

If more information is needed to complete the Part B application, the applicant will submit such information as directed. At least five copies shall again be submitted to the Department for distribution as previously discussed. Once the application is judged by the Department (with input from the appropriate RWQCB and SWRCB, where appropriate) to be complete, the Department will notify the applicant in writing and the permitting process begins. If the application is judged incomplete, the Department will inform the applicant in writing and a resubmittal will be necessary.

8. RWQCB Prepares Draft Waste Discharge Requirements

The appropriate Department Regional Office shall coordinate a permitting schedule with the appropriate RWQCB. The appropriate RWQCB will prepare draft waste discharge requirements (WDR) or a draft revision of existing WDR and forward these to the Department.

NOTE: The Department will notify and give to the Air Resources Board (ARB) a copy of the complete Part B application whenever air quality could be affected by the facility. ARB comments on the application will be submitted to the Department.

9. The Department Prepares Preliminary Draft Hazardous Waste Facility Permit

The Department will prepare a preliminary draft Hazardous Waste Facility Permit which incorporates the draft WDR and other appropriate input from the SWRCB and RWQCB. The Department will transmit a copy of the draft Hazardous Waste Facility Permit to the RWQCB, SWRCB, and ARB (when appropriate) for concurrence.

10. The Department prepares final draft Hazardous Waste Facility Permit incorporating requirements and input from the SWRCB and RWQCB.

11. The Department gives notice of the proposed permit and public hearing to be held by the Department, as lead agency, and jointly with the RWQCB. The Department shall give notice to the public and all interested parties. With the concurrence of the Department and the appropriate RWQCB, the joint hearing may be held by the RWQCB provided that such a hearing is conducted in a manner that is not less stringent than RCRA statute or regulations.

12. Joint public hearing by the Department and the RWQCB.

13. The RWQCB (and SWRCB, where appropriate) shall provide comments to the Department within 30 days after the hearing. The Department will prepare a joint response to comments from the hearing.

14. RWQCB Adopts the WDR

The adoption of the WDR will occur concurrently with the processing of the permit application. The WDR adoption may also occur following the joint public hearing. A copy of the WDR, as adopted, will be forwarded to the Department and incorporated into the permit.

15. The Department will adopt and issue the final Hazardous Waste Facility Permit.

MEMORANDUM OF AGREEMENT
BETWEEN
THE DEPARTMENT OF HEALTH SERVICES
AND
THE STATE WATER RESOURCES CONTROL BOARD
ON USE OF RECLAIMED WATER

This Memorandum of Agreement (hereafter MOA) is made between the Department of Health Services (hereafter the Department) and the State Water Resources Control Board (hereafter the State Board). This MOA sets forth principles, procedures and agreements to which these agencies commit themselves relative to use of reclaimed water in California.

I. PURPOSE AND SCOPE OF MOA.

This MOA is intended to assure that the respective authority of the Department, the State Board and the nine California Regional Water Quality Control Boards (hereafter the State Board and the Regional Boards) relative to use of reclaimed water will be exercised in a coordinated and cohesive manner designed to eliminate overlap of activities, duplication of effort, and inconsistency of action. To that end, this MOA establishes basic principles relative to activities of the agencies hereto and the Regional Boards, allocates primary areas of responsibility and authority between these agencies, and provides for methods and mechanisms necessary to assure ongoing, continuous future coordination of activities relative to use of reclaimed water in this State.

The initial MOA is intended to serve as an umbrella agreement between the agencies hereto. It will be supplemented, as appropriate, by addenda which will reflect any additional agreements, commitments and understandings arrived at by the agencies hereto.

II. GENERAL BACKGROUND.

In order to supplement existing surface and underground water supplies to help meet water needs in the State, it is state policy that use of reclaimed water in the State be promoted to the maximum extent commensurate with protection of public health. (See Chapter 7, Div. 7, California Water Code.)

So long as its use is compatible with public health and water quality objectives, reclaimed water can be used in a variety of ways to assist in meeting the water needs of this State. Uses of reclaimed water include use for crop and landscape irrigation, supply for recreation impoundments, industrial cooling, and groundwater recharge including protection against saltwater intrusion.

The Department is the primary state agency responsible for protection of public health. To assure protection of public health where reclaimed water use is involved, the Department has been statutorily directed to establish statewide reclamation criteria for the various uses of reclaimed water. (Water Code Section 13521.) The Department has promulgated regulatory criteria, which are currently set forth in the California Code of Regulations, Title 22, Division 4, Section 60301 et seq. The Department's regulatory criteria include numerical limitations and requirements, treatment method requirements, and provisions and requirements related to sampling and analysis, engineering

reports, and design, operation, maintenance and reliability of facilities. The Department's regulations also permit the granting of exceptions to reclaimed water quality requirements in some cases, call for a case-by-case review of groundwater recharge projects, and allow use of alternative methods of treatment so long as the alternative methods used are determined by the Department to assure equivalent treatment and reliability. Many of the regulatory requirements related to sampling, analysis, engineering reports, personnel, operation and design are narrative in nature and leave room for discretionary decisions based on the individual situation in each case.

The Department has also developed Guidelines For Use of Reclaimed Water (hereafter Guidelines). The Guidelines, except insofar as they may incorporate provisions of the Department's regulatory criteria, are not considered binding or mandatory upon permit issuing agencies, such as the Regional Boards.

The State Board and the Regional Boards are the primary state agencies charged with protection, coordination and control of water quality in the State. Where regulatory reclamation criteria have been adopted by the Department, all persons who reclaim or propose to reclaim water, or who use or propose to use reclaimed water, must file a report with the appropriate Regional Board. (Water Code Section 13522.5.) Where regulatory reclamation criteria have been adopted, no person may either reclaim water or use reclaimed water until the appropriate Regional Board has either issued reclamation requirements or waived the necessity for such requirements. (Water Code Section 13524.) In the process of issuing reclamation requirements, the Regional Boards must consult with and consider recommendations of the Department. (Water Code Section 13523.) Any reclamation requirements which are issued by the Regional Boards, whether applicable to the reclaimer or to the user of reclaimed water, must include or be in conformance with any regulatory reclamation criteria adopted by the Department.

Where reclaimed water use is involved or proposed, both the Department and the Regional Boards have authority to require construction reports and such other reports as may be necessary to assure protection of both public health and water quality.

Where use of reclaimed water is involved, both the Department and the Regional Boards have enforcement authority. The Department may take steps to abate any contamination which may result from use of reclaimed water. The Regional Boards may undertake various actions, both of a civil nature and relative to criminal sanctions, for failure to file necessary reports, for reclamation or use of reclaimed water without reclamation requirements, or for violation of any reclamation requirements imposed by a Regional Board.

There are other specific areas involving or associated with use of reclaimed water where interaction between the Department, the State Board and the Regional Boards is required. These areas include direct injection of reclaimed water into groundwater which is suitable for domestic water supply and use of reclaimed water for irrigation of greenbelt areas.

In addition to the authority vested in the Department, the State Board and the Regional Boards relative to use of reclaimed water, various local health authorities have an independent and autonomous role and authority in assuring protection of public health and water quality in areas subject to their jurisdiction.

III. GENERAL PRINCIPLES.

The general principles agreed to by the Department and the State Board are as follows:

- (A) Reclamation requirements issued by the Regional Boards will impose all absolute reclamation criteria established by the Department's regulations.
- (B) All recommendations of the Department which involve areas of critical or essential health concern shall be included in any reclamation requirements issued by a Regional Board or by the State Board, unless variation therefrom is adequately documented and justified by the Regional Board. This principle encompasses all absolute criteria contained in the Department's Guidelines.
- (C) Each agency hereto and the Regional Boards shall, to the maximum extent compatible with fulfillment of its primary responsibility to protect and preserve public health or water quality, promote and facilitate use of reclaimed water in this State.

IV. PROGRAM PROVISIONS AND COMMITMENTS.

To assure fulfillment of the purposes and principles set forth in the MOA, the agencies hereto commit themselves to the following programmatic approaches:

(A) Issuance and Enforcement of Reclamation Requirements:

1. The Regional Boards will consult with and seek recommendations from the Department prior to the issuance of any reclamation requirements. The Department will be provided with a copy of any reclamation requirements which a Regional Board proposes to issue as a part of the consultation process, and shall have reasonable opportunity to comment thereon prior to any adoption thereof. Any comments or recommendations which the Department intends to make on proposed reclamation requirements will be expeditiously provided. As a part of the consultation process, the Regional Boards will notify the Department of any intended departure from any absolute criteria contained in the Department's Guidelines.
2. Any Department recommendations to the Regional Boards relative to proposed reclamation requirements will identify those nonregulatory recommendations which the Department believes are critical and essential for protection of public health. In the event that the staff of any Regional Board does not intend to recommend inclusion of any such recommendation in the proposed reclamation requirements which will be submitted to the Regional Board, the Department will be notified at the Branch Chief level. The Regional Board Executive Officer and the appropriate Department Branch Chief will attempt to resolve any differences over the terms of the proposed reclamation requirements. If the differences cannot be resolved at this level, the matter will be brought to the attention of the Chief of the Department's Environmental Health Division. If the differences are not resolved at this level, the Regional Board staff will proceed toward presentation of the proposed reclamation requirements to

the Regional Board. The Department will be given adequate notice of any meeting or hearing relative to adoption of the proposed reclamation requirements, and a reasonable opportunity to present its perspectives, arguments and rationale to the Regional Board prior to adoption of the reclamation requirements.

In the event that a Regional Board determines not to impose any nonregulatory recommendations which have been identified by the Department as critical and essential for the protection of public health, the Regional Board will expeditiously provide the Department with a full and detailed written explanation of the basis and rationale for its decision.

3. Other recommendations of the Department, not identified by the Department as critical or essential for the protection of public health, will be included by the Regional Boards in their reclamation requirements in the manner and to the extent determined to be appropriate by the Regional Boards after full consideration of the Department's recommendations. In each case where there is any significant variation from any such recommendation given by the Department to which the Department has not agreed, the Regional Boards will notify the Department in writing that changes have been made to the Department's recommendations. Such notice will clearly identify the changes that have been made and provide a statement of the reasons and rationale for variation from the Department's recommendations.
4. If a Regional Board accepts and imposes any recommendation made by the Department and the requirement so imposed is challenged by any person, the Department will supply justification for, and otherwise reasonably support and defend, such recommendation.
5. The provisions of Paragraphs 2 and 3 above are intended to apply, as appropriate, to all recommendations of the Department, including but not limited to, recommendations related to treatment requirements, treatment methods, necessary facilities, monitoring, sampling requirements and analyses thereof, reporting requirements, reliability features, operation and maintenance requirements, alarm and warning systems, cross connection protections, set back and buffer zones, and pipeline separation.
6. The Regional Boards will not waive the necessity of reclamation requirements for any proposed use of reclaimed water without consultation with the Department.
7. The Regional Boards shall be primarily responsible for reasonable surveillance and monitoring of all activities subject to reclamation requirements. The Regional Boards will expeditiously notify the Department of all significant violations of reclamation requirements or improper reclamation uses within their jurisdictions. The Department will expeditiously notify the appropriate Regional Board of improper reclamation uses or violation of reclamation requirements which become known to the Department.

8. As between the agencies hereto, it is understood that the Regional Boards shall have primary responsibility for enforcement of reclamation requirements and prevention of improper reclamation uses in their respective jurisdictions. The Regional Boards and the State Board will commit sufficient staff resources to assure adequate enforcement of reclamation requirements and reclamation uses within their regions. It is recognized, however, that enforcement action may be undertaken by the Department and by local health authorities for violation of reclamation requirements or improper reclamation use where action by the Department or local health authorities is deemed essential for adequate protection of public health.
9. The Department will take reasonable steps to assure consistency of action between its various regions and offices.
10. The State Board will take reasonable steps to assure consistency of action between the Regional Boards.

(B) Revision of Department Guidelines For Use of Reclaimed Water.

The agencies hereto recognize that the current Department Guidelines need to be reviewed and revised as appropriate. The Department will undertake to develop updated, mutually acceptable Guidelines, in the following manner:

1. The Department will forward a copy of the current Guidelines and relevant and related material to the Regional Boards, the State Board, the California Conference of Local Health Officers (CCLHO) and the California Conference of Directors of Environmental Health (CCDEH) soliciting comments regarding the Guidelines including any changes or revisions desired.
2. The recipients will expeditiously, and in any event not later than November 10, 1988, provide any comments which they intend to make.
3. The Department will prepare and distribute the first draft of proposed revised Guidelines by January 1, 1989.
4. The agencies hereto will form a Joint Task Force to provide advice to the Department on development of Guidelines. It is anticipated that this Task Force will be comprised of three representatives from the Department, two Regional Board Executive Officers, two representatives from the State Board, one representative from Tri-TAC, and two representatives on behalf of local health authorities, presumably from CCLHO and/or CCDEH.
5. It is anticipated that final revised Guidelines will be concurred in by the agencies hereto and that, in addition, the revised Guidelines will be endorsed and concurred in by both CCDEH and CCLHO.
6. In addition to advising the Department on development of revised Guidelines, the Task Force will also make recommendations to the Department concerning what portions of the revised Guidelines should be promulgated in the formally adopted regulations of the Department.

(C) Review of the Department's Regulatory Reclamation Criteria.

The agencies hereto recognize that the Department's regulatory reclamation criteria, presently set forth in the California Code of Regulations, Title 22, Division 4, Section 60301 et seq., should be reviewed. In addition, concerns have been periodically expressed over the adequacy of the Department's justification for its current Title 22 reclamation criteria. In the light of these circumstances, the agencies hereto agree as follows:

1. The Department will undertake and expeditiously complete a review of its Title 22 reclamation criteria. The Joint Task Force which is to be formed under Part IV, (B) 4 above will review the current regulatory criteria and provide its comments and recommendations to the Department. Dependent upon the recommendations of the Task Force, the Department may reestablish and reconstitute its Health Effects Advisory Committee to provide additional assistance in the development of revised regulatory criteria. The State Board will supply reasonable support and resources to the Department toward the effort of revision of the regulatory criteria upon request of the Department. The Department anticipates that, by July 1, 1989, it will be able to determine whether the Title 22 regulations do require modification. If modification is determined to be appropriate, the Department will expeditiously undertake the necessary revision.
2. The Department will develop and make available an issue paper which explains and sets forth the justification and rationale for the Current Title 22 reclamation criteria. It is anticipated that the necessary document will be developed by January 1, 1989.

- (D) Groundwater Recharge. The State Board and the Department, in conjunction with the Department of Water Resources, are in the process of development of an interagency policy and guidelines relative to use of reclaimed water for groundwater recharge. It is anticipated that the policy and guidelines will be developed in two phases, will address planned, unplanned, and incidental recharge, and will also address mutual goals, objectives, principles and coordination of activities of the agencies hereto relative to groundwater recharge. The State Board and the Department will continue their efforts to develop the necessary interagency policy and guidelines in accordance with the following schedule:

Completion of final draft of Phase I	January 15, 1989
Completion of final draft of Phase II	January 15, 1990

It is anticipated that the final policy/guidelines will be approved and adopted jointly by the Department and the State Board, and that, upon concurrence of the Regional Boards, the final approved policy/guidelines will be incorporated by addendum into this MOA.

- (E) Inconsistencies Between Regulation of Use of Reclaimed Water and Nonregulation of Reuse of Treated Wastewater (Incidental Reuse): Development of Programs and Strategies. The agencies hereto recognize that, unlike the strict regulation that occurs where use of

reclaimed water is involved, there are instances where somewhat similar uses of treated wastewater are presently unregulated. It is also recognized that some instances of nonregulation of reuse of treated wastewater may result in cases which involve significant health concerns, and that additional work needs to be done to develop those programs and strategies necessary to assure protection of public health and water quality in such situations. The agencies hereto, however, also recognize that the issues involved are complex. As the other requirements of this MOA are fulfilled and as staff and resources become available, the agencies hereto commit themselves to resolve the problems and issues noted in this paragraph.

As an interim measure, pending further action pursuant to the foregoing paragraph, if the Department notifies a Regional Board of any instance of unregulated reuse of treated wastewater which the Department believes involves critical or essential health concerns, the Regional Board which is involved shall take whatever action is appropriate to protect public health. If the Regional Board declines to take any action, or if the Regional Board in taking action decides not to impose any recommendation of the Department, the Regional Board will expeditiously provide the Department with a full and detailed written explanation of the basis and rationale for its decision.

- (F) Coordination with Local Health Authorities. The agencies hereto acknowledge the need to and desirability of working with and cooperating with local health authorities to assure coordination of activities relative to use of reclaimed water, to reduce conflicts, and to promptly and effectly resolve any conflict which may arise. The Task Force formed under Part IV, B 4 above will undertake to ~~attempt~~ develop appropriate mechanisms to promote cooperation and coordination between state agencies and local health authorities in the reclamation area and to resolve any disputes that may arise. Proposed mechanisms when developed will be presented to the agencies hereto for consideration of appropriate action.

SC
12/5/88

V. DISPUTE AND CONFLICT RESOLUTION.

- (A) It is the desire of the agencies hereto to establish a speedy, efficient, informal method for resolution of interagency problems, disputes or conflicts. To that end, except as otherwise provided in this MOA, and to the extent not inconsistent with any formal administrative appeals which may be pending:
1. Department concerns with Regional Board action or inaction, which cannot otherwise be informally resolved, will be brought to the attention of the State Board Executive Director who will attempt to resolve the same with the appropriate Regional Board or Boards. In the event that such concerns still cannot be resolved to the satisfaction of the Department, the matter shall be referred to the Director of the Department and the Chairman of the State Board for consideration and appropriate action toward resolution.
 2. Regional Board concerns with Department action or inaction, which cannot otherwise be informally resolved, will be referred to the

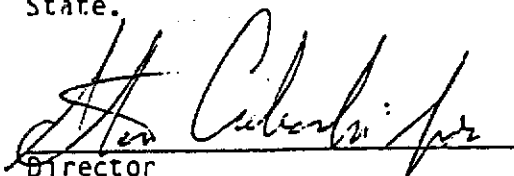
State Board Executive Director who will attempt to resolve the same with the Department's Deputy Director for Public Health. In the event that the concerns still cannot be resolved to the satisfaction of the Regional Board or Boards involved, the matter shall be referred to the Director of the Department and the Chairman of the State Board for consideration and appropriate action for resolution.

3. Concerns between the Department and the State Board which cannot otherwise be informally resolved will be referred to the State Board Executive Director and the Department's Deputy Director for Public Health. In the event that the concerns still cannot be resolved to the mutual satisfaction of the State Board and the Department, the matters in issue shall be referred to the Director of the Department and the Chairman of the State Board for appropriate action.
4. Nothing contained herein shall be construed to deprive the Department of formal appeal rights relative to any alleged Regional Board action or inaction. In the event of such an appeal, the State Board will expedite any review process.

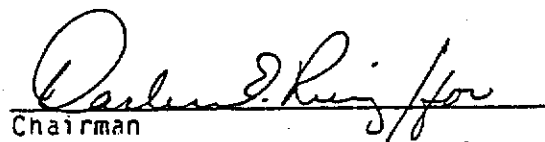
VI. MODIFICATION AND PERIODIC REVIEW.

This MOA may be modified in writing at any time by mutual agreement of the agencies hereto. Proposed modifications may be suggested by any agency hereto at any time.

The agencies hereto will meet periodically, not less than once each year, to discuss the actions of each agency relative to this agreement, to devise and agree to appropriate activities for the forthcoming fiscal year, and to consider additional actions and activities which each agency can take to better coordinate their activities and further promote use of reclaimed water in the State.


Director
Department of Health Services

12-5-88


Chairman
State Water Resources Control Board

11-15-88

MANAGEMENT AGENCY AGREEMENT BETWEEN
THE WATER RESOURCES CONTROL BOARD,
THE BOARD OF FORESTRY, AND THE
DEPARTMENT OF FORESTRY AND FIRE PROTECTION,
STATE OF CALIFORNIA

This Management Agency Agreement (Agreement) is entered into by and between the State Water Resources Control Board (Water Board), the State Board of Forestry (BOF), and the State Department of Forestry and Fire Protection (Department, CDF), State of California, for the purpose of carrying out, pursuant to Section 208 of the Federal Clean Water Act, those portions of the State's Water Quality Management Plan related to silvicultural activities on nonfederal lands in the State of California.

WHEREAS:

1. The Board of Forestry has the authority and responsibility, pursuant to the State's Z'berg-Nejedly Forest Practice Act, to promulgate Forest Practice Rules (Rules) and policies to specify practices related to timber operations on non-federal lands in order to restore, enhance and maintain the maximum sustained production of high-quality timber while giving consideration to other natural resources, including the quality and beneficial uses of water.
2. The Department has the authority and responsibility to administer these Rules and policies.
3. The Water Board and the Regional Water Quality Control Boards (Regional Boards) have the authority and responsibility, pursuant to the State Porter-Cologne Act and the Federal Clean Water Act (as amended), to promulgate Water Quality Management (WQM) plans and water quality control plans (Basin Plans) which set forth objectives for restoring, enhancing, and maintaining the quality and beneficial uses of the State's waters, to promulgate regulations and policies to attain these objectives, and to administer these regulations and policies to ensure that waste discharges, including those from silvicultural activities, do not degrade the quality and beneficial uses of the State's waters.
4. The Water Board has the authority and responsibility, pursuant to Section 208 of the Federal Clean Water Act and Title 40, Part 35, Subchapter G, of the Code of Federal Regulations, to designate appropriate management agencies for implementing certain provisions of 208 WQM plans and to certify 208 WQM plans which incorporate Best Management Practices (BMPs) for control of nonpoint sources of pollution, including silvicultural land uses.

5. The Board of Forestry, the Department and the Water Board mutually desire:
 - a. To achieve the goals of the Federal Clean Water Act (as amended), of the State Porter-Cologne Act, and of the State Z'berg-Nejedly Forest Practice Act by restoring, enhancing, and maintaining the quality and beneficial uses of the State's waters;
 - b. To achieve the water quality objectives set forth in applicable Basin Plans of the State;
 - c. To minimize duplication of effort and to establish complementary resource protection programs; and
 - d. To assure protection of the quality and beneficial uses of the State's waters through development and implementation of BMPs.
6. The Board of Forestry has promulgated, and the Department administers, Rules which are intended to be BMPs for protection of the quality and beneficial uses of the State's waters from waste discharges due to timber operations on nonfederal lands. The BOF has requested certification of these Rules and the procedures (Process) by which they are promulgated and implemented.
7. On January 21, 1988 and effective upon execution of this Agreement, the Water Board designated the Board of Forestry and the Department as joint management agencies for timber operations on nonfederal lands in the State and certified a 208 WQM plan consisting of: (a) the water quality-related Rules effective through December 31, 1986 (See Item C. 1.), (b) the Process by which they are promulgated and implemented, and (c) this Agreement.

NOW, THEREFORE, the parties hereto agree as follows:

A. The Board of Forestry agrees:

1. To refine, continue to develop, and adopt BMPs based on consideration of the potential for protecting the quality and beneficial uses of water, technical soundness, and economic and institutional feasibility, in accordance with the Forest Practice Act and with the issues and anticipated schedules set forth in the following attachments:

Attachment A - ITEMS FOR DEVELOPMENT
Attachment B - ITEMS FOR REFINEMENT
Attachment C - ITEMS FOR FURTHER CONSIDERATION

2. That BOF in consultation with the interagency liaison committee (as described in Item D. 8. et. seq.) and others, will approach each issue in Attachments A and B by defining the problem, stating suggested solutions, drafting Rule language and presenting any alternative non-rule approaches which would implement such solutions. Recommendations will be referred through the BOF chairman to the appropriate BOF committee and then, as appropriate, to the BOF District Technical Advisory Committees (DTACs). The DTACs will then review issues and make recommendations after hearing from the public, industry, and concerned agencies. The DTACs' recommendations will be reported to the BOF.

Following receipt of recommendations from DTACs and/or other appropriate committees, BOF will, as part of its regular agenda (including public hearings), do the following in accordance with the anticipated schedules in Attachments A and B:

- a. Evaluate any recommended Rule language and adopt that found to be appropriate;
- b. Evaluate any recommended non-Rule approaches, and in cooperation with other appropriate parties, affect implementation of those found to be appropriate; and
- c. Report results to the Water Board in accordance with Items B.4 and B.5 below.

B. The Board of Forestry and the Department jointly agree:

1. To each accept designation as, and the responsibilities of, a water quality management agency for timber operations on nonfederal lands in the State of California.
2. To consider, in consultation with the interagency liaison committee (as described in Item D. 7. et. seq.) and others, the best means of resolving issues regarding improvement of BMPs and their implementation which are set forth in Attachment C and to develop and implement appropriate improvements.
3. To develop and carry out improved auditing of agency performance in implementing BMPs.

4. To jointly provide progress reports at Water Board workshops regarding resolution of the issues specified herein:
 - a. Semi-annually for the first two years following the date of certification; and
 - b. As mutually deemed necessary thereafter, but not more frequently than semi-annually.
5. To submit, with the annual BOF report to the Legislature, a concurrent written report to the Water Board which:
 - a. Summarizes the following:
 - (1) Progress in resolving issues in accordance with any attachment hereto,
 - (2) Any significant additions, deletions, or amendments of the laws, Rules and Process which have or will become effective after January 1, 1987 and which may affect protection of the quality and beneficial uses of water, with explanation for each such change, and
 - (3) The results of any agency studies or audits of the performance of foresters, timber operators, and agency personnel, and of the Rules and implementation Process; and
 - b. Presents any suggestions for needed studies and for changes in the Rules, the Process, or in this Agreement.

C. The Water Board agrees:

1. That those provisions of the Rules which were in effect before January 1, 1987, and which are set forth in the following Subchapters and Articles of the California Administrative Code, Title 14, Division 1.5, Chapter 4 constitute BMPs:

Subchapter 1 (Abbreviations and Definitions)

Article 1

Subchapters 4, 5, and 6 (Coast, Northern, and Southern Forest Districts, respectively)

Article 2 (Definitions, Ratings, and Standards),
Article 3 (Silvicultural Methods),
Article 4 (Harvesting Practices and Erosion Control),
and
Article 6 (Watercourse and Lake Protection)

Subchapter 4 (Coast Forest District)

Article 11 (Coastal Commission Special Treatment Areas), and

Article 12 (Logging Roads and Landings)

Subchapters 5 and 6 (Northern and Southern Forest Districts, Respectively)

Article 11 (Logging Roads and Landings)

2. That this Agreement, together with the Rules referenced in Item C.1 above, and the Process (including interagency Review Teams) constitute a 208 WQM plan for control of nonpoint source pollution from timber operations on nonfederal lands which:
 - a. Is consistent with relevant provisions of the State/EPA Agreement and Work Program, Federal regulations, and the Federal Clean Water Act;
 - b. Is technically sound and economically feasible;
 - c. Is consistent with other relevant and approved WQM plans; and
 - d. Represents substantial progress toward achievement of water quality goals.
3. To review the annual written report specified in Item B.5, and to identify any concerns regarding protection of water quality due to changes in the Rules or Process made or proposed by BOF and/or CDF.
4. To direct Regional Boards, upon EPA approval of the 208 WQM plan, to cease issuance of Waste Discharge Requirements for timber operations on nonfederal lands except as provided in Section 4514.3 of the Public Resources Code.

D. The Water Board, the Board of Forestry, and the Department agree:

1. That Rule modifications or other means to resolve, in a manner acceptable to the parties hereto, the issues set forth in Attachments A and B will be pursued through normal BOF procedures.
2. That resolution of the issues in Attachment C will be pursued in a manner acceptable to the parties hereto, after further study.
3. That improved methods for implementing BMPs shall be developed and carried out as follows:
 - a. Implementation of guidance documents developed in accordance with Attachment D shall begin within 2 years after the effective date of certification or as soon thereafter as feasible;
 - b. Training and education programs, and participation therein, shall be pursued on a continuing basis in accordance with Attachment E; and
 - c. State agency procedures which are acceptable to the parties hereto and which are developed in accordance with Attachment F shall be incorporated into appropriate Memoranda of Understanding (MOUs) within one year after the effective date of certification.
4. That improved private sector procedures for implementing BMPs shall be encouraged on a continuing basis in accordance with Attachment G.
5. That additional studies to further assess the effects of timber operations on water quality and to provide for continued evaluation, development, and improvement of BMPs and their implementation shall be developed in accordance with Attachment H. Study workplans will be submitted to the parties no more than 2 years after the effective date of certification or as soon thereafter as feasible.
6. That the development and implementation of BMPs and the additional studies conducted by the parties hereto shall be coordinated with concerned state agencies, especially the Department of Fish and Game (DFG) and Regional Boards, with Federal agencies, with BOF DTACS, and with the private sector.

7. That activities needed to carry out Items D.1 through D.5 above shall begin within 30 days after the effective date of certification.
8. That the Chairpersons of BOF and the Water Board (or another Board member) and the Director of CDF shall serve as an interagency liaison committee, and the Director of DFG shall be invited to serve with them.
9. That each agency liaison shall:
 - a. Designate an alternate liaison member, if necessary; and
 - b. Coordinate the activities of the designating agency as set forth herein with the activities of the other parties hereto, as well as with DFG, Regional Boards, and Federal agencies.
10. That the liaison committee shall seek mutually acceptable technical support, as needed.
11. That the liaison committee members shall meet no less than annually to maintain coordination and communication, to review and discuss the BOF/CDF annual report, to review activities under this agreement, and to consider any revisions to this Agreement, including anticipated target dates and schedules, which are requested by any party hereto. The Director of DFG, or an authorized representative, shall be invited to participate in such meetings.
12. That the parties hereto shall work together to resolve any conflicts which may arise.
13. That representatives of Regional Boards and CDF Regions shall meet with each other, and with DFG representatives, as needed to resolve conflicts and concerns, and shall submit brief written summaries of the reasons for and results of such meetings to the designated liaison in each agency.
14. That the liaison committee shall meet as necessary to resolve conflicts or concerns which arise from and are not resolved by other meetings or reports. Meetings may be initiated at the request of the Executive Director of BOF and the Water Board, the Director of CDF and DFG, or the Executive Officer of a Regional Board.

15. That this Agreement may be terminated upon a 90 day notice by either board.
16. That another multidisciplinary assessment, in a mutually accepted format, of the adequacy of the Rules and the Process shall be conducted by the parties hereto not more than 5 years after certification. DFG shall be invited to participate in such assessment.
17. That, based on the results of said assessment, certification of the Rules and Process as part of a 208 WQM plan shall be formally reviewed no more than 6 years from the date of certification.
18. That future assessments and related review of certification may again be carried out at such time thereafter as may be mutually agreed upon among the parties.
19. That 208 WQM plan certification or management agency designation shall be reviewed in one or more Water Board hearings under any of the following conditions:
 - a. If, for other than financial reasons, the assessments specified herein cannot be implemented;
 - b. If, at any time, there is substantial evidence that BOF or CDF have failed to maintain a water quality regulatory program consistent with certification or have failed to satisfy terms of this Agreement; or
 - c. If BOF requests such a review.
20. That, except for the provisions of Item C.4 above, nothing herein shall be construed in any way as limiting the legal authority or responsibility of the Water Board or Regional Boards in carrying out their mandates for control of water pollution and protection of the quality and beneficial uses of the State's waters.

21. That nothing herein shall be construed in any way as limiting the legal authority or responsibility of the Board of Forestry or of the Department in carrying out their mandates for regulation of timber and other natural resources on nonfederal lands.

IN WITNESS WHEREOF, the parties hereto, by their respective duly authorized officers, have executed this Agreement in triplicate, on the respective dates indicated below.

STATE BOARD OF FORESTRY,
STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD
STATE OF CALIFORNIA

By Harold R. Walt
Harold R. Walt,
Chairman

By W. Don Maughan
W. Don Maughan,
Chairman

Date: 2/3/88

Date: FEB 1 1988

DEPARTMENT OF FORESTRY AND FIRE PROTECTION
STATE OF CALIFORNIA

By Jerry Partain
Jerry Partain,
Director

Date: Feb 3, 1988

ATTACHMENT A

ITEMS FOR DEVELOPMENT

(These issues are not covered by current Rules. Consistent with the process set forth in Item A.2, language for new Rules will be proposed, evaluated and, if appropriate, adopted by BOF. Non-Rule resolutions will also be evaluated and, if appropriate, implemented.)

<u>Issue</u>	<u>Suggested Resolution</u>	<u>Target Date</u>
1. Practices for site preparation after timber harvesting	1. Regulation of site preparation activities pursuant to AB 1629 (Statute 87; Chapter 987).	1. 11/88
2. Long-term maintenance of erosion control facilities	2. Regulation of long-term maintenance of erosion control facilities in logging area pursuant to AB 1629 (Statute 87; Chapter 987).	2. 11/88
3. Evaluation of cumulative watershed effects	3. Improved requirements and procedures for evaluating cumulative effects.	3. 12/88
4. Notification of startup date of operations	4. Requirement that licensed timber operator (LTO) or landowner notify CDF of actual date logging starts.	4. 12/89
5. Timber operator licensing requirements	5. Requirements for mandatory training for timber operator's license.	5. 12/89

ATTACHMENT B

ITEMS FOR REFINEMENT

(These issues are at least partially covered by existing Rules. Consistent with the process set forth in Item A.2, Rule language to refine and supplement the existing Rules will be proposed, evaluated and, if appropriate, adopted by BOF. Non-Rule resolutions will also be evaluated and, if appropriate, implemented.)

<u>Issue</u>	<u>Suggested Resolution</u>	<u>Target Date</u>
1. Transfer of Timber Harvesting Plan (THP) information from preparer to LTO	1. Pre-operation meeting between THP preparer and timber operator, and operator's signature on any THP or amendment.	1. 9/88
2. Extra protection measures where tractor operations, or roads or landings are near or within standard watercourse and lake protection zone (WLPZ) widths or on very highly erodible slopes	2. THP specification of extra protective measures.	2. 12/88
3. Performance standard for planning, locating, constructing, and maintaining all roads to protect water-related values	3. Improved language in 14 CAC 923, 943, 963 to provide enforceable protection performance standards.	3. 12/88
4. Road and landing construction standards	4. Additional specifications for road and landing construction standards.	4. 12/89
5. Temporary road crossing removal	5. Improved specifications for appropriate removal procedures.	5. 12/88
6. Disposal of landing debris over edge of landing above water courses	6. Improved requirements for disposal of landing debris.	6. 12/88

<u>Issue</u>	<u>Suggested Resolution</u>	<u>Target Date</u>
7. Alternative protection practices	7. Clarification of Section 916.2(c), 936.2(c), 956.2(c) regarding "feasible practices" and "adequate protection".	7. 12/88
8. Vegetative canopy and structure in WLPZ	8. Improved criteria and methods for retaining vegetative canopy within WLPZ and for retaining riparian vegetation.	8. 12/88
9. Ground cover retention in WLPZ	9. Improved language in 14 CAC 916.5e, 936.5e, 956.5e, to require retention of adequate ground cover.	9. 12/88
10. Terms used in determination of WLPZ width	10. Rule definitions for "bank" and "change in slope".	10. 12/88
11. Flood prone area protection	11. Inclusion of flood prone areas in WLPZ and/or extra protection to prevent erosion or debris flotation.	11. 12/88
12. Determination of WLPZ width and protection measures	12. Inclusion of geological, hydrological and biological factors in determining appropriate WLPZ width and protection measures.	12. 12/88
13. Standards for existing roads	13. Application of new-road standards for drainage facilities, ditch drains, soil stabilization, etc., to existing roads.	13. 12/88

<u>Issue</u>	<u>Suggested Resolution</u>	<u>Target Date</u>
14. Domestic water supply protection	14. Requirements for: (a) protection for water supply springs and pipelines, and identification in THP; (b) identification of potable water supplies within an appropriate distance downstream from operation; (c) notification of THP filing to the owners of such water supplies; and (d) protection for likely potential and restorable human uses.	14. 12/88
15. Clear, enforceable performance standards for water quality protection	15. Clarification of intent Sections 914, 916, 934, 936, 954, and 956, to provide clear, enforceable performance standards.	15. 12/89
16. Skid trail erosion control requirements	16. Requirements for: (a) extra protective measures where skid trails are close to other skid trails, roads and landings; (b) temporary road maintenance and abandonment provisions when skid trails are equivalent to a temporary road; and (c) application of temporary road crossing, drainage stabilization and removal provisions to temporary skid trail crossings.	16. 12/89

<u>Issue</u>	<u>Suggested Resolution</u>	<u>Target Date</u>
17. Winter operations procedures	17. THP justification for using 914.7c, 934.7c, 954.7c, in lieu of a winter operating plan.	17. 12/89
18. Sensitive area operations	18. THP specification of methods and equipment for road and landing construction, disposal, drainage, stabilization, maintenance, and abandonment.	18. 12/89
19. Erosion control on roads	19. Requirements for: (a) THP specification of erosion and drainage control on road crossings; (b) THP specification measures to prevent or reduce future failure of road areas being reconstructed; and (c) improved seasonal abandonment of temporary roads.	19. 12/89

ATTACHMENT C

ITEMS FOR FURTHER CONSIDERATION

(These issues need further study to determine the most appropriate resolutions. Both Rule and non-Rule approaches will be considered. Evaluation of Rule language will occur consistent with the process set forth in Item A.2.)

<u>Issue</u>	<u>Suggested Resolution</u>	<u>Target Date</u>
1. Erosion hazard rating	1. Improved use of erosion hazard rating system and minor adjustments to rating system.	1. 12/89
2. Retention of riparian hardwood and non-commercial trees	2. Improved treatment of riparian hardwoods and noncommercial trees, especially after conifer harvest.	2. 12/89
3. Registered Professional Forester (RPF) responsibility	3. Evaluation of: (a) increased RPF accountability for THP adequacy; (b) addition of RPF supervision and (c) reevaluation of present rules for suspension or revocation of RPF and LTO licenses for serious violations of the Rules.	3. 12/89
4. Repeal of 14 CAC 898.2e	4. Consider reinstatement 14 CAC 898.2e which required denial of THPs if implementation would violate state or federal standards.	4. 12/89
5. Culvert sizing	5. THP specification of culvert sizing method used.	5. 12/89
6. Agency disagreement over approval of plan	6. Provide dispute resolution procedure through MOU or consider head-of-agency appeal.	6. 12/88

<u>Issue</u>	<u>Suggest Resolution</u>	<u>Target Date</u>
7. Confusion over meaning of "in lieu" practice	7. Evaluate use of "in lieu" concept in Rules.	7. 12/88
8. Agency consultation prior to approving in-stream cleanup	8. Provide for such consultation through MOU	8. 12/88
9. Improved participation by public and nonreview agencies in review process	9. Improved procedures for participation	9. 12/88
10. Reevaluation by review team after response by RPF	10. Provide for such re-evaluation through MOU	10. 12/88
11. Point of RPF transfer of responsibility to LTO	11. Study need for Rule.	11. 12/89
12. Recognition of and protection against mass wasting hazard	12. Improved criteria and methods for evaluating and protecting against mass wasting hazard.	12. 12/89
13. Use of guidance documents	13. Requirements for use of guidance documents (if necessary) after development of documents.	13. 12/89

ATTACHMENT D

DEVELOPMENT AND IMPLEMENTATION OF GUIDANCE DOCUMENTS TO
COMMUNICATE INFORMATION TO PRACTITIONERS

- A. Develop or improve guidance documents on the following topics:
1. Criteria and methods for identifying and evaluating (or rating) the following types of sensitive areas or conditions:
 - a. Erodible and unstable slopes;
 - b. Near-stream geological and hydrological conditions;
 - c. Near-stream biological conditions, including riparian zone, canopy cover, and windthrow potential;
 - d. Instream structure, habitat, and wildlife value; and
 - e. Offsite beneficial uses of water.
 2. Criteria and methods for evaluating potential adverse effects and for selecting measures to protect any of the above from adverse effects of:
 - a. Felling, yarding, and stream clearing activities;
 - b. Road and landing location, construction, and maintenance; and
 - c. Site preparation activities; and
 - d. Cumulative watershed effects.
 3. Criteria and methods for road and landing construction, maintenance and abandonment.
 4. THP content needed to:
 - a. Describe the following:
 - (1) site environmental conditions,
 - (2) proposed practices, especially if non-standard, and
 - (3) probable environmental effects of practices;
 - b. Describe and justify proposed protection measures; and
 - c. Set forth the above in a manner which provides for:
 - (1) thorough disclosure and environmental review,
 - (2) clear and comprehensive guidance to LTOs and other responsible parties, and
 - (3) specific and enforceable standards.

B. Determine the most effective and appropriate methods of assuring use of the guidance documents, considering the following:

1. Incorporation into training and education programs;
2. Promotion through professional meetings and publications;
3. Implementation by THP review teams;
4. Amendment of THP forms to demonstrate use where appropriate;
5. Amendment of Rules to require use; and
6. Adoption as Technical Rule Addendum.

C. In carrying out the above, perform the following tasks:

1. Compile and review available reference material to determine whether, for each subject area, available material is adequate, can be readily supplemented, or whether new guidance documents are needed.
2. Determine the need for additional financial and administrative assistance, for scientific or technical assistance, and/or for additional studies in order to carry out the foregoing tasks.

ATTACHMENT E

IMPROVEMENT AND DEVELOPMENT OF TRAINING AND EDUCATION PROGRAMS

- A. Continue to develop and upgrade training and education programs on the topics set forth in Attachment D and on any other topics deemed appropriate by the liaison committee.
- B. In carrying out the above, the following tasks are recommended:
 - 1. Review existing programs and training materials to determine whether, for each topic, existing programs are adequate, could be adequately supplemented, and/or whether new programs are needed.
 - 2. Determine the most important training and education needs of:
 - a. Foresters involved in planning, supervising, or monitoring timber operations;
 - b. Non-foresters (agency personnel) involved in planning, reviewing, inspecting, and monitoring timber operations;
 - c. Timber operators, timber owners, and other parties responsible for operations and environmental protection.
 - 3. Determine the most appropriate program formats and materials (e.g., guidelines, handouts, video cassettes, seminars, workshops, tailgate sessions, etc.).
 - 4. Determine the most appropriate parties (including review team agency representatives) to develop and present program materials.
 - 5. Determine any administrative and financial needs and feasible methods for satisfying these needs.
 - 6. Determine the most appropriate methods of encouraging participation (e.g., credits toward education requirements, payment or waiver of fees, etc.).
- C. Continue to update training programs to meet changing needs.

ATTACHMENT F

INTERAGENCY PROCEDURES FOR BMP IMPLEMENTATION

- A. Determine appropriate interagency procedures for each of the following:
1. Improved training programs in forestry and protection of water-related values for Review Team agencies and assuring adequate agency participation.
 2. Procedures by which Review Team agencies shall more consistently seek and provide consultation before, during, and after timber operations, giving special consideration in the following:
 - a. Appropriate use of watercourse classification system, especially for Class II and III watercourses;
 - b. Sensitivity of onsite geological, hydrological, and biological conditions which may affect water-related values;
 - c. Probable effects of timber operations on sensitive conditions and water-related values, especially where:
 - (1) Yarding, roads, or landings will be, are or were within or close to standard WLPZ widths, reducing density of ground cover or canopy cover,
 - (2) Sensitive geological, hydrological, or biological conditions exist onsite which are likely to be disturbed by operations,
 - (3) Non-standard practices will be, are, or were used, and
 - (4) Special concerns have been raised;
 - d. Appropriateness of practices and protection measures which may be, are, or were used.
 3. Procedures to provide for cooperative monitoring studies to better determine the effects of forest practices, especially under the conditions listed in Item A.2.
 4. Access by DFG and Regional Board representatives onto nonfederal timberlands.
 5. Improved procedures for assuring the adequacy of THP content.

6. Improved procedures for THP review, including the following:
 - a. Increased review agency attendance at Review Team meetings and preharvest inspections;
 - b. Increased participation by public and non-Review Team agencies in Timber Harvesting Plan review;
 - c. Increased review times if needed;
 - d. Review Team re-evaluation of any post-review changes made to THP between review and approval of THP; and
 - e. Improved resolution of conflicts between representatives of Review Team agencies, including a stepwise time-certain process for negotiating or appealing disagreements to higher levels of authority within each agency.

7. Procedures to improve operator compliance with Rule and THP requirements, including the following:
 - a. Increased use of unannounced inspections;
 - b. Increased use of inspections focused on operations in sensitive areas which may threaten water-related values;
 - c. Increased participation in compliance inspections by other Review Team representatives;
 - d. Increased and improved inspection of road construction practices; and
 - e. Increased use of DFG and Regional Boards in support of CDF enforcement actions.

- B. Incorporate appropriate improvements in agency procedures into any needed and mutually acceptable MOUs (or other agreements) which specify:
 1. The authority and responsibility (including decision-making and advisory roles) given to each agency for implementing such improvements; and
 2. The levels of adequately trained staff and other resources to be maintained by each agency in order to implement these improvements.

