

STATE OF CALIFORNIA  
THE RESOURCES AGENCY  
STATE WATER RESOURCES CONTROL BOARD

INTERIM  
WATER QUALITY CONTROL PLAN  
for the  
CENTRAL VALLEY REGION

SACRAMENTO RIVER BASIN  
and  
SACRAMENTO-SAN JOAQUIN DELTA BASIN  
(Basin 5-A and 5-B)

JUNE 1971

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

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## FOREWORD

This report contains the Interim Water Quality Control Plan for the Sacramento River and Sacramento-San Joaquin Delta Basins to satisfy federal and state requirements for construction grant programs. The plan also complies with the Porter-Cologne Water Quality Control Act requirements for water quality control plans.

The Interim Plan will serve as a guide for water quality management and for waste treatment plant construction in the next two years, until completion of comprehensive basin and regional plans which are now under preparation. This plan has been adopted by the Regional Water Quality Control Board, Central Valley Region, and approved by the State Water Resources Control Board. It supersedes all previous water quality control plans adopted by this Regional Board.



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## CHAPTER I

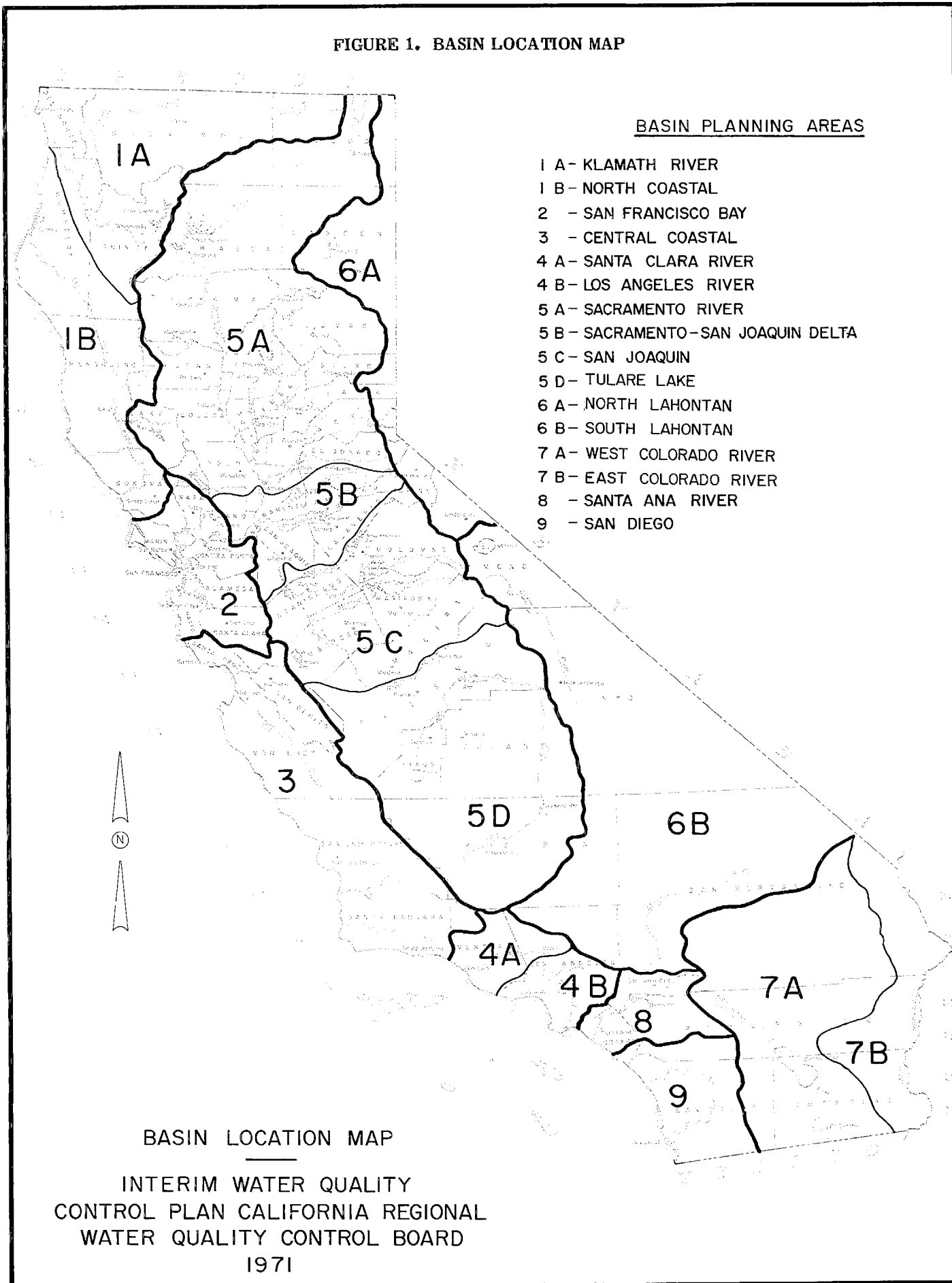
### INTRODUCTION

This Interim Water Quality Control Plan has been prepared to satisfy federal and state requirements for construction grant programs and the Porter-Cologne Act requirements for water quality control plans. Under present federal-state construction grant programs, a community may receive up to 55 percent of the capital cost of a wastewater treatment project from the Federal Environmental Protection Agency (E.P.A.) and an additional 25 percent from the State Water Resources Control Board, leaving as little as 20 percent of the cost to be met by local funding. Under such a program federal and state officials must be assured that the investment will purchase the greatest protection of our waters from the effects of wastes and make maximum use of the wastewater as a resource.

The E.P.A. has required each state to prepare and approve water quality control plans for drainage basins as a condition for future receipt of construction grants by communities. It has required a fully developed plan for each basin by July 1, 1973, but has permitted adoption of interim basin plans by July 1, 1971 to provide for construction during the time needed to adequately prepare the plans. This document is the interim plan for the Sacramento River Basin and Sacramento-San Joaquin Delta Basin as shown in Figure 1.

As the term "interim" implies, this document and its supporting information are the initial step toward a more comprehensive "Fully Developed Water Quality Control Plan". It will guide our water quality management activities by establishing priorities and time schedules for actions required to meet water quality and environmental objectives during the next two years.

FIGURE 1. BASIN LOCATION MAP





## CHAPTER II

### SCOPE

This interim water quality control plan was prepared by the staff of the California Regional Water Quality Control Board, Central Valley Region, with statewide guidance from the State Water Resources Control Board staff. Technical assistance from the State Departments of Fish and Game, Public Health, and Water Resources is acknowledged.

Limitations of time did not allow special detailed planning studies to be performed for this report, but fortunately technical data was available in a few areas as a result of past and ongoing State and local planning efforts. Using this and other data, interim plans have been derived for provisional use until completion of comprehensive basin plans in July 1973.

The overall objective of the interim water quality control plan for the Sacramento River Basin and San Joaquin Delta Basin is to set forth a definitive program of actions designed to preserve and enhance water quality and protect beneficial water uses in a manner which will result in maximum social and economic benefits to the people of the State.

The beneficial uses to be protected for the various streams and water bodies of the basins are listed in Chapter IV. The overall policy used as a guide in preparing water quality objectives and sewerage plans is the subject of Chapter V.

The water quality objectives required to protect the present and future beneficial uses of the streams and water bodies of the basins are contained in Chapter VI.

The actual sewerage plans formulated to meet both local and regional needs for water quality improvement are presented in Chapter VII. These plans are not intended to be the final word on future sewerage planning but will serve to allow planning and construction to continue under the guidance of a basin-wide plan. Thus, a continuing flow of federal and state assistance to local agencies is assured.

As part of the program to monitor water quality conditions and to enforce waste discharge prohibitions, the Regional Board has embarked upon a surveillance program which is described in this report.

An important portion of the plan will be the yearly project list of needed sewerage projects for each of the succeeding five fiscal years. In the future, prior to January 31 of each year, the State Water Resources Control Board, in conjunction with the Regional Boards, will update the yearly list and extend it for the succeeding five-year period.

Project lists showing those projects which will be considered for certification by the State Water Resources Control Board to Environmental Protection Agency as eligible for federal grants are attached as Appendix A.

Appendix B is a summary of comments received during hearings held on this report.



## CHAPTER III

### BASIN DESCRIPTIONS

The Sacramento and Sacramento-San Joaquin Delta Basins are among the more important agricultural areas of the world. They also have extensive mineral and recreational resources. The Basins are ringed by the crests of the Sierra Nevada and Cascades in the east, and the Coast Ranges and Klamath Mountains in the west, with San Francisco Bay providing the only outlet to the ocean. The Basins extend some 250 miles from the California-Oregon Border southward to the Stanislaus River with an average width of about 120 miles. They occupy about one-fourth of the total area of the State and contain about 25 percent of the state's irrigable land.

The valley floor portion extends about 200 miles in a north-south direction with an average width of about 40 miles. Most of the valley floor consists of a flat plain lying below 400 feet elevation and sloping toward San Francisco Bay. A wide range of topography is found throughout the basins -- from the higher rugged peaks of the Sierra Nevada to the low alluvial plains and fans of the valley floor. The climate ranges from the warm two-season climate of the valley to the cold four-season climate of the rugged mountains.

The climate of the valley floor is characterized by hot summers and mild winters. Summers are relatively cloudless, hot and dry. December and January are characterized by fog, mostly nocturnal, which prevails when moist air is trapped in the Valley by a high pressure system. In extreme cases, this fog may last continuously for two or three weeks. Severe freezes seldom occur, and occasionally there are years with no frost in warm areas of the valley floor.

#### **Sacramento River Basin**

The Sacramento River Basin includes the entire Sacramento River drainage upstream from the City of Sacramento. Also, it includes the closed basin of Goose Lake and the drainage basins of Cache and Putah Creeks.

The basin encompasses 26,500 square miles, including only that portion of Goose Lake basin within California. The principal streams are the Sacramento River and its larger tributaries -- Pit River; Feather River and its tributaries, Yuba and Bear Rivers; and American River with headwaters in the Sierra Nevada and Cascades; and Cottonwood, Stony, Cache and Putah Creeks which drain the Coast Ranges.

#### **Sacramento-San Joaquin Delta Basin**

The Sacramento-San Joaquin Delta Basin Planning Area extends from the headwaters of the Mokelumne River westward to the confluence of the Sacramento and San Joaquin Rivers, a distance of about 120 miles. In a north-south direction, it extends from Sacramento to Tracy, about 60 miles. In all, the area encompasses 4,950 square miles, with about 90 square miles of water area.

The principal streams in the Basin are the lower reaches of the Sacramento and San Joaquin Rivers and their many interconnected distributary channels in the Delta. Other important streams are the Calaveras, Mokelumne, and Cosumnes Rivers, which drain a significant portion of the western slopes of the Sierra Nevada. The streams in the western part of the basin are of minor importance. The largest of these -- Corral Hollow, Marsh, and Ulatis Creeks -- all have their headwaters in the foothills of the Coast Range.

## PRESENT WATER QUALITY CONDITIONS

The Sierra Nevada Mountains are the major source of surface water. These waters are of excellent quality above their impoundments. The Sacramento River is degraded by agricultural return flows before it reaches the City of Sacramento, where it is still considered of good quality. As the Sacramento River reaches the Delta, it is influenced by tidal action and salinity intrusion.

The many lakes and reservoirs within the basin are of excellent quality, with the exception of Clear Lake and Goose Lake. During recent years, Goose Lake has been a terminal flow point. Ground water in the Valley is plentiful and of good quality in most areas. Pumps in the Stockton-Tracy Area, however, are producing waters with high total dissolved solids which have presented problems for municipalities using it for water supplies.

### Areas of Special Concern

Within the Sacramento River Basin (5A) and the Sacramento-San Joaquin Delta Basin (5B), there are water quality management problems which are not resolved in this Interim Plan. These will be treated in the Regional Water Quality Control Plans and the Comprehensive Basin Water Quality Control Plans during the period 1 July 1971 to 1 July 1973. Regional Water Quality Control Plans will be adopted during that two year period. These plans will consider areas with special problems caused by geographical location of population, unusual water quality conditions, specific land use that places a particularly heavy waste load on a given area, industrial activities that produce large quantities of similar waste in a given area and such others as are recognized during the interim period.

The following topics are of particular concern at this time with regard to water quality:

1. Recreational subdivisions are increasing rapidly in both basins. The Regional Board's present mountain and foothill guidelines are directed to this problem. Although these guidelines have been helpful in rectifying many problems it is apparent that additional detailed guidelines will be needed to achieve more effective control. A regional plan for the portions of the two basins above one thousand foot elevation will be needed to protect high quality waters from degradation due to subdivision development.
2. Individual home waste treatment and disposal systems are becoming an increasing threat to water quality and public health. Septic tanks have been used for many years to dispose of waste from single family homes or other small sources of domestic sewage. Individual treatment units with mechanical treatment components are also being developed. Specific criteria should be established to provide guidance for the installation of these individual treatment and disposal units. Some items for consideration are listed below:

- Lot size
- Maximum slope of lot
- Depth of soil to ground water
- Geologic structures and rock material underlying the soil mantle
- Population density in the general area
- Beneficial water use in the watershed
- Amount and type of waste
- Efficiency and reliability of the treatment component
- Operation, inspection and maintenance of privately owned systems.

3. The wine industry has a peculiar type of waste that is not easily treated in municipal waste treatment plants. The winery waste problem should be examined and guidelines established that would prevent the existence of adverse conditions at the winery or the treatment plant site.
4. Discrete industrial waste dischargers are located throughout the two basins. The industrial community should take steps to coordinate activities to minimize waste treatment costs and

increase the amount of available water in a given area through wastewater reclamation, in plant conservation and process modification. Savings of water through such management practices could increase the uses of the available resources. During the interim period studies for achieving the above will be encouraged by the Regional Board.

The following are industries which may benefit from such studies:

- Mining and quarrying
- Gravel plant operations
- Petroleum
- Sawmill operations
- Chemical manufacturing

5. Animal wastes have become an increasing problem for water quality control. Concentration of livestock to improve production efficiencies has changed the pattern of these waste discharges from widely scattered droppings to major discrete discharges. There is an urgent need to catalog these wastes and devise adequate treatment and disposal methods which will protect both surface and ground water in these basins. A study of this type should be made in the near future.

Processing wastes resulting from harvest, culling and canning of agricultural crops in the valley are of such a magnitude as to affect the water quality of the basins. Some of these wastes are concentrated into discrete discharges that are regulated by waste discharge requirements. Others are spread over large areas of land and burned or returned to the soil. A study is needed to determine the magnitude of this waste and suitable methods of disposal or recycling.

The agricultural industry should be closely involved with the studies above. This industry uses the majority of land in the basin's valleys. This industry requires more than 90 percent of all water used in the basin and produces a major portion of the basin's total waste load. Present farming practices and waste treatment methods may not allow for unlimited production increases.

6. A significant waste load is contributed to the Sacramento-San Joaquin Delta Basins via the San Joaquin River which conveys upstream agricultural, industrial, and municipal waste loads into the basin. Several problems are created by this inflow of wastes:
  - A. Agricultural waste waters returned to the San Joaquin River from areas upstream from the Delta Basin cause adverse salt conditions within the basin proper.
  - B. Agricultural, industrial, and municipal waste waters discharged to the San Joaquin River cause nutrient enrichment and eutrophic conditions in some areas of the Delta.
  - C. Pesticides and heavy metals are being detected in inimical concentrations in the Delta.
  - D. Wastes discharged to the San Joaquin River during the autumn months hinder the upstream migration of anadromous fish by causing depleted dissolved oxygen levels in the river. This problem is aggravated by flow reversals in the river.
7. The beneficial uses of waters in the Delta are being impaired by salinity incursion, particularly during summer months in dry years, when flows in the San Joaquin and Sacramento Rivers are low.
8. A significant agricultural waste load is generated within the Sacramento-San Joaquin Delta Basin. Approximately 740,000 acres of land are irrigated. Several thousand additional acres may be developed for agriculture or recreation in the near future. These additional waste loads, without proper management, could compound salinity and nutrient problems within the Delta. Drainage of areas of high ground water adjacent to the San Joaquin River will add to the problem.
9. Water use for urban purposes is projected to increase over two-fold by the year 2000. Although the per capita use is projected to increase, increased population will account for most of the additional water use. Population increases along the Cosumnes River are already apparent. Provision must be made to control waste loads generated from this source.

10. Shallow ground water occurs at or near the land surface in many locations in the Delta and adjacent to the San Joaquin River. In critical areas large shallow wells are used to extract shallow ground water for discharge into irrigation canals, thus preventing flooding of crop root zones.
11. Logging has been practiced extensively in the forested mountain and foothill areas of the Sacramento River Basin and to lesser extent in the higher elevations of the Sacramento-San Joaquin-Delta Basin. These operations can, and in many locations do, have adverse effects on water quality. Increased turbidity and sediment loads are often caused by erosion of soil from logged-over areas and logging roads. By the removal of protective shade cover adjacent to streams, water temperatures can be raised to levels which adversely affect fish and aquatic life. Dissolved organic and inorganic materials and nutrients are added to streams from the decaying organic matter left by logging operations.

It is recognized that the logging industry has made significant progress in recent years toward developing methods of operation which greatly reduce water quality problems. With increasing public use of mountain and foothill areas for recreation and a need to offer complete protection to the aquatic resources of the region, additional control measures should be initiated. It is recommended that a state wide policy be developed during the interim period in cooperation with the industry concerning logging practices as related to water quality management, and containing procedures for the establishment of waste discharge requirements on all significant logging operations.

12. Waste water discharges from both active and abandoned mines are a source of pollution that has not been adequately controlled within the two basins. The most serious type of mine discharge is one which is toxic to fish and aquatic life. A lesser problem is one of nuisance due to turbid or cloudy waste or iron deposits.
13. Dredging operations by the Corps of Engineers and others on the Sacramento River within the Sacramento-San Joaquin Delta Basin may result in turbidity levels that adversely affect fish propagation and enhancement, recreation, and esthetics. The Board will adopt waste discharge requirements for all major dredging and levee modification projects that could affect water quality.
14. A deterioration of water quality in Clear Lake in Lake County has occurred due to tremendous nutrient loadings from domestic and agricultural waste discharges and summer warming of this shallow lake.
15. Irrigation return flows and natural runoff in the order of 900,000 acre-feet annually are discharged to the Sacramento River in a twenty mile reach upstream from the Feather River confluence. These discharges result in significant increases in total dissolved solids concentrations in the Sacramento River.

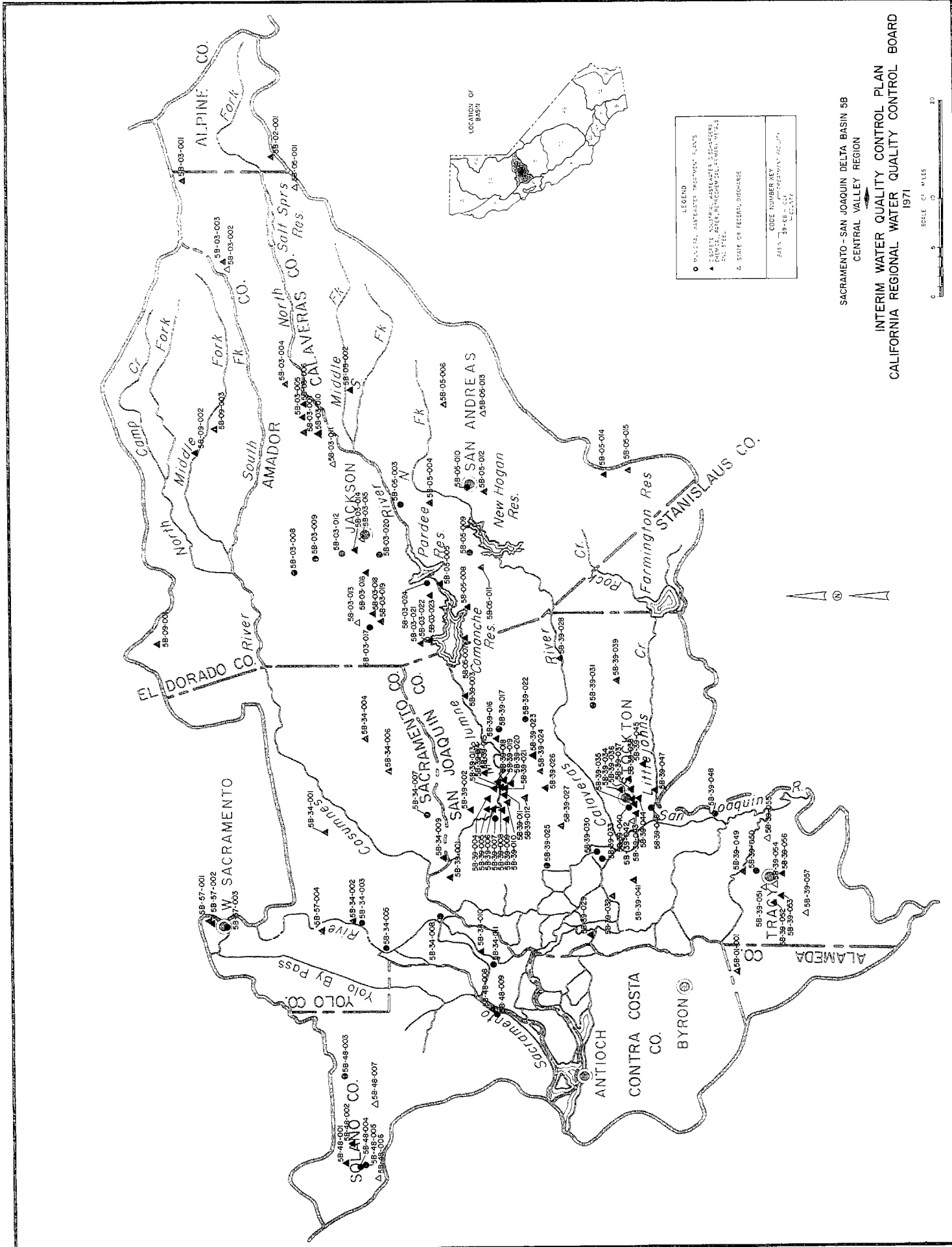
#### **EXISTING WASTE DISCHARGERS**

The following maps, Figures Two and Three, show the location of both municipal and industrial waste dischargers for the two basins. The location numbers on these maps are keyed to the list or index of waste dischargers which follows the maps.