ATTACHMENT G

DEVELOPMENT AND IMPROVEMENT OF VOLUNTARY
PROCEDURES FOR PRIVATE SECTOR BMP IMPLEMENTATION

- A. Encourage adoption of clear comprehensive policy statements by landowners, companies and/or professional associations by doing the following:
1. Working with representatives of the timber industry and related professional associations to assist in development of policy statements regarding environmental protection for use by the private sector.
 2. Where feasible, developing key concepts and suggested language for incorporation into policy statements.
- B. Encourage private sector implementation of BMPs by suggesting feasible procedures, such as the following:
1. Encouraging foresters to more frequently consult with other subject matter experts when warranted.
 2. Training employees using appropriate techniques.
 3. Improving communication between foresters and operators regarding desired site-specific environmental results of operations.
 4. Improving and standardizing flagging and marking codes used in site layout to assist operator.
 5. Improving supervision of operations by foresters.
 6. Improving inhouse monitoring of effects of operations to ensure that desired results are being achieved.
 7. Improving auditing of operator performance.
 8. Improving self-policing within industry and professional associations of persons who repeatedly violate environmental protection policies.

ATTACHMENT H

DEVELOPMENT AND IMPLEMENTATION OF PROGRAMS FOR ADDITIONAL STUDIES

- A. Study appropriate criteria and methods for evaluating or rating sensitive conditions listed in Attachment D, Item A.
- B. Develop and conduct studies of the best feasible methods for the following:
 1. Establishing natural resource databases which are:
 - a. Located in state agencies (including DFG, CDMG, CDF, Water Board, and Regional Boards) and Federal agencies involved with natural resource management.
 - b. Mutually compatible in structure and format in order to facilitate interagency use;
 - c. Capable of using the existing files, databases, and unorganized information currently in the State agencies, and, to the degree feasible, in Federal agencies, educational institutions, and the private sector;
 - d. Capable of expanding to incorporate new information developed by additional studies of natural resources;
 - e. Accessible to users in the private sector, educational institutions, and Federal agencies;
 - f. Descriptive of the characteristics and geographical distribution of geologic, topographic and climatic features, soils, vegetation, animals, wildlife habitats, land uses (past, present, and potential), water quality, and beneficial uses.
 2. Establishing watershed planning programs which are:
 - a. Capable of facilitating evaluation of the location and sensitivity of unstable or erodible slopes, near-stream geological, hydrological, and biological conditions, instream or lacustrine aquatic habitats, and human uses of water; and
 - b. Capable of facilitating evaluation of the probable effects of alternative courses of action or combinations of activities within a watershed.

C. Study criteria and methods for evaluating actual and potential cumulative watershed effects. The methods shall be:

1. Feasible and reasonably accurate.
2. Mutually acceptable to State and Federal agencies and capable of being used in areas of mixed Federal and nonfederal ownership of land.
3. Capable of evaluating contributions to cumulative effects from every significant land use or activity within a watershed.
4. Capable of evaluating the variability of individual cumulative effects with time and location.

D. Study long-term effects on mass wasting and water-related values caused by timber harvesting and related activities, especially in sensitive near-stream locations.

MEMORANDUM OF AGREEMENT
BETWEEN THE
STATE WATER RESOURCES CONTROL BOARD
AND THE
DEPARTMENT OF CONSERVATION
DIVISION OF OIL AND GAS

Purpose

The purpose of this Memorandum of Agreement (MOA) is to outline the procedures for reporting proposed oil, gas, and geothermal field discharges and for prescribing permit requirements. These procedures are intended to provide a coordinated approach resulting in a single permit satisfying the statutory obligations of both parties to this MOA. These procedures will ensure that construction or operation of oil, gas, and geothermal injection wells and surface disposal of waste water from oil and gas and geothermal production does not cause degradation of waters of the State of California.

General

Responsibilities of the Agencies

The Department of Conservation, Division of Oil and Gas (CDOG) has the statutory responsibility to prevent, as far as possible, damage to underground and surface waters suitable for irrigation or domestic purposes resulting from the drilling, operation, maintenance, or abandonment of oil, gas, and geothermal wells (Public Resources Code Sections 3106 and 3714). In March 1983, CDOG received primacy from the Environmental Protection Agency (EPA) pursuant to the provisions of Section 1425(a) of the federal Safe Drinking Water Act that gives CDOG additional authority and responsibility to regulate Class II wells in the State. Class II wells are used to inject fluids into the subsurface that are related to oil and gas production.

The State Water Resources Control Board (SWRCB) and the nine California Regional Water Quality Control Boards (collectively RWQCB) have statutory responsibility to protect the waters of the State and to preserve all present and anticipated beneficial uses of those waters (Water Code, Division 7, Chapters 1 through 7).

Scope of Agreement

The following procedures have been formulated and adopted by the CDOG and SWRCB to: (1) simplify reporting of proposed waste discharges by the oil, gas, and geothermal operators; (2) achieve coordination of activity; and, (3) eliminate duplication of effort among the State agencies. As far as these agencies are concerned, the method of reporting proposed oil, gas, and geothermal underground injection and surface discharges will be uniform throughout the State. The attached maps show district and regional boundaries and office addresses.

The following procedures will not generally be applicable to injection wells or surface disposal methods used by operators to dispose of wastes other than produced water and fluids defined by the EPA as Class II. Other discharges (e.g., refinery wastes) must be issued waste discharge requirements or waivers through the appropriate Regional Water Quality Control Board (Water Code, Division 7, Chapter 4). Such discharges will not be subject to regulation by CDOG unless the subject disposal well is within the administrative limits of an oil, gas, or geothermal field. In such case, the CDOG must also issue a permit for the well construction (Public Resources Code Sections 3008 and 3203). The conditions of this permit should be in agreement with the waste discharge requirements for this well.

The CDOG personnel shall report all pollution problems, including spills to the ground surface or surface streams, to the appropriate Regional Board.

Procedures

Underground Injection

1. Application: Oil, gas, or geothermal operators must file an application for all proposed injection projects with the appropriate CDOG District office. The District office will forward a copy of the application to the appropriate Regional Board for its review and comment. Data to be included with the application shall include: (1) a chemical analysis, as appropriate, to characterize the proposed injection fluid considering the source of the fluid and/or the exposures the fluid has or will undergo before disposal; (2) a chemical analysis, as appropriate, from the proposed zone of injection considering the characteristics of the zone (to include name, location, depth and formation for well from which zone fluid was sampled); and, (3) depth, location, and injection formation of the proposed well. If the Regional Board wishes to comment prior to the issuance of a draft permit for review, comments shall be received by CDOG within 14 days.
2. Review and Consultation: During the review of the application, the CDOG, the Regional Board and the State Board shall consult with one another and local agencies, as necessary, and may require the applicant to submit additional data, as necessary, to demonstrate that the proposed injection will not cause a water quality problem. Additional data required by the RWQCB, if reasonably available, shall be forwarded upon request. Data regarded as confidential by CDOG, or the applicant, will be identified and kept confidential by the RWQCB.

3. Permit Preparation and Issuance:

- a. CDOG will prepare a draft permit, including monitoring requirements, for the injection in accordance with statutory obligations, furnishing a copy of the draft document to the appropriate Regional Board.
- b. The Regional Board will have the opportunity to comment on the draft requirements during the public review period established pursuant to the Memorandum of Agreement (MOA) between the CDOG and the Environmental Protection Agency (EPA).
- c. The Regional Board shall determine whether or not the draft requirements provide protection to ground and surface waters having present or anticipated beneficial uses. If the draft requirements are not adequate, the Regional Board shall, within 30 days, propose conditions or revisions which would satisfy Regional Board concerns. CDOG will not issue final requirements until Regional Board concerns have been satisfied.

If no response is received from the Regional Board by the end of the public comment period, the requirements will be presumed to be acceptable to the Regional Board.

CDOG will furnish a copy of the final requirements to the Regional Board.

Surface Discharge

1. Application: The oil, gas, or geothermal operator shall file a Report of Waste Discharge with the appropriate Regional Board. The Regional Board will review the Report of Waste Discharge in accordance with applicable state and federal requirements, including 40 CFR Part 435. No report need be filed when such a requirement is waived by the Regional Board pursuant to Water Code Section 13269.

When a Report of Waste Discharge is not adequate in the judgment of the Regional Board, the Board may require the applicant to supply additional information as it deems necessary. If a surface disposal site is within the administrative limits of an oil, gas, or geothermal field, the Regional Board shall send a copy of the Report of Waste Discharge to the CDOG for review and comment when the report is complete. If CDOG wishes to comment, the Regional Board should receive comments within 14 days to ensure consideration of these comments during the drafting of waste discharge requirements.

2. Preparation and Adoption of Waste Discharge Requirements:

- a. The Regional Board will prepare draft waste discharge requirements for the disposal of production waters by surface discharge. If a surface disposal site is within the administrative limits of an oil, gas, or geothermal field, a copy of the draft document shall be furnished to the appropriate CDOG District office.
- b. The CDOG shall determine whether or not the draft requirements fulfill CDOG's statutory obligations related to water quality. If the draft requirements are not adequate, the CDOG shall, within 30 days, propose conditions to the Regional Board which would meet these statutory obligations. The Regional Board will not issue final requirements until CDOG concerns have been satisfied.

If no response is received from CDOG by the end of the public comment period, the requirements will be presumed to be acceptable to CDOG. The Regional Board will furnish a copy of the final requirements to CDOG.

Enforcement Coordination

After construction, CDOG will notify the appropriate Regional Board of any pollution problems noticed during its inspection activities. The Regional Boards will notify CDOG of any suspected violations of CDOG requirements uncovered during the Regional Boards' inspection activities.

If a determination is made by CDOG, or by the Regional Board, or the SWRCB, that an injection or surface disposal operation is violating the terms of its permit or is causing an unacceptable water quality problem, the permitting agency shall take any necessary actions to assure that compliance is achieved, or that the practice causing water pollution is abated forthwith. If necessary, the permitting agency shall order work to be done and/or order operation to be halted. Enforcement actions involving both statutory authorities should be coordinated among the parties involved in this MOA, but neither agency is precluded from taking independent enforcement action.

Modification of this Agreement

This agreement will be effective upon signature by the designated parties. The agreement may be modified upon the initiative of either party for the purpose of ensuring consistency with State or Federal statutes or regulations, or for any other purpose mutually agreed upon. Any such modifications must be in writing and must be signed by the Director of the Department of Conservation, the State Oil and Gas Supervisor, and the Chairman of the SWRCB.

Memorandum of Agreement Between the State Water Resources Control Board
and the Department of Conservation Division of Oil and Gas

Randall M. Ward
State Department of Conservation

3-9-88
Date

W. J. McLeod
State Oil and Gas Supervisor

3-4-1988
Date

W. Don Mauls
Chairman, State Water Resources Control Board

MAY 19 1988
Date

James L. Patton
Executive Director, State Water Resources
Control Board

MAY 19 1988
Date

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION 88- 61

APPROVAL OF AMENDMENTS TO THE MEMORANDUM OF AGREEMENT
BETWEEN THE STATE WATER RESOURCES CONTROL BOARD AND
THE DEPARTMENT OF CONSERVATION, DIVISION OF OIL AND GAS
REGARDING CLASS II INJECTION WELLS

WHEREAS:

1. The State Water Resources Control Board (State Board) and the Department of Conservation, Division of Oil and Gas executed a Memorandum of Agreement (MOA) in August 1982 that outlined the procedures for reporting proposed oil, gas, and geothermal field discharges and the procedures for prescribing permit requirements for said discharges.
2. The CDOG received primacy to administer the federal Underground Injection Control Program for Class II wells in California from the U.S. Environmental Protection Agency (EPA) in March 1983.
3. The EPA revised its classification of materials that are considered Class II fluids in July 1987.
4. The EPA revised classification requires revisions to the MOA for consistency.
5. Additional revisions to the MOA are necessary to clarify procedures.

THEREFORE BE IT RESOLVED:

That the State Board approves the revised MOA with CDOG and directs the Chairman and Executive Director to sign said agreement.

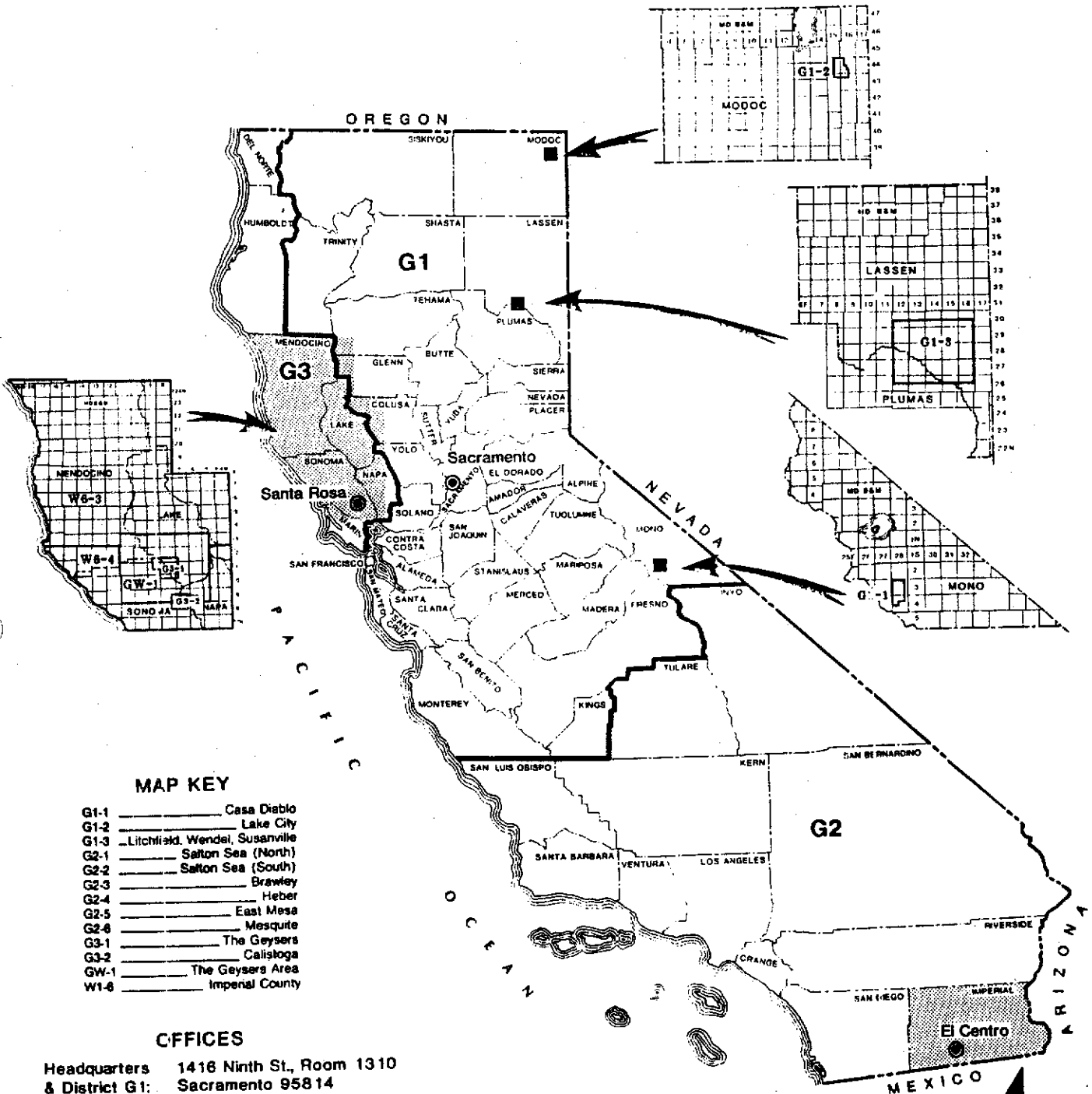
CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on

MAY 19 1988


Maureen Marche
Administrative Assistant to the Board

GEOHERMAL DISTRICT AND FIELD MAPS



MAP KEY

- G1-1 _____ Casa Diablo
- G1-2 _____ Lake City
- G1-3 _____ Litchfield, Wendel, Susanville
- G2-1 _____ Salton Sea (North)
- G2-2 _____ Salton Sea (South)
- G2-3 _____ Brawley
- G2-4 _____ Heber
- G2-5 _____ East Mesa
- G2-6 _____ Mesquite
- G3-1 _____ The Geysers
- G3-2 _____ Calistoga
- GW-1 _____ The Geysers Area
- W1-6 _____ Imperial County

OFFICES

Headquarters
& District G1: 1416 Ninth St., Room 1310
Sacramento 95814
Phone (916) 323-1788

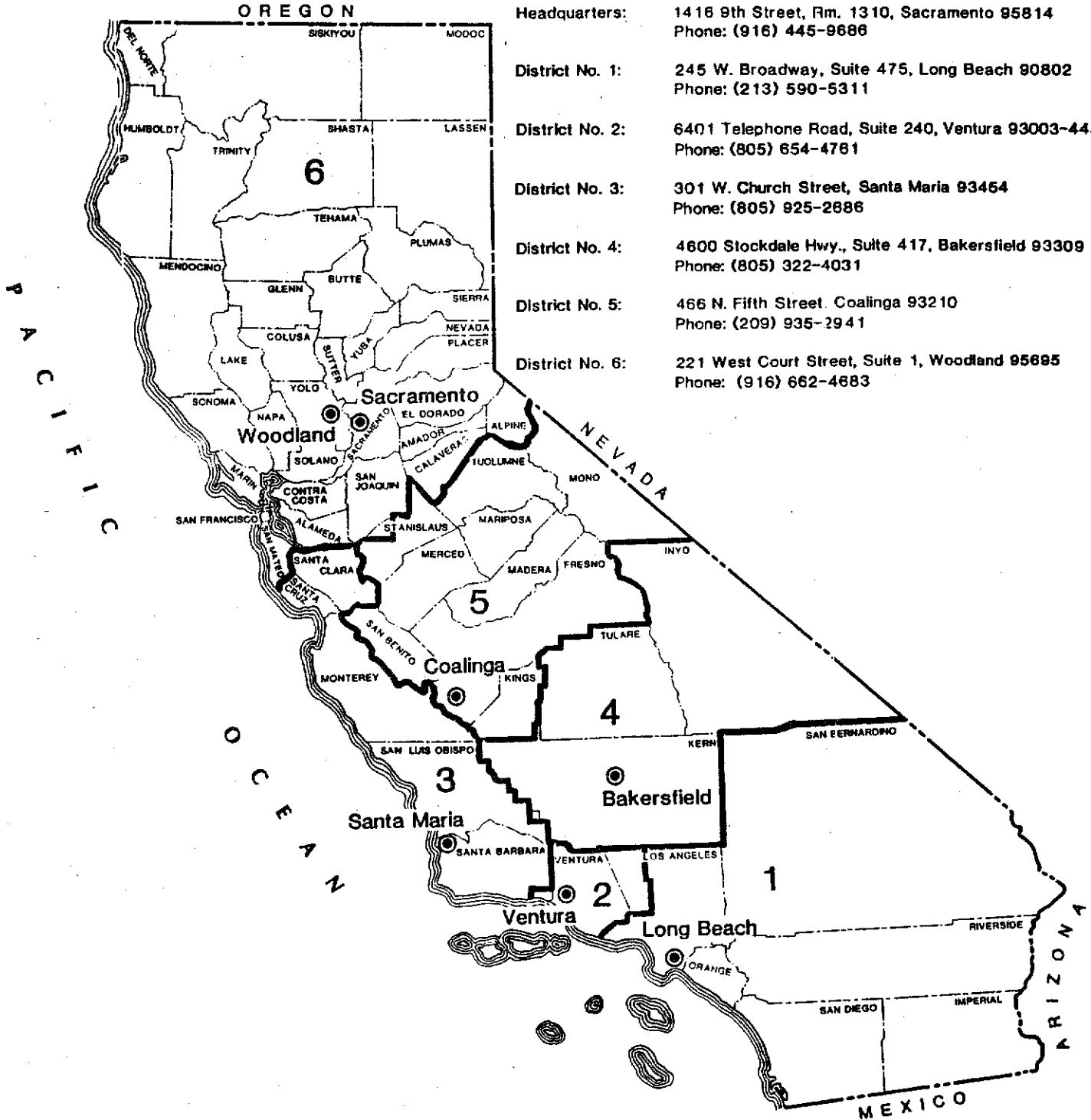
District G2: 485 Broadway
Suite B
El Centro 92243
Phone (619) 353-9900

District G3: 50 D St., Room 300
Santa Rosa 95404
Phone (707) 576-2385

OIL AND GAS DISTRICT BOUNDARIES

Offices

- Headquarters:** 1416 9th Street, Rm. 1310, Sacramento 95814
Phone: (916) 445-9686
- District No. 1:** 245 W. Broadway, Suite 475, Long Beach 90802
Phone: (213) 590-5311
- District No. 2:** 6401 Telephone Road, Suite 240, Ventura 93003-4458
Phone: (805) 654-4761
- District No. 3:** 301 W. Church Street, Santa Maria 93454
Phone: (805) 925-2886
- District No. 4:** 4600 Stockdale Hwy., Suite 417, Bakersfield 93309
Phone: (805) 322-4031
- District No. 5:** 466 N. Fifth Street, Coalinga 93210
Phone: (209) 935-2941
- District No. 6:** 221 West Court Street, Suite 1, Woodland 95695
Phone: (916) 662-4683



MEMORANDUM OF UNDERSTANDING
BETWEEN
THE DEPARTMENT OF HEALTH SERVICES
AND
THE STATE WATER RESOURCES CONTROL BOARD
THE REGIONAL WATER QUALITY CONTROL BOARDS
FOR THE CLEANUP OF HAZARDOUS WASTE SITES

August 1, 1990

INTRODUCTION

This Memorandum of Understanding (MOU) consists of general and specific provisions for the cleanup of hazardous waste sites. General provisions include the scope of the agreement, which defines the parties and the type of sites to which the MOU applies; the principles, not found in law or regulation, which govern the conduct of the parties; and the methods for implementation, which explain the manner by which the parties will execute, and perform according to, this MOU.

Specific provisions, which address the protocol the parties will follow for the cleanup of hazardous waste sites, include: the method by which the lead agency and, consequently, the support agency are determined; the responsibilities of the lead and support agencies, which are defined in terms of tasks to be accomplished; procedures to be followed to ensure coordination; outputs to be produced to ensure that minimum technical requirements are satisfied; the manner by which the parties will enforce their respective authorities and settle their claims against hazardous waste site owners, operators, or dischargers; and the manner by which the parties will settle their disputes.

BACKGROUND

Based on a recommendation of the Governor's Task Force on Toxics, Waste, and Technology, Governor Deukmejian issued Executive Order D-55-86, which states, in part, that the Department of Health Services (DHS), the State Water Resources Control Board (SWRCB), and the Regional Water Quality Control Boards (RWQCB) shall enter into an MOU that specifies each agency's responsibilities in hazardous waste site cleanup, defines standards and criteria for use in Remedial Action Plan (RAP) development, and identifies a conflict resolution process to resolve interagency disputes. Subsequently, the Legislature included a provision in the Supplemental Report of the 1988 Budget Act requiring the development of this MOU.

Statutes of the State of California, embodied in the state codes, authorize certain actions or express fundamental principles which must govern the intent and goals of the MOU. Relevant code sections include, but are not limited to, the following:

- A. DHS is mandated to carry out all hazardous waste management responsibilities imposed or authorized by the Resources Conservation and Recovery Act (RCRA), the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and any regulations promulgated pursuant to these federal acts (Health and Safety Code [HSC] 25159.7).
- B. DHS shall prepare a plan for the expeditious implementation of the Hazardous Substance Cleanup Bond Act of 1984 which shall include procedures required for the development and adoption of final RAPs by DHS and RWQCB (HSC 25351.6 and 25334.5).
- C. DHS, or if appropriate, the RWQCB shall prepare or approve RAPs for all sites listed by DHS for Remedial Action (RA) (HSC 25356.1 and 25356).

- D. DHS or the RWQCB shall review and consider any public comments, revise the draft plan if appropriate, and then issue the final RAP. (HSC 25356).
- E. DHS shall implement procedures for the abatement of an imminent and substantial endangerment (HSC 25358.3).
- F. DHS is authorized to spend funds from the Hazardous Substance Account or the Hazardous Substance Cleanup Fund for removal or remedial actions on any site included on the list established pursuant to HSC 25356 only if DHS enters into an enforceable agreement or issues an order and determines in writing that the potential responsible party(s) is not in compliance with the order or agreement. (HSC 25355.5)
- G. The SWRCB and each RWQCB shall be the principal state agencies with primary responsibility for the coordination and control of water quality (Water Code [WC] 13001).
- H. Each RWQCB shall obtain coordinated action in water quality control, including the prevention and abatement of water pollution and nuisance (WC 13225).

Under direction from the Governor, DHS signed a Defense (Department)-State Memorandum of Agreement (DSMOA) in May 1990, which allows for funding state oversight of remedial actions at military facilities in California. Although both DHS and the State and Regional Boards are eligible to receive payment for their oversight costs, federal funding is limited and qualified. Separate agreements between DHS regional offices and the RWQCBs for specific sites will be required in order to allocate available funding. This MOU provides a basis for DHS and the Boards to agree on funding and performance at military facilities.

DHS, also, has recently signed an Agreement in Principle (AIP) with the U.S. Department of Energy (DOE). The AIP will provide reimbursement of state costs for oversight of specified environmental compliance activities at DOE facilities. An Interagency Agreement between the DHS Environmental Health Division and the SWRCB will specify water quality oversight tasks which the State and Regional Boards will perform.

THE DHS AND THE SWRCB AND THE RWQCBS AGREE TO THE FOLLOWING:

I. SCOPE

This MOU is effective immediately and is binding upon DHS, the SWRCB, and the nine RWQCBs. It covers the cleanup of hazardous substances at all sites or facilities where such substances must be cleaned up in order to protect public health or the environment. The cleanup of other substances is not covered under this agreement. Sites include, but are not limited to, sites listed on the National Priorities List (NPL) and in the DHS Site Mitigation annual work plan. This MOU shall be used to determine the relationship of the parties and to guide the site-specific communications between them on activities at the sites. The provisions of this MOU are applicable both at sites where a state agency is the lead agency as well as at sites where the U.S. Environmental Protection Agency, Region 9 (EPA) is the lead agency. In the latter case, the provisions of this MOU shall be utilized to determine which state agency will act as the liaison between the State and EPA and how the state agencies will coordinate their review and comment on site-specific documents submitted by EPA.

Contracts and agreements also exist which involve DHS, SWRCB, RWQCB, and local agencies in the cleanup of leaking underground storage tanks. There are also other specific agreements between state and/or federal agencies. This MOU is not intended to conflict with the provisions of those contracts and agreements nor is it intended to add procedure and requirements which the agencies agree are not necessary for the satisfactory cleanup of leaking underground storage tanks.

A Memorandum of Agreement (MOA) exists between DHS and the SWRCB regarding coordination of activities at facilities subject to regulation pursuant to RCRA. For coordination of cleanup activities at these facilities, the agencies should refer to both this MOU and the RCRA MOA.

II. PRINCIPLES

The parties recognize that certain principles, not found in law or regulation, should govern their conduct. One principle is that the participation of both agencies acting within their respective authorities, jurisdiction, and expertise, whether acting as lead agency or support agency, is essential for the successful cleanup of hazardous waste sites and is in the best interest of the State.

In the cleanup of hazardous waste sites, mutual trust, confidence, cooperation, and communication between the parties are to be expected. It is a basic aim of this MOU and the policy of the parties that duplication of effort in the site cleanup program be avoided. Public health and the environment are best served by each party minimizing duplication of effort on the greatest number of sites possible. Both parties do, however, recognize that there are certain situations where one or the other will have the necessary technical resources, expertise, or authority. To the extent staff and other resources allow, and in a manner set forth in this MOU, the parties agree to assist each other. This cooperative approach is in the best interest of public health and the environment.

Finally, the parties recognize that cleanup of hazardous waste sites throughout California can best be achieved if the state agencies act with consistency and predictability. Both the public and the responsible parties expect that state government will apply rational methodologies and standards to site cleanup. Compliance with the terms of this MOU will eliminate or significantly reduce any apparent inconsistencies between the agencies. Consistency will be achieved by agreement on minimum technical and procedural requirements, coordination of enforcement actions, close and constant communication between project staff, and exchange of Applicable or Relevant and Appropriate Requirements (ARARs) or state standards for site cleanup. If either agency is developing such standards, that agency will involve the other agency in the development at an early stage so that consistency in technical issues can be maintained.

III. IMPLEMENTATION

In order to facilitate implementation of this MOU, the parties will establish an "MOU Technical Advisory Committee" (TAC) within four months of the effective date of this MOU. The TAC will serve to provide guidance and advice to management and staff on technical issues that develop during performance under this agreement and will assist, if called upon, in the settlement of technical disputes. The TAC will also evaluate the achievement of the goals of the Executive Order and the compliance principles of this MOU and will provide an annual report to management. This report will be submitted by March 1 of each year, will cover the prior calendar year and will, if appropriate, include recommendations for modifications to this MOU to improve attainment of the principles of the parties. The TAC will consist of a total of six members, each at a level equivalent to Supervising Engineer, Supervising Hazardous Materials Specialist, or above, as follows: one member from DHS Headquarters, two members from DHS Regional Sections, one member from SWRCB, and two members from RWQCBs. Annually the TAC will elect one of its members as chairman who will be responsible for coordinating the activities of the TAC.

IV. LEAD AGENCY DETERMINATION

DHS Regional Offices and RWQCBs will meet to determine the lead agency as appropriate under this section.

- A. The agency which first discovers a potential or actual hazardous waste site shall serve as the lead agency until the criteria of this MOU are utilized to determine a lead agency.
- B. Within 180 days after the effective date of this MOU, the agencies shall determine the lead and support agencies for each hazardous waste site on which either agency plans to work in Fiscal Year 1990-91. Each Regional Board Executive Officer (EO) and Department Regional Administrator (RA) shall compile an inventory of hazardous waste sites within their respective regions and shall determine whether resources are or will be available to perform the tasks required by this MOU. The EO and RA shall then agree on which agency shall be lead and which shall be support for sites of common jurisdiction. Sites for which neither agency has resources shall be listed in a holding pool until resources become available or priorities change. This process shall be repeated for each subsequent fiscal year as necessary to implement this MOU. The designation of lead agency may be changed at any time by agreement of the agencies.
- C. The determination of a lead agency shall be made by considering the factors listed in Paragraph D of this section. It is probable that more than one factor may be applicable to a site. In these situations, more weight should be given to those factors listed first.
- D. The lead agency as between DHS and SWRCB/RWQCB, for the cleanup of hazardous waste sites shall be determined using the following guidance:
1. DHS should be the lead agency at sites where there is no responsible party.
 2. If the site does not meet the criteria in number 1 above, then the following conditions apply:
 - a. If after reasonable enforcement actions are implemented, the responsible party is unwilling or is financially unable to perform cleanup and the expenditure of state Superfund monies is deemed appropriate to perform actual site cleanup, then DHS should be the lead agency.
 - b. If the site is on the NPL, then DHS should be the lead agency.
 - c. If one agency has a significantly longer history of involvement working to clean up the site, then it should be the lead agency.
 - d. If the source of the contamination is a leaking underground storage tank, then the RWQCB or a local agency, upon delegation by a Regional Board, or by contracting with the state Board, should be the lead agency.
 - e. If the contamination is primarily airborne, then DHS should be the lead agency in consultation with the Air Resources Board and the appropriate Air Quality Management District.
 - f. If the site is primarily a result of agricultural activities, then the RWQCB should be the lead agency.
 - g. If the source of the contamination is an inactive mine, then the RWQCB should be the lead agency.
 - h. If the contamination is confined to soils, then DHS should be the lead agency.
 - i. If the contamination is primarily impacting surface waters, then the RWQCB should be the lead agency.

- j. If the source of the contamination is a RCRA regulated disposal facility, then DHS should be the lead.
 - k. If the source of the contamination is a non-RCRA surface impoundment, then the RWQCB should be the lead agency.
 - l. If the source of the contamination is a landfill which would not normally be regulated by DHS, then the RWQCB should be the lead agency in consultation with the California Integrated Waste Management Board.
- E. Notwithstanding a determination under Paragraph D of this section, DHS Regional Offices and the RWQCB may otherwise agree which agency shall be lead agency at a particular site. Specific examples of situations where this provision may be used are where multiple sources are contributing to the same problem or where resource availability affects the determination; however, other situations may warrant a decision using this provision.
- F. The agency determined to be the lead agency for purposes of site cleanup under this MOU is not necessarily the lead agency for implementing programs or tasks that are applicable to the site but not within its authority or jurisdiction. Where the support agency happens to have sole or primary responsibility or exclusive capability for a program or task related to cleanup activities, then that agency shall perform those required tasks pursuant to its exclusive lead authority in a manner consistent with its role under this MOU. Examples of such tasks and programs include, but are not limited to, issuance of a National Pollutant Discharge Elimination System permit, approval of a transportation plan, regulation of nonhazardous wastes, enforcement of the Toxic Pits Control Act, approval of a solid waste water quality assessment test report, performance of a public health evaluation, or the imposition of restrictions for land use. The support agency will coordinate all activities described in this paragraph with the lead agency.
- G. Any dispute regarding the determination of the lead agency shall be resolved pursuant to Section VII.

V. RESPONSIBILITIES OF LEAD AND SUPPORT AGENCIES

A. Coordination Procedures

1. General

- a. The lead agency is responsible for coordinating and communicating with the support agency in a timely manner. This includes, but is not limited to, providing schedules, technical reports, correspondence, and enforcement papers; soliciting and responding to comment, analysis, evaluation, and advice; and meeting, conferring and discussing the project.
- b. The support agency is responsible for coordinating and communicating with the lead agency in a timely manner. This includes, but is not limited to, providing notification that selected sites are of particular interest; providing comment, analysis, evaluation, and advice, especially that within the unique expertise of the agency; and meeting, conferring, and discussing the project.
- c. EPA will be the lead agency for many sites listed on the NPL. The State will designate a state lead agency using the criteria specified in Section IV. The agency so designated has the responsibility of maintaining communications between the State and EPA. This agency does not have responsibility for ensuring completion of the tasks listed in Section V B. However, this agency shall ensure that comments from all state agencies

are transmitted to EPA and shall coordinate the resolution of any disputes so that the State presents only one position to EPA.

- d. Neither agency will significantly change its procedures for the cleanup of hazardous substances without notification to and review and comment from the other agency. Examples of such changes include technical guidance documents and applicable regulations.

2. Specific

- a. Each agency will coordinate with the other agencies on its enforcement activities as specified in Section VI.
- b. The lead agency shall provide to the support agency any California Environmental Quality Act (CEQA) documents at least ten working days prior to sending these documents to the state clearinghouse. If the support agency decides to comment, it shall do so within ten working days after receipt, or during the formal review process as mandated by CEQA.
- c. The lead agency shall contact the support agency to identify ARARs for each specific site at the following times:
 - (1) During the scoping phase of the remedial investigation/ feasibility study (RI/FS) or equivalent.
 - (2) During the site characterization phase of the RI or equivalent.
 - (3) During the development of alternatives in the FS or equivalent.
 - (4) During Remedial Design (RD).

The support agency shall respond within 30 calendar days after a request for ARARs. The lead agency shall apply the ARARs identified by the support agency or it shall provide to the support agency, at least 20 calendar days prior to informing the responsible party or the public, a written memorandum which identifies ARARs that will not be applied and the reasons for such decisions.

For those sites where EPA is the lead agency, the state lead agency as determined according to this MOU, shall notify EPA of all ARARs identified by the parties to this agreement. However, the party identifying the ARARs shall be responsible for defending the application of its ARARs should EPA elect not to apply them.

- d. The lead agency shall prepare or have the responsible party(ies) prepare the draft RAP or equivalent cleanup plan as an internal working draft document and provide a copy to the support agency at least 20 working days prior to general public distribution. If the support agency decides to comment, it will do so within 20 working days after receipt. Unless a shorter period of time is mutually agreed upon, any dispute shall be resolved by Section VII.
- e. The lead agency shall provide all other technical documents, as specified in Section V.B.9. , and not otherwise referred to above, within a time sufficient for review and comment. In all cases, the lead agency shall provide at least 15 working days for review and response by a support agency unless a shorter period of time is mutually agreed upon. The support agency shall respond, as appropriate, in a timely manner.

B. Tasks

1. For sites listed on the NPL or in the DHS Site Mitigation annual work plan:
 - a. The lead agency shall be responsible for ensuring completion of the following tasks:
 - (1) Identifying imminent threats and initiate removal actions (if necessary).
 - (2) Identifying responsible parties.
 - (3) Issuing an order or entering into an enforceable agreement (if necessary).
 - (4) Coordinating enforcement actions (see Enforcement and Settlement Section VI).
 - (5) Establishing and maintaining an administrative record.
 - (6) Providing project oversight:
 - (i) Assigning a remedial project manager.
 - (ii) Maintaining a field presence including, if necessary, providing an on-scene coordinator.
 - (iii) Preparing and maintaining site schedules and workplans.
 - (iv) Reviewing technical documents listed in Section 9 of this paragraph for comment or approval.
 - (v) Managing applicable contracts.
 - (vi) Accounting for project costs.
 - (7) Preparing and/or reviewing RI/FS which includes:
 - (i) Site characterization.
 - (ii) RA alternatives.
 - (iii) Risk assessment.
 - (8) Requiring and approving the Quality Assurance Project Plan (QAPP) and Sampling and Analysis Plan (SAP).
 - (9) Providing technical documents to the support agency, including, but not limited to, as appropriate:
 - (i) Site schedule.
 - (ii) RI/FS workplan.
 - (iii) RI report.
 - (iv) FS report.

- (v) Health and Safety Plan.
 - (vi) QAPP.
 - (vii) SAP.
 - (viii) Community relations plan.
 - (ix) RAP.
 - (x) CEQA documents.
 - (xi) Transportation plan.
- (10) Maintaining community relations:
- (i) Developing and implementing a community relations program.
 - (ii) Managing any technical assistance grants.
- (11) Compiling ARARs.
- (12) Conducting a complete Public Health Evaluation (PHE) (as appropriate).
- (13) Preparing and approving the RAP.
- (14) Preparing and/or approving RD/RA
- (15) Complying with CEQA.
- (16) Recovering cost (if necessary).
- (17) Overseeing operations and maintenance, including long-term monitoring (if necessary).
- (18) Restricting land use (as appropriate).
- b. The support agency shall be responsible for reviewing and, if appropriate, providing comments on the documents listed in Section V.B.1.a.(9) within the time periods determined utilizing Section V.A.2. or the lead agency may assume that the support agency does not have any comments. Additionally, the support agency shall always respond to a request for ARARs, and shall perform tasks as appropriate according to its exclusive authority or capability.
2. For sites not listed on the NPL nor on the DHS Site Mitigation annual work plan:
- a. The lead agency shall be responsible for ensuring completion of the following tasks:
 - (1) Conducting removal actions (if necessary).
 - (2) Identifying a responsible party.
 - (3) Coordinating enforcement action (see Enforcement and Settlement, Section VI).

- (4) Establishing and maintaining an administrative record.
 - (5) Providing project oversight.
 - (i) Assigning a project manager.
 - (ii) Preparing and maintaining site schedules and workplans.
 - (iii) Reviewing technical documents.
 - (iv) Maintaining a field presence, as necessary.
 - (6) Preparing or approving an Employee Health and Safety Plan.
 - (7) Characterizing the nature and extent of the problem.
 - (8) Requiring and approving quality assurance and sampling plans.
 - (9) Evaluating cleanup alternatives.
 - (10) Complying with CEQA.
 - (11) Conducting community relations.
 - (12) Preparing or approving the cleanup plan.
 - (13) Overseeing cleanup.
 - (14) Providing technical reports to the support agency.
- b. The support agency shall be responsible for reviewing and, if appropriate, providing written comments on the documents submitted pursuant to Section V.B.2.a within the time periods determined utilizing Section V.A.2. or the lead agency may assume that the support agency does not have any comments. Additionally, the support agency shall always respond to a request for ARARs, and shall perform tasks as appropriate according to its exclusive authority or capability.

C. Technical Requirements

1. The following outputs or items, in whole or in part, are required to be addressed for the completion of RAs at hazardous waste sites:
 - a. For sites Listed on the NPL or in the DHS Site Mitigation annual work plan:
 - (1) RAs (if needed).
 - (2) Identification of responsible parties.
 - (3) Enforceable agreement or order.
 - (4) Cooperative agreement.
 - (5) Administrative record.

- (6) Remedial project manager.
 - (7) On-scene coordinator.
 - (8) Site schedule.
 - (9) Workplans.
 - (10) Community relations plan.
 - (11) QAPP.
 - (12) SAP.
 - (13) RI.
 - (i) Site history.
 - (ii) Identification of sources.
 - (iii) Site characterization.
 - (14) ARARs.
 - (15) FS.
 - (16) Record of decision (ROD)/RAP
 - (17) RD
 - (18) RA.
 - (19) PHE.
 - (20) CEQA document.
 - (21) Health and Safety Plan.
 - (22) Transportation plan (if needed).
- b. For sites not listed on the NPL nor in the DHS Site Mitigation annual work plan:
- (1) RAs.
 - (2) Identification of responsible parties.
 - (3) Administrative record.
 - (4) Remedial project manager.
 - (5) Site schedule.
 - (6) Workplan.

- (7) Quality assurance plan.
- (8) Sampling and analysis plan.
- (9) RAP or cleanup plan.
 - (i) Site history.
 - (ii) Identification of sources.
 - (iii) Site characterization.
 - (iv) Feasible remedial alternative.
 - (v) RD.
- (10) Community relations plan.
- (11) RA.
- (12) Employee Health and Safety Plan.
- (13) Community Health and Safety Plan (if needed).
- (14) CEQA compliance.
- (15) Transportation plan (if needed).

2. The agencies shall define these requirements, as appropriate, according to 40 CFR 300 et seq., and HSC 25350 et seq., in addition to the guidance documents listed in Attachment A.

VI. ENFORCEMENT AND SETTLEMENT

- A. For purposes of this MOU, enforcement means the action by an agency to compel performance by a responsible party, such as the issuance of an order or the filing of a complaint. Settlement means the resolution by agreement with the responsible party, in whole or in part, of matters in dispute, such as the performance required for satisfactory remedial action, claims for money, or liability.
- B. The lead agency will communicate with the other agencies regarding its enforcement and settlement activities for hazardous waste sites. Communication means, for example, notification at least 10 working days in advance, if feasible, of a decision to issue an order or to initiate settlement negotiations; provision of enforcement or settlement documents for information or for review and comment; and, to the extent feasible, modification of a proposed order or agreement to incorporate the other agency's concerns. Staffs will meet and confer, as necessary, during drafting of enforcement and settlement documents.
- C. Unnecessary or redundant enforcement documents are to be avoided. Neither agency will take enforcement actions that are not compatible or complementary to the enforcement actions of the other agencies. To the extent possible, consistent with preserving their respective authority or mandates, each agency will coordinate time schedules and demands so that responsible parties can respond to consistent direction.

- D. To the extent practicable, each agency will assist the other in enforcement. Information that may be used to determine compliance or noncompliance will be transmitted to the enforcing agency as soon as possible but no later than 15 working days after being obtained and formalized.
- E. Upon a determination of noncompliance with an administrative order and a decision to pursue litigation (i.e., referral to the Attorney General or filing a complaint), the responsible agency will notify the other agencies at least seven working days prior to referring a matter to the Attorney General. Each agency will coordinate its legal actions to the extent practicable so that the Attorney General may bring joined or consolidated causes of action.
- F. Negotiations may be commenced with a responsible party to enter into an enforceable agreement either to take cleanup action without the issuance of an order, to resolve noncompliance with an order that has been issued, or to resolve causes of action alleged in complaint. All decisions to negotiate with a responsible party will be coordinated between the agencies.
- G. The lead agency will act as lead spokesperson for the negotiating team. The lead spokesperson will be responsible only for initiating and maintaining communications with the responsible parties, for coordinating the State's position, and for directing the agenda for settlement. The negotiating team will be composed of representatives from each agency with authority, with legitimate claims, and electing to participate. For purposes of dispute resolution in Federal Facility Agreements (FFAs), the lead agency and support agency may agree to designate which state agency will cast the State's vote.

Each agency is responsible for presenting its respective position. If an agency fails to attend negotiations or to meet other negotiating responsibilities without good cause, or without notifying the other participating agency in advance, then that agency must either defer to negotiating participants on issues discussed at the missed negotiation or withdraw from further negotiations relative to that particular site.

However, where practicable, in order to avoid unnecessary expenditure of resources for conducting negotiations, the support agency, after prior notification to and agreement by the lead agency, may elect to withdraw from or not participate in active negotiations, either temporarily or permanently. In such cases, the support agency is responsible for providing to the lead agency the details of their specific concerns regarding settlement. If this information is not provided, the lead agency will negotiate in the best interest of the State, but will have no responsibility to negotiate on behalf of the support agency issues for which the lead agency has neither authority nor assistance.

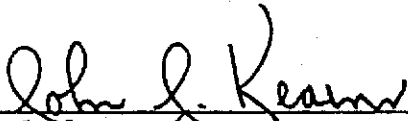
When the support agency does not attend negotiations, the lead agency is responsible for obtaining for the support agency terms of settlement identical to its own, provided that: the support agency provides the necessary information and assistance to the lead agency pursuant to this section; and the terms requested by the support agency are similar in scope and documentation to that of the lead agency ("identical terms" means similar percentage of settlement request or similar conditions as opposed to a dollar-for-dollar separation). Moreover, the lead agency is responsible for notifying the support agency if new issues arise which may be within the sole authority of the support agency, in order that the support agency has the opportunity to participate in those portions of the negotiations addressing such issues. The negotiation of FFAs with the federal government is an example of when this situation may occur. In this example, the lead agency will not settle for recovery of their costs without including those similarly justifiable costs of the support agency.

- H. All communications with a responsible party related to negotiations will be coordinated by the lead spokesperson. Documents related to negotiations will be shared freely between the agencies and such documents which are confidential will be maintained in a manner consistent with any applicable requirements for confidentiality.

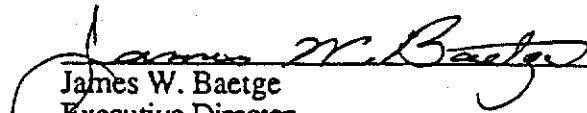
- I. Each agency will support the other during negotiations. A single position is essential, and the agency advocating the most conservative or stringent position will be responsible for defending its position. A disagreeing agency will remain silent or request a recess. All agencies involved should meet prior to each negotiating session in order to minimize disagreements.
- J. Before agreement or settlement with responsible parties can be reached, the concerns and claims of each agency regarding the issues to be agreed upon or settled will be resolved. An agency will not settle independently with responsible parties without advance concurrence by the other participating parties. Disputes shall be settled pursuant to the procedure described in Section VII.
- K. Settlement with a responsible party will include provision for payment by the responsible party for all oversight costs incurred or to be incurred by any negotiating agency that will participate in the RA procedure.

VII. DISPUTE RESOLUTION

- A. Disputes shall be resolved, if at all possible, through informal discussion, negotiation, and consensus. Such informal discussions may, if necessary, include staff at all levels, including those listed in Section VII.B.1. If the dispute cannot be resolved informally within a reasonable length of time or if continuing nonresolution of the dispute would place either party at a disadvantage, then either party may notify the other party that such a dispute exists and exercise the formal dispute resolution procedure described below.
- B. Disputes shall be resolved formally using the following procedure:
 - 1. Jointly the staffs of the agencies involved in the dispute shall prepare a memorandum describing the dispute. The lead agency shall provide copies to the appropriate RA of the Toxic Substances Control Program (TSCP) and to the Executive Officer (EO) of the appropriate Regional Board. The memorandum shall address and explain all sides to the dispute, shall state the consequences of each recommended decision and shall provide a date by which a decision is needed. The lead staff person for each agency shall co-sign the memorandum prior to submitting it to management.
 - 2. If the DHS RA and the RWQCB EO cannot resolve the dispute within the time requested in the memorandum, then they will jointly present written notification of the dispute to both the Executive Director (ED) of the SWRCB and the Deputy Director of the TSCP.
 - 3. If the SWRCB ED and the TSCP Deputy Director cannot resolve the dispute within 30 calendar days from the day the memorandum is delivered to them, then the memorandum shall be delivered to the SWRCB and the Director of DHS. If within 30 calendar days they cannot resolve the dispute, the memorandum shall be delivered to the Secretary of Environmental Affairs and to the Secretary of Health and Welfare. If within 30 calendar days they cannot resolve the dispute, the memorandum shall be delivered to the Governor.
 - 4. When the dispute is resolved, a written decision shall be provided to all parties to this MOU.
- C. During such time that any formal or informal dispute is not yet resolved, neither agency will comment adversely in public. The time required to resolve a dispute shall not be used to unnecessarily or unfairly delay action by either agency.



John J. Kearns
Acting Deputy Director
Toxic Substances Control Program
Department of Health Services
State of California



James W. Baetge
Executive Director
State Water Resources Control Board
State of California

Date: 7/30/90

Date: 7-31-90

ATTACHMENT A

APPLICABLE LAWS, REGULATIONS, AND GUIDANCE DOCUMENTS

- A. California Water Code.
- B. California Health and Safety Code.
- C. Titles 22/23 (Subchapter 15) California Code of Regulations.
- D. California Environmental Quality Act.
- F. National Oil and Hazardous Substances Contingency Plan.
- G. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA.
- H. Superfund Public Health Evaluation Manual.
- I. Superfund Exposure Assessment Manual.
- J. Methodology for Characterization of Uncertainty in Exposure Assessments.
- K. RCRA Ground-Water Monitoring Technical Enforcement Guidance Document.
- L. The Endangerment Assessment Handbook.
- M. Superfund Remedial Design and Remedial Action Guidance.
- N. Standard Operation Safety Guides (OSWER).
- O. Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities (DHS [NIOSH]).
- P. Data Quality Objectives for Remedial Response Activities (OSWER).
- Q. Samplers and Sampling Procedures for Hazardous Waste Sources (EPA).
- R. A Compendium of Superfund Field Operations Methods.
- S. Handbook on Remedial Action on Waste Disposal Sites.
- T. Uncontrolled Hazardous Waste Site Ranking System--A User's Manual.
- U. Community Relations in Superfund: A Handbook (EPA) 03/86.
- V. The California Site Mitigation Decision Tree Manual.
- W. Small Site Cleanup Guidance Document (to be completed).
- X. Leaking Underground Fuel Tank Manual.

ATTACHMENT B

ACRONYMS USED IN THE MEMORANDUM OF UNDERSTANDING

1. AIP Agreement In Principle
2. ARARS Applicable or Relevant and Appropriate Requirements
3. CERCLA Comprehensive Environmental Response, Compensation, and Liability Act
4. CEQA California Environmental Quality Act
5. DHS Department of Health Services
6. DOE U.S. Department of Energy
7. DSMOA Defense (Department)-State Memorandum of Agreement
8. ED Executive Director
9. EO Executive Officer
10. EPA U.S. Environmental Protection Agency, Region 9
11. FFA Federal Facility Agreement
12. FS Feasibility Study
13. HSC Health and Safety Code
14. MOA Memorandum of Agreement
15. MOU Memorandum of Understanding
16. NPL National Priorities List
17. PHE Public Health Evaluation
18. QAPP Quality Assurance Project Plan
19. RA Remedial Action or Regional Administrator
20. RAP Remedial Action Plan (State equivalent to ROD)
21. RCRA Resource Conservation and Recovery Act
22. RD Remedial Design
23. RI Remedial Investigation
24. ROD Record of Decision (Federal equivalent to RAP)
25. RWQCB Regional Water Quality Control Board

- 26. SAP Sampling and Analysis Plan
- 27. SWRCB State Water Resources Control Board
- 28. TAC Technical Advisory Committee
- 29. TSCP Toxic Substances Control Program
- 30. WC Water Code

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
SOIL CONSERVATION SERVICE
U.S. DEPARTMENT OF AGRICULTURE
AND THE
STATE WATER RESOURCES CONTROL BOARD
FOR
PLANNING AND TECHNICAL ASSISTANCE RELATED TO
WATER QUALITY POLICIES AND ACTIVITIES

I. PURPOSE:

The purpose of this Memorandum of Understanding (MOU) is to formalize cooperation between U.S. Department of Agriculture (USDA), Soil Conservation Service (SCS) and the State Water Resources Control Board (State Board), and to develop appropriate guidelines and procedures related to water quality activities. The SCS and State Board share a common interest in maintaining, protecting, and improving the quality of waters (surface and ground water) of the State.

Through this MOU, the State Board seeks to utilize the personnel and expertise of SCS to increase the assistance available to California in the development and implementation of water quality programs and projects. Coordination and cooperation between SCS and State Board will reduce unnecessary duplication of effort, accelerate the implementation of best management practices (BMPs) and other nonpoint source (NPS) measures, and increase overall program effectiveness.

II. AUTHORITIES:

This MOU is entered into under the authorities of the Soil Conservation and Domestic Allotment Act (16 U.S.C. Section 590-f), as amended, Division 7 of the California Water Code (Porter-Cologne Act), and the authorities of the Clean Water Act (CWA), [Section 304(1), 314, 319, and 320], as amended.

Nothing in this MOU alters the statutory or regulatory authority of SCS or the State Board. This MOU is intended to strengthen those statutory requirements through the development of cooperative federal-State efforts.

III. BACKGROUND:

USDA Regulation 9500-7, Nonpoint Source Water Quality Policy, December 5, 1986 and USDA Regulation 9500-8, Policy for Groundwater Quality, November 9, 1987 established policy for integrating surface and ground water quality protection and improvement into the appropriate programs and activities.

The report to the Congress by the Secretary of Agriculture in the National Program for Conservation of Soil and Water: The 1988-90 Update gives top priority to the solution of soil erosion on agricultural land. The second priority is the "protection of the quality of surface and ground water from harmful contamination from nonpoint sources".

SCS, a technical agency of the USDA and, in cooperation with Resource Conservation Districts in California, provides technical assistance for implementation of water quality programs. SCS has a number of field offices which can provide technical assistance to most of the counties within California.

The Porter-Cologne Act, administered by the State Board, establishes a comprehensive program for the protection of water quality and the beneficial uses of the waters of the State. The Porter-Cologne Act is intended to provide a "statewide program for water quality control".

Section 319 of the CWA, as amended, requires the State to develop a NPS management program for controlling NPS pollution. The State Board has developed a State NPS Management Program which lists the SCS as providing technical and financial assistance to improve and protect land and water resources.

The State Board and SCS recognize the need to improve, conserve, and protect the quality of surface and ground water by undertaking efforts to avoid harmful NPS contamination and, thereby maintain the quality and quantity of water available for safe drinking supplies, irrigated agriculture, fisheries, and other beneficial uses. A coordinated effort is necessary to address these issues.

IV. SCS AGREES TO:

- A. Integrate water quality concepts and management techniques into all programs and activities to address surface and ground water NPS pollution.
- B. Implement internal policies that elevate the importance of water quality in all SCS programs and assure consistency of SCS actions with the State NPS Management Program.
- C. Provide technical assistance to the State Board in the support and development of BMPs appropriate for the control and reduction of NPS pollution.
- D. Encourage the targeting of water resource projects to hydrologic units that are tributary to the high priority waterbodies identified in the State Board's Clean Water Strategy and Water Quality Assessment Process.
- E. Encourage the California Association of Resource Conservation Districts (CARCDs) and their more than 100 member districts to cooperate with appropriate State and local agencies in addressing the water quality priorities of federal agencies and the State Board.
- F. Provide technical assistance through RCDs to landowners in dealing with NPS pollution problems.

V. STATE BOARD AGREES TO:

- A. Use the SCS Field Office Technical Guide as a resource reference in the development and implementation of BMPs.
- B. Assist the SCS in the selection of priority hydrologic units for the implementation of water resource projects.
- C. Jointly develop with the SCS and CARCD demonstration projects addressing water quality concerns.
- D. Encourage the voluntary or cooperative approach as the first step in the development and implementation of solutions to the NPS problem.
- E. Consider the development of a statewide water quality policy for reducing NPS pollution of surface and ground waters and achieving water quality standards by working with other agencies.
- F. Coordinate the activities of the California Regional Water Quality Control Boards with those activities being proposed and implemented by the SCS.
- G. Define the goals and objectives of the NPS Interagency Advisory Committee and conduct regular meetings.

VI. SCS AND STATE BOARD MUTUALLY AGREE TO:

- A. Develop a process for BMP selection and implementation to reduce or prevent agricultural pollution in priority waterbodies.
- B. Continue to upgrade and update the SCS's Field Office Technical Guide and BMPs as new technology is developed.
- C. Develop agricultural BMPs for NPS pollution control with input from the NPS Interagency Advisory Committee, and others.
- D. Develop implementation priorities and policies for NPS pollution activities.
- E. Provide guidance and technical assistance to implementation agencies.
- F. Encourage participation of other federal, State, and local agencies in the control of NPS pollution.

VII. OTHER CONDITIONS OF THE MOU:

- A. This is not a fiscal or a funds obligation document. Endeavors involving reimbursements or transfer of funds between SCS and the State Board for the purposes of this Agreement will be in accordance with USDA/SCS and State Board financial procedures. Any reimbursement agreement will be contingent upon the availability of funds and upon limitations of appropriations authorized by law.

B. This MOU complies with the nondiscrimination provisions of Title VI of the Civil Rights Act of 1964 and other nondiscrimination statutes, namely, Section 504, Title IX and the Age Discrimination Act of 1975 provides that no person in the United States shall, on the grounds of race, color, national origin, age, sex, religion, or handicap be excluded from participation in, or be denied the benefits of, or be otherwise subjected to discrimination under any program or activity receiving federal or State assistance.

C. This MOU becomes effective on the date of signature by both parties and shall continue indefinitely. It may be modified at any time upon the mutual consent of the parties and it may be terminated by either party giving a 30-day advance written notice to the other party.

BY:

W. Don Maughan
W. Don Maughan
Chairman
State Water Resources
Control Board
Sacramento, California

Date: July 31, 1990

BY:

Pearlie S. Reed
Pearlie S. Reed
State Conservationist
Soil Conservation Service
Davis, California

Date:

July 31, 1990

MEMORANDUM OF UNDERSTANDING

AMONG

**ENVIRONMENTAL AFFAIRS AGENCY
AIR RESOURCES BOARD
STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD**

I. INTRODUCTION

This Memorandum of Understanding (MOU) expresses the desire of the Air Resources Board (ARB), State Water Resources Control Board (SWRCB), California Integrated Waste Management Board (CIWMB), and Environmental Affairs Agency (Agency) to enhance program coordination. We undertake this task to minimize risks to public health and the environment, eliminate duplication of effort, and provide regulatory consistency.

The MOU consists of general and specific provisions. General provisions include (A) the scope of the agreement, which defines the parties and issues to which the MOU applies, (B) the principles which will govern the conduct of the parties and, (C) the existing statutory framework.

Specific provisions, which address the protocols the parties will follow, include (A) the responsibilities of the Boards and the Agency, (B) procedures to be followed to ensure communication and program coordination, (C) the manner by which the parties will settle their disputes, (D) implementation steps, and (E) procedures for amending, withdrawing from, and repealing this MOU.

II. BACKGROUND

California has a decentralized environmental management system. At the state level, the ARB, SWRCB, CIWMB, and Department of Health Services (DHS) formulate policies and regulations pertaining to air quality, water quality, solid waste, and hazardous waste, respectively. At the regional and local levels, the Air Quality Management Districts, Air Pollution Control Districts, Regional Water Quality Control Boards, and Local Enforcement Agencies conduct permitting and enforcement activities.

Many environmental issues cut across organizational lines. These interagency issues stem from the fact that pollutants do not recognize the boundaries of environmental media or political and institutional subdivisions. To effectively deal with interagency issues, the management of the Boards and the Agency set forth in this MOU some guiding principles and procedures to govern our conduct.

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III. GENERAL PROVISIONS

A. SCOPE

This MOU is binding upon the ARB, SWRCB, CIWMB, and Agency. This MOU is effective immediately.

This MOU covers all activities of the Boards, and shall be used to determine the relationship of the Boards and guide communication among them and with the Agency.

An MOU is being prepared by the three Boards regarding solid waste disposal site testing and remediation (the SWAT program). For coordination of SWAT program activities, the parties should refer to both this MOU and the SWAT program MOU.

It is anticipated that in a limited number of instances, other, program-specific MOUs may be developed as a result of the problem identification and dispute resolution provisions of this MOU.

Although the local air districts, regional water quality control boards, and solid waste local enforcement agencies are not signatories to this agreement, the three Boards understand and agree that it is each Board's responsibility to inform and coordinate with their respective local or regional counterparts as outlined in Section IV(B)(3)(a) below.

B. PRINCIPLES

The Boards and the Agency recognize that we share a common goal--protection of public health and the environment. We also recognize that the resources available to achieve this goal are limited, and that duplication of effort, conflict, and confusion detract from our collective efforts. It therefore is the policy of the Agency and the Boards that the parties work together, in an atmosphere of mutual trust, confidence, cooperation and communication, to maximize the efficient use of our resources. Accordingly, the ARB, SWRCB, CIWMB, and the Agency are committed to work together, with other state agencies and other levels of government, to closely follow these guiding principles:

- We will resolve conflicts promptly.
- We will promote a multimedia approach to pollution control and pollution prevention that minimizes the total exposure to pollution faced by humans and the environment.
- We will avoid duplication of effort, and maximize the efficient use of resources.

C. EXISTING STATUTORY FRAMEWORK

1. Statutes of the State of California authorize certain actions or provide fundamental authority which must govern the operation of this MOU. Relevant sections include:

- a. The ARB has the responsibility for control of emissions from motor vehicles and shall coordinate, encourage, and review the efforts of all levels of government as they affect air quality (Health and Safety Code Section 39500).

The ARB is the air pollution control agency for all purposes set forth in federal law (Health and Safety Code Section 39602).

- b. The SWRCB is the principal state agency with primary responsibility for the coordination and control of water quality (Water Code Section 13001).

The SWRCB is the state water pollution control agency for all purposes stated in the Federal Water Pollution Control Act and any other federal act (Water Code Section 13160).

- c. The CIWMB shall adopt and revise minimum standards for solid waste handling and disposal for the protection of air, water and land from pollution (Public Resources Code Section 43020). The Board shall adopt rules and regulations, as necessary, to carry out Division 30 of the Public Resources Code (Public Resources Code Section 40502). The standards which the CIWMB must adopt shall include the design, operation, maintenance and ultimate reuse of solid waste processing or disposal facilities (Public Resources Code Section 43021).

The CIWMB is the state solid waste management agency for all purposes stated in the Federal Resources Conservation and Recovery Act of 1976 and any other federal act affecting solid waste (Public Resources Code Section 40508).

- d. The Chairperson of the ARB serves as the principal advisor to the Governor on, and assists the Governor in establishing, major policy and program matters on environmental protection. The Chairperson also serves as the principal communications link for the effective transmission of policy problems and decisions to the Governor relating to the activities of the SWRCB and the CIWMB (Health and Safety Code Section 39511).

2. Other statutory provisions, noted below, speak to the interaction of the Boards. In particular, these provisions address the interaction of the Boards with respect to control of the air quality and water quality impacts of solid waste management facilities. However, these provisions do not adequately cover all

situations that arise, they are themselves subject to interpretation, and in general they need to be viewed in the context of each Board's general authority as outlined above. Section IV(A)(4) below sets forth procedures to be used to address such issues.

3. The statutory provisions which speak to the interaction of the Boards are as follows:
 - a. The CIWMB shall consider any recommendations of the ARB for the prevention of air pollution and the SWRCB for the prevention of water pollution (Public Resources Code Section 43020).
 - b. Division 30 of the Public Resources Code (which confers CIWMB authority) is not a limitation on the power of any state agency in the enforcement or administration of any provision of law which it is specifically authorized or required to enforce or administer, including, but not limited to, the exercise by the state water board or the regional water boards of any of their powers and duties pursuant to Division 7 (commencing with Section 13000) of the Water Code, and the exercise by the State Air Resources Board or any air pollution control district or air quality management district of any of its powers and duties pursuant to Part 3 (commencing with Section 40000) of Division 25 of the Health and Safety Code. (Public Resources Code Section 40055 (a)).
 - c. The exercise of CIWMB authority under Division 30, including, but not limited to, the adoption of regulations, plans, permits, or standards and enforcement actions shall not duplicate or be in conflict with any determination relating to water quality control made by the state water board or regional water boards. (Public Resources Code Section 40055(b)).
 - d. Any plans, permits, standards, or corrective action taken by the CIWMB pursuant to Division 30 shall incorporate, as a condition of the action, any applicable waste discharge requirements issued by the state water board or a regional water board, and shall be consistent with all applicable water control plans adopted pursuant to Section 13170, and Article 3 (commencing with Section 13240) of Chapter 4 of Division 7, of the Water Code and the state policies for water quality control adopted pursuant to Article 3 (commencing with Section 13140) of Chapter 3 of Division 7 of the Water Code existing at the time of the action or proposed action. (Public Resources Code Section 40055(c)).
 - e. No provision of Division 7 of the Water Code (which confers SWRCB authority) or any ruling of the state [water] board or a regional board is a limitation . . . on the power of a state agency in the enforcement or administration of any provision of law which it is specifically permitted or required to enforce or administer (Water Code Section 13002).

IV. SPECIFIC PROVISIONS

A. BOARD AND AGENCY RESPONSIBILITIES

1. The ARB is responsible for development of standards and regulations pertaining to air quality, the SWRCB is responsible for development of standards and regulations pertaining to water quality, and the CIWMB is responsible for development of standards and regulations pertaining to waste management.
2. It is the responsibility of all Boards to act in a fashion to minimize overlap and duplication of effort. Management of the Boards has an affirmative responsibility to identify areas of duplication and overlap, work towards a mutually-agreeable delineation of activity, and foster a multimedia approach to pollution prevention and pollution control. The Agency will, as a back-up mechanism, screen Board material to identify issues with potential multi-Board implications.
3. It is the intent of the Boards and the Agency that regulations pertaining to issues of mutual interest, to the extent possible, be jointly developed by the affected Boards. The development of regulations by the Boards shall be governed by the following procedure:
 - a. When a Board determines that it intends to develop or modify regulations, it shall notify the other Boards and the Agency in writing as to the subject matter of any proposed new regulation, and the section numbers of any existing regulations proposed to be modified.
 - b. The other Boards shall review the notice and, within 30 days, notify the originating Board and the Agency in writing as to which proposals, if any, deal with issues that are of concern.
 - c. For issues so identified, regulatory language shall be jointly developed by the affected Boards. The resulting language shall be adopted by each affected Board and placed in the relevant portion of the California Administrative Code for each affected Board.
 - d. Any disputes that arise during this process shall be resolved according to the dispute resolution procedure outlined in Section IV(C) below. If the dispute cannot be resolved in a manner that results in the adoption of identical language by each affected Board, then any Board may proceed with individually developed regulations.
4. The Boards shall apply the following procedures when interpreting and implementing the statutory provisions regarding the interaction of the Boards cited in Section III(C)(3) above:

- a. Any disagreement as to the interpretation of the above-referenced statutory provisions shall be resolved according to the dispute resolution procedure outlined in Section IV(C) below.
 - b. The CIWMB shall be the principal coordinating agency for all matters concerning the collection and disposal of solid waste in California, acting in concert with other affected state agencies. To "act in concert" means to act in a manner consistent with the intent and the provisions of this MOU.
 - c. As a pro-active measure to prevent potential conflict, the Executive Officers, at the first quarterly meeting convened pursuant to Section IV(D) below, shall identify critical waste management-related regulatory areas where cooperative work is needed. ("Executive Officers" refers to the Executive Officer of the ARB, the Executive Director of the SWRCB, and the Chief Executive Officer of the CIWMB). The Executive Officers shall define tasks and milestones necessary to address the identified issues.
 - d. At subsequent quarterly meetings the Executive Officers shall review progress on waste management coordination, take corrective action as needed, and identify future needs.
5. It is the responsibility of each Board to:
- a. Communicate with the other Boards in a timely manner.
 - b. Forward applicable draft policies, regulations, guidance documents or other relevant materials to the Agency for screening.
 - c. Notify other Boards when a particular facility, site or issue is of interest.
 - d. Provide comment, analysis, evaluation and advice on areas within its unique expertise.
 - e. Carry forward to other Boards the concerns and positions expressed by advocacy groups active in its issue areas.
6. It is the responsibility of the Agency to:
- a. Screen the draft materials forwarded pursuant to Section IV(A)(5)(b) above to identify areas with potential multi-Board impact. If the Agency identifies such a potential impact, the Agency will provide comments to all Boards.

B. COMMUNICATION

The parties recognize that achieving the goals of this MOU rests upon effective communication across programmatic and organizational lines. This MOU therefore sets forth procedures addressing communication at the management level, at the staff level, with other levels of government, and with regulated facilities. The purpose of these procedures is to systematize and formalize the existing communication mechanisms.

1. At the management level, the Executive Officers or their designees will meet quarterly as described in Section (IV)(D) below.
2. Another essential step is fostering an awareness, at the staff level, that our environmental programs are inter-related, and that actions taken in one program can have an effect upon other programs. In order to encourage such an awareness, the Executive Officers will:
 - a. Identify the issues where inter-staff communication is needed.
 - b. Designate, for each Board, a contact person on that issue.
 - c. Ensure that the contact persons meet on a regular basis.
 - d. Provide regular opportunities for cross-program training and orientation.
 - e. Provide copies of Office of Administrative Law rulemaking calendars to Agency and to the other Boards.
3. Local government and the federal government are essential components of California's environmental regulatory system. The Boards and the Agency recognize that the state must work with other levels of government in a clear, consistent fashion, and that each Board has a unique relationship with its local and federal counterparts.
 - a. Each Board and the Agency agrees to work through the appropriate Board when communicating with local and regional agencies on a statewide basis. Any communication addressed to all local air pollution districts shall be routed through the ARB, communication addressed to all Regional Boards shall be routed through the SWRCB, and communication addressed to all Local Enforcement Agencies shall be routed through the CIWMB. Communication addressed to a single local or regional agency on a site-specific basis need not be routed through the appropriate Board. In such cases, however, the Board shall receive a copy of the correspondence.
 - b. When providing comments to or otherwise communicating with federal agencies, each Board shall work with the other Boards to ensure that a consistent, coordinated state position is expressed.

4. It also is important that the Boards and the Agency deal with regulated facilities in a consistent, predictable fashion. The long-term credibility and effectiveness of our environmental programs suffers whenever regulatory agencies impose conflicting or duplicative requirements on facilities.

In order to prevent such occurrences, each Board will establish procedures to ensure that appropriate notification is provided to other Boards regarding activities which affect facilities which are also regulated by other Boards.

C. DISPUTE RESOLUTION

1. It is the intent of the three Boards and the Agency that programmatic conflicts be resolved, to the extent possible, through informal discussion, negotiation, and consensus. However, it is also the intent that conflicts be resolved promptly.

If a dispute cannot be resolved informally within a reasonable length of time or if continuing nonresolution of the dispute would place a Board at a disadvantage, then any Board may notify the other Boards and the Agency that a dispute exists and invoke the formal dispute resolution procedure described below.

2. Disputes shall be resolved formally using the following procedure:

- a. A meeting shall be convened involving staff from the affected Boards. At the meeting the staffs shall clarify the issues subject to dispute, identify alternative solutions, identify the consequences that would result from each alternative, and determine the date by which a decision is needed. This information shall be provided to the relevant Division Chiefs, who shall have no more than 30 days to resolve the issue.

- b. If the Division Chiefs from the affected Boards cannot resolve the dispute within the time allowed, then they will jointly notify the Executive Officers of the affected Boards, and the Agency Secretary.

The affected Boards shall jointly be responsible for resolving the dispute. If the dispute is not resolved within 30 days, then the issue shall be referred to the Agency Secretary for resolution. The Agency Secretary, acting in consultation with the affected Boards, shall develop a recommended course of action and act as coordinator to bring about a resolution to the dispute.

- c. If the Agency Secretary is unable to develop a consensus course of action acceptable to all affected Boards within 30 calendar days of referral from the Boards, then each affected Board shall prepare a memorandum providing direction to their respective staffs as to how to proceed in the case. These memoranda will not necessarily describe a single course of action, but are intended to communicate and document each Board's future direction.

- d. If the dispute is resolved by the Agency Secretary, then a written decision shall be provided to all parties of this MOU.
3. If, on an issue for which the formal dispute resolution mechanism has been invoked, a formal petition for review of an action or inaction by a Board is filed by a third party, the statutory or regulatory time periods required for action on the petition shall take precedence over those in Section IV(C)(2) above. However, the parties shall attempt to complete the actions described in Section IV(C)(2) to resolve the dispute within the statutory or regulatory time periods associated with the petition.

D. IMPLEMENTATION

1. In order to facilitate implementation of this MOU, the Executive Officers or their designees and the Secretary of Environmental Affairs designee will meet quarterly. This group will provide guidance and advice to the Agency Secretary and Board staff on technical issues that develop during performance under this agreement, and will assist, if called upon, in the settlement of technical disputes. The group will also evaluate the achievement of the principles of this MOU and will provide an annual report to the Agency Secretary. This report will be submitted by March 1 of each year, will cover the prior calendar year and will, if appropriate, include recommendations for modifications to this MOU to improve attainment of the principles of the parties.

The quarterly meetings will be held on a rotating chair basis, with each Executive Officer or designee and the Agency Secretary designee being responsible, in turn, for organizing and hosting the meeting and preparing the agenda.

2. The first quarterly meeting of the Executive Officers or their designees will be held within 30 days of the execution of this MOU.

E. AMENDMENT, WITHDRAWAL, AND REPEAL


1. This MOU may be amended with the mutual written approval of all signatories or their successors.
2. Any signatory to the MOU, or his or her successor, may withdraw from the MOU by sending written notification to the Agency Secretary. In the event that one party withdraws from the MOU, the MOU continues in full force for the remaining parties and continues to govern their activities.
3. This MOU may be repealed in its entirety with the mutual written approval of all signatories or their successors.

The parties hereto have caused this MOU to be duly executed on the respective dates set forth opposite their signatures.




Jananne Sharpless
Secretary of Environmental Affairs

8/27/90
Date



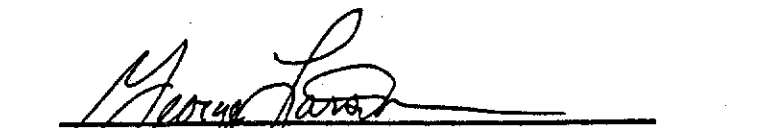
James Boyd, Executive Officer
Air Resources Board

8/27/90
Date



James Baetge, Executive Director
State Water Resources Control Board

8/27/90
Date



George Larson, Chief Executive Officer
California Integrated Waste Management Board

8/27/90
Date

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
STATE WATER RESOURCES CONTROL BOARD
AND THE
CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION
FOR THE PROTECTION OF
WATER QUALITY (SURFACE AND GROUND WATER)
FROM POTENTIALLY ADVERSE
EFFECTS OF PESTICIDES

BACKGROUND

The State Water Resources Control Board (SWRCB) and the California Department of Pesticide Regulation (CDPR) have responsibilities relating to the protection of water quality from the potentially adverse effects of pesticides. Both agencies believe that the State will benefit by a unified and cooperative program to address water quality problems related to the use of pesticides.

The purpose of this Memorandum of Understanding (MOU) between the SWRCB and CDPR is to ensure that pesticides registered in California are used in a manner that protects water quality and the beneficial uses of water while recognizing the need for pest control.

The Food and Agricultural Code, as amended by the 1991 Governor's Reorganization Plan No. 1, charges CDPR with the responsibility of ensuring the orderly regulation of pesticides while protecting the quality of the total environment (including water quality) and the health, and safety of the public.

SCOPE

This MOU is intended to assure that the respective authorities of the SWRCB and CDPR, relative to the protection of water quality and beneficial uses from impairment by the use of pesticides, will be exercised in a coordinated and cohesive manner designed to eliminate overlap of activities, duplication of effort, and inconsistency of action. To that end, this MOU establishes principles of agreement regarding activities of the signatory agencies, identifies primary areas of responsibility and authority between these agencies, and provides methods and mechanisms necessary to assure ongoing coordination of activities relative to such purposes. This MOU also describes how the agencies will work cooperatively to achieve the goals of the respective agencies.

STATUTORY AUTHORITIES

The Porter-Cologne Water Quality Control Act establishes a comprehensive water quality control program for California. The Federal Clean Water Act adds additional water quality control provisions to be implemented nationwide. The SWRCB and the nine California Regional Water Quality Control Boards (CRWQCB) are responsible for protecting the beneficial uses of water in California and for controlling all discharges of waste into waters of the State. The SWRCB sets overall State policy, adopts or approves all water quality control plans, and hears petitions to review CRWQCB decisions. The CRWQCBs have primary responsibility for permitting, inspection, and enforcement actions. The CRWQCBs implement and enforce the policies adopted by the SWRCB.

CDPR is the lead agency for pesticide regulation in California. California law requires CDPR to register and regulate the use of pesticides and protect public health and safety by providing for environmentally sound pest management.

The Pesticide Contamination Prevention Act of 1985 (Article 15, Chapter 2, Division 7 of the Food and Agricultural Code) authorizes CDPR to:

1. Collect and analyze environmental fate data on all pesticides registered for agricultural use in California to determine ground water data gaps and identify and monitor potential ground water contaminants;
2. Review any pesticide or related chemical found in ground water or in soil under certain conditions to determine if that chemical pollutes or threatens to pollute ground water as a result of legal agricultural use and take appropriate corrective action when necessary; and
3. Compile and maintain a statewide database of wells sampled for pesticide active ingredients and to make an annual report on that inventory and any corrective actions taken by CDPR and/or the SWRCB.

The Pesticide Contamination Prevention Act (Act) also prescribes a cooperative working relationship between CDPR, as the lead agency, and the SWRCB for the purpose of protecting ground water from pesticide pollution as a result of agricultural uses. A subcommittee of CDPR's Pesticide Registration and Evaluation Committee (PREC) is established by the Act for this purpose.

The local administration of CDPR's pesticide regulatory program is the responsibility of the County Agricultural Commissioners (Commissioners), with coordination, supervision, and training provided by CDPR. The Commissioners enforce pesticide laws and regulations and evaluate permit requests for the use of restricted pesticides. In addition, the Commissioners monitor and inspect pesticide handling and use operations, investigate suspected pesticide misuse, and take enforcement action against violators.

PRINCIPLES OF AGREEMENT

The SWRCB and CDPR agree that the use of certain pesticides may degrade water quality and threaten beneficial uses. To protect the State's water, it is necessary to prevent water pollution by pesticides by establishing water quality objectives and by implementing control measures for those pesticides which have a potential to unreasonably affect beneficial uses.

In order to provide for better protection of water quality and beneficial uses for the people of California, the SWRCB and CDPR mutually agree to:

1. Promote both technical and policy consultations concerning pesticide water quality issues through formal channels, such as standing interagency committees and SWRCB workshops and meetings, as well as through informal staff exchanges of information. The SWRCB and CRWQCBs and CDPR will consult during the early stages of planning any investigation related to pesticides and water quality. The agencies will provide technical assistance to each other upon request.
2. Implement a pesticide detection notification system to ensure mutual awareness of pesticide finds in the waters of the State. Results of pesticide monitoring will be provided in an expeditious manner. Results of pesticide monitoring related to ground water will be provided in compliance with "Minimum Reporting Requirements for Well Sampling" approved by the SWRCB, California Department of Food and Agriculture, and California Department of Health Services in July 1986. Reporting requirements and procedures for data referrals relative to surface water will be described in an implementation document.
3. Collect, exchange, and disseminate information on (a) the use of pesticides, (b) impacts on the quality of the State's waters from such uses, and (c) any efforts to mitigate those impacts.

4. Share information on pesticide formulations and environmental fate and toxicity of active ingredients, inert ingredients, and break-down products. Procedures to protect proprietary information will be described in an implementation document.
5. Consult each other in developing or revising water quality objectives for pesticides and in developing or revising regulations which may impact water quality.
6. Participate in the development of State policies, guidelines, and management plans relative to pesticide use and water quality control.
7. Promote the development and implementation of Best Management Practices (BMPs) whenever necessary to protect the beneficial uses of the waters of the State from the potentially adverse effects of the use of certain pesticides. CDPR's plans to implement BMPs, as furnished to the SWRCB and/or CRWQCBs, should (a) describe the nature of the actions which are necessary to achieve the objectives, including recommendations for appropriate actions by any entity, public or private; (b) set a time schedule for actions to be taken; and (c) describe the points of application and the monitoring to be undertaken to determine compliance with the water quality objectives.
8. Implement BMPs initially upon voluntary compliance to be followed by regulatory-based encouragement of BMPs as circumstances dictate. Mandatory compliance will be based, whenever possible, on CDPR's implementation of regulations and/or pesticide use permit requirements. However, the SWRCB and CRWQCBs retain ultimate responsibility for compliance with water quality objectives. This responsibility may be implemented through the SWRCB and CRWQCBs' Basin Planning Programs or other appropriate regulatory measures consistent with applicable authorities and the provisions of the Nonpoint Source Management Plan approved by the SWRCB in November 1988.
9. Develop an implementation plan to (a) provide uniform guidance and direction to the CRWQCBs and to the Commissioners regarding the implementation of this MOU, (b) describe in detail procedures to implement specific sections of this MOU, and (c) make specific the respective roles of units within the signatory agencies.

DISPUTE AND CONFLICT RESOLUTION

It is the desire of both agencies to establish a speedy, efficient, and informal method for the resolution of interagency conflicts. Conflicts between the SWRCB and CRWQCBs, CDPR, and the Commissioners which cannot otherwise be informally resolved will be referred to the Executive Director of the SWRCB and the Director of CDPR. Conflicts which cannot be resolved at this level will be elevated to the Secretary of the California Environmental Protection Agency.

To assist the Executive Director of the SWRCB and the Director of CDPR in resolving conflicts, two staff persons will be appointed by the Chairman of the SWRCB and the Director of CDPR representing the interests of the SWRCB and CRWQCBs and CDPR and Commissioners, respectively.

This MOU shall become effective upon the date of final signature and shall continue in effect until modified by the mutual written consent of both parties or until terminated by either party upon a thirty (30) day advance written notice to the other party.

STATE WATER RESOURCES CONTROL BOARD

W. Don Maughan
W. Don Maughan, Chairman

Dec. 23, 1991
Date

CALIFORNIA DEPARTMENT OF PESTICIDE REGULATION

James W. Wells
James W. Wells, Interim Director

Dec 23, 1991
Date

MEMORANDUM OF UNDERSTANDING (MOU)
FOR IMPLEMENTATION OF
THE SAN JOAQUIN VALLEY DRAINAGE PROGRAM'S RECOMMENDED PLAN
DECEMBER 1991

The U. S. Bureau of Reclamation, U. S. Fish and Wildlife Service, U. S. Soil Conservation Service, U. S. Geological Survey, Department of Water Resources, Department of Fish and Game, Department of Food and Agriculture, and the State Water Resources Control Board agree to the following:

1. Background. A management plan for agricultural subsurface drainage and related problems on the westside San Joaquin Valley was developed by the Federal-State San Joaquin Valley Drainage Program (SJVDP) during the period 1985-1990, and published in a September 1990 report by the same name.
2. Purpose. All parties to this MOU will use the management plan described in the September 1990 final report of the San Joaquin Valley Drainage Program (SJVDP Recommended Plan) as the principal guide for remedying subsurface agricultural drainage and related problems. All parties will work together to identify and define specific tasks and associated responsible parties, to seek needed funding and authorities, and to determine schedules for accomplishment, as necessary to implement all components of the SJVDP Recommended Plan.
3. Program. The parties will use the strategy described in "A Strategy for Implementation of the Management Plan for Agricultural Subsurface Drainage and Related Problems on the Westside San Joaquin Valley", December 1991, as the initial step in developing an action plan. Based on it, the parties will prepare an annual work plan to establish priorities and coordinate activities to address the objectives of the Recommended Plan. During 1992, the parties will prepare work plans for 1992 and 1993. Subsequent work plans will be prepared two years in advance to facilitate budget development and funding requests. The parties will prepare an annual report that will outline and evaluate accomplishments during the year.

4. Funding and Legal Authority. It is understood by all parties that implementation of this MOU and the SJVDP Recommended Plan are subject to the availability of funding and legal authority. All parties to this MOU agree to support attempts by signatory agencies to secure the funding and authority necessary to implement work plans adopted pursuant to this MOU.

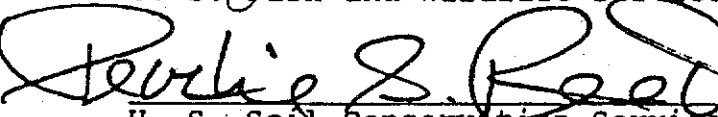
In order to enhance efficiency and economy, and reduce duplications or conflicts in efforts, all parties to this MOU agree to coordinate requests for funding and authority.

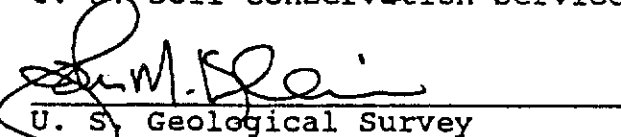
5. Amendments. This MOU may be modified by mutual agreement as necessary to accomplish drainage management objectives.
6. Withdrawal. Any party to this MOU may withdraw by submitting a written notice to each of the other parties 120 days in advance of the intended withdrawal.
7. MOU not a contract. In entering into this MOU, it is the intention of the parties that this MOU shall not be construed to be an enforceable contract or agreement, but is rather a statement of principles.
8. Term of MOU. This MOU shall remain in effect until all components of the SJVDP Recommended Plan have been fully implemented or until it is dissolved by unanimous agreement of the signatory parties.

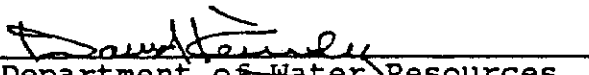
SIGNATURES

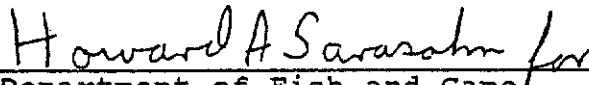

U. S. Bureau of Reclamation

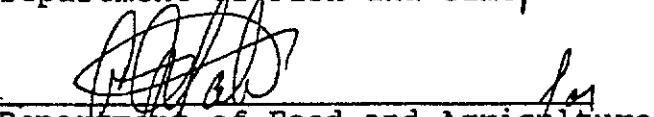

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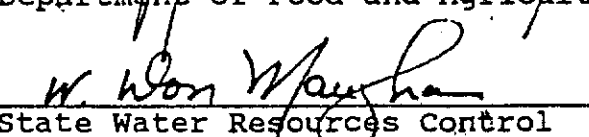

U. S. Soil Conservation Service


U. S. Geological Survey


Department of Water Resources


Department of Fish and Game


Department of Food and Agriculture


State Water Resources Control Board

**MEMORANDUM OF UNDERSTANDING
BETWEEN
THE STATE WATER RESOURCES CONTROL BOARD
AND
THE CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD
FOR THE REVIEW OF
BACKLOGGED SOLID WASTE ASSESSMENT TEST REPORTS**

INTRODUCTION

This Memorandum of Understanding (MOU) consists of general and specific provisions for the review of Solid Waste Assessment Test (SWAT) reports as required by Assembly Bill 3348 (Eastin), signed by the Governor September 29, 1992.

BACKGROUND

1. Agency Authority:

The California Water Code, Division 7 designates the State Water Resources Control Board (State Water Board) as the State's lead regulatory agency for water quality protection.

The California Public Resources Code, Division 30 designates the California Integrated Waste Management Board (CIWMB) as the state's lead regulatory agency for solid waste disposal.

2. Solid Waste Assessment Test Program:

In 1984, the Legislature adopted California Water Code §13273 which, among other things, required:

- A. The State Water Resources Control Board (State Water Board) to group all solid waste disposal sites (both active and closed) in ranks of 150 each in accordance with their threat to water quality,
- B. All landfill owner/operators, one rank per year, to conduct a SWAT (a determination whether the landfill is leaking hazardous waste) and to submit to the appropriate California Regional Water Quality Control Boards (Regional Water Boards) a report signed by a specified professional containing the findings of the SWAT together with appropriate conclusions,
- C. The Regional Water Boards are to review this report and determine whether, (1) the monitoring system was adequate to determine whether hazardous waste had leaked for the site and (2) the report author's conclusions were credible.

3. **Current SWAT Program Status:**

Between the start up of the SWAT program and June 30, 1991, 195 SWAT reports were approved and 15 SWAT waivers granted (for those cases where hazardous waste leakage was already well known). In addition, another 231 SWAT reports had been received, but not approved. Because of the heavy demands on the State's General Fund, funding for SWAT report review was eliminated in July 1991, leaving this large backlog of unreviewed SWAT reports.

4. **Assembly Bill Number 3348 (Eastin):**

In 1992, the Legislature adopted Assembly Bill 3348 (Eastin) which contains in Section 10, the following language:

"The following sums are hereby appropriated from the Solid Waste Disposal Site Cleanup and Maintenance Account in the Integrated Waste Management fund to the State Water Resources Control Board:

"(a) (1) Two million five hundred thousand dollars (\$2,500,000), as a one-time allocation, but without regard to fiscal year, to complete a review of all solid waste assessment test reports that are required to be submitted to the appropriate regional water quality control boards by July 1, 1991, that have been classified in ranks one through five in the Solid Waste Assessment Test (SWAT) program pursuant to Section 13273 of the Water Code.

"(2) The expenditure of these funds shall be subject to the conditions specified in a memorandum of understanding which shall be entered into by the California Integrated Waste Management Board and the State Water Resources Control Board and which shall include, but need not be limited to, provisions linking the review and ranking of solid waste landfill facilities by the State Water Resources Control Board with the Solid Waste Disposal Site Cleanup and Maintenance Program implemented by the California Integrated Waste Management Board."

and the following:

"(c) The Legislature encourages the State Water Resources Control Board to complete the review performed pursuant to paragraph (1) of subdivision (a) on or before June 30, 1995."

THE CIWMB AND THE STATE WATER BOARD AGREE TO THE FOLLOWING:

1. Scope:

This MOU is effective immediately and is binding upon CIWMB, the State Water Board, and the nine Regional Water Boards.

This MOU includes provisions for sharing data, ensuring that activities at sites of common interest are coordinated, and conflict resolution.