LEGEND	
○	WATER QUALITY IMPROVEMENT PLANS
▲	EXISTING WATER QUALITY STANDARDS
□	CITY, COUNTY, AGENCY JURISDICTION
◇	STATE OR FEDERAL DISCHARGE
CODE NUMBER KEY	
58-03-001	STANISLAUS COUNTY
58-05-003	STANISLAUS COUNTY
58-34-001	SACRAMENTO COUNTY
58-39-001	SAN JOAQUIN COUNTY

SACRAMENTO - SAN JOAQUIN DELTA BASIN 5B  
CENTRAL VALLEY REGION

INTERIM WATER QUALITY CONTROL PLAN  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
1971



**TABLE 1  
BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
<b>COUNTY</b>				
<b>Butte 04</b>				
5A-04-001	Magalia (State) Conservation Camp		X	
002	Pulga (State) Maintenance Station		X	
003	Chico Municipal Airport	X		
004-20	Chico Dressed Meat			X
005-34	Chico Plating Works			X
006-20	Continental Nut Company			X
007	Chico, City of	X		
008-20	American Walnut Company			X
009-20	Myer Nut Company			X
010	Butte County Service Area No. 21	X		
011-34	Hecker Manufacturing Company			X
012-14	Butte Creek Gravel			X
013	Lime Saddle Recreation Area (State)		X	
014	Butte Junior College	X		
015	Spring Valley School	X		
016-14	Mastelloto Enterprises			X
017-20	Butte-Marysville Tallow Company			X
018	Feather River (State) Fish Hatchery		X	
019	Oroville Powerplant (State)		X	
020	Oroville, City of	X		
021	North Burbank Public Utility District	X		
022	Popular Avenue School	X		
023	Thermalito Irrigation District	X		
024	Sierra Avenue School	X		
025-14	Richter, B. C., Contracting Company, Pentz			X
026-40	Western Pacific Railroad Yards			X
027-24	Koppers Company			X
028-14	Georgia Pacific Company			X
029-20	Villa D'Oro Olive Company			X
030	Richvale Sanitary District	X		
031-01	McElroy Poultry			X
032-20	California Zucca Melon Products, Inc.			X
033	Biggs, City of	X		
034	Gridley Farm Labor Camp	X		
035	Gridley, City of	X		
036-14	Mathews Ready-Mix			X
037-20	Bowers Ranch Prune Dehydrator			X
038-20	FMC Corporation			X
039-20	Sunsweet Dryers D5G			X
040-20	Libby, McNeil and Libby			X

\*P.A. — Public Agency  
 \*\*G.A. — Government Agency  
 \*\*\*IND. — Industrial

**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Butte 04</b>		
5A-04-041-20	Kimura Dryer			X
042	Greater Oroville Regional Facilities	X		
043-14	Wilson, W. H. Gravel Plant			X
044-14	Marler and Sons Gravel Plant			X
		<b>COUNTY Colusa 06</b>		
5A-06-001	Princetown Water Works District	X		
002	Maxwell Public Utilities District	X		
003	Colusa-Sacramento River (State) Park		X	
004	Colusa, City of	X		
005	Williams, City of	X		
006	Colusa County Migrant Housing	X		
007-58	Century Ranch Club House			X
008	Arbuckle Public Utilities District	X		
009-70	Alexander's Camp			X
		<b>COUNTY El Dorado 09</b>		
5A-09-001-10	McAloney Placer Mine			X
002	Georgetown (State) Conservation Facility		X	
003-24	Brunswick Timber Products Corporation			X
004	Ice House Campground (USFS)		X	
005-14	Henningson Gravel Plant			X
006-14	Richter, B. C. Gravel Plant			X
007-14	Placerville Slate Products Company			X
008-24	Placerville Lumber Company			X
009-24	Michigan-California Lumber Company			X
010	El Dorado County Sanitation District No. 1	X		
011	Placerville, City of	X		
012-10	Diamond Springs Lime			X
013	El Dorado County Sanitation District No. 2	X		
014	Ponderosa Heights, El Dorado Irrigation District	X		
		<b>COUNTY Glenn 11</b>		
5A-11-001-14	Orland Sand and Gravel			X

\*P.A. — Public Agency  
 \*\*G.A. — Government Agency  
 \*\*\*IND. — Industrial

**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		COUNTY Glenn 11		
5A-11-002-32	Hydro Conduit Corporation			X
003	Orland, City of	X		
004	Hamilton City Community Service District	X		
005-20	Holly Sugar Corporation			X
006-20	James Mills Orchards			X
007-20	James Mills Orchards			X
008-14	Kaiser Sand and Gravel			X
009-14	Taylor Ready Mix			X
010-14	Martin, B. J.			X
011-20	Glenn Milk Products Association			X
012	Glenn County Airport, Industrial	X		
013	Willows, City of	X		
014	Elk Creek Community Services District	X		
015-24	Glenco Forest Products			X
016	Stoney Gorge Resort Improvement District	X		
017	Sacramento (USDI) National Wildlife Refuge		X	
		COUNTY Lake 17		
5A-17-001	Upper Lake Elementary School	X		
002	Lake County Sanitation District No. 2	X		
003	Lakeport, City of	X		
004	Lakeport Municipal Sewer District	X		
005	Clearlake Oaks County Water District	X		
006	Clearlake Oaks School	X		
007-10	Sulfur Bank Mine			X
008-10	Abbott Mine			X
009	Clear Lake (State) Park		X	
010	Kelseyville Co. Water Works District No. 3	X		
011	Seventh Day Adventist Church School	X		
012	Lake County Sanitation District No. 1	X		
013	Lakeshore Village Sewage Maintenance District	X		
014	Konocti (State) Conservation Facilities		X	
015	Stonehouse Mutual Water Company No. 1	X		
016	Stonehouse Mutual Water Company No. 2	X		
017	Redbud Hospital District	X		
018-14	Clear Lake Redi-Mix			X

\*P.A. — Public Agency  
 \*\*G.A. — Government Agency  
 \*\*\*IND. — Industrial

**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Lassen 18</b>		
5A-18-001	Intermountain (State) Conservation Camp		X	
002	Bieber (State) Forest Fire Station		X	
003	Lassen County Water District No. 1 (Bieber)	X		
004-24	State Box Company			X
005	Westwood Community Services District	X		
		<b>COUNTY Modoc 25</b>		
5A-25-001-24	Calandor Pine Corporation			X
002	Modoc (USDI) National Wildlife Refuge		X	
003	Alturas, City	X		
004	Canby (USFS) Ranger Station		X	
005	California Pines Community Services District	X		
006-24	Gooch Lumber Company			X
007-24	Edgerton Lumber Company			X
008-14	Mercer, Fraser Company			X
		<b>COUNTY Napa 28</b>		
5A-28-001-10	Manhattan Mine			X
002-10	Oat Hill Extension Mine			X
003-10	Oat Hill Mine			X
004-10	Corona Mine			X
005-10	James Creek Placer Mine			X
006	Napa-Berryessa Improvement District	X		
007	Lake Berryessa Resort Improvement District	X		
008-14	Phoenix Asbestos Mine			X
009	Circle Oaks County Water District	X		
010-10	Lansdowne Mining			X
		<b>COUNTY Nevada 29</b>		
5A-29-001	Woodcamp Administration Area	X		
002	Woodcamp Campgrounds	X		
003	Pass Creek Campground	X		
004-10	B & H Mine			X
005-10	Dulo Mining Corporation			X

\*P.A. - Public Agency  
 \*\*G.A. - Government Agency  
 \*\*\*IND. - Industrial

**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		COUNTY Nevada 29		
5A-29-006	Washington Ridge (State) Youth Conservation Camp		X	
007	Deer Creek Campground	X		
008	Snow Mountain Recreation Area	X		
009	Nevada Union High School	X		
010	Nevada City, City of	X		
011-24	Caffey and Rice Lumber Company			X
012-91	Loma Rica Industrial Site			X
013	Grass Valley, City of	X		
014-14	Grass Valley Ready Mix			X
015-24	Brunswick Timber Products Association			X
016-24	Lausman Lumber Company			X
017-14	Moore, Frank W.			X
018-24	Bear River Lumber Company			X
019	Orchard Springs Picnic Area	X		
020	Greenhorn Picnic Area	X		
021-14	Hansen Bros. Gravel Plant			X
022-14	Arvin Industries			X
023	Donner Summit Public Utility District	X		
024-79	Boreal Ridge Ski Area			X
025-14	Granite Construction Company			X
<b>COUNTY Placer 31</b>				
5A-31-001	Sierra Lakes County Water District	X		
002-10	Sailor Canyon Mine			X
003-10	Blue Eyes Mine			X
004-10	Gorge Queen Mining Company			X
005	Whitmore (State) Maintenance Station		X	
006	Gold Run Roadside Rest (State)		X	
007-14	Lansden, John A.			X
008	Long Ravine Camp	X		
009-14	Miles, R. J., Company			X
010	Colfax, City of	X		
011-10	Lower Glen Mine			X
012	French Meadows Administration Area (USFS)		X	
013-10	El Dorado Mine			X
014-10	Pacific Mine			X
015-10	Independent Mine Operators			X

\*P.A. - Public Agency  
 \*\*G.A. - Government Agency  
 \*\*\*IND. - Industrial

**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Placer 31</b>		
5A-31-016	Weimar Medical Center	X		
017-14	Chevreaux Sand and Gravel Plant			X
018	Heather Glen Estates	X		
019-24	Stockton Box Company			X
020-10	Marcy's Placer Mine			X
021	Iron Mountain (State) Conservation Camp		X	
022	Placer County Service Area #1	X		
023-10	M and S Mine			X
024-10	Western Dredging and Construction Company			X
025	Auburn Area Recreation and Park District	X		
026	Dewitt (State) Hospital		X	
027	Auburn, City of	X		
028	Placer County Service Area No. 6	X		
029-28	Hercules Powder Company			X
030	Lincoln, City of	X		
031-20	United Foods, Inc.			X
032-30	Mono Belting Corporation			X
033	Newcastle Sanitary District	X		
034	Rogersdale Assessment District	X		
035	Rocklin-Loomis Municipal Utility District	X		
036	Loma Villa Sewage Treatment Facility	X		
037-30	Formica Corporation			X
038-36	Alcan Cable Company			X
039	Placer County Service Area No. 2	X		
040	Placer County Sewer Assessment District No. 2	X		
041	Placer County Sewer Assessment District No. 3	X		
042	Roseville, City of	X		
043-40	Pacific Fruit Express			X
044-40	Southern Pacific Railroad			X
045	Granite Bay (State) Park		X	
046	South Sutter Water District	X		
		<b>COUNTY Plumas 32</b>		
5A-32-001-10	Stephens, Garland L.			X
002-24	Collins Pine Corporation			X
003	Chester, City of	X		
004-10	Lucky S. Inc.			X

\*P.A. - Public Agency  
 \*\*G.A. - Government Agency  
 \*\*\*IND. - Industrial



**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Plumas 32</b>		
5A-32-005-24	Cheney – California Lumber Company			X
006	Greenville Sanitary District	X		
007-10	Cameron, Mary, Mine			X
008-08	Kelly Mine			X
009-10	Sunnyside Mine			X
010-10	Iron Dyke Mine			X
011-14	Grizzly Bar Aggregate			X
012-24	Plumas Lumber Company			X
013	Halsted Flats (USFS) Campground		X	
014	Beldon (USFS) Campground		X	
015-10	Walker Extension Mine			X
016-10	Walker Mine			X
017-10	Walker Mine Tailings			X
018-14	Quincy Ready Mix			X
019-14	Plumas Ready Mix			X
020-14	Bellamy Sand and Gravel Company			X
021-24	Meadow Valley Lumber Company			X
022-24	Essex Pencil Products			X
023-24	Feather River Lumber Company			X
024	Crocker Mountain Estates Sewer and Water Main District	X		
025-10	Davis, G. G., Placer Mine			X
026-70	Delleker Development			X
027	Portola, City of	X		
028-40	Western Pacific Company			X
029	Portola Operation and Maintenance Center (State)		X	
030-10	Jesky, Robin R., Placer Gold Mine			X
031	Upper Jamison Creek (USFS) Campground		X	
032	Quincy Sanitary District	X		
		<b>COUNTY Sacramento 34</b>		
5A-34-001	Sabre City Subdivision	X		
002	Highlands Estates Sewer Assessment District	X		
003	Linwood Sewer Maintenance District	X		
004-01	Carmical, Kenneth R.			X
005-01	Hill, Mary A., Chicken Ranch			X
006-20	Rio Linda Food Products			X
007	Rio Linda County Water District	X		

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**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY</b>		
		<b>Sacramento 34</b>		
5A-34-008	Sacramento Metropolitan Airport	X		
009	Natomas County Sanitation District	X		
010	Sacramento County Sanitation District No. 6	X		
011	Manlove Sewer Maintenance District	X		
012	Fish and Wildlife Pollution Control Lab (State)		X	
013	Folsom Lake (State) Conservation Camp		X	
014	Folsom (State) Prison S. T. Facilities		X	
015	Folsom (State) Prison, Industrial		X	
016	Folsom (State) Prison, Dairy		X	
017	Arden Gold, County of Sacramento	X		
018	Folsom, City of	X		
019	Folsom City Zoo	X		
020				
021-39	Aerojet General Corporation			X
022-14	Pacific Cement and Aggregates			X
023	Cordova Sewer Maintenance District	X		
024				
025-39	McDonnell-Douglas			X
026-14	Central Aggregates			X
027-14	Robertson Sand and Gravel – Canterbury Road			X
028	Northeast County Sanitation District	X		
029	Mather (U.S.) A. F. B., Industrial		X	
030-14	Arden Sand and Gravel			X
031	Mather (U.S.) A. F. B., Domestic		X	
032	American River Water Filtration Plant	X		
033	Arden Sanitation District	X		
034-28	American Cryogenics			X
035-14	Robertson Sand and Gravel – 24th Street			X
036-14	Farrell, Lewis F., Suction Dredge			X
037	Sacramento River Water Filtration Plant	X		
038-14	Robertson Sand and Gravel – Dos Rios Road			X
039	Riverside Water Treatment Plant	X		
040-28	Procter and Gamble Manufacturing Company			X
041				
042	Sacramento (U. S. A.) Signal Depot		X	
043-28	Tops Chemical Company			X
044	Sacramento County Boys Ranch	X		
045-20	Libby, McNeil and Libby			X
046	Bella Vista High School	X		
047	Sacramento City, Main Plant	X		

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**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY</b>		
		<b>Sacramento 34</b>		
5A-34-048	Sacramento County Central Sanitation District	X		
049	McClellan (U.S.) Air Force Base		X	
050	Elk Grove, City of	X		
051	Sacramento City, Meadowview Plant	X		
		<b>COUNTY</b>		
		<b>Shasta 45</b>		
5A-45-001	Castle Crags (State) Park		X	
002	Gibson (State) Maintenance Station		X	
003	Antlers Campground (USFS)		X	
004	Antlers Guard Station (USFS)		X	
005	McCloud Bridge Guard Station (USFS)		X	
006	Hirz Bay Campground (USFS)		X	
007	Turntable Dock (USBR)		X	
008	Toyon (USBR)		X	
009	McArthur-Burney Falls (State) Memorial Park		X	
010-24	Lorenz Lumber Company			X
011	Burney County Water District	X		
012	Burney (State) Forest Fire Station		X	
013-24	Publishers Forest Products			X
014-24	Phillips Bros. Sawmill			X
015-10	Iron Exploration Company			X
016-14	Calaveras Cement Company			X
017	Shasta Dam (USBR)		X	
018	Shasta Dam Area Public Utility District	X		
019-10	Washington Gold Company			X
020	Crystal Creek (State) Honor Camp		X	
021	Whiskey Creek Recreation Area (USNPS)		X	
022	Brandy Creek Recreation Area (USNPS)		X	
023	Shasta Junior College	X		
024	Oak Bottom Recreation Area (USNPS)		X	
025	State Historical Monument		X	
026	Twin View Assessment District	X		
027-24	Daniels, C. H., Lumber Company			X
028	Lakeshore Campground (USFS)		X	
029-14	Redding Transit Mix			X
030	Bonneyview School	X		

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**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Shasta 45</b>		
5A-45-031-24	Nead Lumber Company			X
032-24	Main Lumber Company			X
033	Enterprise Public Utility District	X		
034-14	Morgan Construction Company			X
035-14	Oaks Sand and Gravel Company			X
036-14	Shea, J. F., Company			X
037	Westwood Manor Sewer District	X		
038	Redding, City of	X		
039-24	Elkins Sawmill, Inc.			X
040-24	U. S. Plywood Corporation			X
041	Anderson, City of	X		
042-26	Kimberly-Clark Corporation			X
043-24	Paul Bunyan Lumber Company			X
044-20	Rolling Ridge Ranch Dehydrater			X
045	Cottonwood County Water District (Proposed)	X		
046-14	Anderson-Cottonwood Concrete Products			X
		<b>COUNTY Sierra 46</b>		
5A-46-001-10	California-Sierra Association			X
002	Loyalton, City of	X		
003-24	Feather River Lumber Company			X
004-24	Holstrom Lumber Company			X
005	Sierraville (State) Maintenance Station		X	
006-10	Morford, Robert L., Mine			X
007-10	Best Mining Company			X
008-10	Chase Milling Company			X
009-10	Brush Creek Mine			X
010-10	Depot Hill Hydraulic Mine			X
011-10	Rex Sierra Gold Corporation			X
012-10	Oriental Mine			X
013-10	Middle Yuba River Placer Gold Mine			X
		<b>COUNTY Siskiyou 47</b>		
5A-47-001	Mount Shasta Recreation District	X		
002-24	Kimberly-Clark Corporation			X

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**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Siskiyou 47</b>		
5A-47-003	Siskiyou County Flood Control and Water Conservation District (Mt. Shasta City)	X		
004-24	U. S. Plywood Corporation			X
005	McCloud Community Services District	X		
006	Dunsmuir, City of	X		
007-24	Cheney-Grant Lumber Company			X
		<b>COUNTY Solano 48</b>		
5A-48-001-13	Reynolds, S. M., Dixon Gas Field			X
002	Dixon, City of	X		
003-20	Amour and Company			X
		<b>COUNTY Sutter 51</b>		
5A-51-001	Live Oak, City of	X		
002-20	Sunsweet Dryers, D5Y			X
003-20	Miller Fruit Company			X
004-20	Harter Packing Company			X
005-20	Meridian Meat Company			X
006	Yuba City, South Plant	X		
007	Sutter County Housing Authority	X		
008-20	Mayfair Packing Company			X
009-20	Boyd Farm Company			X
010-14	American River Sand and Gravel			X
011	Verona Landing	X		
012	Rio Ramaza Community Services District	X		
013-76	Tenco Tractor			X
014-14	Consolidated Dredging and Manufacturing Co.			X
015-14	Consolidated Dredging and Manufacturing Co.			X
		<b>COUNTY Tehema 52</b>		
5A-52-001	Rio Alta Water District and River Lakes Ranch	X		
002	Tehama County Sanitary District No. 1 (Mineral)	X		
003	Plum Creek (State) Conservation Camp			X

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 \*\*\*IND. — Industrial

**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Tehema 52</b>		
5A-52-004	Wm. B. Ide Adobe (State) Historical Monument		X	
005-20	Red Bluff Tallow Company			X
006-20	Minch's Slaughterhouse			X
007-14	Houghtby and Son Contractors			X
008-14	THR Company			X
009-24	Diamond National Plywood			X
010-20	Mayfair Farms, Inc.			X
011	Red Bluff, City of	X		
012	Red Bluff Recreation Area (USBR)		X	
013	Tehama-Colusa Canal Fishery Facilities (USBR)		X	
014-26	Diamond National Corporation			X
015-40	Southern Pacific Corporation			X
016-14	Thomes Creek Sand and Gravel			X
017	Corning, City of	X		
018-01	Hubbard's Turkey Ranch			X
019	Woodson Bridge (State) Park		X	
020-24	Crane Mills			X
		<b>COUNTY Yolo 57</b>		
5A-57-001-20	Payne Walnut Plant			X
002	Knights Landing Service District	X		
003-14	Pacific Cement and Aggregate Company			X
004-14	Teichert Gravel Plant			X
005-14	Schwartzgruber and Son Aggregates, Inc.			X
006-14	Granite Construction Company			X
007-14	Madison Sand and Gravel Company			X
008	Esparto Sanitary District	X		
009	Madison Service District	X		
010-20	Woodland Nut Company			X
011-20	Spreckles Sugar Company			X
012-31	Bissinger and Company Hide Processing			X
013	Woodland, City of	X		
014	Water Resources, Department of (State)		X	
015-20	Mariani, Jack			X
016-20	Royal Dryers Co-op			X
017	Winters, City of	X		
018	U. of California at Davis, National Primate Center		X	
019	U. of California at Davis		X	