2. Sharing of Data:

- A. SWAT Report Summaries:** The State Water Board will provide the CIWMB copies of all SWAT Report Summaries as prepared by the Regional Water Boards. Newly prepared Summaries shall be transmitted quarterly.
- B. Quarterly Progress Report:** Every three months, the State Water Board will provide the CIWMB an updated SWAT Status Report showing the current SWAT report review status for each landfill included in Ranks 1 through 5. For those SWAT reports which have not been approved yet, these status reports shall include for each, the name of the staff person assigned to work on it and the anticipated quarters (1) the review will start, (2) a corrected Report will be submitted, or (3) the SWAT report will be approved.
- C. Final Report:** The State Water Board will prepare a Summary Report of the findings of all the SWAT reports to date including, but not limited to, discussions of the following:
1. Hazardous waste presence in landfills,
 2. General characterization of solid waste disposal site leakage,
 3. Chemical characterization of leakage,
 4. Impact of leakage on quality of nearby waters,
 5. Impact of leakage on beneficial uses of nearby waters, especially of drinking water supply wells, and
 6. Completed or proposed remedial actions.

In addition, this report shall contain a discussion of needed improvements in landfill designs and monitoring to reduce the threat which landfills pose to the beneficial uses of the State's waters.

A copy of this report shall be provided to the CIWMB by June 30, 1995.

3. Ensuring that Activities of Common Interest are Coordinated:

Whenever the CIWMB has a need for expedited Regional Water Board review of any landfill's SWAT report, CIWMB shall:

- A. Request such a review in writing to the State Water Board and
- B. State the date by which they need these data.

The State Water Board shall respond within 10 working days of the receipt of the request with:

- A. The anticipated date the review will be completed, and
- B. Reasons for delay should it be impossible to meet the CIWMB's due date.

4. Conflict Resolution:

Any dispute arising out of the implementation of this Agreement shall be resolved in the following manner:

- A. The designated Program Managers for the CIWMB and the State Water Board shall meet within ten (10) days of a request by either party. The party calling the meeting shall provide, in writing, at least five (5) days in advance of the meeting, a clear description of the dispute and a proposed solution. Following the meeting, the CIWMB Program Manager shall make a determination on the dispute, in writing, including reasons for the determination. The determination shall be sent to the State Water Board Program Manager within ten (10) days of the meeting.
- B. If the State Water Board does not agree with the determination, the State Water Board may make a written request for a meeting between the Deputy Executive Director of the CIWMB, and the Chief of the Division of Clean Water Programs of the State Water Board. Such a meeting should occur within fifteen (15) days of the receipt of such request. The request must be accompanied by a statement of the disputed issues and a proposed solution. The CIWMB shall make a determination, in writing, and shall send this to the Chief, Division of Clean Water Programs, State Water Board, within fifteen (15) days of the meeting.
- C. If the two Division Chiefs cannot resolve the issue in dispute, the matter shall be elevated to the Executive Directors of the two agencies for resolution.
- D. Unresolved issues may be elevated to the Board Chairpersons of the State Water Board and the CIWMB.

- E. Any issues which cannot be resolved by the Board Chairpersons shall be forwarded to the Secretary for Environmental Protection for a final and binding decision.

R. Chandler

Ralph Chandler
Executive Director
California Integrated Waste
Management Board
State of California

Date: 1/8/93

Walt Pettit

Walt Pettit
Executive Director
State Water Resources Control Board
State of California

Date: DEC 16 1992

**SOLID WASTE ASSESSMENT TEST (SWAT)/AB 3348 PROGRAM
QUARTERLY STATUS REPORT
EXAMPLE FORMAT**

For each landfill included in Rands 1 through 5:

1. Rank: 4
2. Name (including SWIS and WMUDS numbers): Klamath County Landfill,
59-AA-001, IA123456789
3. Location (County and Nearest Community): Klamath, Deadman's Bar
4. Review Status:
 - A. Approved,
 - B. Awaiting Review,
 - C. In Review,
 - D. Returned to Owner/Operator for Corrections, or
 - E. Never received.
5. Regional Water Board (if status 4B, 4C, or 4D above, name and telephone number of review): North Coast, Jane Doe, (209) 555-1212
6. Review Target Dates (by Quarter)
 - A. State of Review:
 - B. Due date for Owner/Operator to have corrections made: 3rd Quarter,
FY 1992-93
 - C. Approval of SWAT Report:
7. Comments: No ground water sample taken. SWAT Investigation was clearly inadequate. Letter to owner/operator ordering correction of deficiencies was sent out February 1992 with a March 1993 deadline.

MEMORANDUM OF UNDERSTANDING
BETWEEN THE
BUREAU OF LAND MANAGEMENT
U.S. DEPARTMENT OF THE INTERIOR
AND THE
CALIFORNIA STATE WATER RESOURCES CONTROL BOARD
FOR
PLANNING AND COORDINATION OF
NONPOINT SOURCE WATER QUALITY POLICIES AND ACTIVITIES

I. PURPOSE:

The purpose of this Memorandum of Understanding (MOU) is to formalize cooperation between the Bureau of Land Management (BLM), U.S. Department of the Interior, and the State Water Resources Control Board (SWRCB) and to develop appropriate procedures and clarify responsibilities related to nonpoint source (NPS) water quality issues and activities. The BLM and SWRCB share a common interest in maintaining, protecting, and improving the quality of waters (surface and ground water) of the State.

II. OBJECTIVES:

Through this MOU, SWRCB seeks to utilize the personnel and expertise of BLM to increase the development and implementation of water quality programs and projects relative to, but not limited to, agricultural, animal husbandry, silvicultural, mining, and construction activities on the public lands managed by BLM within the State of California. Coordination and cooperation between BLM and SWRCB will reduce unnecessary duplication of effort, accelerate the implementation of best management practices (BMPs), management measures (MM), and other NPS measures (NPSM) and increase overall program effectiveness.

The SWRCB and BLM recognize the need to improve, conserve, and protect the quality of surface and ground water by undertaking efforts to avoid pollution by NPSs and thereby maintain the quality and quantity of water available for safe drinking water supplies, irrigated agriculture, fisheries, and other beneficial uses. A coordinated effort will improve the likelihood of meeting these goals.

III. AUTHORITIES:

This MOU is entered into under the authorities of Division 7 of the California Water Code (Porter-Cologne Water Quality Control Act [Porter-Cologne Act]), the

authorities of the federal Clean Water Act (CWA), [Section 304(1), 314, 319, and 320], as amended, and the Federal Land Policy and Management Act of 1976, as amended, 43 U.S.C. 1701, et seq.

BLM Manual Section 7000.06(D-E), March 8, 1984, established BLM's policy for coordination with State agencies for related programs and provided for compliance with applicable State and federal water pollution control laws, standards, programs, and implementation plans.

BLM Instruction Memorandum No. 88-511, June 17, 1988, provides guidance to BLM field offices regarding coordination with State agencies on NPS pollution control activities. Instruction Memorandum No. 88-511 also addresses how BLM's NPS actions will be incorporated into the BLM planning process and into BLM's overall multiple-use resource objectives.

BLM has management responsibility for over 17 million acres of federal public lands throughout California. BLM's land-use oversight is provided through four district offices which are further subdivided into 15 resource area offices.

The Porter-Cologne Act, administered by SWRCB and the California Regional Water Quality Control Boards (CRWQCBs) establishes a comprehensive program for the protection of water quality and the beneficial uses of the waters of the State. The Porter-Cologne Act provides a "statewide program for water quality control."

SWRCB sets overall State policy, adopts statewide water quality control plans, approves all water quality control plans adopted by the CRWQCBs, and hears petitions to review CRWQCBs actions or inactions. The CRWQCBs have primary responsibility for permitting, inspecting, and enforcing actions regarding dischargers of waste. The CRWQCBs implement and enforce the policies and plans adopted by SWRCB.

Section 319 of CWA, as amended, requires the State to develop an NPS management program for controlling NPS pollution. SWRCB has developed a State NPS management program which lists the BLM as an agency with BMP/MM/NPSM implementation capability.

IV. PROCEDURES:

A. BLM AGREES TO:

1. Integrate water quality concepts and management techniques into the BLM planning system and into environmental review and clearance of land-use proposals to address surface and ground water NPS pollution.
2. Provide copies of draft Resource Management Plans, draft Environmental Impact Statements, and draft Environmental Assessments which have significant water quality issues to the CRWQCBs responsible for the affected area.
3. Provide BLM activity plans for those actions which have NPS issues as a primary concern to the responsible CRWQCBs for review and comment.
4. Incorporate BMP/MM/NPSM into BLM land uses and BLM permitted land uses, when necessary, to protect or maintain water quality.

B. SWRCB AGREES TO:

1. Encourage the voluntary or cooperative approach as the first step in the development and implementation of solutions to the NPS problem.
2. Coordinate the activities of the CRWQCBs with those activities being proposed and implemented by the BLM.
3. Define the goals and objectives of the NPS Interagency Advisory Committee and conduct regular meetings.
4. Emphasize to the CRWQCBs the importance of a timely response to BLM documents submitted for review.

C. BLM AND SWRCB MUTUALLY AGREE TO:

1. Encourage participation of other federal, State, and local agencies and land users in the control of NPS pollution.

2. Develop a process for BMP/MM/NPSM selection and implementation to reduce or prevent NPS pollution from public lands.
3. Develop BMP/MM/NPSM for federal land uses with input from the NPS Interagency Advisory Committee and other affected parties.
4. Develop implementation priorities and policies for NPS pollution activities.
5. Provide NPS guidance and technical assistance to parties responsible for implementation of NPS pollution control on public lands.
6. Encourage the participation of BLM, SWRCB, and CRWQCB staffs in on-the-ground inspections and tours to discuss public land NPS issues and proposed, ongoing, or completed BMPs.
7. Develop a Water Quality Management Plan and a Management Agency Agreement for the purpose of carrying out portions of the State's NPS Management Program on BLM lands.
8. Wherever appropriate, encourage the development and implementation of comprehensive management plans covering entire or significant portions of watersheds. These plans would be developed using the principles of Coordinated Resource Management and Planning and, as appropriate, would seek to resolve issues relating to biological diversity as they relate to NPS pollution.

V. ADMINISTRATION:

- A. Nothing in this MOU alters the statutory or regulatory authority of BLM or SWRCB or requires the participants to obligate or expend funds in excess of available appropriations.
- B. The terms of this MOU may be renegotiated at any time at the initiative of one of the participants following at least 30 days notice to the other participant.
- C. This MOU may be cancelled at any time by one of the participants following at least 30 days notice to the other participant.

- D. Any participant may propose changes to the MOU during its term. Such changes will be in the form of an amendment and will become effective upon signature by all of the participants.
- E. The need for this MOU is expected to continue until the Water Quality Management Plan and Management Agency Agreement are in effect.
- F. This MOU will become effective upon the date of signature by both parties.

APPROVED:

Ed Hastey
Ed Hastey, California State Director
U.S. Bureau of Land Management

2/3/93
Date

Eliseo M. Samaniego
Eliseo M. Samaniego, Vice Chairman
State Water Resources Control Board

January 27, 1993
Date

RESOLUTION
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

DELEGATION OF CERTAIN DUTIES AND POWERS OF THE BOARD
TO ITS EXECUTIVE OFFICER PURSUANT TO SECTION 13223
CALIFORNIA WATER CODE

Resolution No: 70-118

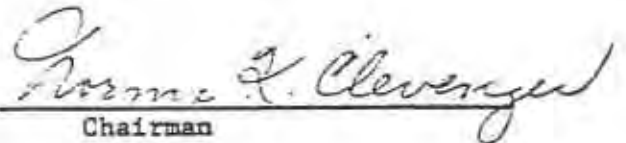
Adopted: 1-22-70

WHEREAS, Section 13223 of the Porter-Cologne Water Quality Control Act provides that the Regional Board may delegate any of its powers and duties, with certain exceptions, to its Executive Officer, be it, therefore;

RESOLVED, that the California Regional Water Quality Control Board, Central Valley Region, does hereby delegate to its Executive Officer, under the general direction and control of the Board, all of the powers and duties of the Board under Division 7 of the California Water Code except those specified in Section 13223(a); and,

RESOLVED further, That the Executive Officer is authorized, and he is hereby directed to certify and submit copies of this resolution to such agencies and individuals as may have need therefor or as may request same; and

RESOLVED further, That any action that may be taken by the Regional Board pursuant to Division 7, California Water Code, includes such action by its Executive Officer pursuant to powers and duties delegated to him by the Board.


Chairman

ATTEST:


Executive Officer



Memorandum of Understanding

Between

Ukiah District
U.S. Bureau of Land Management

and

California Regional Water Quality
Control Board, Central Valley Region

This agreement expresses an understanding made this date between the Bureau of Land Management, Ukiah District, hereinafter referred to as the BLM, and the California Regional Water Quality Control Board, Central Valley Region, hereinafter referred to as the "Board."

Whereas:

The State Water Resources Control Board and Regional Water Quality Control Boards have overall responsibility for water quality protection and, as such, must ensure that land management activities do not cause adverse impacts on beneficial water uses, and

Whereas:

The BLM is responsible for management and protection of the public land,

Therefore:

This agreement is hereby entered into between the BLM and the Board in order to improve and facilitate future coordination between these agencies, thereby ensuring that environmental degradation resulting from actions taken on the BLM lands relating to locatable minerals, solid leasable minerals, and other leasable minerals including oil and gas and geothermal activities in California is minimized.

Agreement

I. Permitting:

- 1) BLM approval of plans of operations, permits, leases or other use authorization on the BLM lands that involve the potential for a discharge of hazardous wastes or substances 1 into the environment will be conditioned on the approval by the Board of waste discharge requirements for the proposed activity, when applicable prior to commencement of any discharge.
- 2) The Board agrees to notify the BLM of the earliest possible time of any new applications for waste discharge requirements or permits for activities located on BLM lands and to provide the BLM with the opportunity to recommend requirements necessary to ensure adequate bonding for site closure, neutralization and surface reclamation, i.e., removal and/or neutralization necessary for full cleanup.

- 3) BLM agrees to notify the Board of and to circulate documents prepared pursuant to the National Environmental Protection Act (NEPA) which involve the interests of the State, such as the issuance of waste discharge requirements. This action is consistent with the Memorandum of Understanding entered into between the State and BLM on November 23, 1983.
- 4) BLM will supply lists of mining operations that may involve the use of hazardous materials when 3809 "Notice" has been submitted for a plan of operations (operations under 5 acres), to ensure the Board is aware of all operations occurring on the BLM lands and to ensure that operators required to obtain waste discharge requirements have applied for them.

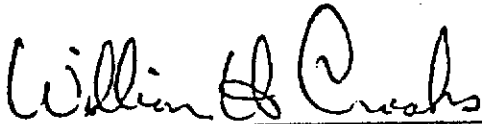
II. Compliance

- 1) The Board will provide the BLM with a list identifying the operator/discharger and locations of all sites on BLM lands where hazardous materials are used or stored onsite that are currently regulated under waste discharge requirements.
- 2) The Board will provide BLM with a list of indicators of potential waste discharge violations that BLM inspectors can use to assist in the identification of potential violations, i.e., lists of the types of indicators at a site that should be noted when performing an inspection.
- 3) The BLM will notify the Board of any potential violations of waste discharge requirements established by the Board on the BLM lands discovered during routine compliance checks or otherwise brought to the BLM's attention.
- 4) The Board will provide BLM with a summary of all compliance inspection reports issued for sites on the BLM lands and copies of those reports which document violation.
- 5) Upon the Board's determination that a violation exists, the Board will take appropriate action to enforce the stipulations found in waste discharge requirements with assistance from BLM.
- 6) BLM will assist the Board in obtaining the operator/discharger's compliance with State and Federal regulations during any cleanup/detoxification of a site.

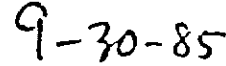
III. Abandonment

For purposes of this agreement, "abandonment cases" means sites located on the BLM lands where the operator/discharger is unknown.

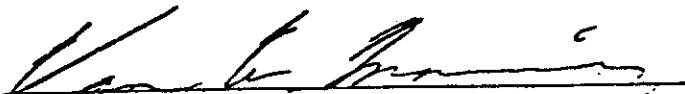
Prior to taking any formal enforcement action for violations of federal, state, or local requirements respecting waste discharges on abandoned sites located on the BLM lands, the Board will notify the BLM of the violation and provide the BLM with an opportunity to meet with the Board staff to explore methods of abating the violation. It is understood that this may not be possible in emergency situations. It is jointly agreed that this MOU can be canceled with 30 days notice and this agreement does not commit funds.



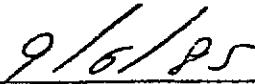
William Crooks
EXECUTIVE OFFICER
Central Valley RWQCB



Date



Van W. Manning
DISTRICT MANAGER
BLM, Ukiah District



Date

1/ As defined in Title 22 of the California Administrative Code, Division Chapter 30.

Memorandum of Understanding

Between

Susanville District
U.S. Bureau of Land Management

and

California Regional Water Quality
Control Board, Central Valley Region

This agreement expresses an understanding made this date between the Bureau of Land Management, Susanville District, hereinafter referred to as the BLM, and the California Regional Water Quality Control Board, Central Valley Region, hereinafter referred to as the "Board."

Whereas:

The State Water Resources Control Board and Regional Water Quality Control Boards have overall responsibility for water quality protection and, as such, must ensure that land management activities do not cause adverse impacts on beneficial water uses, and

Whereas:

The BLM is responsible for management and protection of the public land,

Therefore:

This agreement is hereby entered into between the BLM and the Board in order to improve and facilitate future coordination between these agencies, thereby ensuring that environmental degradation resulting from actions taken on the BLM lands relating to locatable minerals, solid leasable minerals, and other leasable minerals including oil and gas and geothermal activities in California is minimized.

Agreement

I. Permitting:

- 1) BLM approval of plans of operations, permits, leases or other use authorization on the BLM lands that involve the potential for a discharge of hazardous wastes or substances¹ into the environment will be conditioned on the approval by the Board of waste discharge requirements for the proposed activity, when applicable prior to commencement of any discharge.
- 2) The Board agrees to notify the BLM of the earliest possible time of any new applications for waste discharge requirements or permits for activities located on BLM lands and to provide the BLM with the opportunity to recommend requirements necessary to ensure adequate bonding for site closure, neutralization and surface reclamation, i.e., removal and/or neutralization necessary for full cleanup.

- 3) BLM agrees to notify the Board of and to circulate documents prepared pursuant to the National Environmental Protection Act (NEPA) which involve the interests of the State, such as the issuance of waste discharge requirements. This action is consistent with the Memorandum of Understanding entered into between the State and BLM on November 23, 1983.
- 4) BLM will supply lists of mining operations that may involve the use of hazardous materials when 3809 "Notice" has been submitted for a plan of operations (operations under 5 acres), to ensure the Board is aware of all operations occurring on the BLM lands and to ensure that operators required to obtain waste discharge requirements have applied for them.

II. Compliance

- 1) The Board will provide the BLM with a list identifying the operator/discharger and locations of all sites on BLM lands where hazardous materials are used or stored onsite that are currently regulated under waste discharge requirements.
- 2) The Board will provide BLM with a list of indicators of potential waste discharge violations that BLM inspectors can use to assist in the identification of potential violations, i.e., lists of the types of indicators at a site that should be noted when performing an inspection.
- 3) The BLM will notify the Board of any potential violations of waste discharge requirements established by the Board on the BLM lands discovered during routine compliance checks or otherwise brought to the BLM's attention.
- 4) The Board will provide BLM with a summary of all compliance inspection reports issued for sites on the BLM lands and copies of those reports which document violation.
- 5) Upon the Board's determination that a violation exists, the Board will take appropriate action to enforce the stipulations found in waste discharge requirements with assistance from BLM.
- 6) BLM will assist the Board in obtaining the operator/discharger's compliance with State and Federal regulations during any cleanup/detoxification of a site.

III. Abandonment

For purposes of this agreement, "abandonment cases" means sites located on the BLM lands where the operator/discharger is unknown.

Prior to taking any formal enforcement action for violations of federal, state, or local requirements respecting waste discharges on abandoned sites located on the BLM lands, the Board will notify the BLM of the violation and provide the BLM with an opportunity to meet with the Board staff to explore methods of abating the violation. It is understood that this may not be possible in emergency situations. It is jointly agreed that this MOU can be canceled with 30 days notice and this agreement does not commit funds.

William H Crooks
William Crooks
EXECUTIVE OFFICER
Central Valley RWQCB

9-30-85
Date

Rex Cleary
Rex Cleary
DISTRICT MANAGER
BLM, Susanville District

9/5/85
Date

1/ As defined in Title 22 of the California Administrative Code, Division 4, Chapter 30.

Memorandum of Understanding

Between

Bakersfield District
U.S. Bureau of Land Management

and

California Regional Water Quality
Control Board, Central Valley Region

This agreement expresses an understanding made this date between the Bureau of Land Management, Bakersfield District, hereinafter referred to as the BLM, and the California Regional Water Quality Control Board, Central Valley Region, hereinafter referred to as the "Board."

Whereas:

The State Water Resources Control Board and Regional Water Quality Control Boards have overall responsibility for water quality protection and, as such, must ensure that land management activities do not cause adverse impacts on beneficial water uses, and

Whereas:

The BLM is responsible for management and protection of the public land,

Therefore:

This agreement is hereby entered into between the BLM and the Board in order to improve and facilitate future coordination between these agencies, thereby ensuring that environmental degradation resulting from actions taken on the BLM lands relating to locatable minerals, solid leasable minerals, and other leasable minerals including oil and gas and geothermal activities in California is minimized.

Agreement

I. Permitting:

- 1) BLM approval of plans of operations, permits, leases or other use authorization on the BLM lands that involve the potential for a discharge of hazardous wastes or substances^{1/} into the environment will be conditioned on the approval by the Board of waste discharge requirements for the proposed activity, when applicable prior to commencement of any discharge.
- 2) The Board agrees to notify the BLM of the earliest possible time of any new applications for waste discharge requirements or permits for activities located on BLM lands and to provide the BLM with the opportunity to recommend requirements necessary to ensure adequate bonding for site closure, neutralization and surface reclamation, i.e., removal and/or neutralization necessary for full cleanup.

- 3) BLM agrees to notify the Board of and to circulate documents prepared pursuant to the National Environmental Protection Act (NEPA) which involve the interests of the State, such as the issuance of waste discharge requirements. This action is consistent with the Memorandum of Understanding entered into between the State and BLM on November 23, 1983.
- 4) BLM will supply lists of mining operations that may involve the use of hazardous materials when 3809 "Notice" has been submitted for a plan of operations (operations under 5 acres), to ensure the Board is aware of all operations occurring on the BLM lands and to ensure that operators required to obtain waste discharge requirements have applied for them.

II. Compliance

- 1) The Board will provide the BLM with a list identifying the operator/discharger and locations of all sites on BLM lands where hazardous materials are used or stored onsite that are currently regulated under waste discharge requirements.
- 2) The Board will provide BLM with a list of indicators of potential waste discharge violations that BLM inspectors can use to assist in the identification of potential violations, i.e., lists of the types of indicators at a site that should be noted when performing an inspection.
- 3) The BLM will notify the Board of any potential violations of waste discharge requirements established by the Board on the BLM lands discovered during routine compliance checks or otherwise brought to the BLM's attention.
- 4) The Board will provide BLM with a summary of all compliance inspection reports issued for sites on the BLM lands and copies of those reports which document violation.
- 5) Upon the Board's determination that a violation exists, the Board will take appropriate action to enforce the stipulations found in waste discharge requirements with assistance from BLM.
- 6) BLM will assist the Board in obtaining the operator/discharger's compliance with State and Federal regulations during any cleanup/detoxification of a site.

III. Abandonment

For purposes of this agreement, "abandonment cases" means sites located on the BLM lands where the operator/discharger is unknown.

Prior to taking any formal enforcement action for violations of federal, state, or local requirements respecting waste discharges on abandoned sites located on the BLM lands, the Board will notify the BLM of the violation and provide the BLM with an opportunity to meet with the Board staff to explore methods of abating the violation. It is understood that this may not be possible in emergency situations. It is jointly agreed that this MOU can be canceled with 30 days notice and this agreement does not commit funds.

William H Crooks

William Crooks
EXECUTIVE OFFICER
Central Valley RWQCB

9-30-85

Date

Robert D. Rheiner, Jr.

Robert D. Rheiner, Jr.
DISTRICT MANAGER
BLM, Bakersfield District

8/13/85

Date

1/ As defined in Title 22 of the California Administrative Code, Division 4, Chapter 30.

1 UNITED STATES
2 DEPARTMENT OF THE INTERIOR
3 BUREAU OF RECLAMATION
4 NEW MELONES UNIT
5 CENTRAL VALLEY PROJECT, CALIFORNIA

6 MEMORANDUM OF AGREEMENT FOR THE PROTECTION AND ENHANCEMENT
7 OF THE WATER QUALITY OF THE STANISLAUS AND SAN JOAQUIN RIVERS
8 AS AFFECTED BY THE NEW MELONES PROJECT
9 UNDER WATER RIGHT APPLICATION 19304
10 OF THE UNITED STATES OF AMERICA
11 AND BY MUNICIPAL AND INDUSTRIAL WASTES

12 WHEREAS, THE UNITED STATES INTENDS TO CONSTRUCT A DAM AND RESERVOIR IN
13 AND ACROSS THE STANISLAUS RIVER AT A POINT UPSTREAM FROM OAKDALE, STANISLAUS
14 COUNTY, CALIFORNIA, AND WILL UTILIZE SAID DAM AND RESERVOIR AND THEIR RELATED
15 WORKS FOR THE DIVERSION AND STORAGE OF WATER OF THE STANISLAUS RIVER PRIMARILY
16 FOR FLOOD CONTROL, DOMESTIC, IRRIGATION, RECREATION, MUNICIPAL AND INDUSTRIAL,
17 FISH CULTURE, AND WATER QUALITY CONTROL PURPOSES AND FOR THE GENERATION OF
18 HYDROELECTRIC ENERGY; SAID DAM TO BE KNOWN AS NEW MELONES DAM AND THE RESERVOIR
19 CREATED THEREBY TO BE KNOWN AS NEW MELONES RESERVOIR; AND

20 WHEREAS, THE UNITED STATES HAS FILED AN APPLICATION AND IS SEEKING TO
21 OBTAIN A PERMIT AND LICENSE TO APPROPRIATE AND APPLY TO BENEFICIAL USE WATERS
22 OF THE STANISLAUS RIVER AND ITS TRIBUTARIES IN CONNECTION WITH THE OPERATION
23 OF THE NEW MELONES DAM AND RESERVOIR, SUCH APPLICATION BEING DESIGNATED IN THE
24 FILES OF THE CALIFORNIA STATE WATER RESOURCES CONTROL BOARD AS NUMBER 19304;
25 AND

26 WHEREAS, THE CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD WITH RE-
27 SPECT TO ITS REGION HAS THE DUTY TO OBTAIN COORDINATED ACTION IN WATER QUALITY
28 CONTROL AND IN THE ABATEMENT, PREVENTION AND CONTROL OF WATER POLLUTION AND
29 NUISANCES; AND

30 WHEREAS, THE BENEFICIAL USES OF THE STANISLAUS AND SAN JOAQUIN RIVERS
31 ARE DEPENDENT UPON WATER QUALITY CONDITIONS, AND THE PARTIES RECOGNIZE THAT
WATER QUALITY CONDITIONS MAY BE PROTECTED AND ENHANCED BY FACILITIES CON-
STRUCTED AND OPERATED UNDER A PERMIT AND LICENSE ISSUED ON APPLICATION 19304;
AND

1 WHEREAS, AUTHORITY TO INVESTIGATE THE NEED FOR WATER QUALITY CONTROL IS
2 CONTAINED IN THE FEDERAL WATER POLLUTION CONTROL ACT AMENDMENTS OF 1961 (PUBLIC
3 LAW 87-88, APPROVED JULY 20, 1961) WHICH PROVIDES IN PART

4 "...IN THE SURVEY OR PLANNING OF ANY RESERVOIRS OF THE CORPS
5 OF ENGINEERS, BUREAU OF RECLAMATION, OR OTHER FEDERAL AGENCY,
6 CONSIDERATION SHALL BE GIVEN TO INCLUSION OF STORAGE FOR
7 REGULATION OF STREAMFLOW FOR THE PURPOSE OF WATER QUALITY
8 CONTROL..."

9 AND, IN ADDITION, THE 1962 FLOOD CONTROL ACT AUTHORIZING THE NEW MELONES
10 PROJECT (PUBLIC LAW 87-874) PROVIDES

11 "...THAT THE SECRETARY OF THE ARMY GIVE CONSIDERATION DURING
12 THE PRECONSTRUCTION PLANNING FOR THE NEW MELONES PROJECT TO
13 THE ADVISABILITY OF INCLUDING STORAGE FOR THE REGULATION OF
14 STREAMFLOW FOR THE PURPOSE OF DOWNSTREAM WATER QUALITY CON-
15 TROL...;"

16 AND

17 WHEREAS, COOPERATIVE STUDIES BY THE PUBLIC HEALTH SERVICE, BUREAU OF
18 RECLAMATION, AND CORPS OF ENGINEERS OF WATER QUALITY REQUIREMENTS IN STANISLAUS
19 RIVER AND LOWER SAN JOAQUIN RIVER FOR IRRIGATION, FISH, AND OTHER PURPOSES WERE
20 MADE DEMONSTRATING THE FEASIBILITY OF ADDING WATER QUALITY CONTROL AS A FUNCTION
21 OF THE NEW MELONES PROJECT; AND

22 WHEREAS, THE CONSTRUCTION OF THE NEW MELONES DAM BY THE UNITED STATES
23 AND OPERATION, AS PROVIDED IN THIS AGREEMENT, WILL ASSIST IN PROVIDING PRO-
24TECTION AND ENHANCEMENT OF THE QUALITY OF THE WATERS OF THE STANISLAUS AND
25 SAN JOAQUIN RIVERS AND IT IS MUTUALLY BENEFICIAL AND DESIRABLE THAT THE PARTIES
26 FORMALIZE THEIR UNDERSTANDING BY THIS MEMORANDUM OF OPERATING AGREEMENT:

27 NOW, THEREFORE, THE UNITED STATES ACTING BY AND THROUGH THE BUREAU OF
28 RECLAMATION, HERINAFTER CALLED THE BUREAU, ITS SUCCESSORS AND ASSIGNS, AND
29 THE STATE OF CALIFORNIA, ACTING BY AND THROUGH ITS CENTRAL VALLEY REGIONAL
30 WATER QUALITY CONTROL BOARD, HERINAFTER CALLED THE REGIONAL BOARD, ITS SUCCE-
31 SORS AND ASSIGNS, AND IN CONSIDERATION OF THE PREMISES CONTAINED AGREE AS
FOLLOWS:

1. THE BUREAU SHALL, IN ADDITION TO FISHERY REQUIREMENTS, RELEASE FROM
NEW MELONES DAM, FOR WATER QUALITY CONTROL PURPOSES IN THE DOWNSTREAM
REACHES OF THE STANISLAUS RIVER AND IN THE SAN JOAQUIN RIVER BELOW THE

1 CONFLUENCE OF THE TWO RIVERS, FLOWS NECESSARY TO MAINTAIN THE OB-
2 JECTIVES LISTED BELOW, BUT NOT IN EXCESS OF 70,000 ACRE-Feet IN ANY
3 ONE YEAR. RELEASES OF WATER FOR QUALITY CONTROL PURPOSES SHALL BE
4 SCHEDULED TO MAINTAIN THE OXYGEN LEVEL AT OR ABOVE 5 MILLIGRAMS PER
5 LITER (MG/L) IN THE STANISLAUS RIVER AND THE LEVEL OF TOTAL DISSOLVED
6 SOLIDS NOT TO EXCEED A MEAN MONTHLY CONCENTRATION OF 500 MG/L IN THE
7 SAN JOAQUIN RIVER IMMEDIATELY BELOW THE MOUTH OF THE STANISLAUS RIVER.
8 PROVIDED: THAT IF HYDROLOGIC OR OTHER CONDITIONS PREVENT MAINTENANCE
9 OF A 500 MG/L TDS LEVEL ON A MEAN MONTHLY BASIS DURING THE ENTIRE
10 YEAR IN THE SAN JOAQUIN RIVER IMMEDIATELY BELOW THE MOUTH OF THE
11 STANISLAUS RIVER, OPERATIONAL RELEASES OF THE WATER QUALITY RESER-
12 VATION WILL BE RESTRICTED TO THE IRRIGATION SEASON IN ACCORDANCE
13 WITH IRRIGATIONISTS' NEEDS.

- 14 2. THE BUREAU SHALL MAKE ALL REASONABLE EFFORTS TO PERFECT AND PROTECT
15 WATER RIGHTS NECESSARY FOR THE WATER QUALITY RESERVATION AND FOR
16 WATER QUALITY OPERATIONAL PURPOSES.
- 17 3. THE REGIONAL BOARD SHALL MAKE ALL REASONABLE EFFORTS TO SUPPORT THE
18 BUREAU TO OBTAIN AND PROTECT WATER RIGHTS FOR THE WATER QUALITY RESER-
19 VATION OF THIS PROJECT AND TO PROTECT THE WATER RELEASED FOR WATER
20 QUALITY CONTROL PURPOSES.
- 21 4. SHOULD THE BUREAU ASSIGN, CONVEY OR OTHERWISE DISPOSE OF ANY INTEREST
22 IN THIS PROJECT OR RIGHTS PURSUANT TO APPLICATION 19304, SUCH DIS-
23 POSITION SHALL EXPRESSLY BE MADE SUBJECT TO THE PROVISIONS OF THIS
24 AGREEMENT.
- 25 5. THE BUREAU AND THE REGIONAL BOARD HEREBY AGREE THAT THE PROVISIONS
26 OF THIS AGREEMENT SHOULD BE INCLUDED BY WAY OF REFERENCE OR OTHERWISE
27 IN ANY PERMIT OR LICENSE BY THE STATE WATER RESOURCES CONTROL BOARD
28 OF CALIFORNIA PURSUANT TO WATER RIGHT APPLICATION 19304.

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DATED: THIS 2 DAY OF July, 1969.

UNITED STATES BUREAU OF RECLAMATION

By

B. B. Hoff
REGIONAL DIRECTOR, REGION 2

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD

By

John Van Arsen
CHAIRMAN, CENTRAL VALLEY REGIONAL BOARD

MEMORANDUM OF UNDERSTANDING BETWEEN THE CALIFORNIA DEPARTMENT OF FISH AND GAME, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD AND MOSQUITO ABATEMENT AND VECTOR CONTROL DISTRICTS OF THE SOUTH SAN JOAQUIN VALLEY REGARDING VEGETATION MANAGEMENT IN WASTEWATER TREATMENT FACILITIES.

A meeting of representatives of the California Department of Fish and Game and the California Regional Water Quality Control Board, Central Valley Region and representatives from Mosquito Abatement and Vector Control Districts (Districts) from the Southern San Joaquin Valley Region was held on June 22, 1992 in the Department of Fish and Game office in Fresno, California. Also present at the meeting, though not in a participatory function, were representatives from the United States Fish and Wildlife Service and the California Department of Health Services, Environmental Management Branch. The purpose of the meeting was to discuss concerns regarding the vegetation management operations of Wastewater Treatment Facilities in the region.

During the course of the meeting several areas of agreement between the Department of Fish and Game, the Regional Water Quality Control Board and the Districts were reached. It is the intent of this Memorandum of Understanding to record and formalize these understandings.

Whereas, it is understood and agreed that:

1. The Districts have the legal authority to abate mosquitoes and mosquito breeding sources pursuant to California Health and Safety Code Section 2270.
2. The Department of Fish and Game has the legal authority for the protection of nesting birds, eggs and nests pursuant to California Fish and Game Code Section 3503.
3. The Regional Water Quality Control Board has the legal authority to order abatement of nuisances created by and to regulate discharges from wastewater treatment facilities, and may establish conditions in waste discharge requirements to prevent nuisance and pollution pursuant to California Water Code Sections 13304 and 13263.
4. Wastewater treatment facility operators are subject to waste discharge requirements and are responsible for the vegetation management operations at their respective facilities. Vegetation management includes the chemical or physical control of weeds in and around water impoundments

5. Vegetation associated with impounded water promotes mosquito breeding and the production of mosquitoes constitutes a public health nuisance.
6. Effective, on site, vegetation control by operators of wastewater treatment facilities is essential for the reduction of mosquito breeding in water impoundments and to maintain accessibility to the impoundments for inspection and mosquito control activities.
7. Birds, including waterfowl, shorebirds and passerines, utilize wastewater treatment facilities during the nesting season that occurs from April 1 through June 30.
8. Weed control operations, during the nesting season, are potentially detrimental and may result in the destruction of nesting birds, nests and eggs.
9. The diverse authorities of the various regulatory agencies has led to confusion on the part of wastewater treatment facility operators with regard to weed control operations.

Therefore, it is understood and agreed that:

1. The District will act as the lead agency in determining the adequacy of vegetation management operations in abating mosquito breeding sources.
2. On site, vegetative management operations at wastewater treatment facilities should include the maintenance of weed-free embankments, water edges and peripheral access roads, and the elimination of emergent and floating vegetation in all water impoundments.
3. Vegetation management operations in areas that attract nesting birds at wastewater treatment facilities should be carried out either before or after, but not during, the April 1 to June 30 bird nesting season.
4. In the event the District determines the existence of a potential public health nuisance from mosquito breeding, weed control may be conducted during the nesting season; provided that wastewater treatment facility personnel first survey the area and flag all existing nests and assure that these nests and birds are avoided during the weed control activities. Prior to conducting the survey, the Department of Fish and Game must be notified and given the opportunity to advise or assist facility personnel.

5. Should a public health threat create a situation where the destruction of nests and eggs due to weed control activity is unavoidable, the District will first contact the Department of Fish and Game and the U.S. Fish and Wildlife Service to request the issuance of an incidental take permit.
6. Areas away from impounded water may be left in a vegetated (weedy) state to attract nesting birds and to offer nesting habitat throughout the nesting season. These areas cannot be flooded unless vegetation is removed and vegetation cannot be removed during the nesting season.

These understandings were reached and this memorandum is signed in a spirit of cooperation among the signatory agencies. It is signed in the belief that a healthy environment and the protection of natural resources and the concern for and protection of the public health are compatible issues.

These understandings may be amended or terminated at any time provided that the Department of Fish and Game, the Regional Water Quality Control Board and the Districts agree in writing.

Concurrence:

By *George D. Waker*
 CALIFORNIA DEPARTMENT OF
 FISH AND GAME

Dated *3/16/93*

By *William H. Cruik*
 CALIFORNIA REGIONAL WATER QUALITY
 CONTROL BOARD, CENTRAL VALLEY REGION

Dated *2-24-93*

By *Ralph B...*
 COALINGA-HURON MOSQUITO ABATEMENT
 DISTRICT

Dated *3-25-93*

By *Steve Mullis*
 CONSOLIDATED MOSQUITO ABATEMENT
 DISTRICT

Dated *2-25-93*

By *Ralph J. Alls*
 DELANO MOSQUITO ABATEMENT DISTRICT

Dated *2-24-93*

By Michael W. Alburn
DELTA VECTOR CONTROL DISTRICT

Dated 2-25-93

By [Signature]
FRESNO MOSQUITO AND VECTOR CONTROL DISTRICT

Dated 3-18-93

By Elizabeth Ann Clive
FRESNO WESTSIDE MOSQUITO ABATEMENT DISTRICT

Dated 2/25/93

By Harmon L. Pleasant
KERN MOSQUITO AND VECTOR CONTROL DISTRICT

Dated 2-25-93

By [Signature]
KINGS MOSQUITO ABATEMENT DISTRICT

Dated 02-25-93

By [Signature]
MADERA COUNTY MOSQUITO ABATEMENT DISTRICT

Dated 2-25-93

By Marshall Hargraves
TULARE MOSQUITO ABATEMENT DISTRICT

Dated 2-25-93

By [Signature]
WEST SIDE MOSQUITO AND VECTOR CONTROL DISTRICT

Dated 2-25-93

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. 89-247

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS AT
RETAIL FERTILIZER FACILITIES

WHEREAS, Section 13269 of the Porter-Cologne Water Quality Control Act authorizes the Regional Board to waive waste discharge requirements for a specific discharge or a specific type of discharger; and

WHEREAS, there are approximately 195 retail fertilizer facilities in the Central Valley Region; only 11 of which are covered by waste discharge requirements; and

WHEREAS, all retail fertilizer facilities generate waste associated with the mixing and/or transport and/or application of fertilizer materials; and,

WHEREAS, the waste generated has the potential to affect water quality if improperly disposed of; and

WHEREAS, the California Fertilizer Association, in cooperation with Regional Board staff, has developed a set of management practices to protect water quality at retail fertilizer facilities; and

WHEREAS, the fertilizer industry has indicated a willingness to implement these management practices at retail fertilizer facilities; and

WHEREAS, implementation of these management practices will ensure the future protection of water quality, will limit the need for waste discharge requirements, and will reduce the amount of Regional Board staff time needed to oversee these facilities; and

WHEREAS, the implementation of these management practices is to the benefit of the public and the waiver of individual waste discharge requirements is not against the public interest; and

WHEREAS, the Regional Board has assumed lead agency role for this project and has conducted an Initial Study in accordance with Title 14, California Code of Regulations, Section 15603; and

WHEREAS, the Initial Study concluded that the project as proposed would not have a significant effect on the environment and that a Negative Declaration should be prepared; and

WHEREAS, copies of the Initial Study, Negative Declaration, and attached *Conditions for Waiver of Waste Discharge Requirements at Retail Fertilizer Facilities* were transmitted to all agencies, and persons known to be interested in this matter, and to the State Clearinghouse; and

31/1/10

CONDITIONAL WAIVER OF
WASTE DISCHARGE REQUIREMENTS
FOR RETAIL FERTILIZER FACILITIES

- 2 -

WHEREAS, no comments were received from any party receiving the Initial Study and proposed Negative Declaration; and

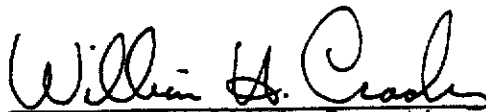
WHEREAS, the Board considered all testimony and evidence at a public hearing on 8 December 1989 in Sacramento, California, and good cause was found to approve the Initial Study and adopt a Negative Declaration; and

WHEREAS, in accordance with Title 14, California Code of Regulations, Section 15074, a Negative Declaration has been adopted for this project; Therefore, be it

RESOLVED, that the Board hereby waives waste discharge requirements for retail fertilizer facilities. This waiver shall only apply to those facilities that comply with the attached *Conditions for Waiver of Waste Discharge Requirements at Retail Fertilizer Facilities*; and be it further

RESOLVED, that this action waiving waste discharge requirements is conditional and may be terminated for any specific discharger at any time.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 8 December 1989.


WILLIAM H. CROOKS, Executive Officer

Attachment

31/2/10

ATTACHMENT I

CONDITIONS FOR WAIVER OF WASTE DISCHARGE REQUIREMENTS AT RETAIL FERTILIZER FACILITIES

The following management practices have been recommended by the California Fertilizer Association and the Regional Water Quality Control Board as methods to protect water quality at retail fertilizer facilities. The Regional Board waived waste discharge requirements for retail fertilizer facilities, conditioned on their compliance with these management practices. A Time Schedule for implementing these management practices is given in Section 2. If the time schedule and the Management Practices are not followed by an individual facility, waste discharge requirements will be issued for that facility.

1. MANAGEMENT PRACTICES

A. Office Buildings

1. Good housekeeping practices shall be implemented which will prevent contamination of groundwater, surface water, and rain runoff.
2. If conditions are such that the office building and associated parking area are separated from the rest of the facility, signs should be posted indicating "Office Parking Only." By restricting delivery, vendor and application equipment from these areas, the potential for accidental contamination will be eliminated.
3. Roof and parking lot runoff should be controlled to the extent that they are prevented from intercepting potential contamination areas. Collection of this water will be necessary if contamination occurs.
4. Berming, rain gutters, and/or other control devices shall be used where necessary.

B. Equipment Storage Area

1. Good housekeeping practices and organizational practices shall be implemented which will prevent contamination of groundwater, surface water, and rain runoff.
2. Equipment, known or suspected of being in disrepair, shall not be stored in these areas unless completely empty of commercial grade fertilizer material.
3. Equipment that contains visual evidence of overfilling, or visual evidence of exterior residues, shall be cleaned by rinsing in the field or at a properly designed wash facility prior to storing in this area.

C. Bulk Warehousing and Storage of Fertilizer Materials

1. Good housekeeping practices shall be implemented which will prevent contamination of groundwater, surface water, and rain runoff.
2. If a fertilizer material is susceptible to wind suspension, it should be placed away from the open areas of the warehouse in order to prevent airborne contamination of soil, surface water, groundwater, or rain runoff.
3. Provided good housekeeping practices are sufficient, collection of surface runoff will not be necessary. If conditions are such that good housekeeping practices are not sufficient, surface runoff shall be collected from all contaminated areas associated with the warehouse and overhead bins, and transferred to an approved storage facility for dilute fertilizer solutions.
4. Berms, sloping rain gutters, and/or other water control devices shall be used where necessary.
5. All spilled dry material shall be collected immediately and handled in an appropriate manner.