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 \*\*G.A. - Government Agency  
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**BASIN 5A  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		<b>COUNTY Yolo 57</b>		
5A-57-020	Davis, City of	X		
021-20	Hunt-Wesson Foods			X
022	Davis Community Hospital	X		
023-34	Armco Steel			X
024	El Macero Sewer Maintenance District	X		
		<b>COUNTY Yuba 58</b>		
5A-58-001-24	Sierra Mountain Mills			X
002-24	Walker Brothers Lumber Company			X
003-20	Barbaccia Brothers Dehydrator			X
004-10	Paramount Mining and Development Company			X
005-20	Mayfair Farms, Inc.			X
006-20	Valley Meat Company			X
007	Marysville, City of	X		
008-14	Yuba River Sand Company			X
009	Linda County Water District	X		
010-24	Diamond National Corporation			X
011	Beale ( U.S. ) Air Force Base – Photo Waste		X	
012	Beale ( U.S.) Air Force Base		X	
013-24	Erickson Lumber Company			X
014-20	Weststeyn Dairy			X
015-20	Shimmer Dairy			X
016-20	Marysville Meat Company			X
017-01	Johnson, J. W., Ranch Account			X
018	Olivehurst Public Utility District	X		
019-20	Plen Poldervaart Dairy			X
020-20	Zwissig Dairy			X
021-20	Danna and Danna, Inc.			X
022	Wheatland, City of	X		
023	South Sutter Water District	X		

\*P.A. – Public Agency  
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 \*\*\*IND. – Industrial

**TABLE 2  
BASIN 5B  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
<b>COUNTY Alameda 01</b>				
5B-01-001-01	Oakland Scavenger Company			X
<b>Alpine 02</b>				
5B-02-001-79	Mount Reba Ski Lodge			X
<b>Amador 03</b>				
5B-03-001-88	Kirkwood Meadows			X
002	Peddler Hill (State) Maintenance Station		X	
003-86	YMCA of San Jose and Santa Clara Valley			X
004-24	American Forest Products (Whitmore)			X
005-70	Pioneer Creek Mobile Home Community			X
006-70	Tamo's Skyridge Mobile Home Estates			X
007-24	Cal - Mills, Inc			X
008	Plymouth, City of	X		
009	Amador City, City of (proposed)	X		
010-70	Ritchie, H. J., Mobile Home Park			X
011	Pine Grove (State) Youth Authority		X	
012	Sutter Creek, City of	X		
013	Preston (State) School of Industry		X	
014-24	American Forest Products (Martell)			X
015-88	Argonaught Heights			X
016-10	Hermiston, David L., (Newton Mine)			X
017	Ione, City of	X		
018-14	Interpace Corporation			X
019-14	Owens - Illinois Silica Plant			X
020	Jackson, City of	X		
021-88	Great Lakes Development Company			X
022-88	Camanche North Shore, Inc.			X
023-12	Interpace, ALPCO			X
024-70	East Bay Municipal Utility District	X		
<b>Calaveras 05</b>				
5B-05-001	Cabbage Patch (State) Maintenance Station		X	
002-24	American Forest Products Corporation			X
003	Mokelumne Hill Sanitary District	X		
004-14	Neilsen's Gravel Plant			X
005-10	Penn Mine			X

\*P.A. - Public Agency  
 \*\*G.A. - Government Agency  
 \*\*\*IND. - Industrial



**BASIN 5B  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	** G.A.	*** IND.
<b>COUNTY Calaveras 05 (Contd.)</b>				
5B-05-006-88	Hidden Valley Ranch Development Company			X
007-70	Camanche Lake Park Corporation			X
008-70	Camanche Arm of Camanche Lake Park			X
009	Valley Springs Sanitary District	X		
010	San Andreas Sanitary District	X		
011-88	La Contenta Subdivision Subdivision			X
012-14	Calaveras Cement Company			X
013	Fricot (State) Ranch School for Boys		X	
014-88	Bakkedahl Subdivision			X
015-88	Deal, I. C., Development Company			X
<b><u>El Dorado 09</u></b>				
5B-09-001-14	El Dorado Limestone Company			X
002-14	S-P Sand and Gravel, Inc.			X
003-24	Oviatt - Wetsel Sawmill			X
<b><u>Sacramento 34</u></b>				
5B-34-001-20	Elk Grove Meat Company			X
002-07	Stillwater Orchards Company			X
003	Hood, City of (proposed)	X		
004-49	Sacramento M.U.D., Rancho Seco Project			X
005	Sacramento County, Courtland Sanitation District	X		
006-01	Compton Feed Lot			X
007	Galt, City of	X		
008	Walnut Grove, City of	X		
009-20	Fontes, E and Sons			X
010-07	Riverside Elevators			X
011	Isleton, City of	X		
<b><u>San Joaquin 39</u></b>				
5B-39-001-20	California Cannery and Growers (Plant No. 6, Thornton)			X
002-01	B & L Hog Farm			X
003-14	Wood, Claude C., Gravel Plant			X
004-20	Acampo Winery and Distilleries			X
005-88	Country Club Vista			X
006-20	Guild Wine Company - Del Rio Winery			X
007	Woodridge Sanitary District	X		
008-20	Rio Vista Winery			X
009-20	Woodbridge Winery Association			X
010-20	Lodi Winery, Incorporated			X

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**BASIN 5B  
INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
		COUNTY		
		San Joaquin 39 (Cont'd)		
5B-39-011-20	Allied Grape Growers (Lodi)			X
012-20	Guild Wine Company - Bear Creek Winery			X
013-20	Goehring Meat Company			X
014-20	Cherokee Vineyard Association			X
015-20	Liberty Winery			X
016-20	Lockeford Winery			X
017	Lockeford Sanitary District	X		
018-20	Wine - Art Concentrate Company			X
019-20	Mid - Valley Winery, Incorporated			X
020-20	East Side Winery			X
021-20	Guild Wine Company - Central Cellars			X
022	San Joaquin County Migrant Worker Camp	X		
023-82	Bidwell School			X
024-70	Freeway Mobile Park			X
025	Lodi, City of	X		
026-20	Tri Valley Growers (Plant No. 4)			X
027-20	Alpine Packing Company			X
028-14	Stockton Sand and Gravel, Incorporated			X
029-20	Zuckerman - Mandeville, Incorporated			X
030	Lincoln Properties, Incorporated	X		
031	Linden County Water District	X		
032-58	Ehrichs' Resort			X
033	Stockton Northwest Water Quality Plant	X		
034-70	Stockton Inn			X
035-26	Fibreboard Paper Products, Incorporated			X
036-20	Union Ice and Storage Company			X
037-35	West Coast Machinery, Incorporated			X
038-55	Service Station Properties, Incorporated			X
039-40	Shippers Car Line, Division ACF Industries			X
040	Stockton Main Water Quality Plant	X		
041-20	Arcady Oil Company			X
042	Naval (U.S.) Communications Center		X	
043-24	McCormick and Baxter Creosoting Company			X
044-34	United Sheet Metal Company			X
045-20	San Joaquin Vegetable Growers, Inc.			X
046	San Joaquin County Hospital	X		
047-32	Johns-Mansville Corporation			X
048	Lathrop County Water District	X		
049-20	Holly Sugar Corporation			X
050	Tracy, City of	X		
051	Tracy (State) Maintenance Station		X	
052-88	Currier Estates Subdivision			X
053-32	Owens-Illinois (Tracy)			X

\*P.A. - Public Agency

\*\*G.A. - Government Agency

\*\*\*IND. - Industrial

**BASIN 5 B**  
**INDEX OF DISCHARGERS**

Identification Number	Name of Discharge	Type of Discharge		
		* P.A.	G.A.	IND.
<b>COUNTY</b>				
<b>San Joaquin 39 (Cont'd)</b>				
5B-39-054	Defense (USA) Supply Agency		X	
055	Duel (State) Vocational Institution		X	
056-70	Carriage Estates Mobile Home Resort			X
057	University of California, Radiation Laboratory Site 300		X	
<b>Solano 48</b>				
5B-48-001-20	Steiner Dairy			X
002-20	American Home Food Products, Incorporated			X
003	Dixon City Housing Authority	X		
004	Vacaville, City of (Brown Street)	X		
005	Vacaville, City of (Elmira)	X		
006	Vacaville, (State) Medical Facility		X	
007	Nike Site, T-10 (USA)		X	
008-34	Blackwelder Manufacturing Company			X
009	Rio Vista, City of	X		
<b>Yolo 57</b>				
5B-57-001-89	Washington Water and Light Company			X
002-36	Smelter Supply Company, Division M P Kirk & Son, Inc.			X
003	West Sacramento Sanitary District	X		
004-20	American Crystal Sugar Company			X

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 \*\*G.A. — Government Agency  
 \*\*\*IND. — Industrial



## CHAPTER IV

### BENEFICIAL WATER USES

Beneficial water uses include -- but are not necessarily limited to -- domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish and wildlife and other aquatic resources or preserves. Protection of waters against quality degradation for these beneficial uses requires the establishment of water quality objectives -- limits or levels of water quality constituents or characteristics.

Determining water quality objectives for the various surface and ground waters in relation to the beneficial uses is an important step in solving the water quality control problems of the Central Valley. "The quantity of water available to the State can be extended by providing for maximum use and reuse of our water supplies. Our ability to maintain quality of water, therefore, will determine the ultimate limit of use of this basic resource."<sup>1/</sup>

Present and future beneficial uses have been identified by Regional Board policy for specific surface water courses and ground water bodies in the Sacramento River Basin and the Sacramento-San Joaquin Delta Basin as shown in Table 1. Beneficial uses for other water bodies are also included in the table. Though not identified in previously adopted policy statements the beneficial uses for these other waters are widely recognized. Additional uses may be identified after further study.

#### 1. SACRAMENTO RIVER BASIN

The Regional Water Quality Control Board has developed water quality control plans for the following waters located in the Sacramento River Basin:

**Sacramento River** from Keswick Dam to Eye Street Bridge at the City of Sacramento.

**Sacramento River** from its sources to Box Canyon.

**Box Canyon Reservoir.**

**Sacramento River** from Box Canyon to Delta, Shasta County.

**Folsom Lake.**

**American River** from Folsom Dam to the Sacramento River.

**Upper Yuba River** except for South Yuba River.

**Feather River** from the Feather River Fish Barrier Dam to the Sacramento River.

**Goose Lake.**

Other waters located in the subbasin for which water quality control plans have not been developed are the following:

**Pit River** from Goose Lake to Shasta Lake.

**Shasta Lake.**

**Yuba River** from Rice Crossing to the Feather River.

**McCloud River** from its sources to Shasta Lake.

All other streams and rivers above 1000 foot elevation. The present and future beneficial uses identified in water quality control plans are widely recognized for water bodies not covered by any specific plan are indicated in Table 1.

Ground water is used where available throughout the subbasin. Pumping of water from beneath the valley floor provides water for municipal, industrial and agricultural water supplies. These beneficial uses are extremely important to the people of the Sacramento Valley.

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<sup>1/</sup> Water Pollution Act of 1949, (Dickey Act).

## **B. BENEFICIAL USES OF WATER SACRAMENTO-SAN JOAQUIN DELTA BASIN**

The State Water Resources Control Board has adopted a Water Quality Control Plan for the Sacramento-San Joaquin Delta. Beneficial uses identified in this plan, are shown in the following table. Also listed are the recognized uses for the following major water bodies:

### **Sacramento-San Joaquin Delta.**

**Cosumnes River** from proposed Nashville Reservoir to the Delta.

**Mokelumne River** from Camanche Reservoir to the Delta.

**Calaveras River** from New Hogan Reservoir to the Delta.

Other Streams and Rivers above 1000 foot elevation.

Beneficial uses of ground waters in areas other than those specified vary throughout the basin. Beneficial uses may include domestic, municipal, industrial and agricultural water supply.

During the interim period an intensive study will be made to better catalog all present uses of the water in both basins. At that time a more detailed list of beneficial uses will be developed. Location of specific use will become a part of the fully developed plan.

### **Definition of Beneficial Water Uses**

The following are definitions of the beneficial water uses found in Table I, together with their abbreviations:

Municipal and Domestic Supply (MUN) --- includes usual community use and individual use for domestic purposes.

Agricultural Supply (AGR) --- includes crop, orchard and pasture irrigation, stock watering, and all uses in support of farming and ranching operations.

Industrial Supply (IND)

Hydroelectric Power Generation (POW)

Water-Contact Recreation (REC 1) --- all recreational uses involving actual body contact with water, such as swimming, wading, water sports --- water skiing, skin-diving, sport fishing --- lake, stream, ocean.

Non-Water-Contact Recreation (REC 2) --- recreational uses which involve the presence of water but do not require contact with water, such as picnicking, sunbathing, hiking, beachcombing, camping, aesthetic enjoyment, pleasure boating, and waterfowl hunting.

Navigation (NAV) --- includes commercial and naval shipping.

Freshwater Habitat (FRSH) --- provides freshwater habitat for fish, waterfowl and wildlife.

Fish Migration (MIGR) --- provides a migration route for anadromous species.

Fish Spawning (SPAWN) --- provides high quality aquatic habitat especially suitable for fish spawning.

TABLE 3  
BENEFICIAL USES OF WATER

Present and anticipated future beneficial uses of water in the Sacramento River Subbasin and Sacramento-San Joaquin Delta Subbasin.

Stream or Stream Group	Water Supply			POW	REC 1	REC 2	FRSH	MIGR	NAV	SPAWN
	MUN	AGR	IND							
<b>Sacramento River Subbasin</b>										
<b>SACRAMENTO RIVER</b>										
From its source to Box Canyon		X			X	X	X			
Box Canyon to Keswick Dam		X			X	X	X			
Keswick Dam to Eye Street Bridge in Sacramento	X	X	X		X	X	X	X	X	
<b>BOX CANYON RESERVOIR</b>										
	X	X	X		X	X	X			
<b>FOLSOM LAKE</b>										
	X	X	X		X	X	X			
<b>AMERICAN RIVER</b>										
Folsom Dam to Sacramento River	X	X	X		X	X	X	X		
<b>UPPER YUBA RIVER</b>										
Except for South Yuba River	X		X		X	X	X			
<b>FEATHER RIVER</b>										
Feather River Fish Barrier Dam to Sacramento River	X	X			X	X	X	X		
<b>GOOSE LAKE</b>										
		X			X	X	X			
<b>PIT RIVER</b>										
Goose Lake to Shasta Lake		X			X	X	X			
<b>SHASTA LAKE</b>										
	X	X	X		X	X	X			

TABLE 3 (Continued)  
BENEFICIAL USES OF WATER

Present and anticipated future beneficial uses of water in the Sacramento River Subbasin and Sacramento-San Joaquin Delta Subbasin.

Stream of Stream Group	Water Supply			POW	REC 1	REC 2	FRSH	MIGR	NAV	SPAWN
	MUN	AGR	IND							
YUBA RIVER										
Rice Crossing to Feather River		X		X	X	X	X	X		
McCLOUD RIVER										
From its source to Shasta Lake			X	X	X	X	X			
All other streams above 1000 foot elevation				X	X	X	X			
Sacramento-San Joaquin Delta Subbasin										
SACRAMENTO-SAN JOAQUIN DELTA	X	X	X	X	X	X	X	X	X	X
COSUMNES RIVER										
Proposed Nashville Reservoir Site to the Delta		X		X	X	X	X	X		
MOKELUMNE RIVER										
Camanche Reservoir to the Delta		X		X	X	X	X	X		
CALAVERAS RIVER										
New Hogan Reservoir to the Delta		X		X	X	X	X	X		
Other streams above 1000 foot elevation	X	X	X	X	X	X	X	X		



## CHAPTER V

### POLICY GUIDELINES

Because of continuing population increase and economic development within the Central Valley Region higher levels of waste treatment will be needed to provide positive protection to the public health and to maintain and enhance the quality of the surface and ground water resources in the region.

#### GOALS

The water quality objectives developed in this plan are directed toward implementing the following goals of the California Regional Water Quality Control Board, Central Valley Region.

1. Protect and enhance all basin waters, surface and underground, fresh and saline, for present and anticipated beneficial uses.
2. Maximize the use of municipal and industrial wastewaters as part of an integral system of fresh-water supplies to achieve maximum benefit of fresh-water resources.
3. Review waste treatment systems to assure that effective treatment and adequate capacity are available at all times.
4. Develop a planned system for water use and waste discharge to assure protection of aquatic resources for future beneficial uses, in order to achieve harmony with the natural environment.

#### MANAGEMENT PRINCIPLES

To implement these goals the Regional Board will direct its activities toward the following:

1. Waste discharges to receiving waters which are intermittent or have limited dilution capacity will not be considered permanent solutions.
2. Wherever feasible water quality control systems throughout the basin shall provide for eventual wastewater reclamation.
3. Waste sources and independent treatment facilities shall be consolidated where practical, and plans shall direct these consolidated systems to maximize their capacities for wastewater reclamation in order to assure efficient management of wastes and meet potential demands for reclaimed water.
4. Land use practices must assure protection of beneficial water uses and aquatic environmental values.
5. Promote rapid development of treatment and discharge systems which will provide for fail-safe protection of beneficial uses and aquatic environmental values.
6. Require both source control and pretreatment to assure continuous adequacy of wastewater treatment and to protect the quality of receiving waters.
7. Programs shall provide for appropriate disposition of surplus reclaimed waters, and of usable and unusable residues of reclamation processes.

8. Wastewater treatment facilities in conjunction with source control and pretreatment must be capable of controlling the quality of reclaimed water and the composition and concentration of residues from reclamation processes.

9. Industrial and municipal effluents shall contain essentially none of the following substances:

- Chlorinated hydrocarbons
- Toxic substances
- Radioactive substances
- Certain grease, oil and phenolic compounds
- Mercury or mercury compounds
- Excessively acidic and basic substances
- Heavy metals such as lead, copper, zinc, etc.
- Other deleterious substances

10. Sewering entities should implement comprehensive regulations to prohibit the discharge to the sewer system of those substances listed in paragraph nine (9) which may be controlled at their source.

11. Sewering entities should implement comprehensive industrial waste ordinances to control the quantity and quality of organic compounds, suspended and settleable substances, dissolved solids, and all other materials which may adversely effect the operation of a master municipal treatment facility.

12. Applicants for state and federal grants for construction of waste treatment facilities shall be required to submit proof of implementation of adequate source control and of industrial waste ordinances.

13. Wastewaters percolated into the ground waters shall be of such quality at the point where they enter the ground so as to assure the continued usability of all ground waters of the State.

14. In all ground water basins known to have an adverse salt balance, the incremental addition of salts to the waste discharge shall not exceed that which normally results from domestic use; control of salinity shall be required by local ordinances which effectively limit municipal and industrial contributions to the sewerage system.

15. Land discharge systems shall generally be designed for and be capable of year-round operation without direct surface discharge to surface waters.

16. Ground water recharge with high quality water will be encouraged.

17. Disposal of economically reclaimable wastewater by evaporation will be discouraged.

#### GUIDELINES FOR ESTABLISHING WASTE DISCHARGE REQUIREMENTS

*Added in Sept 3 section*  
Because of continuing population increase and economic development within the Central Valley Region higher levels of waste treatment will be needed to provide positive protection to the public health and to maintain and enhance the quality of the surface and ground water resources in the region. To this end, the following guidelines will be used by the regional board and its staff in the formulation and prescription of waste discharge requirements in the Central Valley Region:

1. Waste discharge requirements for direct discharges to surface or ground waters will generally prescribe numerical limits which will require:
  - A. Substantially complete removal of all floatable and settleable solids.
  - B. Removal of sufficient biochemical oxygen demand to produce a well stabilized effluent. Eighty-five percent removal will be a guide in achieving this end.
  - C. Removal of suspended solids to the extent necessary to achieve adequate disinfection.
  - D. Disinfection when necessary prior to discharge.
  - E. That no substances known to be toxic be present in concentrations deleterious to plant or or animal life.
2. In areas having suitable terrain, isolation, soil cover, and ground and surface water conditions this Board will encourage the use of land disposal techniques.
3. Pre-treatment of wastes will be required for land disposal operations where the Board determines that this is necessary to prevent nuisance conditions and/or to protect ground or surface water quality.
4. Requirements for waste discharges to waters having a specific conductance of less than 150 micromhos will generally prescribe numerical limits which will require:
  - A. Complete removal of settleable and floatable solids.
  - B. Substantially complete removal of suspended solids and biochemical oxygen demand.
  - C. Nutrient removal where necessary to control biostimulation.
  - D. Disinfection to achieve substantially complete removal of coliform bacteria.
  - E. Where necessary, removal of dissolved solids to levels consistent with those of the receiving waters.
  - F. Substantially complete removal of substances known to be toxic to plant and/or animal life.
5. This Board expects that industries contributing to public sewerage systems will provide any pre-treatment necessary to prevent adverse effects on the community waste collection systems and on the waste treatment processes and equipment. All entities providing sewage collection and treatment services should adopt industrial waste discharge regulations or ordinances which will provide the degree of control necessary to this end.
6. This Board recommends that careful land use planning be accomplished and implemented in the vicinity of waste disposal facilities toward the end of avoiding land use conflicts and potential modifications of plant equipment and procedures in the future because of conflicts with adjoining land uses not otherwise necessarily related strictly to water quality requirements.
7. This Board reaffirms that these guidelines will be used in the formulation and establishment of waste discharge requirements. These requirements will be considered on a case-by-case basis and each existing discharger will be given a reasonable time within which to bring his discharge into compliance.

8. The Board will fully support applications for federal and state grants-in-aid available to waste dischargers for the construction of facilities to comply with regional board requirements in accordance with regional plans for water quality control.

### **GUIDELINES FOR LAND DEVELOPMENT PLANNING**

The following guidelines will be applied by the Regional Board in the review of factors related to water quality management and control as these factors pertain to land development in the foothill and mountain areas of the Central Valley Region:

1. The Regional Board will formulate and establish as rapidly as possible, within the framework established by the State Water Resources Control Board, fully developed Water Quality Control Plans for all watersheds within the region.
2. The Regional Board will consult with local governmental agencies during the formulation of these plans.
3. The Regional Board will encourage and assist local governmental agencies in the development of adequate regional planning and zoning for land use which will insure that land development will enhance rather than degrade those aspects of water quality which are necessary for the public health and well being.
4. The Regional Board will encourage, support and assist in research and demonstration projects to develop standards for planning of subdivisions in mountain and foothill locations.
5. The Regional Board will request local approving agencies to withhold acceptance of tentative subdivision maps for land developments in foothill and mountain areas which do not provide:
  - A. An Environmental Assessment Report on the development which should include, but not necessarily be limited to:
    - a. Identification of the expected flows and characteristics of sewage generated by the development, and demonstration of a positive capability of financing, planning and construction of facilities for collection, treatment and disposal of such wastes. The proposal shall identify the expected impact on area waters and assess the effects on the existing aquatic ecology and on the uses made of area waters. This may require reports on soils, geology, hydrology, meteorology, geography, ecology, water supply, liquid and solid waste disposal, probable population densities and other vital environmental factors unique to the area.
    - b. Identification of the expected solid waste loads generated by the development and demonstration of the capability to dispose of these materials in a satisfactory manner.
    - c. Identification of the expected volumes, peak rates, characteristics and other pertinent information concerning storm water run-off and dry weather drainage from both construction and ultimate development phases. Demonstration that adequate collection and treatment systems are or will be available as necessary to protect the water environment from any unreasonable effects.
    - d. An estimate of secondary contributions to the water environment by such factors as population, boats and marinas, recreational activities, automobiles, recreational vehicles, golf course and yard irrigation, service facilities, etc., that accompany the development. Identification, at least in approximate fashion, of the controllable and uncontrollable contributions to the water environment, and detailing of means of regulating controllable factors.

- e. Evaluation of the total impact of residuals from all sources – e.g., sewage sludge, nutrients, dissolved solids – on the water environment.
  - f. Estimation of the altered water environment, at all stages of development, for comparison with regional county or other master plans to identify conformance therewith.
- B. A master plan relating to the disposal of wastes anticipated from the ultimate development; such plan to conform to the regional or county master plan for sewage and solid waste disposals. Stage development will be acceptable if a firm schedule based upon occupancy accompanies the plan.
  - C. The establishment of a public entity, with concurrence of the local governmental agencies, which will be endowed with all the necessary powers to manage a community waste disposal system, including but not limited to powers to obtain and hold deeds to land and facilities; to obtain and hold rights-of-way; to accumulate planning, construction, maintenance and operation funds; to supervise planning and installation of facilities; to levy and collect service charges; and such other powers as may be required.
  - D. In lieu of (c) above, an agreement to connect the subdivision, by annexation or otherwise, to an existing community sewerage system if the subdivision is so located that such connection is feasible. Where a proposed development is located beyond a reasonable economic feasibility of connection to an existing system, but will logically connect thereto in the reasonable future, local jurisdictions should constrain the development in such manner that community growth occurs in orderly fashion permitting new building sites, as needed, to be served by extension of existing sewers.
  - E. The filing of a report on the proposed waste discharge by the responsible entity, accompanied by the appropriate filing fee, pursuant to Section 13260 of the State Water Code, unless the waste is to be discharged into an existing community sewerage system. The report should be filed at an early date so that the developer will be aware of regional board requirements for any proposed waste discharges from the development. Although the developer must form a public entity to manage the discharges he need not wait for its formation to file the report on the proposed waste discharge.
- 6. The regional board will consider the prohibition of waste discharges from land developments which do not conform to regional, sub-regional, county or other master plans covering the lands involved, or which do not conform to the water quality control plans adopted pursuant to Article 3, Chapter 4, Division 7 of the California Water Code, or which do not substantially fulfill all of the provisions in Guideline 5, above.
  - 7. The Regional Board will request filing of waste discharge reports and will prescribe requirements to cover waste discharges from construction operations relating to land developments located in areas having a high potential for soil erosion and resultant siltation problems affecting water quality and water use.
  - 8. The Regional Board will prohibit solid waste within areas subject to inundation by a 100 year frequency flood and will in the administration of the grant program discourage the construction of waste treatment and disposal facilities within such areas.
  - 9. The Regional Board will prohibit the discharge of wastes at solid waste disposal sites which do not conform to a regional, metropolitan area, municipal or county master plan for solid waste management where such plans exist or are in the process of formulation and adoption.

It is not intended that the Guidelines be applied to the review of every tentative subdivision map submitted to the Regional Board under Section 13266 of the Water Code. Certainly, small subdivisions which have less than 50 lots and where lot sizes are 5 acres or larger need not submit all of the information requested by the Guidelines for purposes of map review unless the map indicates a special problem such as a location contiguous to the shoreline of a lake or impoundment or where ground slopes may be excessive. Nor is it intended that the Guidelines would apply to subdivisions located where water quality control measures are in existence. Neither will the Guidelines be applied to locations where the test of time has demonstrated that individual household waste disposal systems have functioned over long periods (10 to 20 years) without the creation of water quality or public health problems and that population densities with ultimate development will not exceed that of the demonstrated successful application of individual disposal systems.

### GUIDELINES FOR SOLID WASTE DISPOSAL

The Regional Board will be guided by the following classification of solid waste disposal sites and the corresponding limitation on materials which may be deposited therein in the establishment of requirements for the disposal of solid wastes:

1. **Class I Sites:** Sites located on formations through which no appreciable seepage to usable waters can occur, or underlain by isolated bodies of unusable ground water, and which are protected from flooding and surface runoff and where waste materials and all internal surface drainage can be restricted to the site.

**Materials:** No limitations. Toxic chemicals and other potentially dangerous wastes may require special handling techniques to provide protection to the public health and environment.

2. **Class II Sites:** Sites underlain by usable ground water where the minimum elevation of wastes can be maintained above the maximum anticipated capillary fringe and which are protected from flooding and where surface drainage can be controlled and discharged without creating pollution or nuisance conditions.

**Materials:** Limited to ordinary household and commercial refuse, garbage, other decomposable organic materials, scrap metals, and solid inert materials of the nature listed below:

Garbage, including putrescible wastes from the preparation, cooking and serving of food; market wastes; and wastes from handling, storage, and sale of produce.

Paper, cardboard, wood, cloth, rubber, and similar materials.

Scrap metals such as scraps from machining, trimming, finishing, and rejects; abandoned vehicles; empty cans; etc.

Street refuse such as sweepings, dirt, leaves, litter and animal droppings.

Sewage treatment residue including solids from screens and grit chambers, sludge, and septic tank pumpings.

Agricultural and livestock wastes including dead animals.

Trees and tree trimmings, lawn clippings, sod, and shrubbery.

Ashes.

Paint sludge from which the major portion of liquids have been removed.

All materials acceptable at Class III Sites.

3. **Class III Sites:** Sites located so as to afford little or no protection to usable waters of the State.

**Materials:** Limited to solid inert materials of the nature listed below:

Earth, Rock, Gravel and sand.

Concrete, plaster and plaster board.

Glass.

Asbestos.

Asphalt paving fragments.

Brick, masonry, etc.

Steel Mill slag.

Inert plastics such as scraps from molding, extrusion, trimming, finishing and rejects.

It is the intent of the Regional Board to prevent erosion, siltation, blowing or other distribution from the disposal site to adjacent surface waters of waste materials and/or soils used in disposal operations.





## CHAPTER VI

### WATER QUALITY OBJECTIVES AND DISCHARGE PROHIBITIONS

Protection and enhancement of waters for the various present and anticipated beneficial uses is accomplished by the establishment of water quality objectives which prescribe the levels of certain water quality parameters.

The water bodies in the Sacramento River Basin (5A) and Sacramento-San Joaquin Delta Basin (5B) for which specific water quality objectives have been established are as follows:

#### Sacramento River Basin

**Sacramento River** from Keswick Dam to Eye Street Bridge at the City of Sacramento.

**Upper Yuba River Basin** except for the South Yuba River

**Feather River** from the Feather River Fish Barrier Dam to Sacramento River.

**American River** from Folsom Dam to the Sacramento River.

**Folsom Lake.**

**Goose Lake.**

**Sacramento River** from Box Canyon to Delta, Shasta County.

**Box Canyon Reservoir.**

**Sacramento River** from its sources to Box Canyon.

**Pit River** from Goose Lake to Shasta Lake.

**Shasta Lake.**

**Yuba River** from Rice Crossing to the Feather River.

**McCloud River** from its sources to Shasta Lake.

All streams and rivers above 1000 foot elevation.

#### Sacramento-San Joaquin Delta Basin

**Sacramento-San Joaquin Delta.**

**Cosumnes River** from proposed Nashville Reservoir to the Delta.

**Mokelumne River** from Camanche Reservoir to the Delta.

**Calaveras River** from New Hogan Reservoir to the Delta.

All streams and rivers above 1000 foot elevation.

The water quality objectives described on next page pertain to the above named water bodies. In most cases a general water quality objective is indicated for all water bodies. In some cases, however, specific objectives from a previously adopted policy are included. In the case of a conflict between these two objectives, the objective for the specific body of water shall prevail.

**Turbidity**

No significant increase beyond natural background levels. Furthermore, the turbidity of the bodies of water listed below shall not exceed the following levels, except as a result of floodwater inflows:

<u>Stream or Lake</u>	<u>Jackson Turbidity Units</u>
American River	
Folsom Dam to Sacramento River	10
Folsom Lake	10
Sacramento-San Joaquin Delta	
Central Delta Waters	50
Other Delta Waters	150

**Bottom Deposits**

None other than of natural causes.

**Floatables, Oil and Grease**

No visible effect other than of natural causes.

**Odors**

None other than of natural causes.

**Pesticides**

Pesticides are defined as any substance or mixture of substances used to control objectionable insects, weeds, rodents, fungi or other forms of plant or animal life. No individual pesticides or combination of pesticides shall reach concentration found to be deleterious to fish or wildlife. There shall be no increase in pesticide concentrations over background levels in indigenous aquatic life.

Additionally, the pesticides concentration in the bodies of water shown below shall be limited by the following provision:

American River – Folsom Dam to the Sacramento River.  
Folsom Lake.  
Sacramento-San Joaquin Delta.

Pesticide content shall not exceed 0.1 ug/l in American River and Folsom Lake and 0.6 ug/l in Sacramento-San Joaquin Delta as determined by the summation of individual concentrations, nor shall concentrations of individual or combinations of pesticide reach that level found to be detrimental to fish and wildlife.

**pH**

No significant change in normal ambient value nor shall pH be depressed below 6.5 units or above 8.5 units as a result of waste discharges, except for Goose Lake.

The pH of Goose Lake shall remain between the limits of 7.5 and 9.5 units at all time.

**Biostimulants**

No substance shall be added which produces aquatic growths in the receiving waters to the extent that such growths cause nuisance or damage to any of the beneficial water uses.

Additionally, the total nitrogen content of the following water bodies shall be maintained below the levels indicated below:

<u>Stream or Lake</u>	<u>Nitrogen (mg/l)</u>
American River Folsom Dam to Sacramento River	1.0
Sacramento-San Joaquin Delta Central Delta	1.0
Western Delta	2.0
Eastern Delta	3.0
Folsom Lake	1.0

**Bacteria**

As recommended by the California State Department of Public Health for these waters.

Furthermore, the bacteriological quality of the following bodies of water shall be limited by the provisions indicated for each body of water:

**American River from Folsom Dam to the Sacramento River**

Bacteriological quality of the river as measured in terms of most probable number (MPN) densities of fecal and standard coliform per 100 milliliters shall be maintained at levels which do not exceed historical values.

**Folsom Lake**

Bacteriological quality of Folsom Lake shall not exceed a median (MPN) of 100 fecal coliform per 100 ml.

**Sacramento-San Joaquin Delta**

Bacteriological quality of Delta waters shall not exceed a median (MPN) of 200 fecal coliform per 100 ml.

**Temperature**

Waters shall be maintained free from adverse temperature changes resulting from waste discharges or other activities of man.

Additionally, temperatures of the Sacramento River shall be maintained at historic levels since 1960. To facilitate and maintain these levels, heat increases attributed to the activities of man shall be limited by the following provisions:

1. No heat shall be added to the receiving waters such that it causes the receiving waters to increase in temperature in excess of 3°F over the water temperature immediately above the heat sources.
2. Normal seasonal and daily temperature variations shall be maintained.
3. The temperature shall not be elevated above 56°F in the reach from Keswick Dam to Hamilton City nor 68°F in the reach from Hamilton City to Eye Street Bridge during periods when temperature increases will be detrimental to the fishery.
4. Also, the heat increase attributed to the activities of man in each of the water bodies listed below shall be limited by the provision indicated for each body of water:

**Upper Sacramento River from Box Canyon to Delta, California and the Upper  
River from its sources to Box Canyon**

Time Period	Maximum Temperature (°F)
December 1 – March 15 . . . . .	55
March 16 – April 15 . . . . .	60
April 16 – May 15 . . . . .	65
May 16 – October 15 . . . . .	70
October 16 – November 15 . . . . .	65
November 16 – November 30 . . . . .	60

**Box Canyon Reservoir**

Water temperatures shall not exceed a mean daily temperature of 75°F in the epilimnion, or the mean daily ambient air temperature, whichever is greater.

**Sacramento-San Joaquin Delta and Goose Lake**

Temperature of these interstate waters shall conform to the applicable section of State Water Resources Control Board Policy regarding The Control Of Temperature In The Coastal And Interstate Waters And Estuaries Of California.

**Dissolved Oxygen**

Median dissolved oxygen concentrations in the main water mass shall not fall below 85 percent of saturation concentration, and the 95 percentile concentration shall not fall below 75 percent of saturation concentration; additionally, dissolved oxygen at any location shall not fall below 5 mg/l, nor 7 mg/l in waters above 1000 feet in elevation at any time as the result of waste discharges. When natural factors cause lesser concentrations, then controllable water quality factors shall not cause further reduction.

Additionally, dissolved oxygen in the following stream or lakes shall not fall below the minimum concentrations shown below as a result of waste discharges.

Stream or Lake	Period of Time	Minimum Dissolved Oxygen mg/l
<b>Sacramento River</b>		
Keswick Dam to Eye Street Bridge at Sacramento		*
Keswick Dam to Hamilton City	June 1 – August 31	9.0**
Downstream from Hamilton City	June 1 – August 31	7.0**
<b>Feather River</b>		
Oroville Fish Barrier Dam to Honcut Creek	September 1 – May 31	8.0
Oroville Fish Barrier Dam to the mouth	All Year	7.0
<b>American River</b>		
Nimbus Dam to Watt Avenue Bridge	All Year	7.0
Watt Avenue Bridge to Sacramento River	All Year	5.0
<b>Lake Natoma</b>	All Year	7.0
<b>Sacramento-San Joaquin Delta</b>	All Year	5.0***

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\* Dissolved oxygen levels in the Sacramento River shall be maintained at or near established seasonal levels and shall not fall below the minimum dissolved concentrations listed for specific reaches of the river.

\*\* When natural conditions lower the dissolved oxygen below these levels, the saturation level shall be maintained at or above 95 percent of saturation.

\*\*\* With the following exceptions --1) In the water bodies where the reduction occurs as a result of natural causes and 2). In certain bodies of water which are constructed for special purposes and from which fish have been excluded or the fishery is not important as a beneficial use.

## Specific Conductivity

Waste discharges and other activities of man shall be so regulated that the conductivity of the Sacramento River shall not adversely affect beneficial uses. The following values, while not intended to affect the expected future development of the Sacramento River Basin, will give guidance in the development of waste discharge requirements for wastes which may contribute unusual amounts of dissolved organic or inorganic materials to the river. The 25°C specific conductance of the river shall not exceed the following levels based upon the previous moving 10 years of record:

### Knight's Landing above Colusa Basin Drain

50 percentile – 230 micromhos

90 percentile – 235 micromhos

### Freeport

50 percentile – 240 micromhos

90 percentile – 340 micromhos

Specific electrical conductivity in well mixed waters of the Feather River shall not exceed 150 micromhos.

## Total Dissolved Solids

No dissolved solids shall be added in quantities found to be deleterious to beneficial uses. Additionally, the total dissolved solids concentration of the waters described below shall not exceed the following levels:

### American River

Shall not exceed 125 mg/l

### Folsom Lake

Shall not exceed 100 mg/l

### Goose Lake

Shall not exceed 1,300,000 tons

### Sacramento-San Joaquin Delta

1. Cache Slough at City of Vallejo Intake: 250 mg/l.
2. Rock Slough at Contra Costa Canal Intake:  
750 mg/l, mean tidal cycle value, and  
380 mg/l, mean tidal cycle value, for at least 65 percent of any year.
3. San Joaquin River near Vernalis: 500 mg/l mean average concentration over any consecutive 30-day period.
4. Eastern Delta Channels: 700 mg/l mean monthly concentration.
5. At Terminous in Little Potato Slough, at Rio Vista in the Sacramento River, at San Andreas Landing in the San Joaquin River, at Clifton Court Ferry in Old River, and after the initial operation of the Peripheral Canal, at the bifurcation of Middle River and Old River.

- a. A mean daily total dissolved solids content of 700 mg/l or less when measured on the basis of the average mean daily value for any 10 consecutive days.
  - b. A mean monthly total dissolved solids content of 500 mg/l or less when measured on the basis of the average mean daily value for any calendar month.
  - c. A mean annual total dissolved solids content of 450 mg/l or less when measured on the basis of the average mean daily value for any calendar year.
6. After April 1, in a dry or critical year and after August 1 in a **below normal year** (1) and until December 31 of the same calendar year, the total dissolved solids criteria specified in Item No. 5 above, may reach, but not exceed, 800 mg/l for item a, 600 mg/l for item b, and 500 mg/l for item c; provided, however, the average of the values of the total dissolved solids content at all of the named locations shall not exceed, for the balance of the calendar year, the mean values specified in Item No. 5 above.
  7. Whenever the recorded total dissolved solids content in the Sacramento River at Green's Landing exceeds a mean 10-day or a mean monthly value of 150 mg/l, the quality criteria in Items No. 5 and 6 may be changed by adding to those values the product of 1½ times the amount by which the recorded total dissolved solids content at Green's Landing exceeds 150.

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(1) "**Below normal year**" shall mean any year in which the forecasted **full natural inflow to Lake Shasta Lake** (2) for the current water year is equal to or less than 4,500,000 acre-feet but more than 4,000,000 acre-feet.

(2) "**Full natural inflow to Shasta Lake**" shall mean the computed inflow to Shasta Lake under present water development above Shasta Lake. In the event that a major water project is completed above Shasta Lake after September 1, 1963, which materially alters the present regimen of the stream systems contributing to Shasta Lake, the computed inflow to Shasta Lake will be adjusted to eliminate the effect of such water project. After consultation with the State, the Weather Bureau, and other recognized forecasting agencies, the United States Bureau of Reclamation will select the forecast to be used and will make the details of it available to the Delta water users. The same forecasts used by the United States for the operation of the Central Valley Project shall be used to make the forecasts under this agreement. Such forecasts shall be made by February 15 of each year and may be revised as frequently thereafter as conditions and information warrant.

## Chloride

Chloride concentration for the following Sacramento-San Joaquin Delta waters shall be maintained below these limits:

Rock Slough at Contra Costa Canal Intake:

250 mg/l, mean tidal cycle value, and

100 mg/l, mean tidal cycle value, for at least 65% of any year.

Cache Slough at City of Vallejo Intake: 100 mg/l.

At Jersey Point in the San Joaquin River and at Emmaton (southwest end of Horseshoe Bend) in the Sacramento River, a mean daily chloride content of 1,000 mg/l or less when measured on the basis of the average mean daily value for any 10 consecutive days, except that after August 1 of a critical year (1) and until December 31 of the same calendar year, the quality criteria set forth above may be increased from 1,000 mg/l to 1,400 mg/l of chloride.

At Jersey Point in the San Joaquin River and at Emmaton in the Sacramento River, an average daily chloride content of 200 mg/l or less for a period of at least 10 consecutive days each year at sometime during the period between April 1 and May 31, except in dry (2) or critical years.

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- (1) **“Critical Year”** shall mean any year in which either of the following eventualities exists:
- a. The forecasted full natural inflow to Shasta Lake for the current water year (October 1 of the preceding calendar year through September 30 of the current calendar year) is equal to or less than 3,200,000 acre-feet; or
  - b. The total accumulated actual deficiencies below 4,000,000 acre-feet in the immediately prior water year or series of successive prior water years each of which had inflows of less than 4,000,000 acre-feet, together with the forecasted deficiency for the current water year, exceed 800,000 acre-feet.
- (2) **“Dry Year”** shall mean any year other than a critical year in which the forecasted full natural inflow to Shasta Lake for the current water year is equal to or less than 4,000,000 acre-feet.



**Trace Constituents**

Trace constituents in the bodies of water shown below shall be maintained below the following levels (in mg/l):

Sacramento River – Keswick Dam to Eye Street Bridge at Sacramento.

American River – Folsom Dam to Sacramento River.