D. Material Transfer Points

1. Good housekeeping practices shall be implemented which will prevent contamination of groundwater, surface water, and rain runoff.
2. Transfer systems shall be installed which eliminate unnecessary spillage. Hoses should not be drained in these areas unless facilities have been designated for this practice.
3. Provided good housekeeping practices are sufficient, collection of surface runoff will not be necessary. If conditions are such that good housekeeping practices are not sufficient, surface runoff shall be collected from this area, and transferred to an approved storage facility for dilute fertilizer solutions.
4. Berms, sloping rain gutters, and/or other water control devices shall be used where necessary.

E. Blending and Mixing Areas

1. Good housekeeping practices shall be implemented which will prevent contamination of groundwater, surface water, and rain runoff.
2. Dust and splash control devices shall be used where necessary.

3. Acceptable spill containment shall be provided in all newly constructed or renovated blending and mixing areas. The spill containment shall be capable of containing the maximum anticipated spill in accordance with operating conditions and practices.
4. Provided good housekeeping practices are sufficient, collection of surface runoff will not be necessary. If conditions are such that good housekeeping practices are not sufficient, surface runoff shall be collected from the blending and mixing area, and transferred to an approved storage facility for dilute fertilizer solutions.
5. Berms, below-grade construction, sumps, and/or other water control devices shall be used where necessary.
6. Liquid contained in an approved storage facility for dilute fertilizer solutions can be used in the blending and mixing operations.

F. Fertilizer Wash and Rinse Facility

1. Rinse water from facility equipment and application equipment shall be collected and transferred to an approved storage facility for dilute fertilizer solutions.
2. Contaminated surface runoff from the rinse pad shall be collected and transferred to an approved storage facility for dilute fertilizer solutions.
3. Berms, sloping, sumps, and other water control devices shall be used where necessary.
4. Solids from central collection points or from settling devices can be disposed of on agricultural land, provided that good agronomic practices are used.
5. Identification of the type of products that can be washed and rinsed at the wash/rinse facility shall be posted in a conspicuous area and enforced.

G. Tank Farms and Other Liquid Storage Areas

1. Good housekeeping practices shall be implemented which will prevent contamination of groundwater, surface water, and rain runoff.
2. Transfer systems shall be constructed that eliminate spillage. Hoses and connections shall not be drained into these areas.
3. Acceptable spill containment shall be provided for all new tank farms or renovated tank farms.

4. Pipes, connections, pumps, and/or tanks in disrepair shall not be used until the situation is rectified.
4. Provided good housekeeping practices are sufficient, collection of surface runoff will not be necessary. If conditions are such that good housekeeping practices are not sufficient, surface runoff shall be collected from all contaminated areas associated with the tank farm, and transferred to an approved storage facility for dilute fertilizer solutions.
5. Berms, sloping, and other water control devices shall be used where necessary.

H. Dilute Fertilizer Solutions Containment

1. Tanks and/or above ground containment shall be used to contain all liquids classified as dilute fertilizer solutions.
2. Adequate capacity shall be provided such that the system is operational at all times, and has the capability of containing all contaminated surface runoff.
3. Adequate storage shall be provided in the design of a tank or above ground containment, such that containment and/or evaporation of all collected dilute fertilizer solutions is available at all times, unless alternative methods of use are available (i.e. agronomical use on agricultural land, use in processes, or disposal to approved discharge facilities).
4. Access to the tank and/or above ground containment shall be restricted to qualified personnel only.

I. Pesticide Use

Note: These conditions implement existing laws and regulations, and do not impose any new restrictions.

1. There shall be no discharge of pesticide rinse water to any surface water, ground water, or subsurface disposal system.
2. There shall be no disposal or storage of a) pesticide rinse waters, b) unrinsed pesticide containers, or c) ineffectively rinsed pesticide containers, if there is the potential for residual pesticides to affect water quality via percolation, runoff, or soil erosion.
3. Facilities used to generate, collect, or store pesticide rinse waters shall not allow percolation to underlying soils or ground water.

4. Disposal or treatment areas for pesticide rinse water, pesticide containers, and wastes from spills or leaks shall comply with *Discharges of Waste to Land*, Subchapter 15, Chapter 3, Title 23, California Code of Regulations. In particular, there is no on-site treatment or disposal of 'hazardous waste' without a permit from the California Department of Health Services.

5. Waste management facilities shall be designed and managed to prevent nuisances and to provide for controlling access to the facilities.

6. If wastewater containing pesticides is applied to fields, such application must be in compliance with regulations contained in Title 3, Food and Agriculture, California Code of Regulations.

7. A report shall be submitted to the Regional Board addressing the containment and disposal of the following wastes: pesticide rinse waters, pesticide containers, contaminated soils resulting from leaks or spills, and wastes from any on-site rinse water recycling system. (See 1 January 1991 report, below).

2. TIME SCHEDULE FOR IMPLEMENTATION OF MANAGEMENT PRACTICES

In order to implement the above management practices, the following time schedule shall be utilized. Considerations of exemptions for specific facilities will be made by the Regional Board on a case-by-case basis.

By 1 June 1990

- designate office parking only area (A2)¹
- clean equipment containing fertilizer residues before parking in equipment storage (B3)
- move fertilizer that may become airborne (C2)
- identify products that can be washed at the washrack, post a sign (F5)
- broken pipes, connections, pumps, and tanks can not be used until fixed (G4)
- broken application equipment may not be parked in equipment area unless empty (B2)
- restrict access to dilute fertilizer storage area to qualified personnel (H4)
- collect all dry material spilled in the bulk warehouse (C6)
- comply with provisions 1-6 of the Pesticide section (I)

¹ numbers in parentheses refer to the specific items in Section 1 (Management Practices)

CONDITIONS FOR WAIVER

- 6 -

By 1 January 1991

- submit a report to the RWQCB detailing 1) the facility's 'good housekeeping' plans (A1, B1, C1, C3, D3, E4, G1, G5); 2) pesticide use/disposal practices (I.7); and a listing of the dates that facility modifications will be in place

By 1 January 1992

- control roof and office parking lot runoff (A3)
- control dust in bulk warehouse (C4)
- install transfer systems which eliminate spillage (D2, G2)
- control dust and splash in blending areas (E2)
- dispose of any solids onto agricultural lands (F4)

By 1 January 1994

- collect contaminated surface runoff from the bulk warehouse, material transfer points, blending/mixing areas, and tank farms, and transfer to an approved storage facility (C3, D3, E4, G4)
- construct spill containment structures for new or renovated blending and tank farms (E3, G3)
- collect rinsewater and transfer to an approved facility (F1)
- collect contaminated surface runoff from the wash pad (F2)
- construct a dilute fertilizer solutions containment system (H1, H2, H3)

Amended 12/8/89

31/8/10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. 89-246

APPROVING THE INITIAL STUDY AND
ADOPTING A NEGATIVE DECLARATION FOR
THE CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS
AT RETAIL FERTILIZER FACILITIES

WHEREAS, Section 13269 of the Porter-Cologne Water Quality Control Act authorizes the Regional Board to waive waste discharge requirements for a specific discharge or a specific type of discharger; and

WHEREAS, there are approximately 195 retail fertilizer facilities in the Central Valley Region; only 11 of which are covered by waste discharge requirements; and

WHEREAS, all retail fertilizer facilities generate waste associated with the mixing and/or transport and/or application of fertilizer materials; and,

WHEREAS, the waste generated has the potential to affect water quality if improperly disposed of; and

WHEREAS, the California Fertilizer Association, in cooperation with Regional Board staff, has developed a set of management practices to protect water quality at retail fertilizer facilities; and

WHEREAS, the fertilizer industry has indicated a willingness to implement these management practices at retail fertilizer facilities; and

WHEREAS, implementation of these management practices will ensure the future protection of water quality, will limit the need for waste discharge requirements, and will reduce the amount of Regional Board staff time needed to oversee these facilities; and

WHEREAS, the implementation of these management practices is to the benefit of the public and the waiver of individual waste discharge requirements is not against the public interest; and

WHEREAS, the Regional Board has assumed lead agency role for this project and has conducted an Initial Study in accordance with Title 14, California Code of Regulations, Section 15603; and

WHEREAS, the Initial Study concluded that the project as proposed would not have a significant effect on the environment and that a Negative Declaration should be prepared; and

APPROVAL OF INITIAL STUDY
AND ADOPTION OF A NEGATIVE DECLARATION

- 2 -


WHEREAS, copies of the Initial Study, Negative Declaration, and attached *Conditions for Waiver of Waste Discharge Requirements at Retail Fertilizer Facilities* were transmitted to all agencies, and persons known to be interested in this matter, and to the State Clearinghouse; and

WHEREAS, no comments were received during the thirty day public comment period from any party receiving the Initial Study and proposed Negative Declaration; and

WHEREAS, the Board considered all testimony and evidence at a public hearing on 8 December 1989 in Sacramento, California, and good cause was found to approve the Initial Study and adopt a Negative Declaration: Therefore, be it

RESOLVED, that the California Regional Water Quality Control Board, Central Valley Region, approves the Initial Study and adopts a Negative Declaration for conditional waiver of waste discharge requirements at retail fertilizer facilities.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 8 December 1989.



WILLIAM H. CROOKS, Executive Officer

31/10/10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION 90-034

CONDITIONAL WAIVER OF WASTE DISCHARGE REQUIREMENTS AT
PESTICIDE APPLICATOR FACILITIES

WHEREAS, Section 13269 of the Porter-Cologne Water Quality Control Act states that the Regional Board may waive waste discharge requirements for a specific type of discharge; and

WHEREAS, there are several hundred pesticide applicators in the Central Valley Region who have the potential to discharge waste which could be regulated by the Regional Board; and

WHEREAS, pesticide waste management practices that comply with existing laws and regulations and will protect water quality have been described in a Regional Board document "Conditions for Waiver of Waste Discharge Requirements at Pesticide Applicator Facilities" a copy of which is incorporated in this Resolution as Attachment 1; and

WHEREAS, staff have developed a regulatory program for pesticide applicators so that the waste management practices that they utilize can be reviewed; and

WHEREAS, it is anticipated that reviews will reveal that waste management practices at many of these facilities do not pose a threat to water quality; and

WHEREAS, only a few of the facilities operated by pesticide applicators are currently under waste discharge requirements; and

WHEREAS, it is to the benefit of the public that waste discharge requirements be waived at pesticide applicator facilities that do not pose a threat to water quality and such waiver is not against the public interest; and

WHEREAS, such a waiver program is a "project" under the California Environmental Quality Act and the Regional Board has assumed lead agency role for the project and has conducted an Initial Study in accordance with Title 14, California Code of Regulations, Section 15603; and

WHEREAS, the Initial Study concluded that the project as proposed would not have a significant effect on the environment and that a Negative Declaration should be prepared; and

WHEREAS, copies of the Initial Study, proposed Negative Declaration, and the "Conditions for Waiver of Waste Discharge Requirements at Pesticide Applicator Facilities" were transmitted to all agencies and persons known to be interested in this matter and to the State Clearinghouse; and

WHEREAS, no comments were received during the thirty-day public comment period from any party receiving the Initial Study, proposed Negative Declaration,

and the waiver conditions; and

WHEREAS, the Regional Board considered all testimony and evidence at a public hearing on 26 January 1990 in Sacramento, California, and good cause was found to approve the Initial Study and adopt a Negative Declaration for conditional waiver of waste discharge requirements at pesticide applicator facilities; and

WHEREAS, in accordance with Title 14, California Code of Regulations, Section 15074, a Negative Declaration has been adopted for this project; Therefore, be it

RESOLVED, that the Board hereby waives waste discharge requirements for pesticide applicator facilities which meet the "Conditions for Waiver of Waste Discharge Requirements at Pesticide Applicator Facilities". This waiver is conditional and may be revoked at any time.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 26 January 1990.



WILLIAM H. CROOKS, Executive Officer

Ammended

ATTACHMENT 1 / RESOLUTION 90-034

CONDITIONS FOR WAIVER OF WASTE DISCHARGE REQUIREMENTS AT PESTICIDE APPLICATOR FACILITIES

Purpose Of This Document

Pesticide application using aerial or ground equipment may result in production of wastes which can affect water quality. The subject wastes consist of pesticide rinse waters, unrinsed or ineffectively rinsed pesticide containers, leaks, and accidental spills. Residual pesticides from treated fields are not addressed by this document.

This document describes waste management practices which, if utilized by pesticide applicators, will not result in an adverse impact on surface or ground water. Those applicators who adopt the practices presented in this document will qualify for a waiver of waste discharge requirements. The waiver will be issued at the discretion of the Regional Board and may be revoked by the Board at any time.

Acceptable Waste Management Practices

1. There is no discharge of pesticide rinse water to any surface water, ground water, or subsurface disposal system.
2. There is no disposal or storage of pesticide rinse waters or unrinsed or ineffectively rinsed pesticide containers where residual pesticides can affect water quality via percolation, runoff, or soil erosion.
3. Facilities used to generate, collect, or store pesticide rinse waters do not allow percolation to underlying soils or ground water.
4. Disposal or treatment areas for pesticide rinse waters, pesticide containers, and wastes from spills or leaks comply with Subchapter 15, Chapter 3, Title 23, California Code of Regulations (CCR). In particular, there is no on-site treatment or disposal of 'hazardous waste' without a permit from the California Department of Health Services (DHS) if such a permit is required by law or regulation.
5. Waste management facilities are designed and managed to prevent nuisances and to provide for controlling access to the facilities.
6. If wastewater containing pesticides is applied to fields, such application must be in compliance with regulations contained in Title 3, CCR.

Regional Board's Review Program

All pesticide applicators are expected to manage their waste in compliance with State laws and regulations. Upon order by the Regional Board, a Certified Commercial Applicator or other pesticide applicator shall prepare a technical report for his facility. The report shall be submitted to the Regional Board upon request and shall address containment and disposal of the following wastes:

1. Pesticide rinse waters.
2. Pesticide containers.
3. Contaminated materials resulting from leaks or spills.
4. Wastes from on-site rinse water recycling systems.

Based on a review of the technical report, Board staff shall determine if:

- A. Investigation by staff demonstrates that there is no expected impact on water quality from the proposed waste management practices and that the pesticide applicator facilities meet the conditions for waiver of waste discharge requirements, or
- B. A monitoring program should be implemented to develop additional information on the impacts from on-site waste discharges, or
- C. The conditions for waiver of waste discharge requirements have not been met and, consequently, a Report of Waste Discharge should be requested and waste discharge requirements prepared.

If staff makes the finding in A above, a waiver of waste discharge requirements shall apply pursuant to Board Resolution 90-034 and shall apply only for the practices described in the technical report. Staff shall instruct the operator to file an updated technical report if there is any substantial change in waste management practices.

If staff makes the finding in B above, the Regional Board may choose to waive waste discharge requirements for that specific operator pending review of monitoring reports. The waiver shall be at the discretion of the Board.

Definition of Terms Used in This Document

Some of the terms used in this document are defined in the CCR, and appropriate citations are given below:

- i. "Certified Commercial Applicator" means:
 - (a) a current authorized agent on an Agricultural Pest Control Operator license issued by the director of the Department of Food and Agriculture (director);
 - (b) a pilot holding a valid Journeyman certificate issued by the director;
 - (c) a person holding a Certified Technician certificate issued by the Vector Biology and Control Section of the Department of Health Services;

- (d) a person holding a valid Structural Pest Control Operator or Field Representative license issued by the Structural Pest Control Board of the Department of Consumer Affairs; and
 - (e) a person holding a valid Certified Commercial Applicator certificate issued by the director. (Section 6000.2, Title 3, CCR.)
2. "Designated waste" is defined in Section 2522 of Title 23, CCR.
 3. "Field" means any area (including a greenhouse) upon which one or more crops are commercially grown. (Section 6000.4, Title 3, CCR.)
 4. "Hazardous waste" means waste that is hazardous pursuant to Section 66693 et seq., Title 22, CCR.
 5. "Ineffectively rinsed pesticide container" means a container which has residual pesticides at levels that are hazardous or designated waste.
 6. "Pesticide rinse water" is wastewater from washing the interior (tanks, lines, spray nozzles, etc.) or exterior of pesticide application equipment.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. 83-105

ADOPTION OF AN AMENDMENT TO PART I OF THE WATER QUALITY CONTROL PLANS FOR THE
SACRAMENTO RIVER (5A), SACRAMENTO-SAN JOAQUIN DELTA (5B), SAN JOAQUIN-RIVER (5C),
AND TULARE LAKE (5D) BASINS
FOR
LAND DISPOSAL OF STILLAGE WASTE FROM WINERIES

WHEREAS, under Section 13240 of the Porter-Cologne Water Quality Control Act and Section 303(e) of the Federal Clean Water Act amendments of 1972 (PL 92-500), the California Regional Water Quality Control Board, Central Valley Region (hereafter Board), adopted Water Quality Control Plans for Basins 5A, 5B, 5C, and 5D on 25 July 1975; and

WHEREAS, the potential exists for disposal of stillage waste by land application to adversely affect water quality and create nuisance conditions; and

WHEREAS, a study was completed for The Wine Institute by Metcalf and Eddy Engineers in February of 1980, entitled, "Land Application of Stillage Waste: Odor Control and Environmental Effects"; and

WHEREAS, the Board has developed an amendment to Part I of the Water Quality Control Plans for Basins 5A, 5B, 5C, and 5D regarding disposal of winery stillage waste by land application; and

WHEREAS, the amendment prescribes guidelines to minimize the potential for adverse water quality effects and nuisance conditions but does not preclude the establishment of more stringent requirements by local agencies or the Board for control of water quality concerns associated with land disposal of stillage waste; and

WHEREAS, the basin planning process has been certified as a "functional equivalent" to the California Environmental Quality Act requirements for preparing environmental documents and is therefore exempt from those requirements (Public Resources Code Section 21000, et seq.) in accordance with Section 15108 of the State EIR guidelines (California Administrative Code, Title 14, Division 7, Chapter 3); and

WHEREAS, on 12 August 1983, the Board conducted a public hearing after notice to all interested persons, in accordance with PL 92-500 and the California Water Code, and has considered the evidence regarding the amendment introduced at that hearing and submitted to the Board prior to the hearing: Therefore be it

RESOLVED, That the Board adopts the above described amendment to the Water Quality Control Plans for Basins 5A, 5B, 5C, and 5D, and be it further

RESOLUTION NO. 83-105
ADOPTION OF AN AMENDMENT TO PART I OF THE WATER
QUALITY CONTROL PLANS FOR THE SACRAMENTO RIVER (5A),
SACRAMENTO-SAN JOAQUIN DELTA (5B), SAN JOAQUIN
RIVER (5C), AND TULARE LAKE (5D) BASINS FOR LAND
DISPOSAL OF STILLAGE WASTE FROM WINERIES

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RESOLVED, That the Executive Officer is instructed to transmit the Water Quality Control Plan amendment to the State Water Resources Control Board for its consideration and approval.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 12 August 1983.



WILLIAM H. CROOKS, Executive Officer

**AMENDMENT TO WATER QUALITY
CONTROL PLAN**

Land Disposal of Stillage Waste from Wineries

Problem Statement

A substantial number of wineries operate throughout the Central Valley. Many of these wineries operate stills. Wineries with stills produce substantial quantities of stillage waste which is high in concentrations of BOD and nitrogen. The stillage is normally discharged directly to land without any prior treatment. There is a potential for the waste to affect water quality and to create nuisance conditions.

A study has been conducted^{1/} to develop recommendations for minimizing water quality effects and nuisance conditions resulting from land application of stillage waste. There is a need to implement guidelines for land disposal of stillage waste that can be used by the industry as a general indication of minimum disposal practices when accompanied with suitable soil, weather, ground water and other conditions affecting the discharge.

The guidelines address the unique problems associated with the management of the land disposal of stillage wastes. They will be utilized in the evaluation of the adequacy of technical reports submitted for the development of waste discharge requirements. Portions of the criteria contained herein may be included as part of the waste discharge requirements on a case-by-case basis depending on the site conditions.

Guidelines for Land Disposal of Stillage Waste from Wineries

The following guidelines will be applied for the preservation and enhancement of state waters for all present and anticipated beneficial uses, prevention of water pollution, health hazards and nuisance conditions. The guidelines may not be applicable in cases where local soil, ground water, weather or other conditions are not compatible with the stillage to be disposed. These guidelines prescribe criteria for disposal of stillage waste from wineries and do not preclude the establishment of more stringent requirements by local agencies or the Board.

The Board has determined that the following guidelines should be followed by wineries which practice land disposal of stillage without any prior treatment of the waste.

Rapid Infiltration Method

I. Disposal Site Requirements

1. The land used for disposal should be as remote from habitation as possible.
2. The soils should be capable of infiltrating 3 to 4 inches of stillage in 24 hours or less.

^{1/} "Land Application of Stillage Waste: Odor Control and Environmental Effects" prepared for The Wine Institute, by Metcalf and Eddy, Engineers, Palo Alto, California, February 1980.

3. Soil permeability should be greater than 2 inches per hour for the entire profile.
4. There should be no unripped hardpan within the top 10 feet of the soil profile.
5. Soil depth should be 10 feet or greater.
6. Depth to ground water should be 10 feet or greater.

II. Operational Procedures

1. Cooling water and any other wastewater with low COD concentrations should be separated from the stillage before land application.
2. Stillage waste should be spread on land between long, narrow, level checks. The surface should be leveled uniformly within 0.1 foot per 100 feet, without potholes.
3. At the inlet of the checks, the flow should be distributed using splash plates or other devices to prevent deep holes from forming.
4. The depth of each stillage application should not exceed the following:

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

5. Standing stillage should not be present 24 hours after application has ceased.
6. After stillage waste has been applied to an area, the area should be allowed to dry for at least the following period before re-application of waste:

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

7. After stillage has been applied to an area, if leathers have not been removed, the area should be raked or rototilled before re-application of stillage.
8. Loading rates and drying times for stillage waste from raisins or pomace should follow the criteria for December 1 to May 1 operations.

9. Land area used for disposal should equal or exceed the following:

<u>Period of Year</u>	<u>Land Area^{1/} (acres per 100,000 gpd of stillage waste)</u>
Aug 1 to Oct 1	7
Oct 1 to Dec 1	12.3
Dec 1 to May 1	20.6

^{1/} These land areas are directly related to the drying time stated in No. 6 above. Complete infiltration recovery to the original values may not be obtained by these relatively short resting cycles. At some application sites, the infiltration rate constantly decreases as the application season progresses. A decrease in infiltration of about 75% can be expected with only three applications. Therefore the number of stillage applications at a specific site should be kept to a minimum. Repeated application of stillage with minimum drying times may require larger land areas.

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

Slow Rate Irrigation Method

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

TABLE 1. SLOW RATE IRRIGATION
AREA REQUIREMENTS

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

Basin Plan Amendment and Action Plan for Erosion/Sedimentation*

Problem Statement

Accelerated erosion from man's disturbance of soil resources (construction, agricultural operations, highway construction, etc.) contributes to turbidity and sedimentation in basin streams. For example, the US Army Corps of Engineers removes over 10 million cubic yards of sediment yearly from the Sacramento River.

There exists a tremendous push by the urban population for construction of primary residences and second-homes (with support activities) in the rural lands of the Central Valley. Exposure of soil during construction of house pads and access roads, and the subsequent earth disturbing cuts and fills can accelerate erosion many times above that which occurs in undeveloped watershed lands.

Agricultural activities can cause a long-term persistent erosion/sedimentation problem. Conversion of steeper sloping lands for agricultural production is occurring as new water sources become available and flatter land becomes more scarce. The conversion of these lands involves the removal of natural vegetation and alteration of natural drainage patterns, which can increase erosion from irrigation and rainfall runoff.

Highway construction, management of forest lands and federal grazing lands are also sources of accelerated erosion; however, these are dealt with in other 208 issues.

Sediment from erosion can have both short and long-term effects on water quality/beneficial uses. The immediate effect is increased turbidity in adjacent water ways, resulting in adverse impacts on fish and wildlife habitat, reduced water pump life due to abrasion, increased municipal/industrial water treatment costs for turbidity removal, and impaired recreation and aesthetic value. Some of the long-term effects are reduced reservoirs capacity, increased flooding hazard from reduced channel capacities, increased irrigation system maintenance and increased dredging costs. Sediment is also a carrier of other pollutants such as pesticides, heavy metals, and nutrients.

Action Plan

The State and Regional Boards contracted with several agencies to collect existing data and make recommendations for developing a statewide policy and a regional action plan for the control of erosion/sedimentation. These studies have been completed and used as supportive studies (Attachment 1) for this Regional Board action plan.

Objective are:

1. Beneficial uses of receiving waters that are presently significantly impacted by sediment should be restored to a water quality level consistent with state and federal water quality standards.

* As adopted in Resolution No. 79-180

2. Beneficial uses of receiving waters presently unimpaired but threatened by impacts of sediment should be protected.
3. Sediment control standards and program performance evaluation criteria should be based upon Best Management Practices and understanding of the impacts of sediment on beneficial uses.
4. Local units of government should have the lead role, with the Regional Board involving and assisting them, in the assessment of sediment problems, the determination of problem areas, and the estimate of sediment control priorities within their jurisdiction.
5. Land use activities that produce significant sediment impacts upon beneficial uses should be addressed by local voluntary programs that provide for inclusion of Best Management Practices applied in the context of management plans acceptable to the affected land users..
6. Minimum county-wide erosion control and surface runoff management criteria should be enacted to address impacts of sediment produced by construction activities.
7. Regional Board participation in sediment control programs shall include assistance in the establishment of local control programs, participation in the determination of water quality problem areas and a cooperative program evaluation with local units of government. Upon failure of local programs to address impacts, waste discharge permits shall be issued for sediment control purposes.
8. In critical water quality problem areas, counties and cities in the Central Valley should submit action plans to the Regional Board within a reasonable time frame that sets forth local sediment control programs consistent with basin plan objectives and criteria. The control features of such action plans shall be incorporated into subsequent water quality management plans.

Guidelines for Existing Erosion/Sedimentation Problems

1. The resource management subsystem approach developed by the USDA-Soil Conservation Service and reported in their "Recommended Plan for Best Management Practices" shall be considered as Best Management Practices to control or reduce erosion/sedimentation.
2. The Regional Board recognizes the sediment problem area maps developed by the USDA-Soil Conservation Service as the most comprehensive regional assessment of erosion problems for private lands presently available. These maps will be refined to assess significantly impacted water with the help of SCS/RCD, county, and interested agencies.

3. Regional Board will cooperate with counties to establish county erosion control committees, composed of interest groups including those representing the public interest, and local, state, and federal agencies with resource management skills. Committee duties are:
 - a. Provide local input and assistance to develop a control plan for the problem area.
 - b. Define with the Regional Board, seasonal water quality and soil loss standards for their area.
 - c. Seek technical assistance from agencies in planning, review, and implementation of Best Management Practices.
 - d. Seek funding for implementation of Best Management Practices.
 - e. Provide leadership in working with land users in the problem area.
 - f. Encourage development and/or implementation of local erosion/sedimentation control ordinance.

Guidelines for Potential Erosion/Sediment Problems

A. Agriculture

Potential problems stem from conversion of one type of agricultural land use to another (i.e., range to cultivated agriculture) which result in soil disturbing activities and removal of vegetative cover.

1. Local units of government should identify areas where such conversions are likely to occur and erosion/sedimentation will have adverse impacts on water quality.
2. The county erosion control committees should work with the county to develop a control plan for identified areas.
3. Local USDA-Soil Conservation Service/RCD and UC Cooperative Extension offices should establish education and information programs to assist agricultural land users in planning and applying Best Management Practices to mitigate erosion during and after conversion.

B. Construction

1. Plans for erosion/sedimentation control should be a requirement for issuance of a county or city grading and/or building permit for construction activities that will disturb greater than 10,000 square feet of surface area and/or more than 100 cubic yards of excavated material.

Erosion/Sedimentation

2. Plans for erosion/sedimentation control should meet the following minimum criteria:
 - a. During development and/or construction, adequate measures to protect against erosion/sedimentation shall be provided.
 - b. Land shall be developed in increments of workable size that can be completed during a single construction season. Erosion and sediment control measures shall be coordinated with the sequence of grading, development and construction operations.
 - c. Vegetation shall be removed only when absolutely necessary.
 - d. Every effort shall be made to conserve top soil for reuse in revegetation of disturbed areas.
 - e. All disturbed soil surfaces shall be stabilized and revegetated before the rainy season.

In addition, plans should address the need for the following criteria:

- a. Sediment basins and traps shall be installed in conjunction with the initial grading operation.
 - b. The drainage and storm water runoff control system and its component facilities shall be designed to fit the hydrology of the area under full development and have adequate capacity to transport the flow from all upstream areas.
 - c. The drainage and storm water runoff control system and its component facilities shall be nonerosive in design, shall conduct runoff to a stable outlet, and be installed prior to the rainy season.
3. Those counties and cities that have adopted and are implementing ordinances and programs compatible with these guidelines shall transmit tentative maps for land developments containing 100 lots or more with sufficient information that the proposed development will meet these guidelines or the approved county/city erosion control ordinances.
 4. Construction activities in counties and cities having no erosion control programs or one which is not in compliance with the Regional Board guidelines may be required to file a report of waste discharge.

Supportive Studies

The following studies were performed to provide much of the technical and institutional information on which the recommendations of this plan are based:

1. Recommended Plan of Best Management Practices, Soil Conservation Service, 1979.
2. 208 Institutional Study, John Muir Institute, 1979.
3. Nevada County Sediment Control Plan, Nevada County RCD and Nevada County, 1979.
4. Placer County Sediment Control Plan, Placer County RCD and Placer County, 1979.
5. A Water Quality Study for Spanish Grant Drainage District and Crow Creek Watershed, G.L. Gustafson and Orestimba RCU, 1978.
6. A Gully Control Demonstration Project, Cottonwood RCU, 1979.
7. Erosion and Sediment Control Handbook, Department of Conservation Resources Agency, State of California, 1978.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

RESOLUTION NO. 83-135

AMENDING THE WATER QUALITY CONTROL PLAN
FOR
GUIDELINES FOR PROTECTION OF WATER QUALITY
DURING CONSTRUCTION AND OPERATION OF
SMALL HYDRO PROJECTS

WHEREAS, the California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) adopted a Water Quality Control Plan on 25 July 1975; and

WHEREAS, high energy costs and attractive economic benefits have resulted in a recent boom in the development of small hydropower projects in Central Valley watersheds; and

WHEREAS, these projects can adversely affect water quality, aquatic and riparian habitat, and recreational/aesthetic uses of streams; and

WHEREAS, guidelines have been developed which set forth Regional Board policy on small hydro development, project standards for water quality protection, and procedures for project approval; and

WHEREAS, the Regional Board has conducted an environmental assessment pursuant to Title 14, California Administrative Code, and has determined that the proposed action will not have a significant effect on the environment; and

WHEREAS, the Regional Board, on 23 September 1983 in Sacramento and on 28 October 1983 in Redding, held public hearings and considered all evidence concerning this matter: Therefore be it

RESOLVED, That the Board hereby adopts the Guidelines for Protection of Water Quality During Construction and Operation of Small Hydro Projects as an amendment to the Water Quality Control Plan; and be it further

RESOLVED, That the Executive Officer is instructed to transmit the Water Quality Control Plan amendments to the State Water Resources Control Board for its consideration and approval.

I, WILLIAM H. CROOKS, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Valley Region, on 28 October 1983.



WILLIAM H. CROOKS, Executive Officer

GUIDELINES FOR PROTECTION OF WATER QUALITY
DURING CONSTRUCTION AND OPERATION OF
SMALL HYDRO PROJECTS

I. POLICIES AND PRINCIPLES

All beneficial instream uses, including water quality, aquatic and riparian habitat, recreational and aesthetic uses, should be protected.

The Regional Board will be responsible for addressing water quality-related impacts of small hydro projects. Nonwater quality-related impacts will be addressed by other authorities; i.e., Department of Fish and Game; State Water Resources Control Board, Division of Water Rights; federal land management agencies; and local governments.

Construction and operation of small hydro projects shall not result in a violation of adopted water quality objectives as contained in the Board's Water Quality Control Plan. The following objectives are considered of particular importance in protecting beneficial uses from adverse impacts of small hydro projects.

A. TEMPERATURE

Water temperature shall not be altered unless it can be demonstrated to the satisfaction of the Regional Board that such alteration does not adversely affect beneficial uses. At no time shall temperature be increased by more than 5°F above background levels. Where temperature increases would threaten fisheries or other beneficial uses, the applicant may be required to establish baseline temperature conditions.

B. TURBIDITY

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

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

- Where natural turbidity is between 0 and 50 Jackson Turbidity Units (JTU), increases shall not exceed 20%.
- Where natural turbidity is between 50 and 100 JTU, increases shall not exceed 10 JTU.
- Where natural turbidity is greater than 100 JTU, increases shall not exceed 10%.

The above turbidity limits will be eased during any working period when construction work must occur in flowing water, to allow a turbidity increase of 15 JTU as measured 300 feet below the discharge.

C. SEDIMENT

The suspended sediment load and concentration shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses. Where suspended or settleable sediment would threaten fisheries or other beneficial uses, the applicant may be required to establish baseline sediment conditions.

D. SETTLEABLE MATERIAL

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

E. DISSOLVED OXYGEN

Dissolved oxygen shall not be depressed below levels specified in the Board's Water Quality Control Plan.

II. PROJECT STANDARDS AND REQUIREMENTS

A. CONSTRUCTION

The project applicant shall submit to the Regional Board an Erosion Control Plan specifying those measures which will be used to prevent erosion/sedimentation problems during project construction. The plan shall include a map of the project site delineating where erosion control measures will be applied. The erosion control plan shall include the following minimum criteria.

1. Construction equipment shall not be operated in flowing water except as may be necessary to construct crossings or barriers.
2. Where working areas are adjacent to or encroach on live streams, barriers shall be constructed which are adequate to prevent the discharge of turbid water in excess of those limits specified above.
3. Material from construction work shall not be deposited where it could be eroded and carried to the stream by surface runoff or high stream flows.
4. All permanent roads shall be surfaced with material sufficient to maintain a stable road surface.
5. All disturbed soil and fill slopes shall be stabilized in an appropriate manner.

**GUIDELINES FOR PROTECTION OF WATER QUALITY
DURING CONSTRUCTION AND OPERATION OF
SMALL HYDRO PROJECTS**

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6. Surface drainage facilities shall be designed to transport runoff in a nonerosive manner.
7. Riparian vegetation shall be removed only when absolutely necessary.
8. There shall be no discharge of petroleum products, cement washings or other construction materials.
9. Erosion control measures shall be in place by October 15 of each year.
10. Stream diversion structures should be designed to preclude accumulation of sediment. If this is not feasible, the applicant must develop an operation plan that will prevent adverse downstream effects from sediment discharges.
11. The project shall be designed to avoid erosion and degradation of water quality in the event of a failure in the water transport system. An automatic, immediate shutoff mechanism is an acceptable method (in many cases, the only feasible method).

III. PROJECT REVIEW AND REGULATION

- A. Applicants should seek early consultation with the Regional Board to determine water quality concerns and to arrange a site inspection if needed.
- B. Where appropriate, the Regional Board will participate with the applicant and other reviewing agencies to determine the scope of the project's environmental assessment.
- C. The Regional Board will review the FERC application which should include the following water quality-related information:
 1. All environmental assessment information.
 2. A copy of the Erosion Control Plan.
 3. A description of all project mitigations for water quality protection.
- D. The Regional Board will issue a letter addressing the need for Water Quality Certification and waste discharge requirements.

GUIDELINES FOR PROTECTION OF WATER QUALITY
DURING CONSTRUCTION AND OPERATION OF
SMALL HYDRO PROJECTS

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Waste Discharge Requirements

1. The Regional Board believes the standard specifications contained in Section II of these guidelines will provide water quality protection from small hydro construction and operation. In most instances, the Regional Board will waive the need for Reports of Waste Discharge and waste discharge requirements for projects which comply with these standard specifications.
2. Waste discharge requirements may be required for projects having high potential for water quality impairment or for major projects where construction work will be continued beyond one year.

Water Quality Certification

1. Regulations under Section 401 of the Clean Water Act require applicants for federal licenses or permits (such as FERC licenses or U.S. Corps Dredge and Fill Permits) to obtain state certification of conformance with water quality standards.
2. In most instances, the Regional Board will waive water quality certification provided the project includes the standards specified in Section II of these guidelines and it is determined that project operation will not violate adopted water quality objectives.

IV. ENFORCEMENT

When investigations by staff reveal that a project is impairing, or threatens to impair, beneficial uses of water, the project owner/operator is required to take corrective action as follows:

- A. The responsible party shall be promptly notified and asked to submit a description of actions and a time schedule to be taken to bring the project into compliance with these guidelines.
- B. A Cleanup and Abatement Order may be issued where the discharge of waste to surface waters is imminent and normal administrative procedures will not afford timely water quality protection. Upon failure to comply with such Cleanup and Abatement Order, the matter shall be referred to the Attorney General for appropriate action.
- C. The Regional Board may expend available monies to perform any cleanup and abatement work which, in its judgment, is required to prevent substantial adverse impacts on water quality and beneficial uses. The discharger shall be liable for all costs incurred in taking the cleanup and abatement action.

35/5/5

October 1983

Guidelines for Waste Disposal from Land Developments

In its June 1971 Interim Water Quality Control Plan the Board included Guidelines for Land Development Planning. These Guidelines were substantially modified on 15 December 1972 and retitled Guidelines for Waste Disposal From Land Developments. The Guidelines that follow are substantially the same as those adopted in 1972 but contain changes based upon experience gained from working closely with local governmental agencies in the development of individual waste disposal ordinances.

Section 13260 of the Porter-Cologne Water Quality Control Act requires any person discharging waste or proposing to discharge waste to file a report of the discharge containing such information as may be required by the Board. In the early 1950's, the Board waived the filing of reports for discharges from individual sewage disposal systems in those counties having satisfactory ordinances or regulations. Traditionally, these individual discharges have been treated by septic tank - leaching systems.

The Water Quality Control Act requires local governmental agencies to notify the Board of the filing of tentative subdivision maps or applications for building permits involving six or more family units except where the waste is discharged to a community sewer system.

The Board believes that 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 and to the public health.

The following principles and policies will be applied by the Board in review of water quality factors related to land developments and waste disposal from septic tank-leaching systems:

- There are great differences in the geology, hydrology, geography, and meteorology of the 40 counties which lie partially or wholly within the Central Valley. The criteria contained herein are considered to be applicable to the Central Valley and pertain to: (a) all tentative maps filed after 15 December 1972, (b) all divisions of land made after 15 December 1972, and (c) all final maps for which tentative maps were filed prior to 15 December 1971. Local agencies and the Board may adopt and enforce more stringent regulations which recognize particular local conditions that may be limiting to wastewater treatment and disposal.
- The Board does not intend to preempt local authority and will support local authority to the fullest extent possible. Where local authority demonstrates the inability or unwillingness to adopt an ordinance compatible with these guidelines, the Board intends to withdraw its waiver concerning waste disposal from individual systems and will require each and every party proposing to discharge waste within that county to submit a report of waste discharge as required by Section 13260 of the Porter-Cologne Water Quality Act.

- Evaluation of the capability of individual waste treatment systems to achieve continuous safe disposal of wastes requires detailed local knowledge of the area involved. The experience and recommendations of local agencies will, therefore, be an important input to the information upon which the Board will base its decision.
- There are many areas within the Central Valley that are not conducive to individual waste treatment and disposal systems. In these areas, connection to an adequate community sewerage system is the most satisfactory method of disposing of sewage. The Board believes that individual disposal systems should not be used where community systems are available and that every effort should be made to secure public sewer extensions, particularly in urban areas. Where connection to a public sewer is not feasible and a number of residences are to be served, due consideration should be given to construction of a community sewage treatment and disposal system.
- The installation of individual disposal systems, especially in large numbers, creates discrete discharges which must be considered on an individual basis. The life of such disposal systems may be quite limited. Failures, once they begin in an area, generally will occur on an areawide basis. Further, regular maintenance is important to successful operation of individual disposal systems. To assure continued protection of water quality, to prevent water pollution and to avoid the creation of public health hazards and nuisance conditions, a public entity* shall be formed with powers and responsibilities defined herein for all subdivisions having 100 lots or more. Subdivisions with less than 100 lots which threaten to cause water quality or public health problems will also be required to form a public entity.

Criteria for Septic Tank - Leaching Systems

The following criteria will be applied to assure continued preservation and enhancement of state waters for all present and anticipated beneficial uses, prevention of water pollution, health hazards, and nuisance conditions. These

* Public Entity - A local agency, as defined in the State of California Government Code Section 53090 et seq., which is empowered to plan, design, finance, construct, operate, maintain, and to abandon, if necessary, any sewerage system or the expansion of any sewerage system and sewage treatment facilities serving a land development. In addition, the entity shall be empowered to provide permits and to have supervision over the location, design, construction, operation, maintenance, and abandonment of individual sewage disposal systems within a land development, and shall be empowered to design, finance, construct, operate, and maintain any facilities necessary for the disposal of wastes pumped from individual sewage disposal systems and to conduct any monitoring or surveillance programs required for water quality control purposes. (Unless there is an existing public entity performing these tasks.)

criteria prescribe conditions for waste disposal from septic tank-leaching systems for single family residential units or the equivalent and do not preclude the establishment of more stringent criteria by local agencies or the Board. The Board may prohibit the discharge from septic tank-leaching systems which do not conform to these criteria. Systems which cannot meet the following criteria may be allowed in selected areas if they are individually designed. The criteria may not be applicable in all cases to commercial or industrial developments.

The septic tank, absorption systems, and disposal area requirements for other than single family residential units shall be based upon the current edition of the "Manual of Septic Tank Practice" or in accordance with methods approved by the Executive Officer. An adequate replacement area equivalent to at least the initial disposal area shall be required at the time of design of the initial installation and incompatible uses of the replacement area shall be prohibited.

Minimum Distances

The Board has determined the following minimum distances (in feet) should be followed in order to provide protection to water quality and/or public health:

Facility	Domestic Well	Public Well	Flowing Stream(1)	Drainage Course of Ephemeral Stream(2)	Cut or Fill Bank(3)	Property Line(4)	Lake or Reservoir(5)
Septic Tank or Sewer Line	50	100	50	25	10	25	50
Leaching Field	100	100	100	50	4h	50	200
Seepage Pit	150	150	150	50	4h	75	200

- (1) As measured from the line which defines the limit of a 10-year frequency flood.
- (2) As measured from the edge of the drainage course or stream.
- (3) Distance in feet equals four times the vertical height of the cut or fill bank. Distance is measured from the top edge of the bank.
- (4) This distance shall be maintained when individual wells are to be installed and the minimum distance between waste disposal and wells cannot be assured.
- (5) As measured from the high water line.

Minimum Criteria

- The percolation rate* in the disposal area shall not be slower than 60 minutes per inch, or not slower than 30 minutes per inch if seepage pits are proposed. The percolation rate shall not be faster than five minutes per inch unless it can be shown that a sufficient distance of soil is available to assure proper filtration.
- Soil depth below the bottom of a leaching trench shall not be less than five feet, nor less than 10 feet below bottom of a seepage pit.
- Depth to anticipated highest level of ground water below the bottom of a leaching trench shall not be less than five feet, nor less than 10 feet below bottom of seepage pit. Greater depths are required if soils do not provide adequate filtration.
- Ground slope in the disposal area shall not be greater than 30 percent.
- The minimum disposal area shall conform to the following:

<u>Percolation Rate (minutes/inch)</u>	<u>Minimum Usable Disposal Area (sq ft)</u>
41-60	12,000
21-40	10,000
11-20	8,000
Less than 10	6,000

- Areas that are within the minimum distances which are necessary to provide protection to water quality and/or public health shall not be used for waste disposal. The following areas are also considered unsuitable for the location of disposal systems or replacement area:
 - Areas within any easement which is dedicated for surface or subsurface improvement.
 - Paved areas.
 - Areas not owned or controlled by property owners unless said area is dedicated for waste disposal purposes.
 - Areas occupied or to be occupied by structures.

* Determined in accordance with procedures contained in current US Department of Health, Education, and Welfare "Manual of Septic Tank Practice" or a method approved by the Executive Officer.

Implementation

- The Board will review local ordinances for the control of individual waste disposal systems and will request local agencies to adopt criteria which are compatible with or more stringent than these guidelines.
- In those counties which have adopted an ordinance compatible with these guidelines, the Board will pursue the following course of action for discharges from individual septic tank-leaching systems.
 - Land developments consisting of less than 100 lots will be processed entirely by the county. Tentative maps for subdivisions involving six or more family units shall be transmitted to the Board along with sufficient information* to clearly determine that the proposed development will meet the approved county ordinance. The Board or the appropriate local authority may require a public entity if potential water quality or public health problems are anticipated.
 - Tentative maps for land developments containing 100 lots or more shall be transmitted to the Board. The map shall be accompanied by a report of waste discharge and sufficient information to clearly demonstrate that the proposed development will meet these guidelines or the approved county ordinance. A public entity is required prior to any discharge of waste.
- The Board will prohibit the discharge of wastes from land developments which threaten to cause water pollution, quality degradation, or the creation of health hazards or nuisance conditions. These guidelines will be used to evaluate potential water quality or health problems. In certain locations and under special circumstances the Board's Executive Officer may waive individual criteria or he may waive the formation of a public entity. Land developers are to be aware that a waiver by the Executive Officer is not binding on any location entity.