Folsom Lake

Sacramento-San Joaquin Delta

Arsenic .....	0.01 mg/l
Barium.....	0.1 mg/l
Boron .....	0.5 mg/l
Cadmium .....	0.01 mg/l
Chromium, Hexavalent .....	0.05 mg/l
Copper.....	0.01 mg/l
Cyanide .....	0.01 mg/l
Fluoride .....	0.5 mg/l
Iron .....	0.3 mg/l
Lead .....	0.05 mg/l
Manganese.....	0.05 mg/l
Selenium .....	0.01 mg/l
Silver.....	0.01 mg/l
Zinc.....	0.1 mg/l

Additionally, the following trace constituents shall not exceed the levels indicated for each of the water bodies shown below:

Stream or Lake	Objective (mg/l)				
	Cobalt	Chlorine	Mercury	Carbon Chloroform Extract (CCE)	Methylene Blue Active Substance (MBAS)
<b>Sacramento River</b>					
Keswick Dam to Eye Street Bridge at Sacramento		0.1	0.005		0.5
<b>American River</b>					
Folsom Dam to Sacramento River	0.2	0.05		0.15	0.5
<b>Folsom Lake</b>	0.2				

**Radioactivity**

None present in concentrations exceeding levels set forth in California Radiation Control Regulations, Sub-chapter 4, Chapter 5, Title 17, California Administrative Code.

**Toxicity**

No toxic substance which will produce deleterious effects upon beneficial water uses shall be discharged to the receiving waters.

## **PROHIBITIONS**

Specific water quality or water pollution control policies adopted by this Regional Board prohibits the discharge of wastes under certain conditions, to waters protected by the policy. Previously adopted waste discharge prohibitions to the waters listed below shall remain in effect:

1. Oroville Reservoir
2. Lake Berryessa
3. Tulloch Reservoir
4. Thermalito Forebay and Afterbay
5. Whiskeytown Reservoir
6. Shasta Lake
7. Upper Yuba River and its Tributaries. (Upstream from Rice Crossing)

## CHAPTER VII

### PROGRAM OF IMPLEMENTATION

During the five-year period 1971 to 1976 an anticipated expenditure of one billion dollars will be committed for waste treatment facilities under the Federal Public Law 660 Grant Program and the State's Clean Water Bond Act. Local participation is expected to provide twenty percent of this amount. Additional monies may be provided by the Farmers Home Administration, Economic Development Administration and other agencies for the construction of collection, transport and treatment of sewage. These expenditures, which are for assisting municipalities in solving present waste disposal problems will be only a portion of the total amount earmarked for the solution of waste disposal. Substantial expenditure of funds will also be required by industrial waste dischargers to meet present and future waste discharge requirements.

The foregoing program will be expensive when compared to past efforts in this area of public and private water pollution and water quality control. To coordinate the many individual projects into a both practical and economically sound basinwide waste management program there is a need to prevent duplication of service, unnecessary and excessive treatment and undesirable treatment projects. During the interim period this will be accomplished by considering all grant fund projects in light of how they complement the Interim Plan. That plan will be expanded in scope and detail during the period 1 July 1971 to 1 July 1973 at which time comprehensive basin plans will be adopted. The facilities plans, indicated below, and other plans which lead to the solution of present and future sewage disposal problems, will be examined during the early portion of the interim period. The economics and functional performance expected from the various plans will be carefully examined. Dischargers in the various plan areas are expected and encouraged to engage in an active planning program to resolve any present unknowns.

#### FACILITIES PLAN FOR THE SACRAMENTO RIVER BASIN (5A)

##### South Shasta County

The County of Shasta developed a "General Plan Report Sewage Element" as part of their county plan. This plan indicates that a regional approach should be taken in solving the waste disposal problems in the South Central Portion of that county. In order to implement this plan, the County has legislative approval to create a zone (Zone 2) of their water agency after a vote of the people to administer regional sewage facilities. This zone should be expanded to include the area from Cottonwood Creek to Clear Creek or an additional zone could be created. The Regional Board's plan for this area is similar in its physical aspects.

The plan calls for two regional plants. One located at the City of Redding's Clear Creek Treatment Plant and a second located near the community of Anderson. The Redding plant is now serving that City. The Anderson plant should be built in the near future and should be so located as to allow inflow from interceptors which could convey waste from the Lower Churn Creek area, the existing Redding Clear Creek Plant or other sources serving the South Central Portion of Shasta County. Future study of this plan will be required before firm commitments could be made to this or any other plan involving consolidation of treatment facilities or expenditure of funds for transport of treated or untreated waste water to a centralized location for disposal. Subregional plants may be required at Cottonwood, Plant B (as designated in the County Sewage Element) or other locations where special needs arise. Such subregional plants should be built only if there are indications that those locations could not reasonably be served by a regional plant. The effectiveness and economic considerations of any proposed project must be thoroughly examined before federal or state grant monies could be expended for construction of regional, subregional, or individual treatment plants or transport systems.

It is anticipated that the implementation of the facilities plan, or an improved regional plan, may be built in several stages. During the interim period development will generally follow the "Shasta County

Sewage Element". The ultimate goal will be consolidation of the facilities where desirable. Discharge of a high grade effluent to the Sacramento River may be necessary if reclaimed waste water uses are not developed.

The most effective method of sewage treatment and disposal may be a reduced number of relatively large treatment plants. In the initial stage of the plan certain sewage treatment plants may be relatively small and could serve areas temporarily. As the area grows, they may be abandoned and their functions accomplished at more desirable locations. Communities located in South Central Shasta County which may be included in a Regional Water Quality Control Plan, which will be a part of the Comprehensive Basin Plan, are:

Mountain Gate	Project City	Central Valley
Summit City	Buckeye	Redding
Cascade	Lower Churn Creek	Anderson
Cottonwood	Enterprise	

That plan will give consideration to consolidation of the various separate systems for more effective water quality control. The reduction of infiltration, which would increase the hydraulic capabilities of the interceptors and the treatment plant, will be an important part of the overall plan.

During the interim period, the staging of the facilities plan is envisioned to occur at about the rate anticipated in Shasta County's "General Plan Sewage Element Report". The comprehensive plan will consider a time schedule for constructing the above facilities to ensure that water quality is maintained in the area.

The South Shasta County Area near Battle Creek and Cottonwood Creek has potential for recreational subdivision development. Such development is expected to be made in conformance with county and other regional planning guidelines or regulations. Future development should complement area-wide planning.

This conceptual plan conforms generally with the Shasta County "General Plan Report Sewage Element" which was developed under the local Areawide Planning Organization.

#### **Clear Lake Area**

Lake County has adopted a Sewage Disposal Plan as an element of the County General Plan. In that plan there are two proposals for solving the sewage disposal problems at Clear Lake. One plan envisions several small treatment plants operated by districts. The other calls for an interceptor around Clear Lake with a treatment plant located at its southeast end. The discharge would be to Cache Creek. Cost for this interceptor, lift station and treatment plant is estimated at \$16,000,000. The county plan indicates more study is needed to determine costs and benefits of the two plans.

The Regional Board staff recommends a plan that is somewhere between the county's two conceptual plans. The major elements of this plan are as follows:

1. Construct an interceptor from Lucerne through Nice and Northern Lakeport to the present treatment plant site south of Lakeport. A regional treatment plant would be located near the present Lakeport plant site.

Treated effluent would be used for irrigation. Excess effluent could be pumped to Scott Valley west of the plant or discharged to Clear Lake. Additional treatment such as nutrient removal may be necessary for a discharge to the lake. An interceptor from the Kelseyville collection system to this regional plant may be desirable at a later date if population growth occurs in that area.

2. Interceptor sewers would transport sewage from the Clear Lake State Park and other high density areas east and south of Kelseyville into the Kelseyville collection and treatment system.

3. An interceptor sewer and treatment plant is being built north of Clear Lake Highlands. This system should be expanded to treat sewage from the areas east of the lake and south of the Lucerne system. Portions of the area west and south of the lake could also be served by this system.
4. Other areas would be served by individual treatment plants with land disposal of effluent. Maximum use of effluent for irrigation should be encouraged. County control of development could minimize the amount of sewage produced in areas served by those small treatment plants.

The staff believes that this plan could be implemented at somewhat less cost than exporting all sewage out of the Clear Lake Basin. Discharge of effluent to Cache Creek below the Clear Lake outlet may require a level of treatment that is prohibitive from an operation and maintenance cost standpoint.

#### **Chico Area**

The Chico treatment plant should sewer the west-central portion of Butte County. Such a regional plant could serve the Greater Chico Area. The exact boundary for a service area has not been determined. Future development should be confined to such a service area when possible.

#### **Marysville-Yuba City Area**

A regional sewage treatment plant should be built south of these two cities near the Linda Water District's present treatment plant site. The treatment plant could be located either east or west of the Feather River. Disposal of treated effluent would be to land for irrigation or by percolation ponds located east of the Feather River in Sutter County. The communities of Yuba City, Marysville, Linda and Olivehurst should all be served by this regional plant. Consolidation of the above plants may be accomplished during several phases of construction. Additional study will be needed to determine costs and time schedule for implementing this plan. This conceptual plan conforms generally with the Sacramento Regional Area Planning Commission's "Regional General Plan", which was developed under the local Areawide Planning Organization.

#### **Oroville Area**

The Oroville area would be served by a regional sewage treatment plant located south of the communities of Oroville, North Burbank and Thermalito. The three communities indicated above will be connected to a joint disposal system.

#### **Paradise Area**

The Paradise area should construct one regional sewage treatment plant south of the central business area to serve most of the development surrounding the city. Further development may need to be restricted until a collection and treatment plant is built and operational. The Regional Board may be requested to consider a no discharge policy for this area at a future date. More information is needed to determine the number of failing septic tanks now receiving waste in that community.

The Butte County General Plan being developed under the Areawide Planning Organization has not been adopted. This conceptual plan is in general agreement with preliminary drafts of that plan.

#### **Roseville-Rocklin-Loomis Area**

A study is under way to consider consolidating the Rocklin-Loomis Main Sewage Treatment Plant with the City of Roseville's Sewage Treatment Plant. A new treatment plant at Roseville should serve the development on Rocky Ridge Road near Interstate 80 and the several industrial waste dischargers located

near the present treatment plant site. The location and sizing of the plant will need further study. This conceptual plan conforms generally with the Sacramento Regional Area Planning Commission's "Regional General Plan" which was developed under the local Areawide Planning Organization.

### Sacramento County

The conceptual plan for sewage collection and treatment in Sacramento County is presented in the following four plans:

1. The northwestern portion of Sacramento County will be served by one treatment plant located near the junction of Interstate Highway 5 and 880. The present Natomas treatment plant, which is operated by Sacramento County, will receive sewage from the following existing plants:

Linwood Estates Sanitation District – Sacramento County  
Highland Estates Sanitation District – Sacramento County  
Sanitation District No. 6 – Sacramento County  
Rio Linda Water District – Local Water District  
McClellan Air Force Base – U. S. Air Force  
Sacramento County Metropolitan Airport – Sacramento County

There is a possibility that the Roseville Regional Plant may also consolidate with the Natomas Plant's system. This would be after the present five year grant program. Much more study will be needed to determine if and when this consolidation is practical.

2. The eastern and south central areas of Sacramento County would utilize the Counties Central Sanitation Districts Treatment Plant as follows:

Folsom State Prison, Represa – State of California  
Folsom, City of – City of Folsom  
Arden Gold Sanitation District – Sacramento County  
Northeast Sanitation District – Sacramento County  
Cordova Sanitation District – Sacramento County  
Mather Air Force Base – U. S. Air Force  
Aerojet Plant – Industrial  
Manlove Sanitation District – Sacramento County  
Sacramento City, Meadowview Plant – City of Sacramento  
Elk Grove, City – City of Elk Grove

Initially the effluent will be discharged to the Sacramento River. Further transport to the Yolo By-Pass may be desirable at a later date. Ground water recharge at various points along this system may be desirable. That concept should be explored fully prior to committing all treatment to the Central Plant.

3. The sewage from West Sacramento and the Arden Sanitation District could be combined with that of Sacramento at the latter's 35th Avenue Plant. Partial treatment could be given at the existing site. The new activated sludge plant planned by the City of Sacramento could be located at the existing plant or west of the Sacramento River in Yolo County. That choice will affect how this consolidation would be accomplished. There are probably several other options which may be more desirable. The entire problem should be studied to determine satisfactory locations for the needed treatment facilities and outfall.
4. The combined sanitary and storm sewers serving the City of Sacramento present additional treatment and disposal problems. Flow rates may reach 500 M.G.D. for short periods of time combined with the sanitary sewage. At the present time this flow is discharged to the Sacramento River when the hydraulic capacity of the 35th Avenue plant is exceeded. Micro screening and chlorination may be a practical method of treating this flow. Discharge to the Yolo By-Pass may be another solution to the problem. A region treatment plant may be desirable near the by-pass at a

future date. Study of this concept should be a part of the long range planning effort of the Sacramento area.

The Sacramento area presents the most complex sewage disposal problem in the Sacramento River Basin. Flows in excess of 200 M.G.D. can be expected during the not too distant future. It is the thinking of the Regional Board staff that an in-depth on-going study of this problem is necessary. Such a study should begin prior to 1972. Firm commitments to a regional plan should be made by all waste producers in the area no later than 1 July 1972.

This plan for Sacramento County and portions of Placer and Yolo Counties conforms generally with the Sacramento Regional Area Planning Commission's "Regional General Plan", which was developed under the local Areawide Planning Organization.

## FACILITIES PLAN FOR THE SACRAMENTO-SAN JOAQUIN DELTA BASIN (5B)

### Sacramento Area

Consolidation of waste treatment plants in Sacramento County was discussed in the Basin 5A Facilities Plan. Located on the west side of the Sacramento River and within the same reach in Basin 5B, there are two major discharges, West Sacramento Sanitary District, and American Crystal Sugar. In the future these increasing treated waste loads may result in an adverse impact on the quality of the Sacramento waters. A study should be made to determine the feasibility of removing this loading from the river and transporting it to the Yolo By-Pass. A detailed economic study would be needed to determine if the regional treatment plants could continue to exist in their present locations and discharge treated effluent to the By-Pass or if the plants should be phased out with an overall master plant constructed at the By-Pass. This plan conforms generally with the Sacramento Regional Area Planning Commission's "Regional General Plan" which was developed under the local Areawide Planning Organization.

### Lodi Area

The City of Lodi has a waste treatment plant located on White Slough which is tributary to Delta Waters. This plant is scheduled for expansion during the current five year grant program. The community of Woodbridge has an Imhoff tank and ponds for treating its waste. A relatively short interceptor could connect the Woodbridge system into the Lodi collector and treatment system. The plan for this area indicates that Woodbridge should be included in the Lodi system in the near future.

### Stockton Area

The City of Stockton has two treatment plants. The main treatment plant will be expanded during the five year grant program. Tertiary treatment will be provided at this plant. The City's Northwest Plant may need to send its effluent to the main plant for polishing. The Lincoln Village treatment plant, which is operated by San Joaquin County and serves the north Stockton area, should be phased out in the near future. Sewage now treated in this plant should be transported to the Stockton Northwest Plant which has an excess of treatment capacity. This could be accomplished with a short interceptor.

### Contra Costa County

The Contra Costa County area is covered in the Interim Plan developed by the California Regional Water Quality Control Board, San Francisco Bay Region.

### Vacaville Area

Vacaville has a new treatment plant at Elmira. The plan envisions Vacaville's Brown Street Plant and the Vacaville Medical Facility connecting to the City's interceptor for transport and treatment of

their wastes at the Elmira Plant. The American Home Foods treatment plant is seasonal and would remain in operation as is.

#### **Amador County**

Amador County has several areas in the Jackson-Sutter Creek area that need collection and treatment facilities. The plan envisions that waste from Jackson, Argonaut Heights, Martell and Sutter Creek would be given partial treatment near Sutter Creek. Effluent from that plant would be used for local irrigation. Excess effluent could be transported by ditch to Ione for ground water recharge along with effluent from a joint Ione – Preston School of Industry plant.

The following pages present the foregoing facilities plans in a tabulated format. It should be borne in mind that future studies will consider alternate plans prior to commitment of construction funds to any major project that will set the stage for transport of wastes to regional treatment facilities. Such studies should be completed in the near future if the present federal and state grant program is to be of assistance in solving those problems.

Project lists indicating those projects which will be considered for certification by the State Water Resources Control Board to the Environmental Protection Agency as eligible for federal grants were prepared. They are attached as Appendix A.



BASIN 5-A

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
Lake New	(1) Lucerne		NA	Septic tanks	Land	NA		See 4 below
New	(2) Nice		NA	Septic tanks	Land	NA		See 4 below
5A-17-010	(3) Kelseyville	1972-73	0.05		Land and Cold Creek	1,218,000		See 4 below
5A-17-003	(4) Lakeport	Consolidate 1,2,3, and 4 with a Regional Treatment Plant located south of Lakeport	0.400	Secondary and ponds	Land	340,000	Irrigation and land disposal	County Water and Sewer District
5A-17-002	(5) Lake County Sanitation District No. 2	1971-72 Regional Treatment Plant to serve developments at east end of Clear Lake	0.250	Secondary and ponds	Land	NA	Irrigation and land disposal	County Water and Sewer District
Placer 5A-31-035	(1) Rocklin-Loomis Main Treatment Plant		1.500	Ponds	Antelope Creek			See 4 below
5A-31-043	(2) Pacific Fruit Express		NA	Pond	Dry Creek	NA		See 4 below

**NOTE:** The fully developed plan will determine if additional treatment plants are needed at Clear Lake. This plan is a modification of the Lake County Sewage Plan adopted by the County in 1971.

NA - Not Available

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
<b>Placer (Cont'd)</b>								
5A-31-043	(2) Pacific Fruit Express		NA	Pond	Dry Creek	NA		See 4 below
5A-31-044	(3) Southern Pacific Railroad		NA			NA		See 4 below
5A-31-042	(4) Roseville	1971-72 Consolidate 1,2, and 3 with 4	3.00	Secondary and ponds	Dry Creek	NA		
		1972-73 Expand Roseville Treatment Plant				4,300,000	Land disposal and irrigation	Joint powers agreement or County District
NOTE: Study is being conducted to determine feasibility of consolidating the above facilities.								
<b>Shasta</b>								
New	(1) Wonderland Mountain Gate	Construct facilities to serve 1,2, 3,4,5,6,7,8,9,10 and 11. No schedule has been set due to unknowns. This project should be considered for the 1970-76 time frame during which up to 80% of project costs may be eligible for federal and state grant funding.	NA					County Plan sets estimated cost at \$30,000,000
New	(2) Project City		NA			NA		NOTE: During the Interim Period a Regional Water Quality Control Plan will be developed. That plan will consider in detail consolidation of sewage treatment plants and necessary interceptor sewers for effectively serving the South Central Shasta County Area.
New	(3) Central Valley		NA			NA		
New	(4) Summit City		NA			NA		
New	(5) Buckeye		NA			NA		
5A-45-033	(6) Enterprise		1,000	Ponds	Churn Creek	NA		
5A-45-038	(7) North Redding		0.140	Ponds	Boulder Creek	NA		
5A-45-038	(8) Central Redding		4,000	Ponds	Land and Sacramento River	NA		

NA -- Not Available

BASIN 5-A

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
Shasta (Cont'd)								
New	(9) Cascade		NA			NA		
New	(10) Lower Churn Creek		NA			NA		
5A-45-041	(11) Anderson	1971-72 New Treatment Plant	0.600			NA		
5A-45-045	(12) Cottonwood	Consolidated 12 with 11 if future growth is great at Cottonwood	NA	Ponds	Sacramento River		Reclaimed waste water for discharge to land on the Sacramento River. River discharge may require advanced treatment and filtration prior to disinfection.	County District
Sacramento								
5A-34-003	(1) Linwood		0.010	Pond	Dry Creek			
5A-34-002	(2) Highlands		0.130	Secondary and ponds	Dry Creek			
5A-34-007	(3) Rio Linda Water District		0.300	Secondary and ponds	Linda Creek	NA		See 6 below
5A-34-049	(4) McClellan		1.500	Secondary and ponds	Magpie Creek	NA		See 6 below
5A-34-010	(5) Sanitation District No. 6		2.250	Secondary	Magpie Creek	NA		See 6 below

NA - Not Available

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
Sacramento (Cont'd)								
5A-34-009	(6) Natomas	1974-75 Consolidate 1,2, 3, 4, and 5 with 6	1,000	Primary and ponds	Natomas East Main Drain	10,000,000	Irrigation and waste water reclamation	County Water District
5A-57-003	(1) West Sacramento, San. Dist.		3,000	Secondary	Sacramento River	NA		Contractual agreement between McClellan Air Force Base and the County District
5A-34-047	(2) Sacramento Main Treatment Plant	Consolidation of 1,2,3, and 4 may be desirable in the future	65,000	Secondary	Sacramento River	NA		
5A-34-048	(3) Central Sanitation District	A regional treatment plant near the Yolo By-Pass with storage for combine flow sewers should be studied	30,000	Secondary	Sacramento River	NA	Irrigation and/or waste water reclamation to land or the Sacramento River near Rio Vista	Joint Power Agreement
New	(4) Sacramento City of, combine sewers		400 to 600 M.G.D.	No treatment	Sacramento River	NA		