Examples of these special circumstances would be:

- Short time, interim use of individual septic tank-leaching systems may be acceptable in areas which do not meet these guidelines if sufficient, dependable funding of community collection, treatment, and disposal is demonstrated and a plan and time schedule for implementation is being followed.

* The Board's staff has developed a document entitled "Information Needs for Waste Disposal from Land Developments". This document discusses the necessary reports, maps, etc., that must be submitted in order to evaluate proposed land developments.

- A failure to meet the minimum criteria could be negated by other favorable conditions. for example, the installation of individual septic tank-leaching systems may be allowed in areas which cannot meet the minimum criteria in these guidelines if the disposal area is increased sufficiently to allow for special design systems* that have been shown to be effective in similar areas.
- Severe impact on water quality has resulted from improper storm drainage and erosion control. Land developers must provide plans for the control of such runoff from initial construction up to complete build-out of the development.
- The disposal of solid waste can have an impact on water quality and public health. Land developers must submit a plan which conforms to the regional or county master plan and contains adequate provisions for solid waste disposal for complete build-out of the development.
- The disposal of septic tank sludge is an important part of any areawide master plan for waste disposal. Land developers must submit a plan which conforms to the regional or county master plan and contains adequate provisions for septic tank sludge disposal for complete build-out of the development.
- The responsibility for the timely submittal of information necessary for the Board or the appropriate local authority to determine compliance with these guidelines rests with persons submitting proposals for development or discharge. For those developments which are to be submitted to the Board, the Porter-Cologne Water Quality Control Act provides that no person shall initiate any new discharges of wastes prior to filing a report of waste discharge and prior to (1) issuance of waste discharge requirements, (2) the expiration of 120 days after submittal of an adequate report of waste discharge, or (3) the issuance of a waiver by the Regional Board.
- A report of waste discharge which does not provide the information required by these guidelines is an inadequate report. The 120-day time period does not begin until an adequate report has been submitted. Thus, to avoid extensive delay, every effort should be made to comply with these guidelines at the earliest possible date during formulation of proposals.

* Special design systems will be accepted for review from registered engineers, geologists, or sanitarians who are knowledgeable and experienced in the field of septic tank-leaching system design and installation. These systems will include at least a 100 percent replacement disposal area. these systems shall be installed under the supervision of the designer, the public entity responsible, and the local health department.

Amendment to Water Quality Control Plan and Action Plan for Mining*

Problem Statement

Although water quality problems from active mines are effectively controlled through traditional avenues of waste discharge requirements, permits, and enforcement, acid mine drainage and heavy metals from inactive mines have created sterile stream conditions in isolated locations throughout central and northern California. Most of those mines known to be causing water quality problems are in the Central Valley Region.

Action Plan and Development

In planning to correct water quality problems caused by past mining activity, the Board undertook several related studies, the summaries and general recommendations of which are given below.

Tables 1 and 2 show, respectively, an inventory and ranking of problem mines in the Central Valley Region. A report was prepared describing the method used to rank the mines.

A study of enforcement and funding options was also completed.

Technical feasibility studies were conducted or are underway. These site-specific studies at Walker Mine in Plumas County; Malakoff Diggins in Nevada County; and Leviathan Mine in Alpine County will be used to promote cleanup at those sites and serve as examples of the application of BMPs for tunnel, open pit spoils, and sediment problems, respectively, with transfer value to other mines. The abatement project at Penn Mine, Calaveras County, begun as a 208 project, will also aid in identifying controls and techniques for other mines. A summary of acid mine drainage control technology has been prepared. Control methods (BMPs) that appear most promising for application in California are suggested in Figure 1. A Memorandum of Understanding among the State Water Resources Control Board, the US Bureau of Reclamation, and the Department of Fish and Game was prepared which outlines a program of correction for the Spring Creek watershed, Iron Mountain Mine, Shasta County.

The Board will take the following approach in applying the results of the studies described above:

1. The Board finds there are serious water quality problems related to inactive mines and will take necessary actions to control those problems using the priorities shown in Table 2 as a guide.
2. In implementing necessary controls, the Board will take appropriate actions identified in the legal, institutional, and funding studies conducted during the 208 planning program.

* As adopted in Resolution No. 79-149

3. As an important initial step in implementation and enforcement, feasibility studies should be developed for all high priority problem mines. Owners and operators will be required to prepared such plans, or in some cases, as appropriate, the Board will seek funds from the identified sources to conduct the studies. BMPs shown in Figure 1 should be considered in developing those plans.
4. The State Board and EPA should assist the Region in pursuing promising funding sources and other appropriate measures as recommended in the legal, institutional, and funding studies.
5. To prevent future problems, the Board will require owners and operators of active mines to prepare plans for closure and reclamation. Closure and reclamation plans for all operations will meet the minimum requirements of regulations in the Surface Minign and Reclamation Act of 1975 and will be coordinated with the State Board of Mining and Geology.

Public Participation

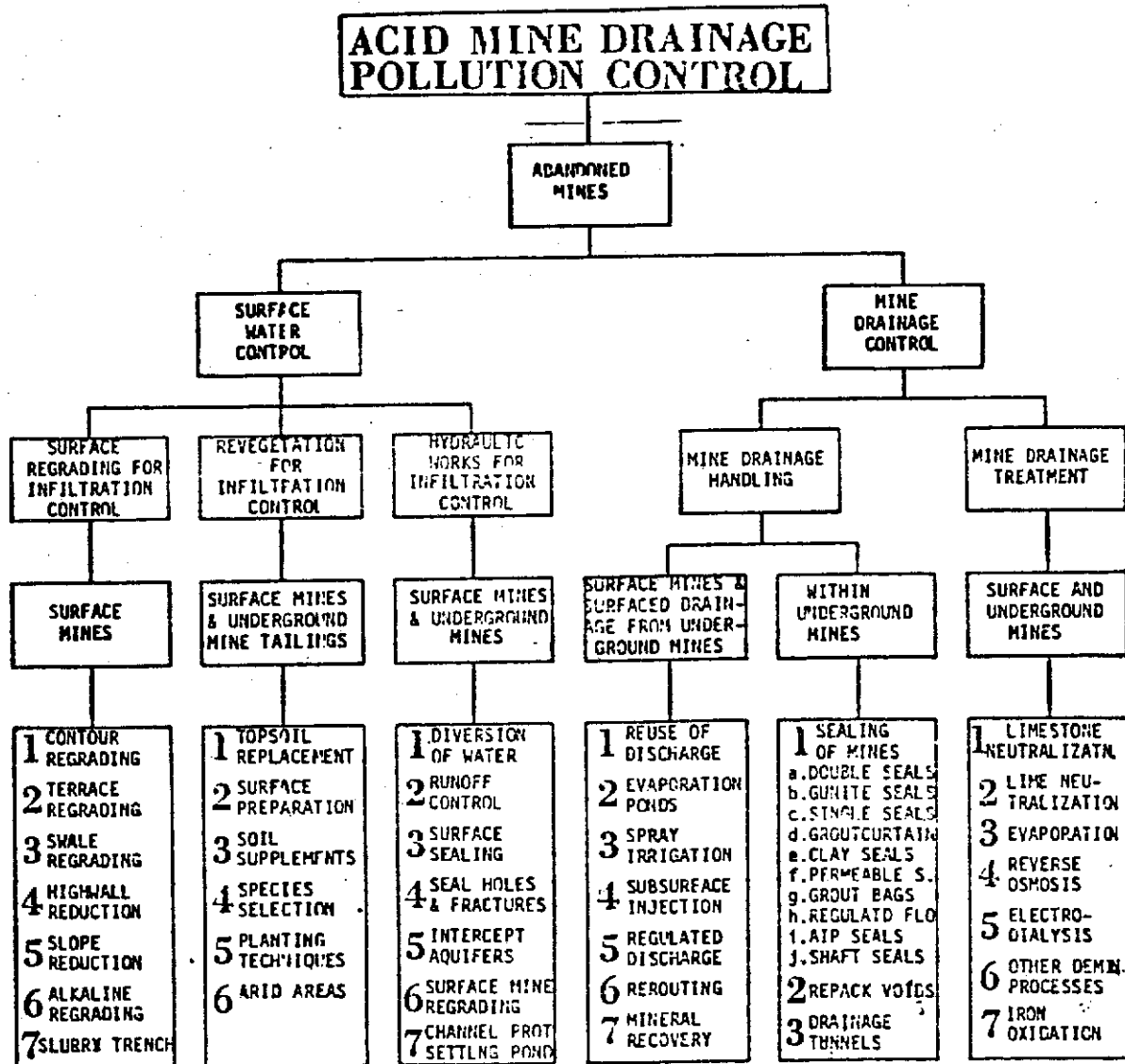
Work plans and products were reviewed by a Mining Technical Advisory Group (MTAG) and individuals and groups on the Regional and State Board agenda lists. A Penn Mine subcommittee toured the mine site and reviewed proposed abatement plans. One meeting with the MTAG was held to review the draft inventory and assessment report, discuss the legal study, and evaluate staff proposals for the site-specific feasibility studies.

Negative Declaration

A Negative Declaration was prepared for this project.

FIGURE 1

BEST MANAGEMENT PRACTICES AVAILABLE FOR CONTROL OF AMD FROM ABANDONED MINES



adapted from unpublished literature review by the Sanitary Engineering Research Lab, U.C. Berkeley

TABLE 1. INVENTORY OF PROBLEM MINES

Watershed	Mine Name	County	DMG Map No.	USGS Map	Latitude Longitude	Commodity Mined	Type of Operation	Receiving Source
American River, Bear River	Alhambra Shumway	El Dorado	5A-733	Georgetown	38 49.54' 120 47.37'	Gold	Undergrnd	Mosquito Trail Glch—Rock Crk—Sr American R
	Dairy Farm	Placer	5A-633	Camp Far W	32 1.81' 121 17.25'	Copper	Undergrnd	Camp Far West Reservoir
Butte Creek	Lava Cap-Banner	Nevada	5A-571	Chicago Pk	39 13.64' 120 53.19'	Gold	Undergrnd	L.Clipper Crk—Greenhorn Crk—Hollins Res—Newf
	Charokee	Butte	5A-278	Cherokee	39 38.20' 121 37.70'	Gold	Hyd Placer	Sawmill Ravine—Dry Creek—Butte Crk
Cache Creek	Mineral Slide	Butte	(none)	Paradise	39 47.14' 121 37.63'	Gold	Undergrnd	L. Butte Crk—Butte Crk
	Abbott	Lake	5A-645	Wilbur Spg	39 1.23' 122 26.63'	Mercury	Undergrnd	Harley Glch—Cache Crk
Cosumnes River	Manzanita	Colusa	5A-644	Wilbur Spg	39 2.30' 122 25.82'	Mercury	Undergrnd	Sulfur Crk—bear Crk—Cache Crk
	Reid	Yolo	5A-656	Knoxville	38 51.88' 122 22.20'	Mercury	Undergrnd	Davis Crk—Cache Crk
Feather River	Sulfur Bank	Lake	5A-650	Clr Lk Hl	38 53.90' 122 40.35'	Merc, Sul	Open Pit	Clear Lake—Cache Crk
	Copper Hill	Amador	5B-044	Latrobe	38 30.13' 120 58.00'	Copper	Undergrnd	Cosumnes River
Fresno Slough	China Gulch	Plumas	(none)	Greenville	40 12.74' 120 45.17'	Copper	Undergrnd	Lights Crk—Wolf Crk—NF Feather R
	Engel	Plumas	5A-076A	Greenville	40 12.20' 120 46.41'	Cop, Silv	Undergrnd	Lights Crk—Wolf Crk—NF Feather R
Mokelumne River	Iron Dyke	Plumas	5A-080	Greenville	40 3.90' 120 50.60'	Cu, Ag, Au	Undergrnd	Taylor Crk—Indian Crk—Wolf Crk—NF Feather R
	Walker	Plumas	5A-159	Mt Ingalls	39 58.70' 120 39.80'	Copper	Undergrnd	L. Grizzly Crk—Indian Crk—Wolf Crk—NF Feather R
Putah Creek	New Idris	San Benito	5D-045	Idria	36 24.85' 120 40.39'	Mercury	OP&Undg	San Carlos Crk—Silver Crk—Fanoche Crk
	Argonaut	Amador	5B-105	Jackson	38 21.77' 120 47.10'	Gold	Undergrnd	Jackson Crk—Dry Crk—Mokelumne R
Sacramento River	Newton	Amador	5B-089	Ione	38 20.45' 120 53.20'	Copper	Undergrnd	Copper Crk—Sutter Crk—Dry Crk—Mokelumne R
	Penn	Calaveras	5B-223	Villy Spg	38 13.97' 120 52.50'	Copper	OP&Undg	Mokelumne River (Camanche Res)
San Joaquin Delta	Actna	Napa	5A-785	Actna Spg	38 39.43' 122 29.51'	Mercury	Surf&Undg	Swartz Crk—Pope Crk—Putah Crk—Lake Berryessa
	Anderson	Lake	5A-652	Whisp Pnc	38 46.35' 122 42.40'	Mercury	Undergrnd	Anderson Crk—Bear Canyon Crk—Putah Crk—Lk. Bear
Stanislaus River	Big Injun	Lake	5A-650A	Whisp Pnc	38 45.85' 122 42.40'	Mercury	Surf&OPit	Bear Canyon Crk—Putah Crk—Lake Berryessa
	Corona	Napa	5A-790	Devert Spg	38 40.21' 122 32.47'	Mercury	Undergrnd	James Crk—Pope Crk—Putah Crk—Lake Berryessa
Yuba River	Great Western	Lake	5A-795	Mt St Hel	38 42.87' 122 38.44'	Mercury	OP&Undg	Hoodoo Crk—Dry Crk—Putah Crk—Lake Berryessa
	Knoxville	Napa	5A-659	Knoxville	38 49.61' 122 20.34'	Mercury	OP&Undg	Knoxville Crk—Ettecura Crk—Lake Berryessa
Yuba River	Oat Hill	Napa	5A-789	Desert Spg	38 40.50' 122 21.65'	Mercury	Surface	James Crk—Pope Crk—Putah Crk—Lake Berryessa
	Afterthought	Shasta	5A-019	Millville	40 44.10' 122 4.10'	Cu, Ag, Au	Undergrnd	L. Gow Crk—Sacramento R
Yuba River	Belakials	Shasta	5A-033	Shasta Dam	40 43.59' 122 29.79'	Cu, Zn, Ag	Undergrnd	West Squaw Crk—Shasta Lake
	Bully Hill	Shasta	5A-017	Hlibkke Mt	40 47.80' 122 12.20'	Cu, Zn, Pb	Undg&Surf	First Crk, Town Crk—Shasta Lake
Yuba River	Golinsky	Shasta	5A-014	Lemoine	40 45.84' 122 27.40'	Cu, Zn, Au	Undergrnd	L. Beckbone Crk—Shasta Lake
	Greenhorn	Shasta	5A-055	French Glch	40 35.75' 122 41.65'	Cu, Au, Ag	Undergrnd	Willow Crk—Clear Crk—Whitkeytown Lake
Yuba River	Iron Mountain	Shasta	5A-041	French Glch	40 40.39' 122 31.47'	Cu, Zn, Au	Undg&Surf	Spring Crk—Kewick Res (Sacramento H)
	Keystone	Shasta	5A-037	French Glch	40 43.10' 122 30.32'	Cu, Au, Ag	Undergrnd	West Squaw Crk—Shasta Lake
Yuba River	Mammoth	Shasta	5A-013	Lemoine	40 45.84' 122 27.40'	Cu, Zn, Au	Undergrnd	L. Beckbone Crk—Shasta Lake
	Shante King	Shasta	5A-035	Shasta Dam	40 43.80' 122 29.80'	Cu, Au, Ag	Undergrnd	West Squaw Crk—Shasta Lake
Yuba River	Mount Diablo	Contra Costa	(none)	Antioch So	37 53.87' 121 52.54'	Mercury	Undergrnd	Marsh Crk—Marsh Crk Res—San Joaquin Delta
	Empire	Calaveras	5C-072	Copperopls	37 58.60' 120 38.30'	Copper	OP&Undg	Copper Crk—Black Crk—Tulloch Res (Stanislaus R)
Yuba River	Foystone	Calaveras	5C-073	Copperopls	37 59.20' 120 38.90'	Copper	Undergrnd	Penny Crk—Sawmill Crk—Black Crk—Tulloch Res
	Kenton	Sierra	5A-357	Allegheny	39 27.31' 120 51.52'	Gold	Undergrnd	Kanaka Crk—M Yuba R
Yuba River	Malakoff Diggings	Nevada	5A-345	Pike, NBlmf	39 22.20' 120 55.00'	Gold	Surf Hydr	Humbug Crk—SF Yuba R
	Plumbago	Sierra	5A-384	Allegheny	39 27.17' 120 48.74'	Gold	Undergrnd	Buckeye Ravine—M Yuba R
Yuba River	Sixteen to One	Sierra	5A-267	Allegheny	39 27.92' 120 50.53'	Gold	Undergrnd	Kanaka Crk—M Yuba R

TABLE 2. MINE RANKING

Mine Name	Rank	CUMULATIVE Q		Pollution Problem	Date Source
		C	Q		
Iron Mountain	H	30	5-70	acid,Cu,Zn,Fe from tailings and edite to creeks	USGS VRI78-32, CDFG, CMFG reports, and CVMQCB inspections
Monmoth	H	30	3	acid,Cu,Zn,Fe from edite to creek	USGS VRI78-32
Iron	H	26	680	acid,Cu,Zn,Fe from tailings and shafts to river	CDFG and CVMQCB reports and inspections
Belokiale	H	26	5	acid,Cd,Cu,Zn from tailings and dump to creek	USGS VRI78-32 and DMR report
Keystone	H	26	5	acid,Cd,Cu,Zn from edite and dump to creek	USGS VRI78-32 and DMR report
Afterthought	H	24	68	acid,Cd,Cu,Zn from main portal to creek	CDFG report
Mount Diablo	H	23	.6-1	acid,Hg,Fe from tailings and overburden to creek	CVMQCB and DMR inspections and reports
Wally Hill	H	21	1.8	acid,Cd,Cu,Zn from mine to creek	USGS VRI78-32
Walker	H	17	11	Cu,Zn from tailings and portal to creek	CVMQCB, COMCO, and AMAX inspections and sampling
Sulfur Bank	H	15	5	Hg from open pit to lake	USGS and DMR reports
Norton	M	30	.5	acid,Cu,Fe from tailings to creek	CVMQCB inspections
Greenhorn	M	19	.6-5	Cu,Zn,Fe from tailings to creek	CDFG inspection
New Juria	M	19	.6-5	Hg,Fe from mine to creek	CVMQCB inspection
Corona	M	17	1.2	acid,Hg,Fe from edite to creek	CVMQCB inspections
Monzanite	M	15	3.5	Hg from mine area to creek	CVMQCB inspection
Cherokee	M	15	.6-5	Hg from mine area to creek	CVMQCB inspection
Copper Hill	M	5	474	Cu,Zn from mine area to river	STORET and USGS-DMR data
Empire	L	20	.3	Cu from tailings to creek	CVMQCB inspection
Abbott	L	15	.1	Hg from tailings to creek	CVMQCB inspections
Knoxville	L	10	2	Hg from mine area to creek	CVMQCB inspection
Keystone	L	4	2	none observed but Cu suspected, perhaps Fe	CVMQCB inspection
Lava Cap-Banner	L	3	1.3	none detected in creek but As,Ag,Hg are possible	CVMQCB inspection
Great Western	L	3	1	none detected but Hg suspected	CVMQCB inspection
Alhambra Shumway	L	2	1	none detected and sedimentation suspected	CVMQCB inspection
Anderson	L	0	13	none detected but Hg suspected	CVMQCB inspection
Big Injun	L	0	8	none detected but Hg suspected	CVMQCB inspection
Kenton	L	0	5	none detected but As possible	CVMQCB inspection
16 to 1	L	0	5	none detected but As possible	CVMQCB inspection
Engel	L	0	3	none detected but Cu suspected	STORET data and CVMQCB inspections of creek
China Gulch	L	0	3	none detected but Cu suspected	STORET data and CVMQCB inspections of creek
Oat Hill	L	0	3	none detected in creek but mine runoff high in Hg,Fe	STORET data
Aetna	L	0	.5	none detected but Hg suspected	STORET data
Shasta King	L	0	.1	none detected in creek but mine water high in acid,Cu	CVMQCB inspections
Golinsky	L	0	0	none observed (no flow from mine) but Cu,Zn are possible	CVMQCB inspection
Iron Dyke	L	0	0	none observed (no flow from mine) but Cu is possible	USGS VRI78-32 and DMR report
Argonaut	L	0	0	none observed (no flow from mine) but acid is possible	USGS VRI78-32
Dairy Farm	L	0	0	none observed but acid,Cu are possible	CVMQCB inspections
Plumbago	L	0	0	no inspection due to remote location, As suspected	CVMQCB inspection
Acid	L	0	0	no inspection due to inaccessibility, acid,Hg suspected	CVMQCB communication with S. Sutter Water District
Malakoff Diggings	S P E C I A L			high sediment and turbidity from mine area to creek	
Mineral Slide	S P E C I A L			sediment and turbidity from mine area to creek	CVMQCB inspection CVMQCB observation

The Federal Antidegradation Policy
(40 CFR 131.12)

- (a) The State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such policy pursuant to this subpart. The antidegradation policy and implementation methods shall, at a minimum, be consistent with the following:
- (1) Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.
 - (2) Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless the State finds, after full satisfaction of the intergovernmental coordination and public participation provisions of the State's continuing planning process, that allowing lower water quality is necessary to accommodate important economic or social development in the area in which the waters are located. In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully. Further, the State shall assure that there shall be achieved the highest statutory and regulatory requirements for all new and existing point sources and all cost-effective and reasonable best management practices for nonpoint source control.
 - (3) Where high quality waters constitute an outstanding National resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.
 - (4) In those cases where potential water quality impairment associated with a thermal discharge is involved, the antidegradation policy and implementing method shall be consistent with section 316 of the (Clean Water) Act.

**Appendix 40 - Grassland Watershed Wetland Channels
for Which Beneficial Uses Have Been Identified**

Southern Grassland Wetland Channels

	<u>Starting Location</u>	<u>Ending Location</u>
Agatha Canal North	Starts at the Agatha North/Geis split at NE1/4, SE1/4, SE1/4, Sec. 12, T11S, R11E	Discharges to the Santa Fe Canal at Mueller Weir at NW1/4, SW1/4, SW1/4, Sec. 21, T10S, R11E
Agatha Canal South	Diversion from Helm or Main Canal at NW1/4, SE1/4, NE1/4, Sec. 31, T11S, R12E	Terminates at the Agatha North/Geir split at NE1/4, SE1/4, SE1/4, Sec. 12, T11S, R11E
Almaden Ditch	Begins at the Agatha Canal at Mallard Rd at SE1/4, NE1/4, SE1/4, Sec. 12, T11S, R11E	Terminates at Mesquite Drain siphon at the SW1/4, SW1/4, SW1/4, SW1/4, Sec. 11, T11E, R11E
Almond Drive Ranch	Diversions from the Main Canal and Main Drain at the SW1/4, SW1/4, SW1/4, Sec. 6, T11S, R10E	Discharges to Reedy Ditch at SW1/4, SW1/4, SW1/4, SW1/4, Sec. 5, T11S, R10E
Ascot Ditch	Diversion from the Main Canal at the SE1/4, SW1/4, SW1/4, Sec. 7, T11S, R11E	Terminates at the SW1/4, SE1/4, SE1/4, Sec. 8, T11S, R11E
Britto Ditch	Diversion from Camp 13 at the NW1/4, SE1/4, NE1/4, Sec. 22, T11S, R11E	Terminates at the SW1/4, SE1/4, NE1/4, Sec. 10, T11S, R11E
Camp 13	Diversion of the Main Canal or Main Drain or Hamburg Drain at the SW1/4, SE1/4, SE1/4, Sec. 27, T11S, R11E	Discharges to Mud Slough (south) at the SE1/4, NE1/4, NE1/4, Sec. 33, T10S, R11E
Charleston Drain	Freshwater diversions from the Outside Canal at the SW1/4, SW1/4, NE1/4, Sec. 32, T11S, R11E	Discharges to Upper Gadwall Ditch at the SW1/4, SW1/4, NW1/4, Sec. 6, T11S, R11E
Cocke Ditch	Diversion from the Arroyo Canal at the NE1/4, SW1/4, SW1/4, Sec. 21, T10S, R11E	Terminates at the NW1/4, SE1/4, Sec. 16, T10S, R11E
Colony Branch 2	Enters the Southern Grassland at the SW1/4, NW1/4, SW1/4, Sec. 8, T11S, R12E	Drains into Bennett Drain at the NE1/4, SE1/4, NE1/4, Sec. 7, T11S, R12E
Colony Branch 3/Bennett	Enters the Southern Grassland at the SE1/4, SW1/4, SW1/4, Sec. 5, T11S, R12E	Terminates at the Agatha Canal North at the SW1/4, SW1/4, SW1/4, Sec. 6, T11S, R12E
Cotton Drain	Enters the Grassland at the NW1/4, NE1/4, SE1/4, Sec. 32, T10S, R11E	Discharges to Mud Slough(s) at the SE1/4, SW1/4, SE1/4, Sec. 28, T10S, R11E

	Starting Location	Ending Location
Flyway Ditch	Diversion from Almond Dr. Ditch at SE1/4, SW1/4, SW1/4, Sec. 5, T11S, R11E	Discharges to Cotton Drain at the NW1/4, SE1/4, NE1/4, Sec. 32, T10S, R11E
Gables Ditch	Diversion of Main Canal at the NE1/4, NW1/4, NW1/4, Sec. 31, T11S, R12E	Terminates at the SW1/4, NW1/4, SW1/4, Sec. 18, T11S, R12E
Geis Ditch	Begins at the Agatha North/Geis split at the NE1/4, SE1/4, SE1/4, Sec. 12, T11S, R11E	Discharges to Camp 13 at NW1/4, NW1/4, SW1/4, Sec. 3, T11S, R11E
Helm Canal	Takeouts from the Main Canal at NE1/4, SE1/4, NE1/4, Sec. 31, T11S, R11E	Terminates at the Helm Canal extension at the SW1/4, SW1/4, NW1/4, Sec. 26, T11S, R11E
Line Ditch	Enters Grassland at the SW1/4, SE1/4, NE1/4, Sec. 5, T11S, R12E	Terminates at the NE1/4, NE1/4, NE1/4, Sec. 6, T11S, R12E
Lower Gadwall Canal	Continuation of the upper Gadwall, starts at the Almond Dr. intersection at the SE1/4, SE1/4, SE1/4, Sec. 5, T11S, R11E	Discharges to Mud Slough (south) at the NE1/4, NE1/4, NW1/4, NW1/4, Sec. 33, T10S, R11E
Meyers Ditch	Diversion from Helm Canal at SE1/4, SW1/4, SW1/4, Sec. 26, T11S, R11E	Terminates at the SE1/4, SW1/4, SW1/4, Sec. 23, T11S, R11E
Mud Slough (south)	Begins at the end of Camp 13 at the SE1/4, NE1/4, NE1/4, Sec. 33, T10, R11E	Discharges to Salt Slough at the Los Banos WA at the NW1/4, NE1/4, SW1/4, Sec. 18, T9S, R10E
Pozo Drain	Enters the GWD at SW1/4, SW1/4, SW1/4, Sec. 8, T11S, R12E	Discharges to the Agatha Canal North at the NE1/4, SE1/4, NE1/4, Sec. 12, T11S, R12E
Reedly Ditch	Continuation of Almond Dr. Drain at the SW1/4, SW1/4, SW1/4, Sec. 4, T11S, R11E	Discharges to Camp 13 at the SE1/4, SE1/4, SE1/4, Sec. 4, T11S, R11E
San Pedro Canal	Diversion from the Arroyo Canal at the NW1/4, NE1/4, NW1/4, Sec. 26, T10S, R11E	Discharges to Boundary/Devon Drain at the NE1/4, NE1/4, SE1/4, Sec. 31, T9S, R11E
SLCC Arroyo Canal	Enters the Southern Grassland at the NE1/4, SE1/4, NE1/4, Sec. 25, T10S, R11E	Discharges to the Santa Fe Canal at Mueller Weit at the NW1/4, SW1/4, SW1/4, Sec. 21, T10S, R11E
Sorsky Ditch	Diversion of Camp 13 and Continuation of Sorsky Bypass at the NE1/4, NW1/4, NW1/4, Sec. 27, T11S, R11E	Discharges to Camp 13 at SW1/4, SW1/4, SW1/4, Sec. 3, T11S, R11E
Stillbow Ditch	Begins at Bennett Ditch at the SW1/4, SE1/4, SW1/4, Sec. 6, T11S, R12E	Discharges to the Agatha Canal North at the SW1/4, NW1/4, NW1/4, Sec. 36, T10S, R11E
240 Ditch	Diversion from Helm Canal at NE1/4, NW1/4, NW1/4, Sec. 36, T11S, R11E	Terminates at Sorsky Ditch at NE1/4, NW1/4, NE1/4, Sec. 23, T11S, R11E
Upper Gadwall Ditch	Diversion of Camp 13 at the NW1/4, SE1/4, SE1/4, Sec. 22, T11S, R11E	Terminates at Reedly Ditch at the NE1/4, NE1/4, NE1/4, Sec. 8, T11S, R11E

Northern Grassland Wetland Channels

	Starting Location	Ending Location
Eagle Ditch	Diversion of the Santa Fe Canal at the NE1/4, SE1/4, NE1/4, Sec. 30, T.8S, R.10E	Discharges to Mud Slough (north) at the SW1/4, SE1/4, NE1/4, Sec. 7, T.8S, R.9E
Fremont Ditch	Diversion from San Luis Canal at the SE1/4, SW1/4, SW1/4, Sec. 35, T.8S, R.10E	Discharges to Mud Slough (north) at the NW1/4, NW1/4, NE1/4, Sec. 20, T.8S, R.10
Garzas Creek	Enters Grassland Water District (GWD) at the intersection of Sections 22, 23, 26, 27, T.8S, R.9E	Discharges to Los Banos Creek NE1/4, NE1/4, NE1/4, Sec. 13, T.8S, R.9E
Gun Club Road Ditch	Diversion of Los Banos Cr at the intersection of Sections 13, 14, 23, 24, T.8S, R.9E	Terminates at Eagle Ditch at the SW1/4, SE1/4, SE1/4, Sec. 13, T.8S, R.9E
Kesterson Ditch	Diversion of the Santa Fe Canal at the SE1/4, SE1/4, SW1/4, Sec. 32, T.8S, R.10E	Terminates at the NW1/4, NW1/4, SE1/4, Sec. 34, T.8S, R.10E
Los Banos Creek	Begins service at CCID Main Canal at the SE1/4, SW1/4, SW1/4, Sec. 9, T.10S, R.10E	Discharges to Mud Slough (north) at the NE1/4, NW1/4, SW1/4, Sec. 26, T.7S, R.9E
Mosquito Ditch	Diversion from the San Luis Wasteway at the NE1/4, NW1/4, NW1/4, Sec. 19, T.9S, R.10E	Discharges to Los Banos Creek at NE1/4, NE1/4, SE1/4, Sec. 6, T.9S, R.10E
Rubino Ditch	Diversion of the San Luis Spillway at the SW1/4, SE1/4, SW1/4, Sec. 17, T.9S, R.10E	Terminates at the NW1/4, SW1/4, SW1/4, Sec. 8, T.9S, R.10E
San Luis Canal	Starts at a diversion of the Main Canal at NE1/4, NW1/4, SW1/4, Sec. 36, T.10S, R.10E	NE1/4, NE1/4, SW1/4, Sec. 5, T.8S, R.10E
San Luis Spillway Ditch	Diversion of the San Luis Wasteway at the intersection of Sections 17, 18, 19, 20, T.9S, R.10E	Discharges to the Santa Fe Canal at SE1/4, SE1/4, SW1/4, Sec. 16, T.9S, R.10E
San Luis Wasteway ¹		
Standard Ditch	Diversion from San Luis Canal at the NE1/4, SW1/4, NE1/4, Sec. 25 T.9S, R.10E	Terminates at the NE1/4, NE1/4, SW1/4, Sec. 15, T.9S, R.10E
Santa Fe Canal ²	Extension of the Arroyo Canal at Mueller Weir at the NW1/4, SW1/4, SW1/4, Sec. 21, T.10S, R.11E	Terminates at a tributary of Mud Slough (north) at the SW1/4, SW1/4, SE1/4, Sec. 7, T.8S, R.10E
Santa Fe Canal Extension	Diversion of the Santa Fe Canal at the SW1/4, Sec. 7, T.8S, R.10E	
Westside Ditch	Diversion of Garzas Cr at the intersection of Sections 22, 23, 26, 27, T.8S, R.9E	Discharges to Los Banos Creek at the SE1/4, NW1/4, NW1/4, NW1/4, Sec. 11, T.8S, R.9E

¹ Begins as an extension of the Arroyo Canal. Receives only SLCC operational spill water at this point.

² Source is the Delta-Mendoza Canal.

Appendix 41 - San Joaquin Area Subarea Descriptions

The Lower San Joaquin River watershed has been divided into seven major geographic subareas. In some cases, the major subareas have been further subdivided into minor subareas to provide a greater level of detail. The following is a technical description of each of the subareas comprising the LSJR Basin.

East Valley Floor Subarea

BEGINNING at the junction of the Stanislaus River and the San Joaquin River lying in Section 19, Township 3 South, Range 7 East, Mount Diablo Meridian; thence along the following courses:

1. Meander the centerline of the Stanislaus River northeasterly upstream to its intersection with boundary of Calwater RBUASPW area 6535100000 (Manteca Hydrologic Area) near Caswell Memorial State Park;
2. North on the said boundary of Calwater RBUASPW area 6535100000 (Manteca Hydrologic Area) near Caswell Memorial State Park to its intersection with the centerline of a road located slightly more than one half mile north of the river;
3. East on centerline of said road to its junction with the centerline of the north levee of the Stanislaus River;
4. Southwesterly on centerline of said Stanislaus River levee to its intersection with the centerline of the park road connecting to the campsites, were said road extended to intersect the levee;
5. Easterly on said road to the point of intersection with a line perpendicular from the bank of the Stanislaus River directly opposite of Campsite number 24;
6. North-Northeasterly on said perpendicular line to its intersection with the centerline of the Stanislaus River;
7. East to the intersection with the crest of the ridge parallel to the opposite side of the river bend from the Caswell Memorial State Park;
8. Southeast on said ridge to its intersection with the centerline of the south bank levee of the Stanislaus River;
9. Meander centerline of said levee northeasterly to its intersection with the centerline of Modesto Irrigation District Lateral Number 6;
10. Meander centerline of said Lateral No. 6 easterly to its junction with the centerline of Modesto Main Canal;
11. Meander centerline of said Main Canal southeasterly to its junction with the centerline of Thompson Lateral;
12. Meander centerline of said Thompson Lateral northerly to its junction with the centerline of Stowell Lateral;
13. Meander centerline of said Stowell Lateral northeasterly to its junction with the centerline of Claribel Lateral;
14. Meander centerline of said Claribel Lateral southerly to its junction with the centerline of Dry Creek;
15. Meander centerline of Dry Creek westerly to its intersection with the centerline of Modesto Main Canal;
16. Meander centerline of said Main Canal northwesterly to its junction with Modesto Irrigation District Lateral Number 3;
17. Meander centerline of said Lateral No. 3 westerly to its junction with Modesto Irrigation District Lateral Number 4;
18. Meander centerline of said Lateral No. 4 southwest to its intersection with the boundary of the McHenry Avenue Stormdrain Basin, as defined by the City of Modesto, in Modesto;
19. Meander the boundary of the said McHenry Avenue Stormdrain Basin to its intersection with the boundary of the Ninth Street Stormdrain Basin, as defined by the City of Modesto, in Modesto;
20. Meander boundary of the said Ninth Street Stormdrain Basin to its intersection with the centerline of Franklin Street;
21. South on the centerline of Franklin Street to the intersection with the centerline of Locust Street;
22. West on the centerline of Locust Street to its intersection with the centerline of Modesto Irrigation District Lateral Number 5, were it extended west to intersect the centerline of said Lateral No. 5;
23. Meander centerline of said Lateral No. 5 southwesterly to its intersection with the centerline of Hart Road;

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24. South on the centerline of said road to its junction with the centerline of Paradise Road;
25. West on the centerline of Paradise Road to its junction with the centerline of Shiloh Road;
26. Southerly 1.5 miles on the centerline of said Shiloh Road to the location where it bends to the due west;
27. Meander the drainage boundary of the Tuolumne River southeasterly to its intersection with the centerline of Turlock Irrigation District Lower Lateral Number 2;
28. Meander centerline of said Lateral No. 2 westerly to its junction with the centerline of Turlock Irrigation District Lateral Number 1;
29. Meander centerline of said Lateral No. 1 to its junction with the centerline of Ceres Main Canal;
30. Meander centerline of said Ceres Main Canal easterly to its junction with the centerline of Turlock Main Canal;
31. Meander centerline of said Turlock Main Canal easterly to its junction with the centerline of Highline Canal;
32. Meander centerline of said Highline Canal southerly to its intersection with the drainage boundary of Sand Creek approximately 2000 feet upstream of the intersection with Keyes Road in Stanislaus County;
33. Meander drainage boundary of Sand Creek such that it is included in the East Valley Floor back to its intersection with the centerline of Highline Canal approximately one half mile southeast of the intersection of Hickman Road and Monte Vista Avenue in Stanislaus County;
34. Meander centerline of said Highline Canal southwest to its intersection with the drainage divide between Turlock Irrigation District Cross Ditch Number 1 and Turlock Irrigation District Cross Ditch Number 2 approximately 0.33 miles southwest of the intersection of Santa Fe Drive with the Merced County line;
35. Meander said drainage divide southwesterly to its intersection with the centerline of Turlock Irrigation District Lateral Number 6 at the junction of the centerlines of Turlock Main Canal, Turlock Irrigation District Lateral Number 5 (Harding Drain), and said Lateral No. 6;
36. Meander centerline of said Lateral No. 6 southwesterly to its junction with the centerline of Turlock Irrigation District Lateral Number 7;
37. Meander centerline of said Lateral No. 7 southwesterly to its junction with the centerline of Stevinson Lower Lateral;
38. Meander centerline of said Stevinson Lower Lateral southwesterly to its intersection with the centerline of an unnamed aqueduct approximately one quarter of one mile west of the intersection of Tegner Road and Taylor Avenue in Merced County;
39. Westerly on the centerline of said aqueduct to its junction with the centerline of the Merced River at its apparent point of discharge;
40. Meander centerline of the Merced River to its junction with the centerline of an unnamed canal pumped from the river less than one fifth of a mile downstream of the discharge point of the unnamed aqueduct;
41. Northwest on centerline of said unnamed canal to its intersection with the centerline of an unnamed unpaved road parallel to the Merced River, which begins nearly at the pump on the river;
42. Meander the centerline of said road westerly to its junction with the centerline of Kelley Road;
43. South on the centerline of Kelley Road to its intersection with the centerline of River Road;
44. Southeast on centerline of said River Road to its intersection with the centerline of the East Side Canal;
45. Meander centerline of said East Side Canal northeasterly to its intersection with a line due east coincident with the ninety degree bend in River Road in Section 4, Township 7 South, Range 14 East, Mount Diablo Meridian;
46. East on said line to its intersection with the centerline of River Road in Merced County;
47. Northeasterly on centerline of said River Road to its intersection with the West Side Boulevard, were said road extended to intersect River Road;
48. East on centerline of said West Side Boulevard to its junction with the centerline of Weir Road in Merced County;
49. Northeast to the junction of the centerlines of Magnolia Avenue and Howard Avenue in Merced County;
50. East on centerline of said Magnolia Avenue to its intersection with the southern drainage boundary of the Garibaldi Lateral;

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51. Meander said southern boundary of Garibaldi Lateral to its intersection with the centerline of Hammatt Lateral at its junction with the centerline of Arena Canal near Livingston;
52. South on said drainage boundary of Bear Creek to its intersection with the centerline of the East Side Irrigation Canal, also known as the East Side Bypass Project, near said canal's junction with Howard Lateral;
53. Southwesterly on the drainage boundary of the San Joaquin River upstream of its intersection with Lander Avenue (Highway 165) to its intersection with the centerline of the San Joaquin River at its intersection with the centerline of Lander Avenue (Highway 165);
54. Meander centerline of said San Joaquin River northwesterly to its junction with the centerline of the Stanislaus River and the point of beginning of this description.

North Stanislaus Minor Subarea

BEGINNING at the junction of the Stanislaus River and the San Joaquin River lying in Section 19, Township 3 South, Range 7 East, Mount Diablo Meridian; thence along the following courses:

1. Meander the centerline of the Stanislaus River northeasterly upstream to its intersection with boundary of Calwater RBUASPW area 6535100000 (Manteca Hydrologic Area) near Caswell Memorial State Park;
2. North on the said boundary of Calwater RBUASPW area 6535100000 (Manteca Hydrologic Area) near Caswell Memorial State Park to its intersection with the centerline of a road located slightly more than one half mile north of the river;
3. East on centerline of said road to its junction with the centerline of the north levee of the Stanislaus River;
4. Southwesterly on centerline of said Stanislaus River levee to its intersection with the centerline of the park road connecting to the campsites, were said road extended to intersect the levee;
5. Easterly on said road to the point of intersection with a line perpendicular from the bank of the Stanislaus River directly opposite of Campsite number 24;
6. North-Northeasterly on said perpendicular line to its intersection with the centerline of the Stanislaus River;
7. East to the intersection with the crest of the ridge parallel to the opposite side of the river bend from the Caswell Memorial State Park;
8. Southeast on said ridge to its intersection with the centerline of the south bank levee of the Stanislaus River;
9. Meander centerline of said levee northeasterly to its intersection with the centerline of Modesto Irrigation District Lateral Number 6;
10. Meander centerline of said Main Canal southeasterly to its junction with the centerline of Thompson Lateral;
11. Meander centerline of said Thompson Lateral northerly to its junction with the centerline of Stowell Lateral;
12. Meander centerline of said Stowell Lateral northeasterly to its junction with the centerline of Claribel Lateral;
13. Meander centerline of said Claribel Lateral southerly to its junction with the centerline of Dry Creek;
14. Meander centerline of Dry Creek westerly to its intersection with the centerline of Modesto Main Canal;
15. Meander centerline of said Main Canal northwesterly to its junction with Modesto Irrigation District Lateral Number 3;
16. Meander centerline of said Lateral No. 3 westerly to its junction with Modesto Irrigation District Lateral Number 4;
17. Meander centerline of said Lateral No. 4 southwest to its intersection with the boundary of the McHenry Avenue Stormdrain Basin, as defined by the City of Modesto, in Modesto;
18. North, west, and south on the boundary of the said McHenry Avenue Stormdrain Basin to its intersection with the boundary of the Ninth Street Stormdrain Basin, as defined by the City of Modesto, in Modesto;
19. West and south on the boundary of the said Ninth Street Stormdrain Basin to its intersection with the centerline Highway 99;
20. Northwest on centerline of said Highway 99 to its intersection with the centerline of Woodland Avenue/Coldwell Avenue;

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21. West on centerline on said centerline of Woodland Avenue to its intersection with the western boundary intersection of Sections 21 and 28, Township 3 South, Range 8 East, Mount Diablo Meridian;
22. North on boundary of Section 21, Township 3 South, Range 8 East, Mount Diablo Meridian to its intersection with the centerline of Modesto Irrigation District Lateral Number 3;
23. West on centerline of said Lateral No. 3 to its junction with the centerline of an unnamed lateral approximately one half mile downstream of the intersection with the section boundary;
24. Meander centerline of said unnamed canal southwesterly to its junction with the centerline of the north levee of Modesto Irrigation District Lateral Number 4 if it were extended to cross said unnamed canal;
25. Meander centerline of said levee of Lateral No. 4 westerly to its junction with the centerline of the eastern levee of Finnegan Cut on San Joaquin River;
26. Meander centerline of said levee of Finnegan Cut on the San Joaquin River to its intersection with the centerline of Maze Boulevard in Stanislaus County;
27. Westerly on centerline of said Maze Boulevard to its intersection with the centerline of the San Joaquin River;
28. Meander centerline of said San Joaquin River northerly to its intersection with the centerline of the Stanislaus River and the point of beginning of this description.