NA - Not Available

BASIN 5-A

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
Sacramento (Cont'd)								
5A-34-014	(1) Folsom Prison		1.000	Secondary	American River	NA		Items 1-9 -- See 10 below
5A-34-018	(2) Folsom, City of		0.450	Secondary	American River	NA		
5A-34-017	(3) Arden Gold		0.225	Primary	Land	NA		
5A-34-028	(4) Northeast	1971-72 Consolidate 1, and 3 with 4	211.000	Secondary	American River	NA	Future waste water reclamation (see below)	
5A-34-023	(5) Cordova		2.000	Secondary	American River	NA		
5A-34-011	(6) Manlove		0.320	Secondary	Morrison Creek	NA		
5A-34-031	(7) Mather Air Force Base		2.000	Secondary	Morrison Creek	NA		
5A-34-050	(8) Elk Grove	1973-74 Consolidate 8 with 10	0.360	Primary	Laguna Creek	80,000	(see below)	
5A-34-051	(9) Meadow-	1073-74 Consolidate 9 with 10	1.000	Secondary	Sacramento River	NA		

NA - Not Available

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
Sacramento (Cont'd) 5A-34-048	(10) Central Sanitation District	1974-75 Consolidate 4, 5, 6 and 7 with 10	8.000	Secondary	Sacramento River	25,000,000	Irrigation and/or reclamation of waste water	County District with contractual agreement between the City of Sacramento, Mather AFB and the District
5A-34-033	(11) Arden Sanitation District		4.500	Secondary	American River	NA		
5A-34-047	(12) Sacramento Main Plant	1972-73 Consolidate 11 with 12	60.000	Secondary	Sacramento River	25,000,000	Waste water reclamation	Contractual agreement between Sacramento County and City
Sutter-Yuba 5A-58-009	(1) Linda Water District		0.6	Ponds	Land and Feather River	55,000		See 4 below
5A-58-018	(2) Olivehurst Public Utility District	1972-73 Consolidate 1 and 2 with Regional Plant	0.8	Secondary	Bear River	100,000		See 4 below
5A-51-006	(3) Yuba City		5.0	Primary and ponds	Feather River	3,000,000		See 4 below

NA - Not Available

BASIN 5-B

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
Sutter-Yuba (Cont'd) 5A-58-007	(4) Marysville	1971-72 Construct Regional Treatment Plant at central site to allow hookup of all four plants. Yuba City will need to treat can-very wastes at this plant as soon as possible	1.5	Secondary and ponds	Land	NA	Land disposal and irrigation	Bi-County District or Joint Powers Agreement
Amador 5B-03-020	(1) Jackson		0.200 (Est.)			320,000		See 4 below
New	(2) Martell		0.050 (Est.)			NA		See 4 below
5B-03-015	(3) Argonaut Heights		0.050 (Est.)			NA		See 4 below
5B-03-012	(4) Sutter Creek	1972-73 Consolidate 1, 2, and 3 with 4	0.150 (Est.)	Secondary, disinfection and ponds	Agricultural irrigation, and ground water recharge near lone	100,000	Irrigation and ground water recharge	County District and contractual agreement with Argonaut Heights
5B-03-013	(5) Preston School of Industry		0.200					See 6 below

NA - Not Available

BASIN 5-B

TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN

ID No.	Discharger	Schedule for Consolidation and Construction	Flow	Level of Treatment	Location of Discharges	Project Cost	Reclamation Potential	Institutional or Governmental Arrangements
Amador (Cont'd) 5B-03-017	(6) Ione	1975-75 Consolidate 4 and 5 with 6	0.250	Secondary, disinfection and ponds	Agricultural irrigation and ground water recharge near Ione in the Dry Creek watershed	NA	Irrigation and ground water recharge	County District and contractual agreement with Department of Corrections (Preston School)
San Joaquin County 5B-39-030	(1) Lincoln Village		1.500	Secondary and Ponds		553,000		See 4 below
5B-39-033	(2) Stockton Northwest	1971-72 Consolidate 1 with 2	1.5	Secondary ponds		1,000,000 (est.)		See 4 below
5B-39-034	(3) Stockton Inn and Service		0.075	Package Plant		50,000 (est.)		See 4 below
5B-39-038	Station Properties							
5B-39-040	(4) Stockton Main	1973-74 Consolidate 2 and 3 with 4	40,000	Tertiary	San Joaquin River	18,000,000	Waste water Reclamation	Annex to the City of Stockton
5B-39-007	(1) Woodbridge, City of	1972-73 Consolidate 1 with 2	0.150	Imhoff Tank and Ponds	Evaporation Ponds	50,000	Irrigation	Contractual Agreement with the City of Lodi
5B-39-025	(2) Lodi, City of		4,000	Activated sludge and Ponds	White Slough in Eastern Delta Waters	1,958,000	Irrigation	

NA - Not Available



**BASIN 5-B**

**TABLE 4  
INTERIM WASTEWATER FACILITIES PLAN**

<b>ID No.</b>	<b>Discharger</b>	<b>Schedule for Consolidation and Construction</b>	<b>Flow</b>	<b>Level of Treatment</b>	<b>Location of Discharges</b>	<b>Project Cost</b>	<b>Reclamation Potential</b>	<b>Institutional or Governmental Arrangements</b>
Solano 5B-48-004	(1) Vacaville Brown Street		0.250	Primary and Ponds		NA		See 3 below
5B-48-006	(2) Vacaville Medical Facility		0.500	Secondary and Ponds		NA		See 3 below
5B-48-005	(3) Vacaville Elmira Plant	1972-73 Consolidate 1 and 2 with 3	0.300	Secondary	Alomo Creek	800,000	Irrigation	Contractual agree- ment between Dept. of Corrections and the City of Vacaville

NA - Not Available

## SURVEILLANCE

Effective water quality management requires three categories of water quality monitoring. First, individual treatment plant monitoring is necessary to maintain optimum treatment efficiencies and compliance with waste discharge requirements. Plant effluent monitoring is also essential to assess the individual effects of each waste source on the waters into which it discharges. Second, the rivers, lakes, and ground waters receiving wastes must be examined to assure attainment and maintenance of water quality levels consistent with state water quality criteria. Third, the effects on water quality of manipulating the state's waters through water resource development projects must be determined and evaluated. These three categories of monitoring will provide information necessary for efficient management of pollution control facilities and water resource development projects and the effective administration of water quality criteria.

The objectives of a comprehensive surveillance or monitoring program for water quality management are to identify:

- Compliance and noncompliance with water quality criteria.
- Water quality baselines and trends.
- Improvements in water quality produced by abatement measures undertaken.
- Emerging water quality problems, in sufficient time to effect adequate preventive measures.

The State Water Resources Control Board and California Regional Water Quality Control Boards have an established program of surveillance based on discharger self-monitoring, regional board routine sampling and data acquisition from other state agencies in compliance with Division 7 of the California Water Code.

Significant waste discharges and, in many cases, the attendant receiving waters are monitored by the discharger in compliance with waste discharge requirements adopted by the regional board. These data are supplemented by sampling conducted by the regional board staff and by special surveys conducted by other agencies at the Board's request.

The Department of Fish and Game conducts many special surveys of water quality and aquatic biota at specific locations for limited time periods.

The Department of Public Health requires public water suppliers to periodically report certain water quality parameters of importance to public health and supplements this information with sampling and analyses by departmental staff. Special surveys of new water supply sources also yield considerable data.

The Department of Water Resources operates an extensive water quality monitoring program. The program includes, in general, monthly sampling of both surface and groundwaters. In addition, short-term studies yielding water quality data are made of specific areas. Additional data are acquired from local agencies and are available through Department of Water Resources.

In addition to the various state and local agencies, several federal agencies routinely collect water quality information within their respective areas of interest and conduct studies and investigations which yield water quality data. Particularly significant among these are the U.S. Geological Survey; Environmental Protection Agency, Water Quality Office; U.S. Bureau of Reclamation; and the U.S. Corps of Engineers.

The need for a comprehensive surveillance program encompassing the requirements of all state agencies has already been recognized by the State Board. A preliminary evaluation was presented in the February 1971 report, "Evaluation of Water Quality Monitoring Programs in California." The steps leading to a comprehensive program were described as:

1. Define objective and scope.
2. Develop a data management system capable of handling the data and providing for evaluation of the program.

3. Evaluate existing monitoring against the program objectives.
4. Identify methods of sampling and analysis to include in the program.
5. Prepare and implement the detailed program.

The objectives of a comprehensive surveillance program for water quality management have been previously presented. The State Water Resources Control Board is currently preparing and implementing a data management system capable of satisfying the needs of the total statewide surveillance program. Detailed evaluations of water quality monitoring needs have been made for the Bay-Delta area ("An Environmental Monitoring Program for the Sacramento-San Joaquin Delta and Suisun Bay", State Water Resources Control Board Publication No. 40), and for pesticides monitoring throughout the state ("A Review of Pesticide Monitoring Programs in California", State Water Resources Control Board, February 1971). The utility of remote sensing has been studied ("Study to Evaluate the Utility of Aerial Surveillance Methods", State Water Resources Control Board Publication No. 41) and monitoring by satellite is being investigated through the Earth Resources Technology Satellite program.

As techniques appear practical, they are being tested in pilot programs. Two pilot programs will be in operation shortly after July 1, 1971. A low altitude aerial surveillance program will be conducted by board staff as a routine surveillance component. An intensive monitoring of hazardous materials will be conducted in the Monterey Bay drainage area to determine the most effective approach to a full statewide operation.

These surveillance planning and development activities are proceeding on a schedule which will complement and support the fully developed water quality management plans.



## APPENDIX A

### PROJECT LISTS

Basic to the implementation of this interim plan are lists of municipal and industrial projects proposed for construction. These are presented on the following pages.

On April 1, 1971, the California State Water Resources Control Board adopted regulations for administering the joint federal-state grant program for construction of wastewater treatment projects. These regulations (Subchapter 7, commencing with Section 2100 of Chapter 3, Title 23, California Administrative Code) were adopted to implement the Clean Water Bond Law of 1970 (Water Code, Division 7, Chapter 13) and Section 8 of the Federal Water Pollution Control Act. Federal regulations (18 CFR 601.32) state that no federal grant shall be made unless a project is included in "an effective current basin-wide plan for pollution abatement consistent with applicable water quality standards". Sections 2120 and 2121 of the aforementioned State regulations cover establishment and scheduling of municipal projects.

The Municipal Project List is a list of municipal wastewater treatment projects by fiscal year that contains the name of the project, a brief description, estimate of project cost, and project group. A project must be on the list to be considered for certification by the State Water Resources Control Board and the Environmental Protection Agency. In addition, each construction grant application will undergo a thorough evaluation by the Regional and State Board staffs as required by Section 2140 through 2149 of the State regulations. **Therefore, it should be absolutely clear that inclusion of a project on the project list does not mean that it is approved for grant participation but merely that it will be considered for grant participation.**

Prior to January 31 of each year, the State Water Resources Control Board, in conjunction with the Regional Boards, will update the yearly list and extend it for the succeeding five-year period.

Projects will be scheduled according to the following criteria:

1. Those needed to correct an existing water quality or water pollution problem or to conform to an area-wide sewage collection plan will be scheduled at the earliest practicable date.
2. Projects affecting a common receiving water or that can be logically included in an area-wide or consolidated system will be scheduled as close together in time as water quality needs permit.
3. Treatment plants nearing flow or treatment design capacity will be scheduled so the expanded facilities will be available before a problem develops.
4. Water reclamation projects which beneficially improve water quality and which conserve water resources through feasible reuse will be scheduled as soon as practicable.
5. Not foregoing any of the above criteria, projects will be scheduled for a uniform level of construction for each fiscal year within the five-year period.

Corresponding Industrial Project Lists are also presented. Grants are not available for projects on the Industrial Project List. The projects listed, however, are necessary to assure basin-wide improvement in water quality and the regional water quality control board will take the necessary action to insure conformance.

The Regional Board has received more than 100 requests for grants to assist unsewered communities in solving their waste disposal problems. Many of those communities are unorganized at the present time. Due to the many unknowns associated with this group of projects the staff has deferred them from inclusion on the project list at this time. These and other projects will be considered during the second half of 1971. Those projects eligible for P.L. 660 and California Clean Water Act grants will be added to the revised list scheduled for adoption in February 1972.

Projects marked (\*) need additional study and are subject to change. Such studies may indicate changes in project concepts which could alter the costs indicated in the project list.

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
SACRAMENTO RIVER BASIN 5-A  
MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
	1971-72		
Burney Co. W.D.	I	Treatment plant and Interceptor	\$ 370,000.00
Beckwourth Community Service District	I	Treatment plant	40,000.00
California Dept. Parks and Rec. - Clear Lake S.P.	I	Treatment plant and interceptor	300,000.00
Donner Summit P.U.D.	I	Treatment plant expansion	739,000.00
Sacramento, City of, Main Plant	I	Treatment plant Mercury seal replacement	80,000.00
Colfax, City of	I	Enlarge holding pond and new collection lines	16,000.00
Rocklin-Loomis M.U.D.	I	Treatment facilities	3,000,000.00
Sacramento S.D. (Arden)	I	Plant improvement and expansion to 14 mdg	900,000.00
Northeast Sacramento Co. S.D. (Arden Gold)	I	Lift station and Class A interceptor	225,000.00
Sacramento, City, of, Main Plant	I	Activated sludge plant and sedimentation basins	6,800,000.00
Northeast Sacramento County S.D.	I	Treatment plant expansion	2,750,000.00
Sacramento County S.D. #2	I	Treatment plant expansion and interceptor	1,770,000.00
Folsom, City of	I	Interceptor	1,000,000.00
Sacramento County Central S.D.	I	Treatment plant expansion	2,000,000.00
Lake County S.D., Improve. Dist. #1	I	Interceptor and treatment plant	1,850,000.00
Lake County S.D., Improve. Dist. #2	I	Treatment plant and interceptor	324,000.00

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
 CENTRAL VALLEY REGION  
 SACRAMENTO RIVER BASIN 5-A  
 MUNICIPAL PROJECT LIST

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
	1971-72 (Continued)		
Anderson, City of	I	Treatment plant and interceptor	\$2,735,000.00
Submit City P.U.D.	I	Aerated ponds	120,000.00
Hood, City of	I	Treatment plant and interceptor	100,000.00
Live Oak, City of	I	Treatment plant and interceptor	170,000.00
West Sacramento S.D.	I	Treatment facilities expansion	900,000.00
Dunsmuir, City of	I	Treatment plant and interceptor	1,000,000.00
Shasta Dam Area P.U.D. Project City	I	Treatment plant	700,000.00



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
SACRAMENTO RIVER BASIN 5-A  
MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
	1972-73		
Yuba City, City of	I	* Treatment Plant Expansion	\$3,000,000.00
Davis, City of	I	Class-A Interceptor	920,000.00
Nevada City, City of	I	** Plant expansion and improving the treatment capability	303,672.00
Placer County Service Area No. 20	I	Collection system and treatment system	300,000.00
Paradise, City of	I	* Collection system and treatment plant	715,000.00
Roseville, City of	I	* Expand treatment plant to 8 M.G.D.	4,300,000.00
Stirling City, City of	I	* Improvement ponds and outfall line	80,000.00
Durham, City of	I	* Collection system and treatment plant	203,000.00
Deer Creek Basin	I	* Class-A Interceptor, new ponds and aeration facilities	400,000.00
Olivehurst Public Utility District	I	Clarifier, digester, aeration tanks, chlorination sludge disposal facilities	100,000.00
Wheatland	I	Additional ponds, sludge drying, clarifier, storage building and laboratory and spray irrigation system	117,000.00
Lakeport, City of	I	* Class-B Interceptor	160,000.00
Clear Lake Project North End of Lake	I	* Interceptor and Treatment Plant	
Clear Lake Project South End of Lake	I	Interceptor and Treatment Plant	

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
SACRAMENTO RIVER BASIN 5-A  
MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
<b>1972-73</b>			
Sacramento, City of - Main Plant	I	* Activated sludge plant and sedimentation basins.	\$6,800,000.00
Courtland, City of	I	Collection system and treatment facility	175,000.00
Natomas Sanitation District	I	* Plant expansion to 6.0 M.G.D.	1,000,000.00
Folsom State Prison at Represa	I	* Class A Interceptor to Sacramento County via the City of Folsom.	150,000.00
Sabre City Sewer Maintenance District	I	Increase ponds to 0.06 M.G.D.	20,000.00
* Biggs, City of	I	Treatment plant improvement and additional ponds	125,000.00
* Lakeport, City of	I	Additional ponds	180,000.00
Alturas, City of	I	Treatment plant expansion	100,000.00
* Cottonwood, County W.D.	I	Treatment plant and collection system	210,000.00
* Enterprise P.U.D.	I	* Additional aeration cell, chlorination and ponds	375,000.00
* Shasta Dam P.U.D.	I	Treatment plant and interceptor	2,100,000.00
Linda County W.D.	I	Treatment plant expansion	55,000.00
<b>1973-74</b>			
Elk Grove, City	I	Class A Interceptor to Sacramento County Central Sanitation District Plant.	80,000.00
Big Cut	I	* Collection system and raw sewage lagoons.	25,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**  
**CENTRAL VALLEY REGION**  
**SACRAMENTO RIVER BASIN 5-A**  
**MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
1973-74 (Continued)			
Cold Springs	I	* Collection system and raw sewage lagoons	\$ 198,000.00
Sanitation Dist. No. 1	I	Outfall, effluent storage facility and spray irrigation	170,000.00
Placer County Blue Canyon Sewer Project	I	* New ponds and outfall line	70,000.00
Winters, City of	I	Improve Treatment Process	350,000.00
University of California	I	* Class-A Interceptor	512,000.00
Yolo, Town of	I	Treatment Plant and Collection	100,000.00
Sanitation District No. 6	I	Class A Interceptor	250,000.00
Lincoln, City of	I	* Improve treatment plant and add biological treatment with land disposal.	16,000.00
Sierra Lake County Water District	I	Class A interceptor and lift stations.	500,000.00
Quincy, City of	I	Pump station, ponds, flow recorder, sludge and drying beds.	215,000.00
Auburn, City of	III	Class "B" Interceptor	600,000.00
Smith Flat	III	* Class "B" Interceptor	50,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
SACRAMENTO RIVER BASIN 5-A  
MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
1974-75			
Sanitation District No. 2	I	*Outfall, ponds and storage facilities	\$ 83,000.00
Gerber Area	I	*Collection and Treatment Plant Land Disposal	100,000.00
Los Molinas Area	I	*Collection and Treatment Plant Land Disposal	250,000.00
Madison, Service District	I	Additional Ponds	20,000.00
Placer County Sewer Maintenance	I	Digester improvement septic tank pumper station and sludge drying beds.	49,500.00
Central Sanitation District Northeast	I	*Class A Interceptor Serving: Northeast Cordova Manlove Arden Mather Air Force Base	25,000,000.00
Natomas Sanitation District	I	*Class A Interceptor Serving: Highlands Linwood McClellan Sanitation District No. 6 Rio Linda Water District	(Est.) \$10,000,000.00
Natomas Sanitation District	I	*Plant expansion	2,000,000.00
Sacramento County Airport	I	*Class A Interceptor to the Sacramento County Natomas Plant	1,715,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
BASIN 5-A SACRAMENTO RIVER SUBBASIN  
MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
1974-75 (Continued)			
Sabre City Sewer Maintenance District	I	Increase aeration equipment to 0.10 M.G.D.	\$ 10,000.00
Sacramento, City -- Combine Sanitary and	III	* 600 MGD peak flow now discharged to the Sacramento River untreated. No definite plan has been worked out for this problem.	30,000,000.00
Placer county Sewer Maintenance District No. 1	III	* Class B Interceptors to serve three subdivisions	485,000.00
Shingle Springs	III	* Class B Interceptor	100,000.00
1975-76			
Antelope Area	I	Class A Interceptor to Red Bludd Treatment plant	450,000.00
Grass Valley, City of	I	Not available at this time	1,500,000.00
Davis, City of	I	Treatment Plant Expansion	2,070,000.00
Kelseyville, Co. Water Works, District No. 3	I	* 2.5 M.G.D. Biological Treatment Plant, Force Main and Ponds	1,218,000.00
Ponderosa Heights	I	* Class A Interceptor	50,000.00 Est.
Sly Park Basin	I	* Collection system and treatment	1,000,000.00
Cordova Sewer Maintenance District	I	Plant expansion to 4 M.G.D.	490,000.00
Linwood Estates Sewage Maintenance District	I	* Class A Interceptor and plant capacity at the Natomas Plant	490,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**  
**CENTRAL VALLEY REGION**  
**Basin 5 - A Sacramento River Subbasin**  
**Municipal Project List**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
1975-76 (Continued)			
Central Sanitation District - Manlove Plant	I	*Class A Interceptor to Central Sanitation District Plant	\$ 150,000.00
Highlands Estates Sewer Maintenance	I	*Collection System and treatment facility	720,000.00
El Dorado Hills	III	*Class B Interceptor, ponds and pump station	50,000.00
Westwood, City of	III	*Interceptor	480,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
BASIN 5A - SACRAMENTO RIVER SUBBASIN  
INDUSTRIAL**

Responsible Agency	Description of Project	Estimated Eligible Cost
U. S. Plywood Corporation, Redding	1971-72 Facilities to permit retention and reuse of log deck water	\$ 200,000.00
Villa D'Oro Olive Company	Facilities to prevent drainage or treatment to remove nuisance factors	---
Walker Mine	Facilities to remove toxic substances, adjust pH and control leaching and drainage	---
Walker Mine Tailings	Facilities to control drainage containing silt and toxic substances	5,000.00
Corona Mine	Facilities to remove iron, adjust pH, and control drainage	1,000,000.00
Diamond National Corporation, Fibre Division	Treatment facilities to rescue B.O.D., suspended solids, remove I.O.D., bacterial growth stimulus	1,300,000.00
Elkins Sawmill, Incorporated	Facilities to permit retention and reuse of log pond water	75,000.00
Lansdowne Mining	Facilities to contain mining, milling debris and control runoff	50,000.00
Pacific Fruit Express Company	Facilities to remove oils and solids from waste	---
Sierra Mountain Mills	Facilities to contain oils, solid wastes, fungicide, control drainage	75,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**  
**CENTRAL VALLEY REGION**  
**BASIN 5A -- SACRAMENTO RIVER SUBBASIN**  
**INDUSTRIAL**