Northeast Bank Minor Subarea

BEGINNING at the centerline of the San Joaquin River at the Maze Boulevard Bridge lying in Section 29, Township 3 South, Range 7 East, Mount Diablo Meridian; thence along the following courses:

1. Easterly on centerline of said Maze Boulevard to its intersection with the centerline of the east bank levee of the San Joaquin River;
2. Meander centerline of said levee of the San Joaquin River southeasterly to its intersection with the north bank levee of Modesto Irrigation District Lateral Number 4;
3. Meander centerline of said levee of Lateral No. 4 easterly to its intersection with the centerline of an unnamed lateral connecting Lateral No. 3 and Lateral No. 4, were it extended east to said centerline;
4. Meander centerline of said unnamed lateral to its junction with the centerline of Modesto Irrigation District Lateral Number 3;
5. East on centerline of said Lateral No. 3 to its intersection with the western boundary of Section 21, Township 3 South, Range 8 East, Mount Diablo Meridian;
6. South on boundary of said Section 21 to its intersection with the centerline of Woodland Avenue;
7. East on the centerline of said Woodland Avenue to its intersection with the centerline of Highway 99;
8. Southeast on the centerline of said Highway 99 to its intersection with the centerline of Franklin Street;
9. South on the centerline of Franklin Street to the intersection with the centerline of the centerline of Locust Street;
10. West on the centerline of Locust Street to its intersection with the centerline of Modesto Irrigation District Lateral Number 5, were it extended west to intersect said Lateral No. 5;
11. Meander centerline of said Lateral No. 5 southwesterly to its intersection with the centerline of Hart Road;
12. South on the centerline of said road to its junction with the centerline of Paradise Road;
13. West on the centerline of Paradise Road to its junction with the centerline of Shiloh Road;
14. South 1.5 miles on the centerline of said Shiloh Road to the location where it bends to the due west;
15. Meander the drainage boundary of the Tuolumne River southeasterly to its intersection with the centerline of Turlock Irrigation District Lower Lateral Number 2;
16. Meander centerline of said Lateral No. 2 westerly to its junction with the centerline of Turlock Irrigation District Lateral Number 1;
17. Meander centerline of said Lateral No. 1 to its junction with the centerline of Ceres Main Canal;
18. Meander centerline of said Ceres Main Canal easterly to its junction with the centerline of Turlock Main Canal;

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19. Meander centerline of said Turlock Main Canal southerly to its junction with the centerline of Turlock Irrigation District Upper Lateral Number 3;
20. Meander centerline of said Lateral No. 3 westerly to its junction with the centerline of Turlock Irrigation District Lower Lateral Number 3;
21. West on centerline of said Lateral No. 3 to its intersection with the centerline of an unnamed lateral located approximately 3000 feet downstream of the Lateral No. 3 intersection with the centerline of Carpenter Road in Stanislaus County;
22. South on centerline of said unnamed lateral to its intersection with the centerline of Monte Vista Avenue in Stanislaus County;
23. Southwesterly on the drainage boundary separating the San Joaquin River from the unnamed drain and associated natural channel to its junction with the centerline of the east bank levee of the San Joaquin River;
24. Northwesterly on centerline of said levee of the San Joaquin River to its intersection with the drainage of the San Joaquin River upstream of West Main Street approximately 700 feet southeast of the intersection of the centerline of the east bank levee of the San Joaquin River and the centerline of West Main Street;
25. Northwesterly on drainage boundary of the San Joaquin River upstream of Las Palmas Avenue in Stanislaus County to its intersection with the centerline of the San Joaquin River at its intersection with the centerline of Las Palmas Avenue;
26. Northwesterly on the centerline of said San Joaquin River to its intersection with the centerline of Maze Boulevard and the point of beginning of this description.

Stevinson Minor Subarea

BEGINNING at the centerline of the San Joaquin River at its junction with the centerline of the Merced River lying in Section 03, Township 07 South, Range 09 East, Mount Diablo Meridian; thence along the following courses:

1. East on centerline of Hills Ferry Road to its intersection with the centerline of River Road in Merced County;
2. Southeast on centerline of said River Road to its intersection with the centerline of the East Side Canal;
3. Meander centerline of said East Side Canal northeasterly to its intersection with a line due east coincident with the ninety degree bend in River Road in Section 4, Township 7 South, Range 14 East, Mount Diablo Meridian;
4. East on said line to its intersection with the centerline of River Road in Merced County;
5. Northeasterly on centerline of said River Road to its intersection with the West Side Boulevard, were said road extended to intersect River Road;
6. East on centerline of said West Side Boulevard to its junction with the centerline of Weir Road in Merced County;
7. Northeast to the junction of the centerlines of Magnolia Avenue and Howard Avenue in Merced County;
8. East on centerline of said Magnolia Avenue to its intersection with the southern drainage boundary of the Garibaldi Lateral;
9. Meander said southern boundary of Garibaldi Lateral to its intersection with the centerline of Hammatt Lateral at its junction with the centerline of Arena Canal near Livingston;
10. South on said drainage boundary of Bear Creek to its intersection with the centerline of the East Side Irrigation Canal, also known as the East Side Bypass Project, near said canal's junction with Howard Lateral;
11. Southwesterly on the drainage boundary of the San Joaquin River upstream of its intersection with Lander Avenue (Highway 165) to its intersection with the centerline of the San Joaquin River at its intersection with the centerline of Lander Avenue (Highway 165);
12. Northwesterly on centerline of said San Joaquin River to its junction with the centerline of the Merced River and the point of beginning of this description.

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Turlock Area Minor Subarea

BEGINNING at the centerline of the San Joaquin River at the intersection with the centerline of the Las Palmas Avenue Bridge lying in Section 15, Township 05 South, Range 08 East, Mount Diablo Meridian; thence along the following courses:

1. Southeasterly on the drainage boundary of the San Joaquin River upstream of West Main Street in Stanislaus County to its intersection with the centerline of the east bank levee of the San Joaquin River approximately 700 feet southeast of the intersection of the centerline of said levee and the centerline of West Main Street;
2. Southeasterly on centerline of said levee of the San Joaquin River to its intersection with the drainage boundary approximately 3500 feet south of the intersection of the centerline of Jennings Road and the centerline of West Main Street in Stanislaus County separating the San Joaquin River from an unnamed lateral and associated natural channel downstream of its intersection with the centerline with Monte Vista Avenue in Stanislaus County;
3. Northwesterly on said drainage boundary to its intersection with the centerline of Monte Vista Avenue at its intersection with the centerline of the unnamed lateral;
4. North on centerline of said unnamed lateral to its junction with the centerline of Turlock Irrigation District Lower Lateral Number 3 approximately 3000 feet downstream of said Lateral No. 3 intersection with the centerline of Carpenter Road in Stanislaus County;
5. Meander centerline of said Lateral No.3 east to its junction with the centerline of Turlock Irrigation District Upper Lateral Number 3;
6. Meander centerline of said Lateral No. 3 east to its junction with the centerline of Turlock Main Canal;
7. Meander centerline of said Turlock Main Canal north to its junction with the centerline of Highline Canal;
8. Meander centerline of said Highline Canal southerly to its intersection with the drainage boundary of Sand Creek approximately 2000 feet upstream of the intersection with Keyes Road in Stanislaus County;
9. Meander drainage boundary of Sand Creek such that it is included in the East Valley Floor back to its intersection with the centerline of Highline Canal approximately one half mile southeast of the intersection of Hickman Road and Monte Vista Avenue in Stanislaus County;
10. Meander centerline of said Highline Canal southwest to its intersection with the drainage divide between Turlock Irrigation District Cross Ditch Number 1 and Turlock Irrigation District Cross Ditch Number 2 approximately 0.33 miles southwest of the intersection of Santa Fe Drive with the Merced County line;
11. Meander said drainage divide southwesterly to its intersection with the centerline of Turlock Irrigation District Lateral Number 6 at the junction of the centerlines of Turlock Main Canal, Turlock Irrigation District Lateral Number 5 (Harding Drain), and said Lateral No. 6;
12. Meander centerline of said Lateral No. 6 southwesterly to its junction with the centerline of Turlock Irrigation District Lateral Number 7;
13. Meander centerline of said Lateral No. 7 southwesterly to its junction with the centerline of Stevinson Lower Lateral;
14. Meander centerline of said Stevinson Lower Lateral southwesterly to its intersection with the centerline of an unnamed aqueduct approximately one quarter of one mile west of the intersection of Tegner Road and Taylor Avenue in Merced County;
15. Westerly on the centerline of said aqueduct to its junction with the centerline of the Merced River at its apparent point of discharge;
16. Meander centerline of the Merced River to its junction with the centerline of an unnamed canal pumped from the river less than one fifth of a mile downstream of the discharge point of the unnamed aqueduct;
17. Northwest on centerline of said unnamed canal to its intersection with the centerline of an unnamed unpaved road parallel to the Merced River, which begins nearly at the pump on the river;
18. Meander the centerline of said road westerly to its junction with the centerline of Kelley Road;
19. South on the centerline of Kelley Road to its intersection with the centerline of Hills Ferry/River Road;
20. West on centerline of said Hills Ferry Road to its intersection with the centerline of the San Joaquin River;
21. Meander centerline of said San Joaquin River northwesterly to its intersection with the centerline of West Main Street and the point of beginning of this description.

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Grassland Subarea

BEGINNING at the junction of the Newman Wasteway and the San Joaquin River lying in Section 10, Township 7 South, Range 9 East, Mount Diablo Meridian; thence along the following courses:

1. Meander the centerline of the San Joaquin River southeasterly upstream to its junction with the jurisdictional boundary of Columbia Canal Company;
2. West and south on the jurisdictional boundary of Columbia Canal Company to its intersection with the San Joaquin River;
3. Meander said centerline of the San Joaquin River easterly to its intersection with the center point of the Mendota Pool;
4. Meander the centerline of the Fresno Slough channel southerly to its intersection with the centerline of the Firebaugh Canal Water District Main Lift;
5. West southwest on the centerline of said Main Lift to its intersection with the centerline of the Firebaugh Canal Water District Third Lift Canal;
6. Northwesterly and westerly on the boundary of Westlands Water District, as defined by said district, to its intersection with the southern drainage boundary of Capita Canyon;
7. Meander on said drainage boundary of Capita Canyon southwesterly to its intersection with the southern drainage boundary of Moreno Gulch;
8. Meander on said drainage boundary of Moreno Gulch westerly to its intersection with southern drainage boundary of Little Panoche Creek;
9. Meander on said drainage boundary of Little Panoche Creek northwesterly to its intersection with the county line between Fresno and San Benito counties where the county line crosses the southern boundary of Section 31, Township 14 South, Range 11 East, Mount Diablo Meridian;
10. Northwesterly on the San Benito County line to its intersection with the crest of the Coast Range;
11. Meander on the crest of the Coast Range north-northwesterly to its intersection with the peak of Mustang Peak, where the drainage divide between Orestimba Creek and Garzas Creek diverges from crest of the Coast Range;
12. Meander on said drainage boundary of Garzas Creek westerly to point where the drainage of Garzas Creek and Bennett Valley diverge;
13. Meander said southern boundary of Bennett Valley and associated watersheds to its intersection with the centerline of Eastin Road in Merced County;
14. North on centerline of said Eastin Road to its intersection with the centerline of the first and southern-most of the associated creeks of Bennett Valley, just south of its junction with Moorehead Road;
15. Meander centerline of said creek northeasterly to its intersection with the centerline of Central California Irrigation District's Main Canal;
16. Meander centerline of said Main Canal northwesterly to its intersection with the centerline of the Newman Wasteway;
17. East on centerline of said Newman Wasteway to its junction with the centerline of the San Joaquin River and the point of beginning of this description.

Merced River Subarea

BEGINNING at the intersection of the centerline of the Merced River and the centerline of River Road lying in Section 3, Township 7 South, Range 9 East, Mount Diablo Meridian; thence along the following courses:

1. West on centerline of said River Road to its intersection with the centerline of Kelley Road;
2. North on centerline of said Kelley Road to its intersection with the centerline of an unnamed, unpaved road approximately 4000 feet north of the intersection of Kelley Road and River Road;
3. Meander centerline of said unnamed road to its intersection with the centerline of an unnamed lateral pumped from the Merced River;
4. Southeast on the centerline of said unnamed lateral to its intersection with the centerline of the Merced River;
5. Meander centerline of the Merced River to the discharge point of an unnamed aqueduct located less than one fifth of a mile upstream of the pump on said unnamed lateral;
6. Easterly on centerline of said aqueduct to its intersection with the centerline of Stevinson Lower Lateral;

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7. Meander centerline of said Stevinson Lower Lateral northwesterly to its junction with the centerline of Turlock Irrigation District Lateral Number 7;
8. Meander centerline of said Lateral No. 7 northeasterly to its junction with the centerline of Turlock Irrigation District Lateral Number 6;
9. Meander centerline of said Lateral No. 6 northeasterly to its intersection with the drainage divide between Turlock Irrigation District Cross Ditch Number 1 and Turlock Irrigation District Cross Ditch Number 2 at the junction of the centerlines of Turlock Main Canal, Turlock Irrigation District Lateral Number 5 (Harding Drain), and said Lateral No. 6;
10. Meander said drainage northeasterly to its intersection with the centerline of Highline Canal approximately 0.33 miles southwest of the intersection of Santa Fe Drive with the Merced County line;
11. Meander centerline of said Highline Canal north to its junction with the centerline of Turlock Main Canal;
12. Meander drainage boundary of unnamed creeks draining easterly toward Highline Canal and to the Merced River via said canal southeasterly to its intersection with the drainage boundary of Sand Creek;
13. Meander said drainage boundary of Sand Creek southwesterly to its intersection with the centerline of Highline Canal approximately 2000 feet upstream of the intersection with Keyes Road;
14. Meander centerline of said Highline Canal southerly to its intersection with the southern drainage boundary of Sand Creek, approximately one half mile southeast of the intersection of Hickman Road and Monte Vista Avenue in Stanislaus County;
15. Meander said drainage boundary of Sand Creek easterly to its junction with the unnamed interior drainage basin west of Turlock Lake;
16. Meander said interior drainage basin northeasterly to its junction with the southern drainage boundary of Turlock Lake;
17. Meander said drainage boundary of Turlock Lake northeasterly to its junction with the southern drainage boundary of Peaslee Creek;
18. Meander said drainage boundary of Peaslee Creek northeasterly to its junction with the southern drainage boundary of Evans Creek;
19. Meander said drainage boundary of Evans Creek northeasterly to its junction with the southern drainage boundary of Vizard Creek;
20. Meander said drainage boundary of Vizard Creek easterly to its intersection with the Stanislaus County line, near the four-corner intersection of Stanislaus, Tuolumne, Merced, and Mariposa counties;
21. Southeast on said Stanislaus County line to its intersection with the Merced County line;
22. Southeasterly on the Merced County line to its intersection with the drainage boundary between Merced River and Burns Creek;
23. Meander said drainage boundary of Burns Creek southwesterly to its junction with the drainage boundary of Black Rascal Creek;
24. Meander said drainage boundary of Black Rascal Creek northwesterly to its junction with the drainage boundary of Stoney Creek;
25. Meander said drainage boundary of Stoney Creek northerly to its intersection with the centerline of the Merced River;
26. Meander centerline of said Merced River westerly to its junction with the centerline of the Merced Irrigation District Main Canal;
27. Meander centerline of said Main Canal southwesterly, excluding any creeks or canals flowing into it, to its intersection with the southern drainage boundary of Edendale Creek;
28. Meander said drainage boundary of Edendale Creek southwesterly to its junction with the drainage boundary of Canal Creek;
29. Meander said drainage boundary of Canal Creek southerly to its intersection with the centerline of Bellevue Road near Castle Airport in Merced County;
30. West on centerline of said Bellevue road to its intersection with the centerline of Canal Creek, were it extended to intersect said creek;
31. Southerly on the centerline of said Canal Creek to the point of divergence between Canal Creek and Livingston Canal;
32. Meander centerline of said Livingston Canal westerly to its junction with a small, unnamed creek south of Castle Gardens, approximately 1000 feet downstream of Buhach Road in Merced County;

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33. Meander centerline of said unnamed creek southerly to its intersection with northern boundary of Section 7, Township 7 South, Range 13 East, Mount Diablo Meridian;
34. West on said section boundary to its intersection with the centerline of Sierra Madre Drive in the City of Atwater in Merced County, were it extended to intersect said section;
35. North on centerline of said Sierra Madre Drive to its junction with the centerline of Juniper Avenue in the City of Atwater in Merced County;
36. West on centerline of said Juniper Avenue to its junction with the centerline of Shaffer Road in the City of Atwater in Merced County;
37. North on centerline of said Shaffer Road to its junction with the centerline of Bellevue Road in the City of Atwater in Merced County;
38. West on centerline of said Bellevue Road to its intersection with the southeast corner of the subdivision boundary near the intersection with Bellevue Road and 5th Street in the City of Atwater in Merced County;
39. North on boundary of said subdivision to its intersection with the centerline Fruitland Avenue in the City of Atwater in Merced County, near its intersection with Chardonnay Way;
40. West on centerline of said Fruitland Avenue to its intersection with the western boundary of the subdivision lying south of said avenue;
41. South on the boundary of said subdivision to its intersection with the centerline of Bellevue Road in the City of Atwater in Merced County, near its intersection with 7th Street;
42. West on centerline of said Bellevue Road to its junction with the centerline of Winton Way in the City of Atwater in Merced County;
43. North on centerline of said Winton Way to its junction with the centerline of Fruitland Avenue in the City of Atwater in Merced County;
44. Meander centerline of said Fruitland Avenue northwesterly to its junction with the centerline of Vine Avenue in Merced County;
45. North on centerline of said Vine Avenue to its intersection with the centerline of the Livingston Canal;
46. Meander centerline of said Livingston Canal northwesterly to its junction with the centerline of Arena Canal;
47. Meander centerline of said Arena Canal southeasterly to the point of divergence between Arena Canal and the Wakefield Lateral on the west side of the intersection between Arena Canal and Cressy Way in Merced County;
48. Meander drainage divide between said Arena Canal and Wakefield Lateral westerly to its intersection with the centerline of the Hammatt Lateral;
49. Meander southern drainage boundary of Garibaldi Lateral southwesterly to its intersection with the centerline of Magnolia Avenue in Merced County;
50. West on centerline of said Magnolia Avenue to its junction with the centerline of Howard Avenue in Merced County;
51. Southwest to the junction of the centerlines of West Side Boulevard and Weir Avenues;
52. West on centerline of said West Side Boulevard to its intersection with the centerline of River Road, were it extended to intersect said road;
53. Southwesterly on centerline of said River Road to point that said road makes a ninety degree bend to the south in Section 4, Township 7 South, Range 14 East, Mount Diablo Meridian;
54. Due West to the intersection with the centerline of the East Side Canal;
55. Meander centerline of said East Side Canal southwesterly to its intersection with the centerline of River Road in Merced County;
56. West on centerline of said River Road to its intersection with the centerline of the Merced River and the point of beginning of this description.

Northwest Side Subarea

BEGINNING at the intersection of the centerline of the San Joaquin River and the centerline of the Airport Way Bridge lying in Section 13, Township 3 South, Range 6 East, Mount Diablo Meridian; thence along the following courses:

1. Southeasterly on centerline of said San Joaquin River to its junction with the centerline of the Newman Wasteway;

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2. Southwesterly on centerline of said Newman Wasteway to its intersection with the centerline of Central California Irrigation District's Main Canal;
3. Southeasterly on centerline of said Main Canal to its junction with the centerline of the discharge point of an unnamed creek approximately 2200 feet downstream of the Newman Wasteway;
4. Southwesterly on centerline of said unnamed creek to its intersection with Eastin Road in Stanislaus County;
5. South on centerline of said Eastin Road to its intersection with the southern drainage boundary of the unnamed creek approximately 500 feet south of said road's junction with Pete Miller Road in Stanislaus County;
6. Meander said southern drainage boundary of unnamed creek southwesterly to its junction with the drainage boundary of Garzas Creek;
7. Meander said drainage boundary of Garzas Creek to its intersection with Mustang Peak, at which point the drainage boundary and Garzas Creek becomes the crest of the Coast Range;
8. Meander said crest of the Coast Range northwesterly to its intersection with the drainage boundary of Hospital Creek;
9. Meander said drainage boundary of Hospital Creek northerly to its intersection with the drainage boundary of Lone Tree Creek;
10. Meander drainage boundary of Lone Tree Creek northeasterly, excluding Lone Tree Creek, to its intersection with the centerline of Bird Road in San Joaquin County;
11. North on centerline of said Bird Road to its intersection with the centerline of Lone Tree Creek;
12. Northerly on the centerline of Lone Tree Creek to its intersection with the centerline of Vernalis Road in San Joaquin County;
13. East on centerline of said Vernalis Road to its intersection with a known underground gas pipeline approximately 2700 feet east of Koster Avenue;
14. Northeast on said gas pipeline to its intersection with the centerline of Durham Ferry Road in San Joaquin County;
15. Northeast on said centerline of Durham Ferry Road to its intersection with the centerline of the San Joaquin River at the Airport Way Bridge and the point of beginning of this description.

Greater Orestimba Minor Subarea

BEGINNING at the centerline of the San Joaquin River at the intersection with the centerline of the Las Palmas Avenue Bridge lying in Section 15, Township 05 South, Range 08 East, Mount Diablo Meridian; thence along the following courses:

1. Southeasterly on centerline of said San Joaquin River to its junction with the centerline of the Newman Wasteway;
2. Southwesterly on centerline of said Newman Wasteway to its intersection with the centerline of Central California Irrigation District's Main Canal;
3. Southeasterly on centerline of said Main Canal to its junction with the centerline of the discharge point of an unnamed creek approximately 2200 feet downstream of the Newman Wasteway;
4. Southwesterly on centerline of said unnamed creek to its intersection with Eastin Road in Merced County;
5. South on centerline of said Eastin Road to its intersection with the southern drainage boundary of the unnamed creek approximately 500 feet south of said road's junction with Pete Miller Road in Merced County;
6. Meander said southern drainage boundary of unnamed creek southwesterly to its junction with the drainage boundary of Garzas Creek;
7. Meander said drainage boundary of Garzas Creek to its intersection with Mustang Peak, the point at which said drainage of Garzas Creek intersects the crest of the Coast Range;
8. Meander said crest of the Coast Range northwesterly to its intersection with the northern drainage boundary of Orestimba Creek;
9. Meander said drainage boundary of Orestimba Creek easterly to its intersection with the drainage boundary of Little Salado Creek near Oaks Flat Ranch;
10. Meander said drainage boundary of Little Salado Creek northeasterly to its intersection with the centerline of Elfers Road at its intersection with the centerline of Del Puerto Avenue in Stanislaus County near Patterson;

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11. East on centerline of said Elfers Road to its intersection with the centerline of Highway 33;
12. Northwest on centerline of said Highway 33 to its intersection with the centerline of Patterson Main Canal;
13. Northeast on centerline of said Patterson Main Canal to its intersection with the centerline of Las Palmas Avenue in Stanislaus County;
14. Northeast on centerline of said Las Palmas Avenue to its intersection with the centerline of the San Joaquin River and the point of beginning of this description.

Vernalis North Minor Subarea

BEGINNING at the intersection of the centerline of the San Joaquin River and the centerline of the Airport Way Bridge lying in Section 13, Township 3 South, Range 6 East, Mount Diablo Meridian; thence along the following courses:

1. Southeasterly on centerline of said San Joaquin River to its intersection with the centerline of an unnamed, unpaved road approximately 250 feet south of Maze Boulevard in Stanislaus County, north of the El Solyo Lift, where said unnamed, unpaved road extended to intersect the centerline of the San Joaquin River;
2. Southwest on centerline of said unnamed, unpaved road to its junction with the centerline of McCracken Road in Stanislaus County near Vernalis;
3. South on centerline of said McCracken Road to its junction with the centerline of Blewett Road in San Joaquin County;
4. West on centerline of said Blewett Road to its intersection with the centerline of Lone Tree Creek;
5. Northerly on the centerline of Lone Tree Creek to its intersection with the centerline of Vernalis Road in San Joaquin County;
6. East on centerline of said Vernalis Road to its intersection with a known underground gas pipeline approximately 2700 feet east of Koster Avenue;
7. Northeast on said gas pipeline to its intersection with the centerline of Durham Ferry Road in San Joaquin County;
8. Northeast on said centerline of Durham Ferry Road to its intersection with the centerline of the San Joaquin River at the Airport Way Bridge and the point of beginning of this description.

Westside Creeks Minor Subarea

BEGINNING at the centerline of the San Joaquin River at the Maze Boulevard Bridge lying in Section 29, Township 3 South, Range 7 East, Mount Diablo Meridian; thence along the following courses:

1. Meander centerline of said San Joaquin River southeasterly to its intersection with the centerline of Las Palmas Avenue in Stanislaus County near Patterson;
2. Southwesterly on centerline of said Las Palmas Avenue to its intersection with the centerline of the Patterson Main Canal;
3. Southwesterly on centerline of said Patterson Main Canal to its intersection with the centerline of Highway 33 in Stanislaus County near Patterson;
4. Southeast on centerline of said Highway 33 to its intersection with the centerline of Elfers Road;
5. West on centerline of said Elfers Road to its intersection with the centerline of Del Puerto Avenue;
6. Meander the drainage boundary of Little Salado Creek southwesterly to its intersection with drainage boundary of Orestimba Creek;
7. Meander said drainage boundary of Orestimba Creek southwesterly to its intersection with intersects the hydrologic divide of the San Joaquin River basin in the Coast Range, heretofore referred to as the crest of the Coast Range;
8. Meander said crest of the Coast Range northwesterly to its intersection with the northern drainage boundary of Hospital Creek;
9. Meander said drainage boundary of Hospital Creek northerly to its intersection with the drainage boundary of Lone Tree Creek;
10. Meander drainage boundary of Lone Tree Creek northwesterly to its intersection with the centerline of Blewett Road in San Joaquin County;
11. East on centerline of said Blewett Road to its junction with the centerline of McCracken Road in Stanislaus County near Vernalis;
12. North on McCracken Road to its junction with an unnamed, unpaved road approximately 1000 feet north of said Blewett Road;

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13. Northeasterly on said unnamed, unpaved road to its intersection with the centerline of the San Joaquin River, were it extended to intersect said river;
14. Northerly on said San Joaquin River to its intersection with the centerline of Maze Boulevard in Stanislaus County and the point of beginning of this description;

San Joaquin River Upstream of Salt Slough Subarea

BEGINNING at the centerline of the San Joaquin River at its intersection with the centerline of Lander Avenue (Highway 165) in Merced County lying in Section 27, Township 07 South, Range 10 East, Mount Diablo Meridian; thence along the following courses:

1. Northeasterly on the drainage boundary of the San Joaquin River upstream of its intersection with Lander Avenue (Highway 165) to its intersection with the centerline of the East Side Irrigation Canal near said canal's junction with Howard Lateral;
2. Meander the drainage boundary of Bear Creek northeasterly to its intersection with centerline of Arena Canal at its junction with Hammatt Lateral near Livingston;
3. Meander to drainage divide between Arena Canal and Wakefield Lateral easterly to its intersection with the centerline of Arena Canal at the point of divergence between said canal and lateral near the intersection of Arena Canal and Cressy Way in Merced County;
4. Meander centerline of Arena Canal northwesterly to its junction with the centerline of Livingston Canal;
5. Meander centerline of Livingston Canal southeasterly to its intersection with the centerline of Vine Avenue in Merced County near Atwater;
6. South on centerline of said Vine Avenue to its junction with the centerline of Fruitland Avenue in the City of Atwater in Merced County;
7. Meander centerline of Fruitland Avenue southeasterly to its intersection with the centerline of Winton Way in the City of Atwater in Merced County;
8. South on centerline of said Winton Way to its junction with the centerline of Bellevue Road in the City of Atwater in Merced County;
9. East on centerline of said Bellevue Road to its intersection with the southwest corner of a subdivision near said road's intersection with 7th Street in the City of Atwater in Merced County;
10. North on the boundary of said subdivision to its intersection with the centerline of Fruitland Avenue in the City of Atwater in Merced County;
11. East on centerline of said Fruitland Avenue to its intersection with the eastern boundary of the subdivision lying south of said avenue, near the intersection with Chardonnay Way;
12. South on boundary of said subdivision to its intersection with the centerline of Bellevue Road in the City of Atwater in Merced County, near said road's intersection with 5th Street;
13. East on centerline of said Bellevue Road to its junction with the centerline of Shaffer Road in the City of Atwater in Merced County;
14. South on the centerline of said Shaffer Road to its junction with the centerline of Juniper Avenue in the City of Atwater in Merced County;
15. East on the centerline of said Juniper Avenue to its junction with the centerline of Sierra Madre Drive in the City of Atwater in Merced County;
16. South on the centerline of said Sierra Madre Drive to its intersection with the northern boundary of Section 7, Township 7 South, Range 13 East, Mount Diablo Meridian;
17. East on said section boundary to its intersection with the centerline of an unnamed creek about 750 feet before said section boundary intersects Buhach Road;
18. Meander centerline of said unnamed creek northerly to its junction with the centerline of the Livingston Canal;
19. Meander centerline of said Livingston Canal easterly to the point of divergence between Canal Creek and said canal;
20. Northerly on centerline of said Canal Creek to its intersection with the centerline of Bellevue Road in Merced County near Castle Airport;
21. East on centerline of said Bellevue Road to its intersection with the drainage boundary of Canal Creek near the intersection of Franklin Road and Bellevue Road in Merced County near Castle Airport;
22. Meander said drainage boundary of Canal Creek northerly to its junction with the drainage boundary of Edendale Creek;
23. Meander said drainage boundary of Edendale Creek northeasterly to its intersection with the centerline of Merced Irrigation District's Main Canal;

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24. Meander centerline of said Main Canal northeasterly to its junction with the centerline of the Merced River, including any creeks and canals flowing into it along that length;
25. Meander centerline of said Merced River easterly to its intersection with the drainage boundary of Stoney Creek;
26. Meander said drainage boundary of Stoney Creek southerly to its junction with the drainage boundary of Black Rascal Creek;
27. Meander said drainage boundary of Black Rascal Creek southeasterly to its junction with the drainage boundary of Burns Creek;
28. Meander said drainage boundary of Burns Creek northeasterly to its intersection with the Merced County line;
29. Southeasterly on said Merced County line to its junction with Madera County line and Calwater 654530000 (Berenda Creek Hydrologic Area);
30. Southeasterly on the boundary of Calwater 654530000 (Berenda Creek Hydrologic Area) to its intersection with the centerline of the San Joaquin River at Friant Dam;
31. Southwesterly on centerline of said San Joaquin River to its intersection with the jurisdictional boundary of Columbia Canal Company;
32. Northwesterly on said boundary of Columbia Canal Company to its intersection with the centerline of the San Joaquin River;
33. Northwesterly on said San Joaquin River to its intersection with the centerline of Lander Avenue (Highway 165) and the point of beginning of this description.

Bear Creek Minor Subarea

BEGINNING at the centerline of the San Joaquin River at its intersection with the centerline of Lander Avenue (Highway 165) in Merced County lying in Section 27, Township 07 South, Range 10 East, Mount Diablo Meridian; thence along the following courses:

1. Northeasterly on the drainage boundary of the San Joaquin River upstream of its intersection with Lander Avenue (Highway 165) to its intersection with the centerline of the East Side Irrigation Canal near said canal's junction with Howard Lateral;
2. Meander the drainage boundary of Bear Creek northeasterly to its intersection with centerline of Arena Canal at its junction with Hammatt Lateral near Livingston;
3. Meander to drainage divide between Arena Canal and Wakefield Lateral easterly to its intersection with the centerline of Arena Canal at the point of divergence between said canal and lateral near the intersection of Arena Canal and Cressy Way in Merced County;
4. Meander centerline of Arena Canal northwesterly to its junction with the centerline of Livingston Canal;
5. Meander centerline of Livingston Canal southeasterly to its intersection with the centerline of Vine Avenue in Merced County near Atwater;
6. South on centerline of said Vine Avenue to its junction with the centerline of Fruitland Avenue in the City of Atwater in Merced County;
7. Meander centerline of Fruitland Avenue southeasterly to its intersection with the centerline of Winton Way in the City of Atwater in Merced County;
8. South on centerline of said Winton Way to its junction with the centerline of Bellevue Road in the City of Atwater in Merced County;
9. East on centerline of said Bellevue Road to its intersection with the southwest corner of a subdivision near said road's intersection with 7th Street in the City of Atwater in Merced County;
10. North on the boundary of said subdivision to its intersection with the centerline of Fruitland Avenue in the City of Atwater in Merced County;
11. East on centerline of said Fruitland Avenue to its intersection with the eastern boundary of the subdivision lying south of said avenue, near the intersection with Chardonnay Way;
12. South on boundary of said subdivision to its intersection with the centerline of Bellevue Road in the City of Atwater in Merced County, near said road's intersection with 5th Street;
13. East on centerline of said Bellevue Road to its junction with the centerline of Shaffer Road in the City of Atwater in Merced County;
14. South on the centerline of said Shaffer Road to its junction with the centerline of Juniper Avenue in the City of Atwater in Merced County;
15. East on the centerline of said Juniper Avenue to its junction with the centerline of Sierra Madre Drive in the City of Atwater in Merced County;

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16. South on the centerline of said Sierra Madre Drive to its intersection with the northern boundary of Section 7, Township 7 South, Range 13 East, Mount Diablo Meridian;
17. East on said section boundary to its intersection with the centerline of an unnamed creek about 750 feet before said section boundary intersects Buhach Road;
18. Meander centerline of said unnamed creek northerly to its junction with the centerline of the Livingston Canal;
19. Meander centerline of said Livingston Canal easterly to the point of divergence between Canal Creek and said canal;
20. Northerly on centerline of said Canal Creek to its intersection with the centerline of Bellevue Road in Merced County near Castle Airport;
21. East on centerline of said Bellevue Road to its intersection with the drainage boundary of Canal Creek near the intersection of Franklin Road and Bellevue Road in Merced County near Castle Airport;
22. Meander said drainage boundary of Canal Creek northerly to its junction with the drainage boundary of Edendale Creek;
23. Meander said drainage boundary of Edendale Creek northeasterly to its intersection with the centerline of Merced Irrigation District's Main Canal;
24. Meander centerline of said Main Canal northeasterly to its junction with the centerline of the Merced River, including any creeks and canals flowing into it along that length;
25. Meander centerline of said Merced River easterly to its intersection with the drainage boundary of Stoney Creek;
26. Meander said drainage boundary of Stoney Creek southerly to its junction with the drainage boundary of Black Rascal Creek;
27. Meander said drainage boundary of Black Rascal Creek southeasterly to its junction with the drainage boundary of Burns Creek;
28. Meander said drainage boundary of Burns Creek northeasterly to its intersection with the Merced County line;
29. Meander said Merced County line southeasterly to its intersection with the northern drainage boundary of the Chowchilla River;
30. Westerly on said drainage boundary of Chowchilla River to its intersection with the centerline of Marguerite Road;
31. West on centerline of said Marguerite Road to its intersection with the jurisdictional boundary of Chowchilla Water District, as defined by said water district, were said road extended to intersect Chowchilla Water District jurisdictional boundary;
32. Meander said Chowchilla Water District jurisdictional boundary to its intersection with the jurisdictional boundary of El Nido Irrigation District (now operated by Merced Irrigation District) as it existed at the time it changed hands;
33. Meander said jurisdictional boundary of El Nido Irrigation District to its intersection with the centerline of Vineyard Road in Merced County near El Nido;
34. South on centerline of said Vineyard Road to its intersection with the centerline of West Washington Road, were both roads extended such that they would make an intersection;
35. West on centerline of said West Washington Road to its intersection with the centerline of the San Joaquin River at the bridge where Indiana Road intersects from the opposite direction;
36. Northwesterly on centerline of said San Joaquin River to its intersection with the centerline of Lander Avenue (Highway 165) and the point of beginning of this description.

Fresno-Chowchilla Minor Subarea

BEGINNING at the centerline of the San Joaquin River at its intersection the centerline of West Washington Road in Merced County lying in Section 31, Township 9 South, Range 13 East, Mount Diablo Meridian; thence along the following courses:

1. West on centerline of said West Washington Road to its intersection with the jurisdictional boundary of El Nido Irrigation District (now operated by Merced Irrigation District) as it existed at the time it changed hands;

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2. Meander said jurisdictional boundary of El Nido Irrigation District to its intersection with the jurisdictional boundary of Chowchilla Water District, as defined by said water district;
3. Meander said jurisdictional boundary of Chowchilla Water District to its intersection with the centerline of Harvey Petit Road in Merced County near Le Grande;
4. East on centerline of said Harvey Petit Road to its intersection with the northern drainage boundary of the Chowchilla River, were said road extended to intersect the drainage boundary of the Chowchilla River;
5. Meander said drainage boundary of the Chowchilla River northeasterly to its intersection with the Merced County line;
6. Meander Merced County line southeasterly to its intersection with the Madera County line;
7. Southeasterly on the boundary of Calwater 654530000 (Berenda Creek Hydrologic Area) to its intersection with the centerline of the San Joaquin River at Friant Dam;
8. Southwesterly on centerline of said San Joaquin River to its intersection with the jurisdictional boundary of Columbia Canal Company;
9. Northwesterly on said boundary of Columbia Canal Company to its intersection with the centerline of the San Joaquin River;
10. Northwesterly on said San Joaquin River to its intersection with the land boundary south of the confluence with Mariposa Slough in Merced County that denotes the beginning of agricultural production south of said confluence with Mariposa Slough, were the land boundary extended to said centerline of the San Joaquin River, and the point of beginning of this description.

Stanislaus River Subarea

BEGINNING at the centerline of the parking slip of Campsite number 24 in Caswell Memorial State Park lying in Section 02, Township 03 South, Range 07 East, Mount Diablo Meridian, at its intersection with the centerline of the Stanislaus River, were the centerline of said parking slip extended to intersect the Stanislaus River; thence along the following courses:

1. Southwesterly on centerline of said parking slip to its intersection with the centerline of the main road connecting the campsites with the park entrance, were the centerline of said parking slip extended to said main road;
2. Westerly on centerline of said main park road to its intersection with the centerline of the north levee of the Stanislaus River, were the centerline of said main park road extended to intersect the centerline of the levee;
3. Meander centerline of said Stanislaus River levee northeasterly to its intersection with the centerline of Mohler Road at the point where said road bends west to become Moncure Road in San Joaquin County near Ripon, were the centerline of Mohler Road extended to intersect the centerline of said levee;
4. North on centerline of said Mohler Road to its intersection with the centerline of an unnamed canal underground a short distance south of the location at which Mohler Road bends to the east toward Ripon;
5. Meander centerline of said unnamed canal northerly to its junction with an unnamed canal approximately one quarter mile south of the intersection of Highland Avenue and Kamps Way in the City of Ripon in San Joaquin County;
6. Meander centerline of said unnamed canal northeasterly to its junction with the centerline of South San Joaquin Main District Canal;
7. Meander centerline of said Main District Canal northeasterly to its intersection with the centerline of Campbell Lateral;
8. Meander centerline of said Campbell Lateral southeasterly to its junction with the centerline of Tulloch Lateral;
9. Meander centerline of said Tulloch Lateral easterly to its intersection with the drainage boundary of Lone Tree Creek, approximately 3500 feet upstream of said lateral's intersection with Valley Home Road in Stanislaus County near Oakdale;
10. Meander said drainage boundary of Lone Tree Creek northeasterly to its intersection with the centerline of Twentysix Mile Road in Stanislaus County near Oakdale, approximately one half mile north of said road's intersection with Tulloch Lateral;
11. North on said Twentysix Mile Road to its intersection with the centerline of Young Lateral;

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12. Easterly on centerline of said Young Lateral to its junction with the centerline of the Cometa Lateral;
13. Southerly on centerline of said Cometa Lateral to its intersection with the drainage boundary of an unnamed watershed north of this location approximately one quarter mile downstream of said lateral's intersection with Frankenheimer Road in Stanislaus County near the Woodward Reservoir;
14. Meander said drainage boundary of unnamed watershed northerly to its junction with the northern drainage boundary of the Cometa Lateral;
15. Meander said drainage boundary of Cometa Lateral northwesterly to its intersection with the centerline of Cometa Lateral approximately 1000 feet upstream of said lateral's intersection with Dodd Road in Stanislaus County near the Woodward Reservoir;
16. Northerly on centerline of said Cometa Lateral to its intersection with the South San Joaquin Water District's Main District Canal;
17. Meander centerline of said Main District Canal northeasterly to its junction with Woodward Reservoir;
18. Meander natural drainage boundary between Woodward Reservoir and Littlejohn's Creek easterly to its intersection with the centerline of Oakdale Irrigation District's North Main Canal, excluding Simmons Creek at the intersection of said North Main Canal and South San Joaquin Water District's Main District Canal;
19. Meander centerline of said North Main Canal easterly to its intersection with Little John's Dam;
20. Meander drainage boundary of Little John's Creek and its tributaries northeasterly to its intersection with the Stanislaus County line;
21. Southeast on said Stanislaus County line to its intersection with the southern drainage boundary of Wildcat Creek;
22. Meander said drainage boundary of Wildcat Creek southwesterly to its junction with the drainage boundary of Cashman Creek;
23. Meander said drainage boundary of Cashman Creek upstream of Cashman Dam southwesterly to its intersection with the centerline of Oakdale South Main Canal;
24. Meander centerline of said Oakdale South Main Canal southwesterly to its intersection with Sierra Railroad near Arnold Hill, approximately 1.25 miles northwest of said railroad's intersection with Fogarty Road in Stanislaus County;
25. Meander drainage boundary east of said Main Canal southeasterly to its intersection with the drainage boundary of Kearney Lateral;
26. Meander said drainage boundary of Kearney Lateral to its intersection with the centerline of Oakdale South Main Canal;
27. Meander centerline of said Oakdale South Main Canal westerly to its junction with the centerline of Claribel Lateral;
28. South on centerline of said Claribel Lateral to its junction with the centerline of Albers Lateral;
29. Meander centerline of said Albers Lateral southwesterly to its junction with the centerline of Stowell Lateral;
30. Meander centerline of said Stowell Lateral southwesterly to its junction with the centerline of Thompson Lateral;
31. Meander centerline of said Thompson Lateral southerly to its junction with the centerline of Modesto Irrigation District's Main Canal;
32. Meander centerline of said Modesto Main Canal northwesterly to its junction with the centerline of Modesto Irrigation District Lateral Number 6;
33. Meander centerline of said Lateral No. 6 westerly to its intersection with the centerline of the south bank levee of the Stanislaus River;
34. Meander said south bank levee westerly to its intersection with the crest of the ridge bordering the Stanislaus River on the peninsula opposite Caswell Memorial State Park;
35. Northwest on said crest to its intersection with a line due east from the intersection of the extension of the centerline of the slip of Campsite number 24 with the centerline of the Stanislaus River;
36. West on said line to its intersection with the centerline of the Stanislaus River and the point of beginning of this description.

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Tuolumne River Subarea

BEGINNING at the intersection of the centerline of the Tuolumne River and the centerline of Shiloh Road in Stanislaus County lying in Section 7, Township 04 South, Range 08 East, Mount Diablo Meridian; thence along the following courses:

1. North on centerline of said Shiloh Road to its intersection with the centerline of Paradise Road in Stanislaus County near Grayson;
2. East on centerline of said Paradise Road to its intersection with the centerline of Hart Road in Stanislaus County near Modesto;
3. North on centerline of said Hart Road to its intersection with the centerline of Modesto Irrigation District Lateral Number 5;
4. Meander centerline of said Lateral No. 5 northeasterly to its intersection with the centerline of Locust Avenue in Stanislaus County, were it extended west to intersect the centerline of said Lateral No. 5;
5. East on centerline of said Locust Avenue to its intersection with the centerline of Franklin Street;
6. North on centerline of said Franklin Street to its intersection with the boundary of the Ninth Street Stormdrain Basin, as defined by the City of Modesto in Modesto;
7. Meander boundary of said Ninth Street Stormdrain Basin to its intersection with the boundary of the McHenry Avenue Stormdrain Basin, as defined by the City of Modesto, in Modesto;
8. Meander boundary of said McHenry Avenue Stormdrain Basin to its intersection with the centerline of Modesto Irrigation District Lateral Number 4;
9. Meander centerline of said Lateral No. 4 northeast to its junction with the centerline of Modesto Irrigation District Lateral Number 3;
10. Meander centerline of said Lateral No. 3 to its junction with the centerline of Modesto Irrigation District Main Canal;
11. Meander centerline of said Main Canal southeasterly to its intersection with the centerline of Dry Creek;
12. Meander centerline of Dry Creek easterly to its junction with the centerline of Claribel Latereal;
13. Meander centerline of said Claribel Lateral northerly to its junction with the centerline of Oakdale South Main Canal;
14. Meander centerline of said Oakdale South Main Canal easterly to its intersection with the centerline of Kearney Lateral;
15. Meander drainage boundary of Kearney Lateral southeasterly to the point of divergence of the Kearny Lateral drainage boundary and the Oakdale South Main Canal;
16. Meander said drainage boundary of Oakdale South Main Canal downstream of its intersection with Sierra Railroad northeasterly to its intersection with the centerline of Oakdale South Main Canal at its intersection with the centerline of Sierra Railroad approximately one and one quarter mile northwest of said railroad's intersection with Fogarty Road in Stanislaus County near Oakdale;
17. Meander said Main Canal northeasterly to its intersection with Cashman Dam;
18. Meander drainage boundary of Cashman Creek upstream of Cashman Dam southeasterly to its intersection with the drainage boundary of Wildcat Creek;
19. Meander said drainage boundary of Wildcat Creek northeasterly to its intersection with the Stanislaus County line;
20. Southeast on said Stanislaus County line to its intersection with the drainage boundary of Vizard Creek;
21. Meander said drainage boundary of Vizard Creek southwesterly to its intersection with the drainage boundary of Goodwin Creek;
22. Meander said drainage boundary of Goodwin Creek southwesterly to its intersection with the drainage boundary of Evans Creek;
23. Meander said drainage boundary of Evans Creek southwesterly to its intersection with the drainage boundary of Peaslee Creek;
24. Meander said drainage boundary of Peaslee Creek southwesterly to its intersection with the drainage boundary of Turlock Lake;
25. Meander said drainage of Turlock Lake southwesterly to its intersection with the drainage boundary of an unnamed interior drainage area west of the Turlock Lake drainage basin;
26. Meander said unnamed drainage boundary southwesterly to its intersection with the drainage boundary of Sand Creek;

Appendix 41 - San Joaquin Area Subarea Descriptions

27. Meander said drainage boundary of Sand Creek northwesterly to its intersection with the drainage boundary of unnamed creeks draining easterly toward Highline Canal and to the Merced River via said canal;
28. Meander said drainage boundary of unnamed creeks to its intersection with the centerline of Turlock Irrigation District Main Canal;
29. Meander centerline of said Turlock Main Canal westerly to its junction with the centerline of Ceres Main Canal;
30. Meander centerline of said Ceres Main Canal westerly to its junction with the centerline of Turlock Irrigation District Lateral Number 1;
31. Meander centerline of said Lateral No. 1 southwesterly to its junction with the centerline of Turlock Irrigation District Lower Lateral Number 2;
32. Meander centerline of said Lateral No. 2 to the point at which said lateral bends from northwest to southwest approximately three quarters of one mile upstream of its intersection with Grayson Road;
33. Meander said drainage boundary of the Tuolumne River to its intersection with the centerline of Shiloh Road in Stanislaus County at the location where Shiloh Road makes a ninety degree turn to the west 1.5 miles south of its intersection with Paradise Road;
34. North on centerline of said Shiloh Road to its intersection with the centerline of the Tuolumne River and the point of beginning of this description.