Responsible Agency	Description of Project	Estimated Eligible Cost
Kimberly-Clark Corporation, Pulp Mill	1972-73 Color removal facilities	\$ ---



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD**  
**CENTRAL VALLEY REGION**  
**SACRAMENTO-SAN JOAQUIN DELTA BASIN 5-B**  
**MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
	1971-72		
Sutter Creek, City of	I	Treatment plant	\$ 100,000.00
Stockton, City of	I	Treatment plant expansion	3,095,000.00
Stockton, City of	I	New secondary treatment facilities	1,277,000.00
San Joaquin County Util. Maint. Dist. - Lincoln Village	III	Class B interceptor	553,000.00

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
 CENTRAL VALLEY REGION  
 SACRAMENTO-SAN JOAQUIN DELTA BASIN 5-B  
 MUNICIPAL PROJECT LIST

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
	1972-73		
Ione, City of	I	*Treatment Plant Expansion and ground water recharge facilities	Unknown
Jackson, City of	I	*Class-A Interceptor to Argonaught Heights, new Class-B Interceptor sewer and upgrade existing plant	\$ 295,000.00
Altaville Sanitary District	I	Aerated lagoons, chlorinator and reconstruct infiltration ditches.	423,000.00
San Andreas Sanitary	I	Land disposal of final effluent	25,000.00
Valley Springs	I	* Enlarge present ponds to provide land disposal provide sludge lagoon	50,000.00
Sacramento, City of Meadowview Plant	I	* Activated Sludge Plant and additional biological filters	1,500,000.00
Lockeford Sanitary District	I	Enlarge ponds and piping to provide total land disposal	200,000.00
Stockton, City of	I	New tertiary treatment plant	8,069,000.00
Raymus Village, San Joaquin County	I	* Class-A Interceptor	100,000.00
Tracy, City of	I	Plant improvement and expansion	9,400,000.00
Woodbridge Sanitary District	I	Class-A Interceptor	50,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
SACRAMENTO-SAN JOAQUIN DELTA BASIN 5-B  
MUNICIPAL PROJECT LIST**

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
	<b>1972-73 (Continued)</b>		
Vacaville Medical Facility	I	Class-A Interceptor to the Elmira Treatment Plant	\$ 50,000.00
* Isleton, City of	I	Treatment facilities	100,000.00
* Deuel Vocation Institute	I	Treatment plant improvement	44,000.00
* Rio Vista	I	Treatment facilities	285,000.00
	<b>1973-74</b>		
Calaveras County Project	I	Interceptor and Treatment Plant and land disposal of final effluent	7,000,000.00
Stockton, City of	III	Class-B Interceptor	3,400,000.00
	<b>1974-75</b>		
Lodi, City of	I	Additional aeration tanks, digester capacity and sed. tank	1,958,000.00
	<b>1975-76</b>		
Vacaville, City of	I	Class-A Interceptor from Brown Street Plant to Elmira Plant	750,000.00
Dixon, City of	I	Additional ponds	
Dixon, City of	III	Class-B Interceptor	169,000.00

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
 CENTRAL VALLEY REGION  
 SACRAMENTO-SAN JOAQUIN DELTA BASIN 5-B  
 INDUSTRIAL PROJECT LIST

Responsible Agency	Description of Project	Estimated Eligible Cost
	1971-72	
American Crystal Sugar Company, Clarksburg	Treatment facilities to remove toxicity, suspended solids, B.O.D., reduce temperature, adjust pH	\$ 300,000.00
California Cannerns and Growers, Plant 6	Treatment facilities to remove toxicity, suspended solids, B.O.D., reduce temperature, adjust pH	1,500,000.00
Kaiser Gypsum Company, Inc.	Treatment facilities to remove toxicity and suspended and settleable solids	500,000.00
Crown Zellerbach, Antioch Mill	Treatment facilities to remove toxicity, suspended solids, B.O.D., reduce temperature	2,000,000.00
Morris P. Kirk and Son, Smelter Supply Company	Acid neutralization facilities and new disposal site	10,000.00
E. I. du Pont de Nemours, Antioch Wks.	Facilities to remove toxicity	1,000,000.00
New Penn Mines, Inc.	Facilities to remove toxic substances, adjust pH and control leaching and drainage	350,000.00
Fibreboard Corporation, Antioch Board Mill	Treatment facilities to remove toxicity, suspended solids, B.O.D.	700,000.00
Fibreboard Corporation, Antioch Pulp Mill	Treatment facilities to remove toxicity, color, suspended solids, B.O.D., reduce temperature	6,000,000.00
Hickmott Canning Company	Treatment facilities to remove toxicity, suspended solids, B.O.D., color, reduce temperature	800,000.00

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION  
SACRAMENTO-SAN JOAQUIN DELTA BASIN 5-B  
INDUSTRIAL PROJECT LIST**

Responsible Agency	Description of Project	Estimated Eligible Cost
	<b>1971-72</b>	
Holly Sugar Corporation, Tracy	Treatment facilities to remove toxicity, suspended solids, B.O.D.	\$ 2,000,000.00
Tillie Lewis Foods, Inc., Plant W	Treatment facilities to remove toxicity, suspended solids, color, B.O.D., reduce temperature	1,500,000.00
Tri Valley Growers, Stockton	Treatment facilities to remove toxicity, suspended solids, color, B.O.D., reduce temperature	1,500,000.00
	<b>1972-73</b>	
David L. Hermiston, (Newton Mine)	Facilities to remove iron, adjust pH, and control drainage	100,000.00
	<b>1973-74</b>	
New Penn Mines, Inc.	Facilities to remove toxic substances, adjust pH and control leaching and drainage	350,000.00



## APPENDIX B

### SUMMARY OF HEARING COMMENTS

The Regional Board has invited comments to be made by those persons or agencies interested in or affected by this Interim Water Quality Control Plan. The following item "A", is a summary of those comments received by mail prior to 3 June 1971. Item "B" below summarizes the verbal testimony received by the board at its hearing held 21 May 1971. Verbal testimony that was included in the written comments is not repeated in Item "B".

#### ITEM A

##### General Comments

Requests that the matters covered in the hearing for this Interim Plan be continued for thirty days were received:

1. by letter dated 20 May 1971 and signed by Robert E. Murphy of Kronick, Moskovitz, Tiedemann & Girad, attorneys on behalf of the Boise Cascade Recreation Communities.
2. by telegram dated 20 May 1971 from David C. Irmer, President, Innisfree Corp., San Francisco.
3. by letter dated 21 May 1971 from Occidental Petroleum Land and Development Corp. signed by Robert M. Burk, Assistant Vice President.

General approval and concurrence with the Interim Plan and particular commendation for specific sections, with no corrections, objections, or adverse criticisms, were expressed by

1. letter dated 19 May 1971 from Plumas County Health Department, and
2. memo dated 17 May 1971 from the State Department of Public Health, Bureau of Sanitary Engineering.
3. letter dated 27 May 1971 from the State Department of Public Health, Bureau of Vector Control and Solid Waste Management.

##### Comments on Chapter II "BENEFICIAL WATER USES"

Letter dated 18 May 1971 from El Dorado Irrigation District recommends indicating agricultural water supply as a beneficial use in each of the listed waters (page II-3) "to the extent that it is possible to use it".

Memo dated 28 May 1971 from State Department of Water Resources, Northern District, recommends the addition of recent beneficial uses to those listed (on page II-3) as follows:

Under	Add
Column 2	agricultural water supply
" 10	general recreation
" 11	domestic, agricultural and industrial water supply
" 13	power generation
" 14	agricultural and industrial water supply, and power generation

Letter dated 20 May 1971 from Downey, Brand, Seymour & Rohwer, attorneys on behalf of reclamation, irrigation and drainage districts, recommends that the listing of major water bodies (page II-4) be changed to "1. Sacramento-San Joaquin Delta Channels".

### Comments on Chapter III "STATEMENT OF GOALS AND WATER QUALITY OBJECTIVES"

Letter dated 18 May 1971 from Placer County Health Department recommends that to implement the Regional Board goals, paragraph B1 (on page III-1) be reworded as follows: "Any newly planned waste discharges to receiving waters, which are intermittent, and have limited dilution capacity, should not be considered even as a temporary solution".

Letter, dated 1 June 1971 from Sacramento County Department of Public Works, requests that Item #3 (on page III-2) "be revised to state that the number of discharge sources be minimized when treatment advantages and/or adequate demands for reclaimed water can be shown". This letter also requests that Chapter III "be revised to state that in the absence of specific water quality objectives, the objectives shown in the Interim Plan be applied", and that specific guidelines be adopted for disinfection criteria.

Letter dated 20 May 1971 from City of Redding Director of Public Works questions who defines "feasible", as used in Item 2 under Regional Board implementation (top of page III-2).

Memorandum dated 19 May 1971 from State Division of Mines and Geology recommends that Item 9 under Regional Board implementation (pages III-2 and III-3) be expanded. The term "essentially none" should be defined and "Heavy metals such as lead, copper, zinc, etc." should be replaced by a complete list of heavy metals or "heavy metals" should be defined.

Letter dated 28 May 1971 from Regional Forester, USFS, referring to the general objectives (pages III-3 and III-4), comments as follows:

Item 13: "We hope the intent is to have the discharger be aware of the quality of the effluent and the site's capability to treat the effluent to assure continued usability of the ground waters".

Item 14: "We feel your addition to the end of this objective 'unless waste discharge requirements specifically allow for discharge during parts of the year' is needed....."

Item 16: "Who determines what is and what constitutes 'economically reclaimable waste water?'"

In reference to the specific objectives (page III-5), this letter states "Rather than discuss water quality objectives in terms of 'significant' increases and 'adverse' effects, it would be more desirable to discuss in terms of limits.....some water quality characteristics could have limits set."

### Sacramento-San Joaquin Delta Basins

Letter dated 20 May 1971 from Downey, Brand, Seymour & Rohwer, attorneys on behalf of reclamation, irrigation, and drainage districts, recommends that (on pages III-5 to III-7)

1. "It should be made clear, in the event that a specific water quality for a reach of the river or a tributary conflicts with the general criteria set forth on pages III-5 to III-7, that the specific criteria will take precedence.
2. It should also be made clear that these criteria relate to the receiving waters or main waterways and not to drains or interior channels".

This letter also recommends that names of water bodies in headings for Items 5 and 8 (on pages III-17 and III-20, respectively) be changed by adding the word "California" after the word "Delta" in the heading for Item 5, and by adding the word "Channels" to the present wording of heading for Item 8.

Letter dated 18 May 1971 from Placer County Health Department notes (page III-5) that while "not including streams above the 1000 foot elevation at this time".....there is (under the eight specific water bodies, pages III-7 to III-27) "nothing in the standards for Camp Far West Reservoir, or the Bear River below it. Was this an oversight?"



Letter dated 25 May 1971 from City of Roseville Director of Public Works expresses concern that under the "COLOR" objective (page III-5) "the discharge from well-managed oxidation ponds because of the algal growth" may be prohibited.

Letter dated 18 May 1971 from El Dorado Irrigation District inquires in reference to the "BACTERIA" objective (near bottom of Page III-6) "whether numerical standards are to be developed".

Memo dated 14 May 1971 from DFG, Region 2 gives supporting rationale for the following three recommendations. Working of the dissolved oxygen objective (page III-6) should be changed to read: "Dissolved oxygen concentration shall be maintained at or above 5 mg/1 in areas supporting a warm water biota; at or above 7 mg/1 in areas supporting trout or anadromous fish nursery and migration routes; at or above 9 mg/1 in anadromous fish spawning areas during the spawning season. When natural factors cause lesser concentrations, then controllable water quality factors shall not cause further reduction". This memo also recommends the "addition of a Tainting objective worded thusly: 'Materials that impart taste to fish flesh or freshwater edible materials shall not be allowed to enter receiving waters at levels that produce tainting'." and shortening the dissolved oxygen objective (page III-21) as follows: "Dissolved oxygen shall not fall below 5.0 mg/1". and deletion of the exceptions to the 5.0 mg/1 objective.

Letter dated 20 May 1971 from City of Redding Director of Public Works recommends that under caption "BIOSTIMULANTS" (page III-7) in place of the words "quantities sufficient" a specific "level of treatment at a cost which is real" should be set forth. This letter also asks (in reference to page III-4-16) in view of the City of Redding 100 acres of ponds and resulting appreciable evaporation during some months: "Does this section imply that, if the State decides that we are wasting water, that we should house the whole thing in a big balloon, and waste treatment by the evaporation route would be eliminated".

Resolution No. 60 of the Board of Directors of the Delta Water Agency adopted 19 May 1971, states: "1. That this Delta Water Agency recommends that the Regional Water Quality Control Board, Central Valley Region -- adopt or approve no water quality criteria for the Sacramento-San Joaquin delta at this time. 2. That the Regional Water Quality Control Board, Central Valley Region, withhold any action leading to the approval or adoption of water quality criteria for the Sacramento-San Joaquin delta until after the Delta Water Agency has completed its negotiations with the United States and the State of California".

Letter dated 27 May 1971 from Delta Water Agency refers to its Resolution No. 60, described above as previously received by the Regional Board, and expresses the objectives and reasons for "the Agency's disapproval of the Board's pending action to adopt interim water quality requirements governing salinity intrusion into the Delta".

Letter dated 27 May 1971 from the County Counsel of San Joaquin County, on behalf of the San Joaquin County Flood Control and Water Conservation District, "urges that the Regional Water Quality Control Board, Central Valley Region, withhold any action leading to the approval or addition of water quality criteria for the Sacramento-San Joaquin Delta until after the decision of the State Water Resources Control Board on this subject has become final". That decision pertains to the Delta Water Rights Hearings and the State Water Resources Control Board intended hearings on the specific issue of Delta water quality standards.

#### **American River including Folsom Lake**

Memo dated 14 May 1971 from DFG, Region 2 recommends (1) that the chlorine objective (page III-13) be deleted or the following wording be substituted: "No measurable chlorine residual in receiving waters", and (2) that the D.O. objective of 5 mg/1 and 7 mg/1 (page III-14) be increased to 7 mg/1 and 9 mg/1 worded thusly "9.0 mg/1 shall be maintained in Lake Natoma and in the reach from Nimbus Dam to Watt Avenue Bridge. 7.0 mg/1 shall be maintained in the reach from Watt Avenue Bridge to the Sacramento River".

Letter dated 20 May 1971 from The Save The American River Association recommends: (1) raising the minimum dissolved oxygen (shown on page III-14) from 7.0 & 5.0 mg/1 respectively for the American Riv-

er above and below the Watt Avenue Bridge to 9.0 and 7.0 mg/1 respectively. (2) adding a water quality objective for Folsom Lake (commencing on bottom page III-14) such that "dissolved oxygen levels shall be maintained at or near established seasonal levels and waste discharges or other activities of man shall not lower the saturation level below 95 percent, when natural conditions such as water temperatures, are considered", and (3) prohibition of waste discharges to Folsom Lake.

Letter dated 25 May 1971 from City of Roseville Director of Public Works, states that city representatives view the standards for the quality of water in Folsom Lake (commencing near bottom of Page III-14) "to be totally inadequate and trust there is some logical explanation". City representatives are concerned because "The City of Roseville, together with other inhabitants of Southern Placer County, Orangevale, Fair Oaks, Citrus Heights, etc., utilizes the water from Folsom Lake as their basic domestic water supply. Folsom Lake is also a highly utilized recreational area involved in contact water sports and fishing".

Letter dated 18 May 1971 from El Dorado Irrigation District expresses great concern about potential long term upstream water uses due to stated nitrogen limits of 1.0 mg/1 (pages III-14 and III-16).

Letter dated 18 May 1971 from Placer County Health Department recommends lowering the "median of 200 fecal coliform per 100 ml" as given under caption "**Bacteria**" (first paragraph of page III-16).

#### **Comments on Chapter IV "GENERAL BASIN WIDE PROCEDURES FOR ESTABLISHING WASTE DISCHARGE REQUIREMENTS"**

Letter dated 28 May 1971 from Acting Regional Forester, USFS, referring to land disposal (as covered on pages IV-2 and IV-3) states that this "disposal of properly treated effluent should be encouraged but not necessarily of raw sewage or pumpout wastes. From a standpoint of 'positive protection to the public health' and proper treatment, land disposal of raw sewage should be discouraged". Also regarding land disposal this letter asks "Does pre-treatment of wastes refer to only primary treatment?"

This letter, referring to the guidelines for land developments in foothill and mountain areas and pertinent remarks (near top of page IV-9) states: "We feel that the size of the development should not have any bearing on whether this information should be submitted. This kind of information is needed for proper planning regardless of the size of the subdivision".

This letter also asks in reference to Class I solid waste disposal sites (near bottom of page IV-9): "What constitutes unusable waters?"

Memorandum dated 19 May 1971 from State Division of Mines and Geology recommends that (on page IV-2) "geological conditions" should be added after "soil cover" at the end of line 1, and (on page IV-9) "where geological conditions are adverse to the disposal of wastes" should be added after "impoundment" in line 8.

Letter dated 1 June 1971 from Sacramento County Department of Public Works refers to "waters into which waste discharges are prohibited" (as covered under Item D, page IV-3) and requests the Regional Board to "include statements within this section indicating conditions under which waste discharge prohibitions can be removed".

Letter dated 19 May 1971 from John LaTorre, Licensed Land Surveyor, dated 19 May 1971, from California Land Surveyors Association by J.H. Andersen, Secretary-Treasurer, and dated 11 May 1971 from Placer County Health Department take issue with Guideline 5 (page IV-4). This guideline states that the "Regional Board will request local approving agencies to withhold acceptance of tentative subdivision maps for land developments in foothill and mountain areas" until an Environmental Assessment Report is submitted. These three letters recommend with good reasons that the said report be made a part of the required documents pertinent to filing the final map.

Letter dated 18 May 1971 from El Dorado Irrigation District commends the approaches (pages IV-4 and IV-6) that the "Regional Board will consult with local governmental agencies during the formation of these plans" and that stage development of subdivisions "will be acceptable if a firm schedule based upon occupancy accompanies the plan". The El Dorado Irrigation District pledges cooperation with staff on concepts of staged development. Referring to item 9 (page IV-8) the El Dorado Irrigation District expresses concern (1) regarding the practical approach to be taken to avoid possible conflicts between public health agencies and the Regional Board, and (2) regarding the difficulty to implement solid waste disposal plans if Class I sites are not available (pages IV-9, 10, 11).

Memo dated 19 May 1971 from the State Department of Water Resources recommends three measures to provide long-term protection to the quality of the State's ground water resources:

1. Add a requirement, particularly applicable to mountain subdivisions (page IV-4), "that a local well standards ordinance, regulating the construction and abandonment of water wells, be in effect in any area whose soils are to receive a substantial increase in waste loading".
2. Define the word "appreciable" in Paragraph C-1 (page IV-9) "as that seepage occurring through a specific thickness of soil with a specific permeability"., and
3. Add a similar seepage limitation to criteria for Class II solid waste disposal sites (page IV-10).

Letter dated 20 May 1971 from City of Redding Director of Public Works raises questions regarding proposed basin wide procedures as follows: "Does the Board anticipate training their engineers in planning and land use concepts to insure the areas a broad and objective review?" (page IV-4); and "Who is going to provide the funds to study and obtain all.....data" (pertaining to "storm water run-off and dry weather drainage....." as described in last paragraph on page IV-5). Regarding solid wastes (pages IV-8 and 9) transportation costs for the City of Redding are emphasized in relation to benefits derived and it is inferred that the Interim Plan is too stringent.

#### **Comments on Chapter V "IMPLEMENTATION OF THE PLAN"**

Memo dated 17 May 1971 from the State Department of Public Health emphasizes that the Regional Board's policy encouraging regional planning including regional waste water disposal systems is commendable and states "Exercising this type of influence over sewerage agencies and waste disposal systems is a proper function of the Regional Board and an activity which should be expanded".

Letter dated 24 May 1971 from Roy M. Trotter, Principal Engineer of Yoder et al, representing Shasta Dam Area Public Utility District, presents objections to the regional consolidation and "schedule outlined for the implementation of the ultimate management plan". This letter in essence is opposed to the proposed conceptual plan for South Shasta County (as described on pages V-2 and V-3), and points out differences between this conceptual plan and the Shasta County Plan. This letter emphasizes that, if the Regional Board's plan is not modified, present design for the 4,400,000 dollar SDAPUD "project cannot claim compliance with a regional plan; the project cannot be funded and approximately seven years of time and work on a solution to a real pollution problem has literally been wasted".

Letter dated 28 May 1971 from the Lake County Special District Administrator, calls attention to differences between the conceptual plan for Clear Lake Area (commencing on page V-3) and (1) an approved county development plan, and (2) the Preliminary Engineering Report for the Nice-Lucerne area. The letter stresses the importance for the Regional Board to "recognize the urgency of our problem and do what you can to expedite a sub-regional plan for the Clear Lake Basin". This letter also encloses a copy of the comments made at the hearing by the manager of the Lake County Flood Control and Water Conservation District.

Legal opinion of Wenke, Kemble & Berge, attorneys for John N. Graham, Jr., and City Sciences Corp., developer of subdivision property "California Park", just east of Chico, is in reference to paragraph added by Errata under caption "Chico Area" to be inserted (on page V-5) after "Clear Lake Area" discussion. This lengthy 21-page legal opinion and five attached exhibits were received at the Regional Board

office 20 May 1971. The opinion in essence is a basis for protest and emphasizes that, if Chico's wastewater facilities are to be a regional plant, entities, outside the city to be served by the regional facilities, should not be forced to annex to the City of Chico.

Letter dated 28 May 1971 from Donn Kemble of Wenke, Kemble & Burge, attorneys for John N. Graham, Jr., and City Sciences Corporation, developer of subdivision property "California Park", just east of Chico, transmits twelve copies of developer's Supplement to Protest (described in preceding entry of these comments). This Supplement to Protest emphasizes that the definition of the "Greater Chico area", (added by Errata to page V-5) has "severe implications to both the developer and the city". The Supplement to Protest recommends that (on pages IV-6 and IV-7) "Subparagraph (d) should be made the pivotal paragraph and should be amended to provide that the meaning of the word 'feasible', as used in the first sentence, is not limited to geographic proximity as intimated in the second sentence. Given such broadened meaning to the concept of feasibility in subparagraph (d), subparagraph (c) then should be amended so that it comes into play only when the objective of subparagraph (d) cannot be obtained because of lack of feasibility of connection 'to an existing community sewerage system'".

Letters, dated 13 May 1971 from the local Committee, and dated 18 May 1971 from Butte County Mosquito Abatement District, oppose proposed location of regional plant described under caption "**Oroville Area**" (bottom of page V-5), give reasons for opposition, and recommend that other specified sites be given more consideration.

Letter dated 19 May 1971 from Cook Associates, Engineering Consultants, requests that the "position of the waste water treatment facility to serve the Paradise community" (as described on page V-6) be corrected to "south of the central business district". A sketch is attached "showing the proposed location of the treatment facility".

Letter dated 25 May 1971 from Paradise Irrigation District supports staff recommendation (in Errata), by stating that reference (on page V-6) "to a treatment facility in the area west of the Paradise business district be changed to read the area south of the business district".

Letter, dated 1 June 1971 from Sacramento County Department of Public Works, requests that the Sabre City Treatment Plant and the Sacramento Army Depot be included in their appropriate location (pages V-7 and V-8) and notes that several references to Sacramento County facilities are incorrectly identified. This letter further requests that a statement be included "to the effect that the maintenance of pre-treatment facilities at McClellan Field, the Army Depot, and Mather Field be considered after connecting to the Regional facilities.....since exotic wastes not normally found in municipal systems can be generated from these areas". This letter also requests deletion of last sentence on page V-9 so that "Firm commitments may then be made to the final Water Quality Management Plan in 1973".

Letter, dated 27 May 1971 from Sacramento Regional Area Planning Commission recommends that the interim plan should more clearly describe: (1) potential conflict between economic reclamation of wastewater and treatment plant consolidation, reflecting that complete consolidation may not be feasible in all cases and that alternate systems may be considered; (2) responsibility of local government with respect to land use planning and control; (3) local government participation in the development of the fully developed and basin-wide plan to include the part the Sacramento Regional Area Planning Commission will play.

Resolution No. 185, adopted 18 May 1971 by the Board of Directors of the West Sacramento Sanitary District, in reference to consolidation of existing waste water treatment facilities (as covered under Chapter V) emphasizes that the Regional Board should study consolidation of these facilities "in terms of tertiary treatment except in those cases where consolidation of secondary and primary treatment can be shown to be clearly justified economically and/or from an improved water quality standpoint....."

Letter dated 20 May 1971 from Clair A. Hill and Associates notes errors and omissions on Figure V-1 (page V-10) as follows:

1. The existing Redding and Enterprise treatment facilities have been omitted.....
2. Existing treatment facilities have been indicated.....for Cottonwood and Project City and yet none exist.

3. An existing plant site is shown for both Buckeye and North Redding. Actually only the Buckeye plant is currently in service and it is now sometimes referred to as the North Redding plant."

Mr. Hill strongly recommends that the interim plan be modified "to incorporate the County Plan as it now stands rather than adopt a hastily prepared modification of it, which will essentially halt the pollution control program for the next 2 years while the 'Fully Developed Basin Plan' is being prepared". His letter gives reasons why he believes the regional planning for the Shasta County area is overdone beyond practical limits in the State's Interim Water Quality Management Plan.

Letter dated 27 May 1971 from D. I. Dentoni, Civil Engineer, suggests that "consolidation into a regional plant" (as covered in Chapter V) be defined as including "primary through tertiary, secondary and tertiary, waste reclamation or tertiary only". The same letter recommends "integration of existing facilities into the plan" for utilization of their remaining useful economic life, consideration of economically upgrading many existing treatment plants, and inclusion of "flexibility as to different time requirements of individual agencies".

A second letter dated 27 May 1971 from D. T. Dentoni, Civil Engineer refers to Amador County and communities therein, and recommends substitution of the following to replace the paragraph under "Amador County" (on page V-27):

"Amador County has communities within the Jackson-Sutter Creek area that need collection and treatment facilities. The Conceptual Plan for this area envisions waste from Martel and Sutter Creek given partial treatment near Sutter Creek; wastes from Argonaut Heights and Jackson given partial treatment near Jackson. Effluent from both of these plants should be transported via ditch or other suitable means to a location near Sunnybrook where they would be combined for polishing and then agricultural reuse. Effluent from a joint Ione-Preston School of Industry Plant should also be reused for agriculture. Above an elevation of 1000 feet there are a number of unsewered subdivisions which, when sewerred, should be consolidated for treatment and then reuse of the effluent. Three tentative plant sites have been suggested in the Comprehensive Plan for Amador County and would eliminate discharges to either the Mokelumne or Cosumnes River".

This letter emphasizes "the possibilities of ground water recharge near Ione would certainly be a beneficial reuse; however, more detailed geological information is necessary to determine the feasibility of such a project". This letter encloses "a list of those unsewered areas of Amador County which will need collection and treatment facilities within the next ten years", and calls attention to an additional "number of semi-remote developments such as River Pines, Fiddletown, Lake Camanche Village, Kirkwood Meadows, Peddler Hill, and Volcano, which will necessarily not be part of any sub-regional system", although all of these "will need new or additional facilities before 1975".

Letter dated 28 May 1971 from City of Jackson Mayor Scheiber and Councilman Mayer suggests (in reference to pages V-27 and V-31), using the City of Jackson's treatment plant as a part of the regional treatment facilities, expanding the city's facilities to include tertiary treatment, and use of the tertiary treatment by the Jackson Valley Irrigation District.

Letter dated 27 May 1971 from Amador County Health Department suggests that Drytown and Amador City (shown on page V-31) be "mentioned as going to Sutter Creek,.....as they both run most of their sewage in streams - Dry Creek and Amador Creek. Wording could be placed.....stating this". (Refer to last paragraph on page V-27). This letter also transmitted a list of "Unsewered Area Needs" for 20 areas in Amador County.

U. S. Bureau of Reclamation letter dated 3 June 1971 transmitted its statement concerning this interim water quality management plan. Regarding the proposed regional treatment and discharge facility for Contra Costa County (bottom of page V-26), the Bureau asks if formulation of this plan includes "consideration of the lost value of these discharges as effective outflow for repulsing ocean salinity. Because of the very high cost of replacement water for Delta outflow, we feel that adequate local treatment and discharge should be carefully considered".

Letter dated 28 May 1971 from the Tehama County Board of Supervisors (regarding Chapter V, IMPLEMENTATION OF THE PLAN) emphasizes the need for local public hearings and review with local agencies, and "a detailed economic analysis to determine its feasibility" before adoption of any regional plan which "may substantially affect the financial responsibilities of local agencies".

#### Comments on Chapter VI "AREAS OF SPECIAL CONCERN"

Letter dated 18 May 1971 from El Dorado Irrigation District recommends that in addition to the items considered for individual waste disposal systems under Topic 2 (on page VI-2), "..... emphasis should perhaps also be directed toward the amount and quality of the waste discharge".

Memo dated 19 May 1971 from the State Division of Mines and Geology recommends that under Topic 2 (on page VI-2), "geological structures and rock material underlying soil mantle" should be added to the listed items for consideration; also, under Topic 4 (on page VI-3) "and quarrying" should be added on the same line after the word "mining" to indicate the "..... industries which may benefit from such studies".

Letter dated 20 May 1971 from Downey et al, attorneys on behalf of reclamation, irrigation, and drainage districts, recommends revision of the last paragraph under Item 5 (page VI-4) as follows: "The agricultural industry, including processing of agricultural products and other related activities, should be closely involved with the studies above. This industry uses the majority of land in the basin's valleys. This industry requires more than 90 percent of all water used in the basin and produces a major portion of the basin's total **return flow**. Present farming practices and waste treatment methods may not allow for unlimited production increases".

U. S. Bureau of Reclamation letter dated 3 June 1971 transmitted its statement referring to the significance of agricultural drainage flows from the San Joaquin Valley on the Delta, (pages VI-4 and VI-5) and recommends that Regional Board staff "should also evaluate the effect of irrigation return flows from the Delta islands on the ability to meet the Delta water quality objectives". The Bureau anticipates "that local degradation will pose a real problem in meeting some of the objectives". The next paragraph of the Bureau's statement refers to Item 7 of special concern (page VI-5), which item states that beneficial uses of waters in the Delta are being impaired by salinity incursion, but the Bureau counters: "...it is not clear from what base level they are being impaired.....".

Regarding Item 8 (page VI-5) the attorneys' \* letter indicates the 740,000 acres of irrigated land in the Delta and proposed additional several thousand acres for agricultural development are erroneous. This letter states: "The irrigated area is approximately 500,000 acres. We do not believe that several thousand acres will be developed for agriculture in the Delta in the near future, but it might be said that several will be developed for recreation".

The attorneys' \* letter also gives reasons for and recommends that Item 15 (on page VI-8) be revised as follows: "15. **Substantial** irrigation return flows are discharged **annually** to the Sacramento River in the reach upstream from the Feather River confluence. These discharges result in **significant** increases in total dissolved solids concentrations in the Sacramento River." (insertions underscored)

Letter dated 28 May 1971 from the Acting Regional Forester, USFS, in reference to control of logging operations (as described near the bottom of page IV-6), expresses concurrence "that a statewide policy be developed for the establishment of waste discharge requirements on all significant logging operations. However, we feel this must be done in cooperation with federal agencies, as well as with the logging industry to properly deal with logging practices as they relate to water quality management on all lands".

#### Comments on Chapter VII "SURVEILLANCE"

Memo dated 19 May 1971 from the State Department of Water Resources, regarding the paragraph under caption "B. **Receiving Waters**" (on page VII-1), recommends "that manpower and laboratory facilities

\* Downey et al, on behalf of reclamation, irrigation and drainage districts

needed for surveillance be provided by the Department of Water Resources. The Department already has a water quality monitoring network which could be expanded and modified.....with little effort. Implementation of this proposal would free the Board's staff to pursue its planning, investigative and enforcement function, and would also be in accordance with Recommendation 4 of a February 1971 report by the State Board.....".

#### Comments on Appendix A "PROJECT LISTS"

Letter dated 26 May 1971 from Kenneth E. Lerch of Laugenour and Meikle, Civil Engineers, requests "that the names of unsewered communities be included in the project list at this time". This is in conformance with the statement (on page A-1), "A project **must** be on the list to be considered for certification by the State Water Resources Control Board and the Environmental Protection Agency".

Letter dated 19 May 1971 from City of Redding Director of Public Works indicates that (on page A-2) "the Regional Board is suggesting that the time table be accelerated to take advantage of the present five-year program", yet Redding's recent request "to take advantage of the grant program.....was denied".

Letter dated 18 May 1971 from El Dorado Irrigation District refers to the proposed Deer Creek Basin Project with a time schedule for 1973-74 (page A-3). The district urges "that this time schedule be advanced inasmuch as our plans project the completion of new ponds by the end of 1972. Detailed planning has proceeded on this particular project and one section of an interceptor main has been constructed.

Letter dated 25 May 1971 from Cook Associates, Engineering Consultants, requests that three Butte County interceptor sewers, omitted from the municipal project list (page A-3) "should be mentioned in the interim plan".

Letter dated 25 May 1971 from Paradise Irrigation District requests "that all references to the City of Paradise within the report and specifically on page A-3, be changed to Paradise Irrigation District. Presently the community of Paradise is unincorporated".

Letter dated 19 May 1971 from Enterprise P.U.D. refers to the proposed schedule for this district's project (page A-10) and asks "for more consideration to a plan and time schedule more adaptable to our area".

Letter dated 27 May 1971 from City of Davis Director of Public Works expresses concern "about the Municipal Project List and the reasons why one of our proposed projects was deleted from this list". This letter transmits further information regarding the expansion of sewage treatment works (evidently omitted from page A-11).

Letter dated 27 May 1971 from Kimberly-Clark Corporation emphasizes that (on page A-13) "the proposed schedule would pose an unnecessary burden on a manufacturing facility which has never operated with a net profit" and gives reasons why the 1972-73 schedule for color removal facility seems untimely.

Letter dated 19 May 1971 from Calaveras County Health Department notes that ten of that County's projects for presently unsewered areas have been omitted from the "Project List" (page A-15). The County Health Officer requests that the omitted projects be reinstated and encloses exhibits with details of these projects.

Letter dated 27 May 1971 from D. I. Dentoni, Civil Engineer. re: San Andreas Sanitary District, states; "The District concurs with the inclusion of San Andreas in the plan and with the scheduling indicated". (page A-15).

Another letter dated 27 May 1971 from D. I. Dentoni, Civil Engineer, re: City of Escalon recommends "that all references to the City of Escalon be eliminated from Volume 1" (page A-16) as this city is covered in Volume 2 under Subbasin 5-C.

Another letter dated 27 May 1971 from D. I. Dentoni, Civil Engineer, re: Woodbridge Sanitary District, emphasizes "The present Woodbridge Plant is operating at considerably less than design capacity and is efficiently treating the waste water without creating any nuisances" and suggests "that the funds scheduled for the connection of the Woodbridge system to the Lodi system should be spent otherwise more beneficially during the next five years". (page A-17)

Letter dated 27 May 1971 from Sacramento Regional Area Planning Commission recommends that "The proposed installation of sewage collection and treatment facilities in the community of Hood in southern Sacramento County should be included in the municipal project list" (page A-16) and a statement be included to clarify that the project cost estimates "were made prior to the development of the water quality standards outlined in the plan. Therefore the proposed projects may not be adequate to meet these new standards.....estimated costs are subject to change based upon additional study".

Letter dated 18 May 1971 from California Cannery and growers, questions "the basis for the cost estimate of \$1,500,000" and asks clarification regarding the entry describing proposed treatment facilities for Thornton Plant 6, shown in the Industrial Project List (page A-19).

Letter dated 27 May 1971 from Tri/Valley Growers questions "the need for a \$1,500,000 project for Tri/Valley Growers to comply to this plan. (refer to last entry under Industrial Project List on page A-20).

Letter, dated 1 June 1971 from the General Manager of Georgetown Divide Public Utility District, requests that, when the Regional Board's staff studies "those areas above the 1000 elevation which drains into the American River Basin," his district be included on the revised project list to be made at that time.



ITEM B

SUMMARY OF VERBAL COMMENTS

Department of Fish and Game, Region I – Richard J. Hansen

Page II-3 – Beneficial uses of the Pit River should include boating and general recreation.

Page III-3 – The list of substances could be simplified by including mercury and other heavy metals.

Page III-7 – Toxic substances.

The Department suggests this section could read, "the goal will be to eliminate the discharge of wastes that exhibit acute toxicity as measured by the acute bioassay test".

Page III-7 thru III-20 – Water quality objectives for specific basin waters.

There is some conflict between specific basin objectives and the general objectives. If such conflict arise, the Department recommends the more restrictive of the two objectives should apply unless the least restrictive objective is specified as being applicable.

Page III-12 – Map of Sacramento River water quality plan area. Cow Creek, a major drainage is missing from the map.

Page III-17 – Temperature schedule for Upper Sacramento River. There are periods when the scheduled temperatures are exceeded due to natural conditions. The Department recommends this objective be revised to prohibit heated wastes from being discharged to the Upper Sacramento River.

**Bob Dietz, representing Shasta County Board of Supervisors**

1. The 1000 foot elevation figure in interim plan is arbitrary. The proposed requirements for mountain streams above 1000 feet will impose extreme burdens for the mountain communities where the tax base is limited.
2. Beneficial uses to be protected in Sacramento River Basin. There are three bodies of water that are used as a domestic water supply in Shasta County that are not listed in the interim report.
3. Those streams above 1000 feet should also have as beneficial uses, agricultural water supply, industrial water supply, and power generation.
4. The interim report as presented is not acceptable to Shasta County.

**Dick Curry, Director of Public Works, Shasta County**

The staff's conceptual plan is for one regional plant that will start construction before 1976, the county plan calls for four treatment plants that would not completely be installed until 2025. Mr. Curry suggests, that the Board adopt the county's master plan rather than staff's conceptual plan.

**Charles Martin, City Manager of Anderson**

The City of Anderson does not know where it stands today, or what it should do about being named the regional treatment facility for the area. Anderson does not have the financial capability to fi-

nance either their own plan without state and federal funds, or the regional plant with state and federal funds. Anderson would like the staff's conceptual plan modified to acknowledge that Anderson's proposed 1970 sewage treatment plan would be in conformance with the conceptual plan, and therefore, be eligible for state and federal funds.

**Jack Port – Executive Secretary, Contra Costa County Water Agency**

The Agency is concerned over the proposed standards for TDS and chlorides.

II-5 Beneficial uses, to be protected in the Sacramento-San Joaquin Delta. Included is fish and wildlife propagation, and sustenance, agricultural water supply. The Agency contends, that the proposed criteria does not protect the above beneficial uses. The criteria is based upon 1000 ppm of chloride at Jersey Point and Emmington and envisions an overland water supply. Also they contend that in order to protect the above beneficial uses, a criteria of 100 ppm of chloride is needed at Jersey and Emmington or equivalent to that adopted by Delta Water Agency of 250 max. at Blind Point.

The Federal Government has adopted supplemental standards, B-2 protects the fishery, B-5 protects industrial intakes in the western Delta area. The Agency requests these additional standards be recognized in the interim report.

**Mr. Albert Marino – Chief of Environmental Health, Placer County**

III-1 The County concurs with staff's recommendations of no direct discharge to waters with low dilution capability or those which are intermittent and are of high quality.

IV-4 Guidelines. The County requests staff's concurrence in that geological reports, soil borings, percolation tests, slope determinations, and etc., be submitted before a final map, at which both staff and county personnel could get together and decide if a final map should be approved or disapproved.

Also, they request a no direct discharge policy for the proposed Auburn Lake area.

The County generally agrees with the interim plan, and hopes that more specific management criteria and procedures will be agreed upon by the counties and by the board; and that guidelines and standards will be adopted for local government to follow.

**Mr. Sam J. Whiting – Western Developers Council**

The Council requests a means of determining the proposed waste discharge requirements for a development in its early stages of design and what supporting data will be requested of the developer.

There needs to be developed a clear cut procedure which will outline the data, source of information, and supporting evidence which will be required of the developer. This procedure needs to be developed as soon as possible.

IV-8, paragraph 6 – The council hopes that paragraph 5, IV-8, only applies to future developments and not existing development that have complied with all pre-existing laws and regulation.

The council wishes that a blanket – no discharge policy not be adopted. If a no discharge policy is adopted, they wish it would be on a lot by lot basis, or by area only. A blanket no discharge policy, will probably cause the developer to cease development immediately and could cause him financial hardship.

**\* Break for lunch to 1345 \***

**Mr. Coleman – Tehema County Engineer**

They are uncertain about the status of Lake California requirements, their point of disposal and where the county stands, inasmuch as the County has approved the development.

**Mr. Bill Anderman, Director of Environmental Health on behalf of El Dorado County**

III-14 and III-16. The County would like reconsideration of the limit for nitrogen of 1.0 mg/1 in Folsom Reservoir. They understand that the reservoir approaches this limit at times, and if the source of nitrogen is from soil disturbance or surface runoff, development may be precluded in this area, no matter what type of waste disposal there is.

**Mr. Dudley Stephens – Supervisor in Yolo County**

The County is satisfied with the waste water discharge from agriculture at this time. They wish to have input for new criteria to be written by 1973.

**Mr. William Hazeltine – Manager Butte County Mosquito Abatement District**

1. V-5. The district disagrees with the philosophy of land irrigation at the Palermo Regional Facilities with sewage effluent. It could contribute to health problems, in that the effluent could serve as a potential for the production of pasture mosquitoes.
2. Section 3. The wording in Section 3 broadly prohibits the Mosquito Abatement district from doing their job, which might be to apply pesticides or toxicants on or in the water.
3. Biostimulation. If biostimulation is discouraged, the district will not be able to pursue its research with the stimulation of blue-green algae (which in turn could produce toxicants to kill mosquitoes). The blue-green algae could be a natural control mechanism for the mosquito.

**Mr. Darahl Dentoni – Amador County**

1. Mr. Dentoni thinks maintenance and operation might be high for transmission of raw sewage over great distances to a final tertiary regional plant, versus, transmission of partially treated (primary or secondary) sewage.
2. The consolidated plant concept should have enough flexibility to allow for sound engineering economy studies in selecting solutions to problems.

**Bill Wanderer, Representing Sacramento County**

The County would like to commend the staff for their job on the interim plan.

They will submit a written letter with editorial comments concerning cost extensions, minor omissions, names and entities, and clarification of the project list.

**\* Meeting adjourned 1515 pst \***