Appendix 42 – Sacramento-San Joaquin Delta Waterways

This Appendix lists the Sacramento-San Joaquin Delta Waterways (Delta Waterways)(1) to which the site-specific diazinon and chlorpyrifos water quality objectives and implementation and monitoring provisions apply. The following are distinct, readily identifiable waterbodies within the boundaries of the “Legal” Delta that are hydrologically connected by surface water flows (not including pumping) to the Sacramento and/or San Joaquin rivers. Figures 1 and 2 show the locations of the Delta Waterways.

- | | |
|-----------------------------|-----------------------------------|
| 1. Alamo Creek | 48. Grizzly Slough |
| 2. Babel Slough | 49. Haas Slough |
| 3. Barker Slough | 50. Hastings Cut |
| 4. Bear Creek | 51. Hog Slough |
| 5. Bear Slough | 52. Holland Cut |
| 6. Beaver Slough | 53. Honker Cut |
| 7. Big Break | 54. Horseshoe Bend |
| 8. Bishop Cut | 55. Indian Slough |
| 9. Black Slough | 56. Italian Slough |
| 10. Broad Slough | 57. Jackson Slough |
| 11. Brushy Creek | 58. Kellogg Creek |
| 12. Burns Cutoff | 59. Latham Slough |
| 13. Cabin Slough | 60. Liberty Cut |
| 14. Cache Slough | 61. Lindsey Slough |
| 15. Calaveras River | 62. Little Connection Slough |
| 16. Calhoun Cut | 63. Little Franks Tract |
| 17. Clifton Court Forebay | 64. Little Mandeville Cut |
| 18. Columbia Cut | 65. Little Potato Slough |
| 19. Connection Slough | 66. Little Venice Island |
| 20. Cosumnes River | 67. Livermore Yacht Club |
| 21. Crocker Cut | 68. Lookout Slough |
| 22. Dead Dog Slough | 69. Lost Slough |
| 23. Dead Horse Cut | 70. Main Canal |
| 24. Deer Creek | (Duck Slough tributary) |
| (Tributary to Marsh Creek) | 71. Main Canal |
| 25. Delta Cross Channel | (Italian Slough tributary) |
| 26. Disappointment Slough | 72. Marsh Creek |
| 27. Discovery Bay | 73. Mayberry Cut |
| 28. Donlon Island | 74. Mayberry Slough |
| 29. Doughty Cut | 75. Middle River |
| 30. Dry Creek | 76. Mildred Island |
| (Marsh Creek tributary) | 77. Miner Slough |
| 31. Dry Creek | 78. Mokelumne River |
| (Mokelumne River tributary) | 79. Mormon Slough |
| 32. Duck Slough | 80. Morrison Creek |
| 33. Dutch Slough | 81. Mosher Slough |
| 34. Elk Slough | 82. Mountain House Creek |
| 35. Elkhorn Slough | 83. North Canal |
| 36. Emerson Slough | 84. North Fork Mokelumne River |
| 37. Empire Cut | 85. North Victoria Canal |
| 38. Fabian and Bell Canal | 86. Old River |
| 39. False River | 87. Paradise Cut |
| 40. Fisherman's Cut | 88. Piper Slough |
| 41. Fivemile creek | 89. Pixley Slough |
| 42. Fivemile Slough | 90. Potato Slough |
| 43. Fourteenmile Slough | 91. Prospect Slough |
| 44. Franks Tract | 92. Red Bridge Slough |
| 45. French Camp Slough | 93. Rhode Island |
| 46. Georgiana Slough | 94. Rock Slough |
| 47. Grant Line Canal | 95. Sacramento Deep Water Channel |

Appendix 42 – Sacramento-San Joaquin Delta Waterways

96.	Sacramento River	126.	Tomato Slough
97.	Salmon Slough	127.	Trapper Slough
98.	San Joaquin River	128.	Turner Cut
99.	Sand Creek	129.	Ulatis Creek
100.	Sand Mound Slough	130.	Upland Canal (Sycamore Slough Tributary)
101.	Santa Fe Cut	131.	Victoria Canal
102.	Sevenmile Slough	132.	Walker Slough
103.	Shag Slough	133.	Walthall Slough
104.	Sheep Slough	134.	Washington Cut
105.	Sherman Lake	135.	Werner Dredger Cut
106.	Short Slough	136.	West Canal
107.	Smith Canal	137.	Whiskey Slough
108.	Snodgrass Slough	138.	White Slough
109.	South Fork Mokelumne River	139.	Winchester Lake
110.	Steamboat Slough	140.	Woodward Canal
111.	Stockton Deep Water Channel	141.	Wright Cut
112.	Stone Lakes	142.	Yosemite Lake
113.	Sugar Cut	143.	Yolo Bypass (not labeled)(2)
114.	Sutter Slough	144.	Deuel Drain
115.	Sweany Creek	145.	Dredger Cut
116.	Sycamore Slough	146.	Highline Canal
117.	Taylor Slough (Elkhorn Slough tributary)		
118.	Taylor Slough (near Franks Tract)		
119.	Telephone Cut		
120.	The Big Ditch		
121.	The Meadows Slough		
122.	Three River Reach		
123.	Threemile Slough		
124.	Toe Drain		
125.	Tom Paine Slough		

Footnotes:

(1) The Delta Waterways include only those reaches that are located within the "Legal" Delta, as defined in Section 12220 of the California Water Code.

(2) When flooded, the entire Yolo Bypass is a Delta Waterway. When the Yolo Bypass is not flooded, the Toe Drain is the only Delta Waterway within the Yolo Bypass.

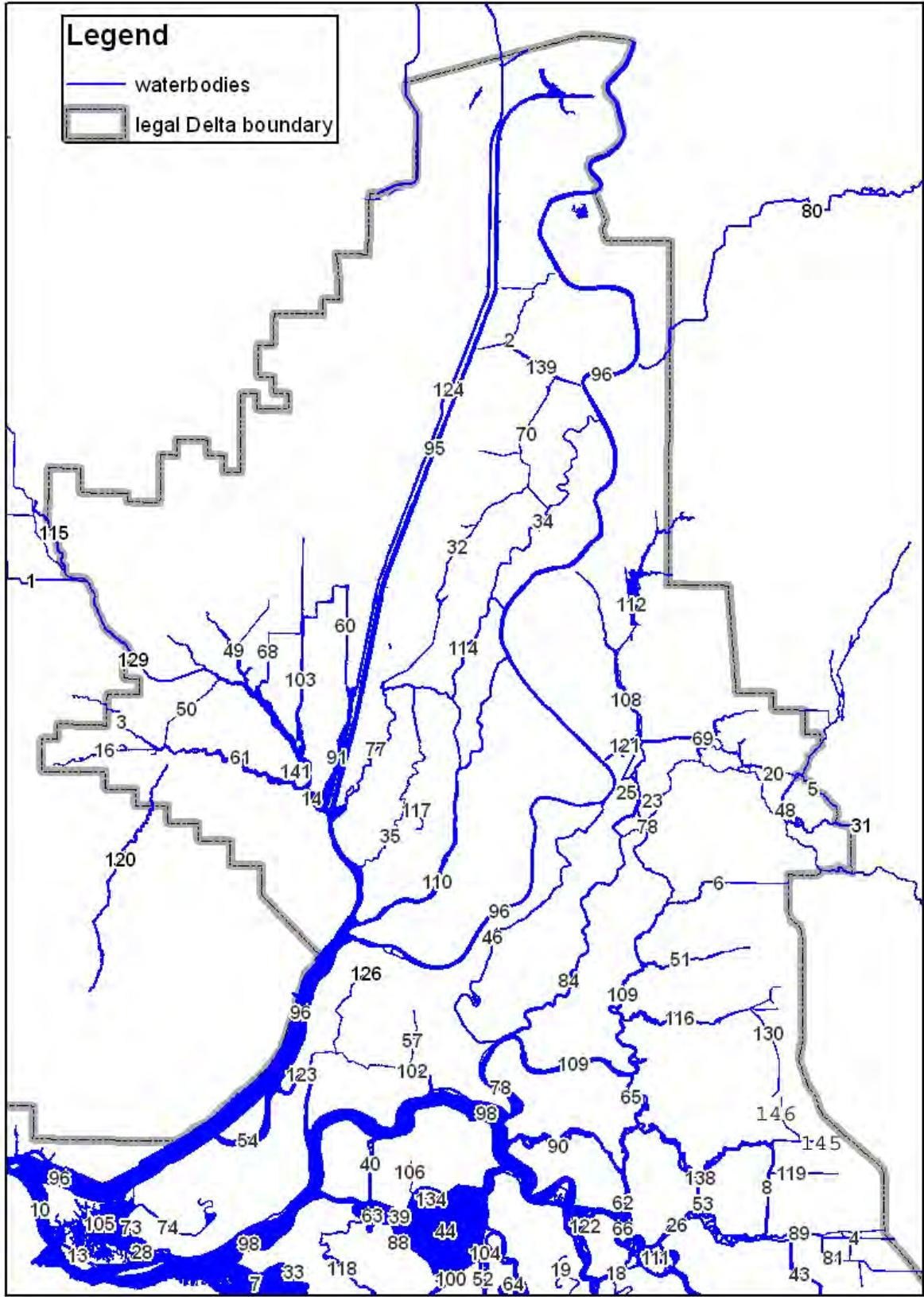


Figure 1. Delta Waterways, Northern Panel

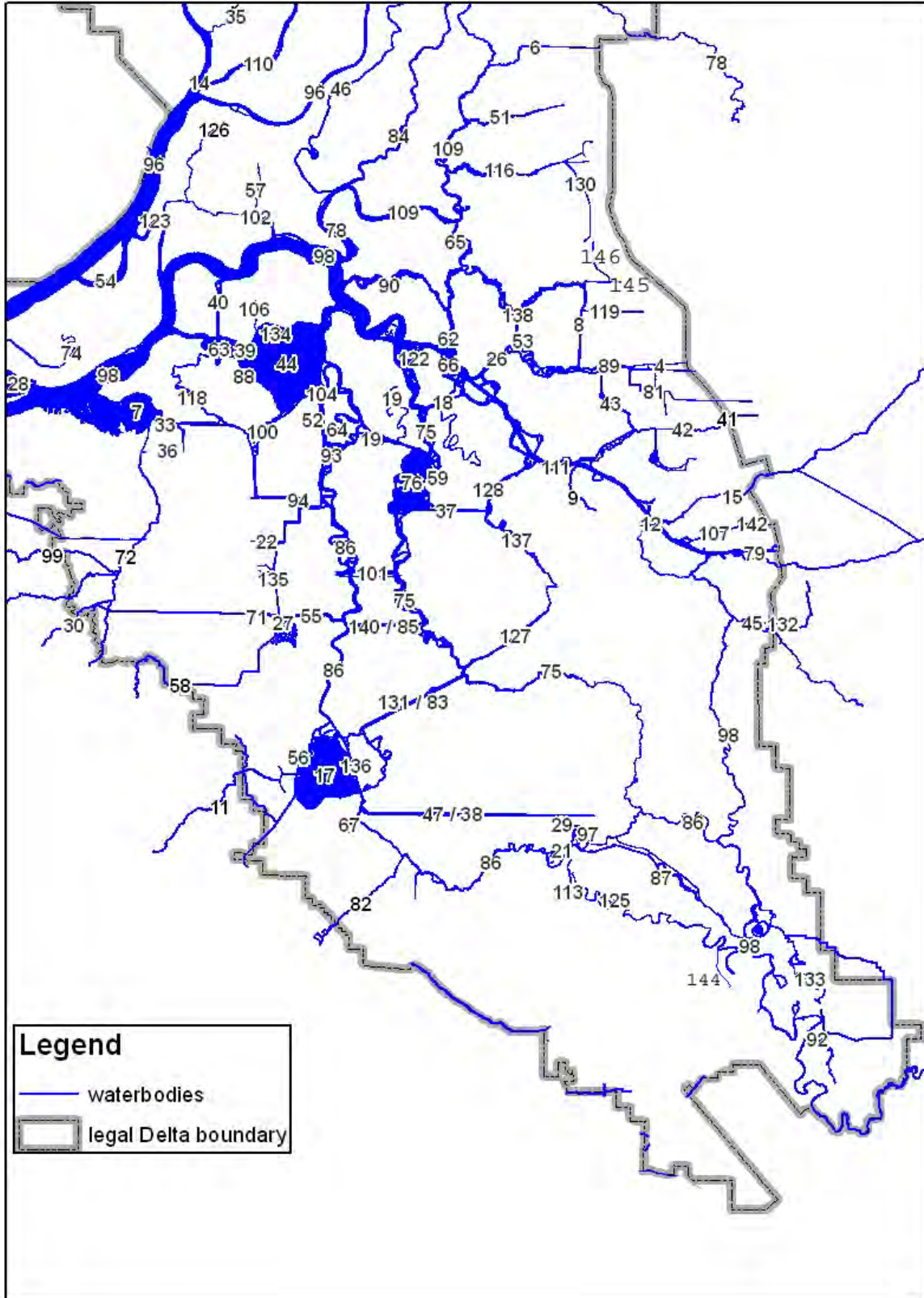


Figure 2. Delta Waterways, Southern Panel

Appendix 43 - Delta and Yolo Bypass Waterways Applicable to the Delta Mercury Control Program

Table A43-1 lists the Sacramento-San Joaquin Delta waterways and the Yolo Bypass waterways within the Delta and north of the legal Delta boundary to which the COMM beneficial use, site-specific methylmercury fish tissue objectives, Delta mercury control implementation program, and monitoring provisions apply. The list contains distinct, readily identifiable water bodies within the boundaries of the “Legal” Delta (as defined in California Water Code section 12220) that are hydrologically connected by surface water flows (not including pumping) to the Sacramento and/or San Joaquin rivers. The list also includes Knights Landing Ridge Cut, Putah Creek, and Tule Canal in the Yolo Bypass north of the legal Delta boundary. Figures A43-1, A43-2, and A43-3 show the locations of these waterways.

The methylmercury allocations set forth in the Delta methylmercury control program are specific to Delta subareas, which are shown on Figure A43-4. Table A43-2 lists the waterways within each of the subareas.

TABLE A43-1: DELTA AND YOLO BYPASS WATERWAYS

Map Label # / Waterway Name	Map Label # / Waterway Name
1. Alamo Creek	44. Franks Tract
2. Babel Slough	45. French Camp Slough
3. Barker Slough	46. Georgiana Slough
4. Bear Creek	47. Grant Line Canal
5. Bear Slough	48. Grizzly Slough
6. Beaver Slough	49. Haas Slough
7. Big Break	50. Hastings Cut
8. Bishop Cut	51. Hog Slough
9. Black Slough	52. Holland Cut
10. Broad Slough	53. Honker Cut
11. Brushy Creek	54. Horseshoe Bend
12. Burns Cutoff	55. Indian Slough
13. Cabin Slough	56. Italian Slough
14. Cache Slough	57. Jackson Slough
15. Calaveras River	58. Kellogg Creek
16. Calhoun Cut	59. Latham Slough
17. Clifton Court Forebay	60. Liberty Cut
18. Columbia Cut	61. Lindsey Slough
19. Connection Slough	62. Little Connection Slough
20. Cosumnes River	63. Little Franks Tract
21. Crocker Cut	64. Little Mandeville Cut
22. Dead Dog Slough	65. Little Potato Slough
23. Dead Horse Cut	66. Little Venice Island
24. Deer Creek (Tributary to Marsh Creek)	67. Livermore Yacht Club
25. Delta Cross Channel	68. Lookout Slough
26. Disappointment Slough	69. Lost Slough
27. Discovery Bay	70. Main Canal (Duck Slough tributary)
28. Donlon Island	71. Main Canal (Italian Slough tributary)
29. Doughty Cut	72. Marsh Creek
30. Dry Creek (Marsh Creek tributary)	73. Mayberry Cut
31. Dry Creek (Mokelumne River tributary)	74. Mayberry Slough
32. Duck Slough	75. Middle River
33. Dutch Slough	76. Mildred Island
34. Elk Slough	77. Miner Slough
35. Elkhorn Slough	78. Mokelumne River
36. Emerson Slough	79. Mormon Slough
37. Empire Cut	80. Morrison Creek
38. Fabian and Bell Canal	81. Mosher Slough
39. False River	82. Mountain House Creek
40. Fisherman's Cut	83. North Canal
41. Fivemile Creek	84. North Fork Mokelumne River
42. Fivemile Slough	85. North Victoria Canal
43. Fourteenmile Slough	86. Old River

TABLE A43-1: DELTA AND YOLO BYPASS WATERWAYS, *Continued*

Map Label # / Waterway Name	Map Label # / Waterway Name
87. Paradise Cut	120. The Big Ditch
88. Piper Slough	121. The Meadows Slough
89. Pixley Slough	122. Three River Reach
90. Potato Slough	123. Threemile Slough
91. Prospect Slough	124. Toe Drain
92. Red Bridge Slough	125. Tom Paine Slough
93. Rhode Island	126. Tomato Slough
94. Rock Slough	127. Trapper Slough
95. Sacramento Deep Water Channel	128. Turner Cut
96. Sacramento River	129. Ulatis Creek
97. Salmon Slough	130. Upland Canal (Sycamore Slough tributary)
98. San Joaquin River	131. Victoria Canal
99. Sand Creek	132. Walker Slough
100. Sand Mound Slough	133. Walthall Slough
101. Santa Fe Cut	134. Washington Cut
102. Sevenmile Slough	135. Werner Dredger Cut
103. Shag Slough	136. West Canal
104. Sheep Slough	137. Whiskey Slough
105. Sherman Lake	138. White Slough
106. Short Slough	139. Winchester Lake
107. Smith Canal	140. Woodward Canal
108. Snodgrass Slough	141. Wright Cut
109. South Fork Mokelumne River	142. Yosemite Lake
110. Steamboat Slough	143. Yolo Bypass
111. Stockton Deep Water Channel	144. Deuel Drain
112. Stone Lakes	145. Dredger Cut
113. Sugar Cut	146. Highline Canal
114. Sutter Slough	147. Cache Creek Settling Basin Outflow
115. Sweany Creek	148. Knights Landing Ridge Cut
116. Sycamore Slough	149. Putah Creek
117. Taylor Slough (Elkhorn Slough tributary)	150. Tule Canal
118. Taylor Slough (near Franks Tract)	
119. Telephone Cut	

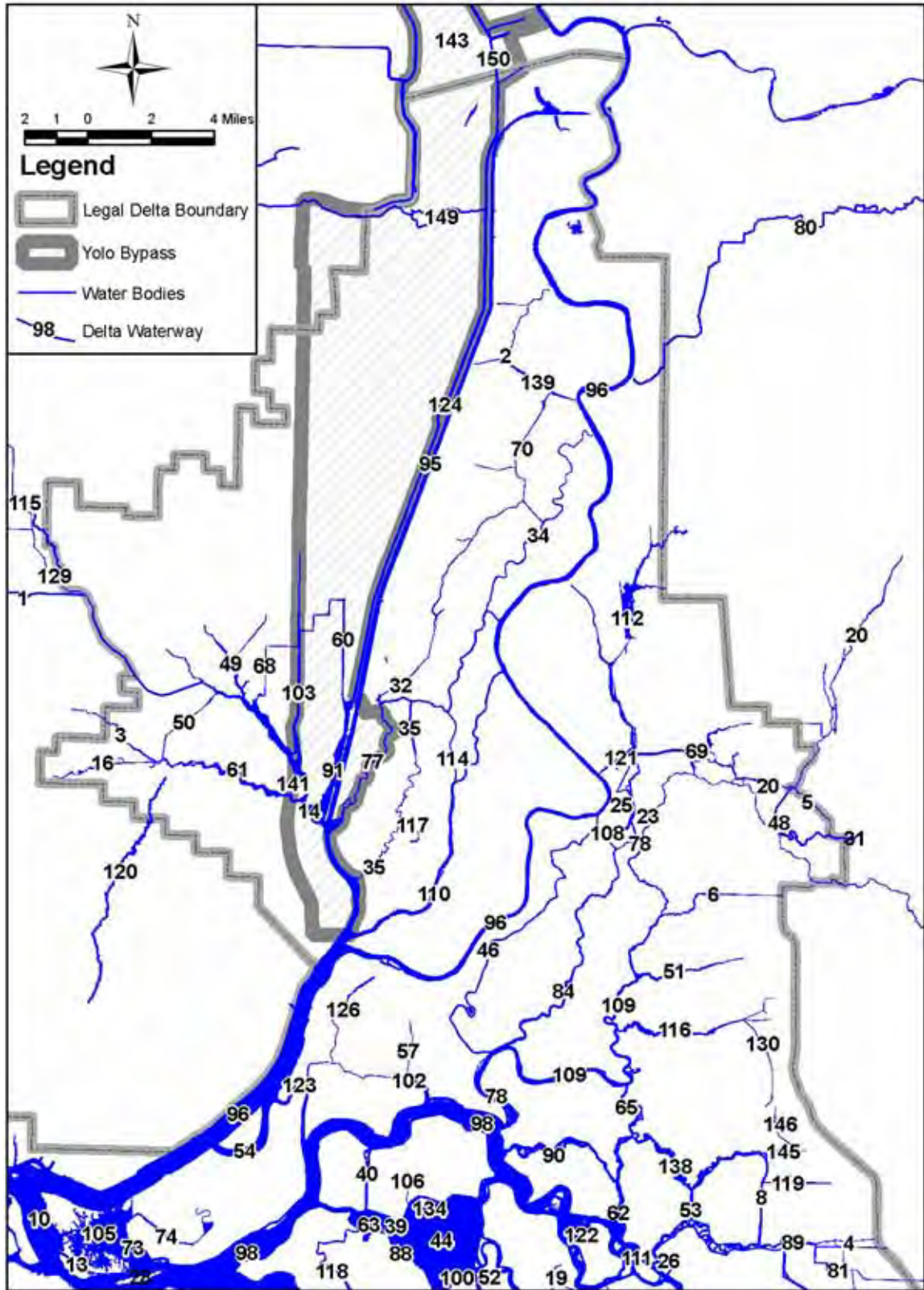


Figure A43-1: Delta Waterways (Northern Panel)

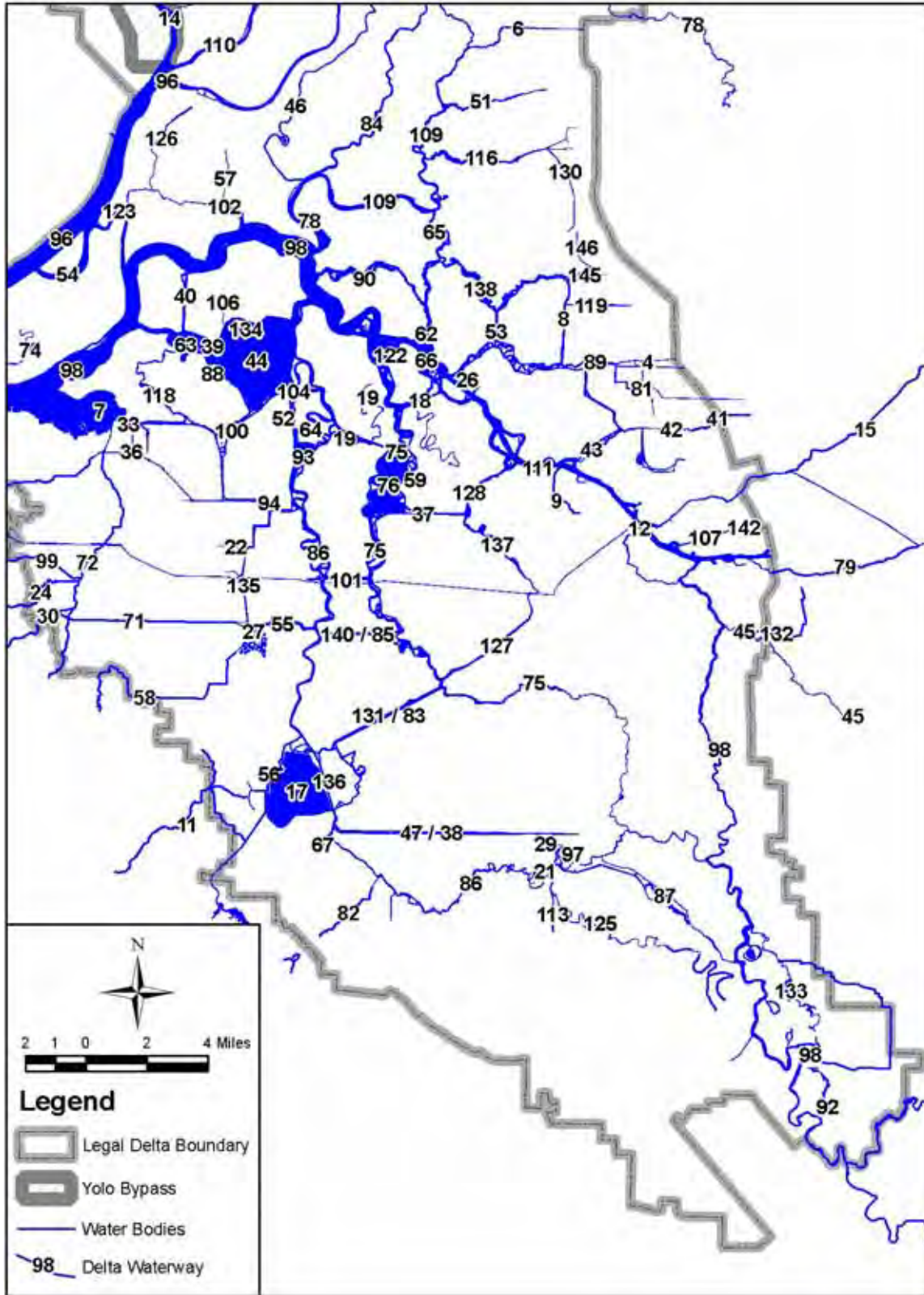


Figure A43-2: Delta Waterways (Southern Panel)

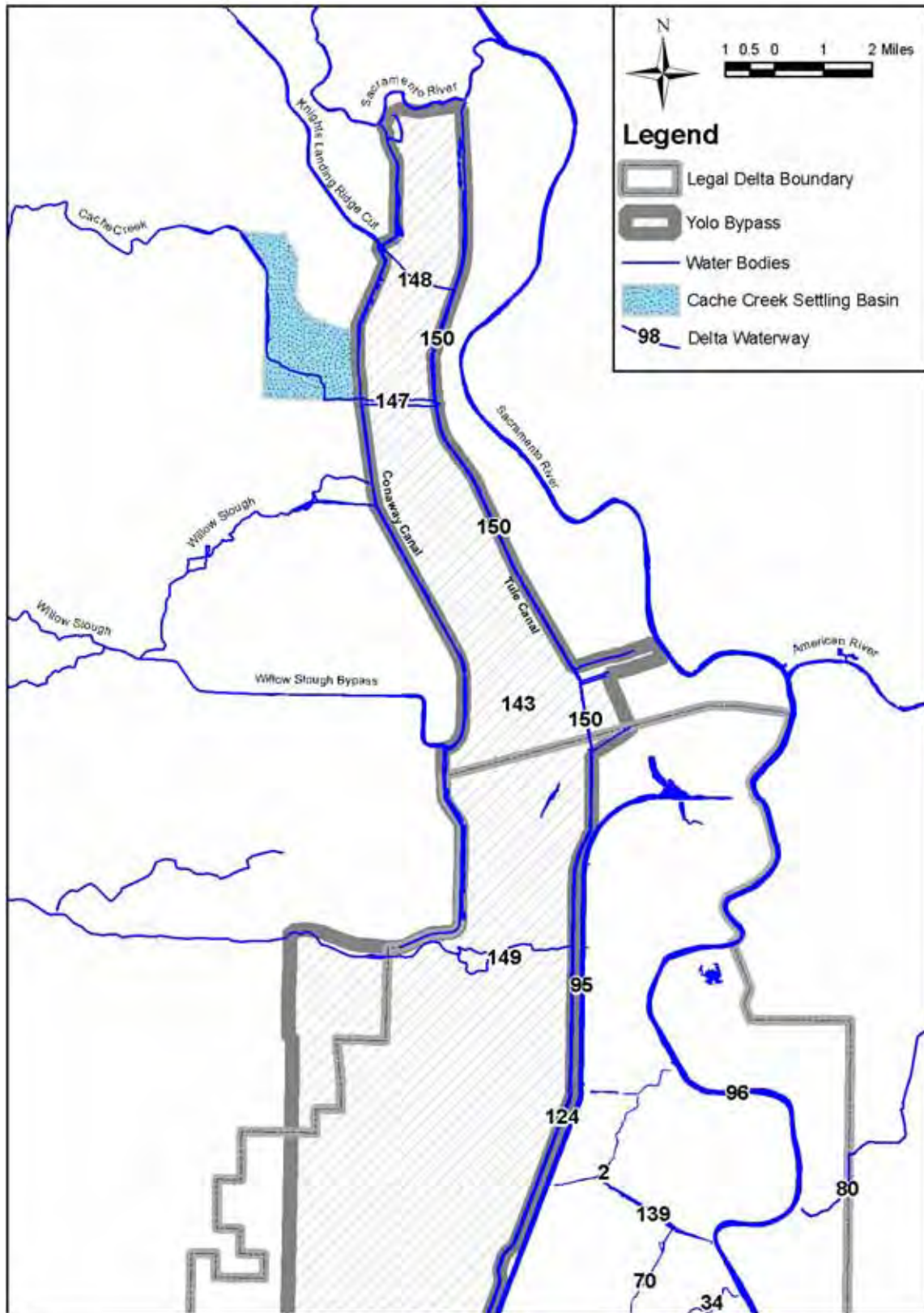


Figure A43-3: Northern Yolo Bypass

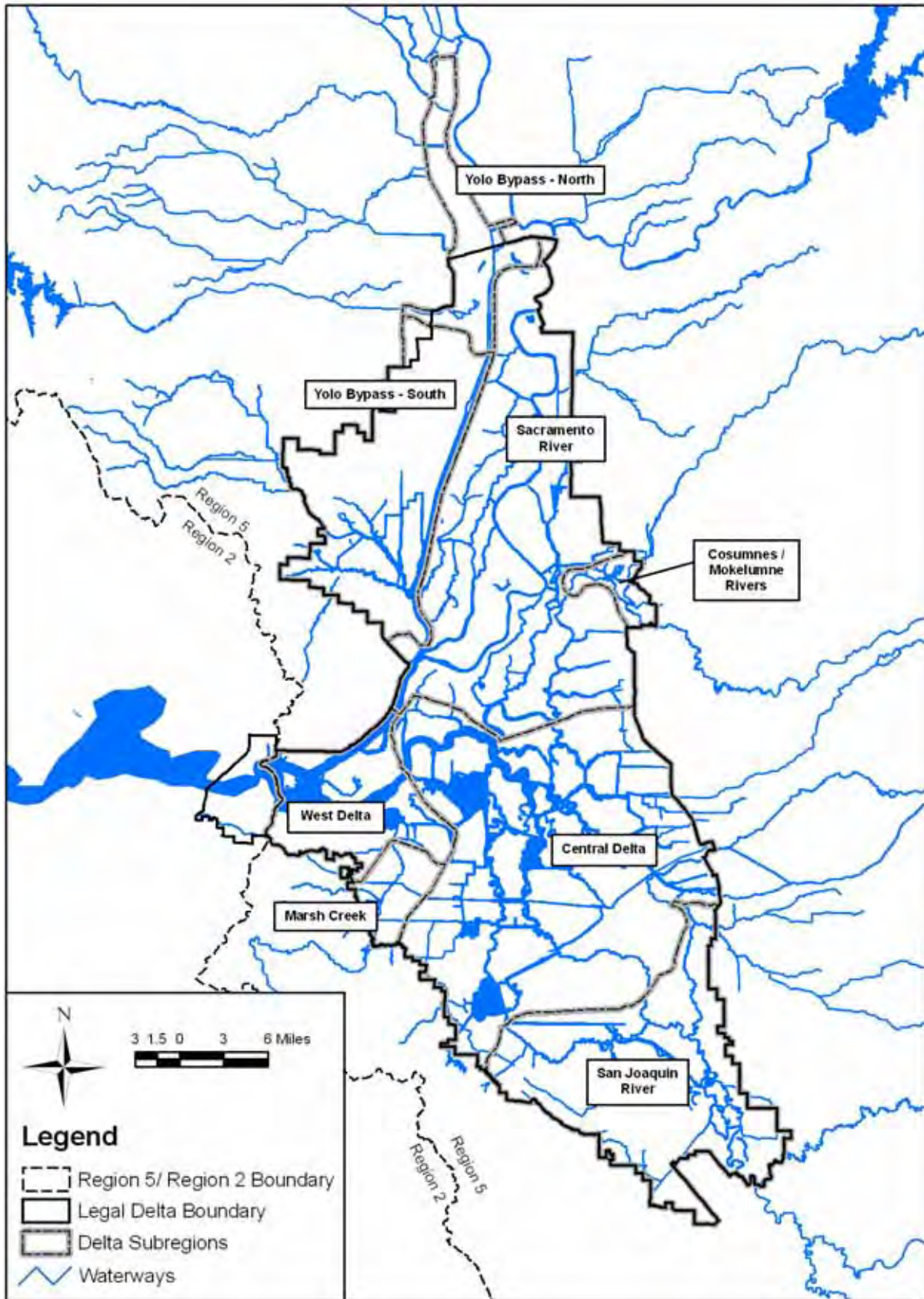


Figure A43-4: Subareas for the Delta Methylmercury Control Program

TABLE A43-2: DELTA AND YOLO BYPASS WATERWAYS BY METHYLMERCURY ALLOCATION SUBAREA

Waterway Name [Map Label #]	Waterway Name [Map Label #]	Waterway Name [Map Label #]
CENTRAL DELTA		
Bear Creek [4]	Indian Slough [55]	San Joaquin River [98]
Bishop Cut [8]	Italian Slough [56]	Sand Mound Slough [100]
Black Slough [9]	Jackson Slough [57]	Santa Fe Cut [101]
Brushy Creek [11]	Kellogg Creek [58]	Sevenmile Slough [102]
Burns Cutoff [12]	Latham Slough [59]	Sheep Slough [104]
Calaveras River [15]	Little Connection Slough [62]	Short Slough [106]
Clifton Court Forebay [17]	Little Franks Tract [63]	Smith Canal [107]
Columbia Cut [18]	Little Mandeville Cut [64]	Stockton Deep Water Channel [111]
Connection Slough [19]	Little Potato Slough [65]	Taylor Slough [nr Franks Tract] [118]
Dead Dog Slough [22]	Little Venice Island [66]	Telephone Cut [119]
Disappointment Slough [26]	Livermore Yacht Club [67]	Three River Reach [122]
Discovery Bay [27]	Main Canal [Indian Slough trib.] [71]	Threemile Slough [123]
Dredger Cut [145]	Middle River [75]	Tomato Slough [126]
Empire Cut [37]	Mildred Island [76]	Trapper Slough [127]
Fabian and Bell Canal [39]	Mokelumne River [78]	Turner Cut [128]
False River [39]	Mormon Slough [79]	Upland Canal [Sycamore Slough tributary] [130]
Fisherman's Cut [40]	Mosher Slough [81]	Victoria Canal [131]
Fivemile Creek [41]	North Canal [83]	Washington Cut [134]
Fivemile Slough [42]	North Victoria Canal [85]	Werner Dredger Cut [135]
Fourteenmile Slough [43]	Old River [86]	West Canal [136]
Franks Tract [44]	Piper Slough [88]	Whiskey Slough [137]
Grant Line Canal [47]	Pixley Slough [89]	White Slough [138]
Highline Canal [146]	Potato Slough [90]	Woodward Canal [140]
Holland Cut [52]	Rhode Island [93]	Yosemite Lake [142]
Honker Cut [53]	Rock Slough [94]	
MOKELUMNE/COSUMNES RIVERS		
Bear Slough [5]	Dry Creek [Mokelumne R. trib.] [31]	Lost Slough [69]
Cosumnes River [20]	Grizzly Slough [48]	Mokelumne River [78]
MARSH CREEK		
Deer Creek [24]	Main Canal [Indian Slough trib.] [71]	Rock Slough [94]
Dry Creek [Marsh Creek trib.] [30]	Marsh Creek [72]	Sand Creek [99]
Kellogg Creek [58]		
SACRAMENTO RIVER		
Babel Slough [2]	Little Potato Slough [65]	Stone Lakes [112]
Beaver Slough [6]	Lost Slough [69]	Sutter Slough [114]
Cache Slough [14]	Main Canal [Duck Slough trib.] [70]	Sycamore Slough [116]
Dead Horse Cut [23]	Miner Slough [77]	Taylor Slough [Elkhorn Slough tributary] [117]
Delta Cross Channel [25]	Mokelumne River [78]	The Meadows Slough [121]
Duck Slough [32]	Morrison Creek [80]	Tomato Slough [126]
Elk Slough [34]	North Mokelumne River [84]	Upland Canal [Sycamore Slough tributary] [130]
Elkhorn Slough [35]	Sacramento River [96]	Winchester Lake [139]
Georgiana Slough [46]	Snodgrass Slough [108]	
Hog Slough [51]	South Mokelumne River [109]	
Jackson Slough [57]	Steamboat Slough [110]	

**TABLE A43-2: DELTA AND YOLO BYPASS WATERWAYS BY METHYLMERCURY ALLOCATION
SUBAREA, *Continued***

Waterway Name [Map Label #]	Waterway Name [Map Label #]	Waterway Name [Map Label #]
SAN JOAQUIN RIVER		
Crocker Cut [21]	Middle River [75]	San Joaquin River [98]
Deuel Drain [144]	Mountain House Creek [82]	Sugar Cut [113]
Doughty Cut [29]	Old River [86]	Tom Paine Slough [125]
Fabian and Bell Canal [38]	Paradise Cut [87]	Walker Slough [132]
French Camp Slough [45]	Red Bridge Slough [92]	Walthall Slough [133]
Grant Line Canal [47]	Salmon Slough [97]	
WEST DELTA		
Big Break [7]	Horseshoe Bend [54]	San Joaquin River [98]
Broad Slough [10]	Marsh Creek [72]	Sand Mound Slough [100]
Cabin Slough [13]	Mayberry Cut [73]	Sherman Lake [105]
Donlon Island [28]	Mayberry Slough [74]	Taylor Slough [near Franks Tract] [118]
Dutch Slough [33]	Rock Slough [94]	Threemile Slough [123]
Emerson Slough [36]	Sacramento River [96]	
False River [39]		
YOLO BYPASS-NORTH ^(a)		
Cache Creek Settling Basin Outflow [147]	Toe Drain [124]/Tule Canal [150] Putah Creek [149]	Sacramento Deep Water Ship Channel [95]
Knights Landing Ridge Cut [148]		
YOLO BYPASS-SOUTH ^(a)		
Alamo Creek [1]	Liberty Cut [60]	Sweany Creek [115]
Babel Slough [2]	Lindsey Slough [61]	Sycamore Slough [116]
Barker Slough [3]	Lookout Slough [68]	The Big Ditch [120]
Cache Slough [14]	Miner Slough [77]	Toe Drain [124]
Calhoun Cut [16]	Prospect Slough [91]	Ulatis Creek [129]
Duck Slough [32]	Sacramento Deep Water Ship Channel [95]	Wright Cut [141]
Haas Slough [49]		
Hastings Cut [50]	Shag Slough [103]	

(a) Both the "Yolo Bypass-North" and "Yolo Bypass-South" subareas contain portions of the Yolo Bypass flood conveyance channel shown in Figure IV-4. When flooded, the entire Yolo Bypass is a Delta waterway. When the Yolo Bypass is not flooded, the Toe Drain [127] (referred to as Tule Canal [C] for its northern reach), Cache Creek Settling Basin Outflow [A], and Knights Landing Ridge Cut [B] are the only waterways within the Yolo Bypass hydrologically connected to the Sacramento River.

Appendix 44
Water Bodies That Meet One or More of the
Sources of Drinking Water Policy (Resolution 88-63) Exceptions

County	Water Body Name	Description	Approximate GIS Coordinates (WGS84 Datum)	
			Starting Location	Ending Location
Butte	Cherokee Canal	Cherokee Canal runs southwest from the Richvale area (near Nelson Shippee Road) to Butte Creek, west of the City of Live Oak	(39.537741, -121.707079)	(39.285685, -121.921656)
Butte	Lateral K	Lateral K is part of Reclamation District 833 and starts near 8 th Street in the City of Biggs and travels southwest past the City of Bigg's Wastewater Treatment Plant to the Main Drainage Canal	(39.421894, -121.71297)	(39.406837, -121.725361)
Butte	Main Drainage Canal	The Main Drainage Canal (also known as the Main Drain C) is part of Reclamation District 833 and starts on the south end of the City of Biggs near Trent Street and runs southwest to the Cherokee Canal	(39.41041, -121.704258)	39.327924, -121.882067
Colusa	New Ditch (2011)	New Ditch (2011) starts near the south end of the Colusa Wastewater Treatment Plant and runs south, parallel to the unnamed tributary, until the two water bodies join near the effluent outfall and weir.	(39.180224, -122.031358)	(39.174267, -122.031274)
Colusa	Powell Slough	Powell Slough begins just north of Highway 20, downstream of Hopkins Slough, and runs south until its confluence with the Colusa Basin Drain.	(39.211133, -122.062955)	(39.161267, -122.038445)
Colusa	Sulphur Creek	Lower two miles from Schoolhouse Canyon to its confluence with Little Bear Creek.	39.035631, -122.437619	39.040144, -122.408168
Colusa	unnamed tributary (to Powell Slough)	unnamed tributary to Powell Slough starts near Will S. Green Avenue and runs west and southwest to Powell Slough	(39.188028, -122.02328)	(39.166857, -122.034722)
Glenn	Ag Drain C	Glenn-Colusa Irrigation District's Ag Drain C (segments also known as North Fork Logan Creek and Logan Creek) runs southeast from Highway 5 near Highway 99W through the Sacramento Wildlife Refuge to the Colusa Basin Drain	(39.498519, -122.199216)	(39.356401, -122.082675)
Sutter	East Interceptor Canal	The East Interceptor Canal starts at Pease Road and runs west until it meets the Wadsworth Canal.	(39.170745, -121.670588)	(39.171003, -121.727014)

Appendix 44
 Water Bodies That Meet One or More of the
 Sources of Drinking Water Policy (Resolution 88-63) Exceptions

County	Water Body Name	Description	Approximate GIS Coordinates (WGS84 Datum)	
			Starting Location	Ending Location
Sutter	Lateral 1	Lateral 1 is part of Reclamation District 777 and starts near the City of Live Oak's Wastewater Treatment Plant and runs south and west to the Western Intercepting Canal.	(39.257501, -121.678718)	(39.201248, -121.696329)
Sutter	Lateral 2	Lateral 2 is part of Reclamation District 777. It starts on the south end of the City of Live Oak near Treatment Plant Access Road and runs south and then west past the City of Live Oak's Treatment Plant outfall until it meets Lateral 1.	(39.264739, -121.669314)	(39.257501, -121.678718)
Sutter	Western Intercepting Canal (<i>not to be confused with West Interceptor Canal</i>)	Western Interceptor Canal is under shared management between Reclamation District 777 and Reclamation District 2056. It starts south of Sanders Road and runs south until it meets the East Interceptor Canal.	(39.201248, -121.696329)	(39.17092, -121.695374)
Sutter	Wadsworth Canal	The Wadsworth Canal starts just north of Butte House Road and runs southwest until it meets the Sutter Bypass	(39.171003, -121.727014)	(39.113605, -121.768985)