WATER QUALITY CONTROL PLAN
(Interim)

CENTRAL COASTAL
Basin 3

JUNE 1971

STATE
WATER RESOURCES
CONTROL BOARD

STATE OF CALIFORNIA

THE RESOURCES AGENCY

STATE WATER RESOURCES CONTROL BOARD

INTERIM

WATER QUALITY CONTROL PLAN

for the

CENTRAL COASTAL BASIN

JUNE 1971

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

FOREWORD

This report contains the Interim Water Quality Control Plan for the Central Coastal Basin 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 Coast 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

In the recent past, it was assumed that wastes could be discharged to the aquatic environment in great quantities without adversely affecting aquatic resources. Waste discharges were evaluated in the traditional sense; that is, with major consideration given to oxygen depletion, acute toxicity, and bacteriological quality measured against a presumed assimilative capacity of receiving waters and a tolerable degree of water quality degradation. Requirements for control of waste discharges were based almost exclusively upon protection of the benefits that man could derive from the direct and consumptive uses of the resource or upon prevention of gross pollution or nuisance.

Advances in technology and science indicate that certain constituents of wastes can result in far reaching adverse effects upon the aquatic environment and upon man's beneficial use of his environment. Certain substances in concentrations previously considered inconsequential to man greatly reduce his ability to realize benefits from aquatic resources. This is especially true for persistent toxicants that concentrate in food webs and eventually enter man's diet with potentially debilitating results. Already many species of aquatic organisms have been harmed, some of them to the point of extinction, by the discharge into aquatic environments of certain known and many other unknown toxic substances.

While California is endowed with more water of good quality than many areas of the nation, the compounded effects of increased use of water and increasing volume and strength of municipal and industrial wastes have degraded and threatened water quality in many areas. Inadequately treated municipal wastes are discharged to fresh water streams; residential and recreational developments have degraded mountain lakes and streams by siltation and inadequately treated sewage discharges; industrial wastes have created chronic and acute toxic conditions in levels that are harmful to aquatic organisms; and beaches have been closed to recreation due to bacteriological contamination from domestic waste discharges. Many past efforts to protect and manage California's waters have only averted major catastrophes and gross reckless abuses. Frequently, however, these efforts have lacked general applicability and force. These circumstances, coupled with conflicting social attitudes, virtually demand a water quality control and water resource management plan that results in water conservation: wise use, reasonable management, and adequate protection of water resources to ensure their preservation for the beneficial uses and enjoyment of present and future generations of Californians.

As technology advances and society's needs increase, new benefits of aquatic resources will materialize. Aquatic resources must be managed to provide sustained yields while recognizing the dependence of man on the environment in which he must continue to live. This plan is sufficiently restrictive to assure protection, while being sufficiently flexible to adjust to new knowledge, capabilities and needs. Further, the plan recognizes the costs of waste water management and the reciprocal compensation of water reclamation.

In the next 30 years, population in the Central Coastal Basin will double. However, the available private land area is not expected to increase unless large blocks of federal, state or local lands are opened to development. Accordingly, the social pressures will more than double. The needs for housing, utilities, highways, jobs and commercial enterprise are not compatible with recreation, open space, marine preserves, forest lands and natural environmental quality. In fact, they are innately at odds with one another. As urbanizing pressures increase arithmetically, the associated social problems increase logarithmically. Protection, enhancement and preservation of the basin's water resources are implicitly caught up in the internal conflict between man and his environment.

The basic water quality management problem within the Central Coastal Basin derives from the divergent needs of providing man with a water resource of sufficient quality and quantity to satisfy the demand for all beneficial uses and of providing a method of accommodating man's wastes. Presently, the greatest source of fresh water is ground water used for domestic, municipal, and agricultural water supplies. Likewise, the most significant demand for recreation, fish and wildlife habitat and aesthetic

enjoyment occurs in the coastal nearshore marine environment. Almost as if it were a foregone conclusion, the largest concentrations of waste are disposed of on land where ground waters can ultimately be affected and in the nearshore ocean where the coastal marine uses are continuously harassed by waste discharges.

Accordingly, waste discharges made to land or sub-surface areas must not degrade or mineralize the ground water resources of the basin. Quite the opposite, discharge to land disposal must be managed to enhance the ground water quality in those areas where sea water intrusion, nitrate accumulations, agricultural mineralization or receding ground water levels impose restrictions on beneficial uses.

Waste discharges to the nearshore ocean environment should be eliminated wherever possible. In those areas where ocean discharges are required, there must not be undesirable effects on the natural marine environment or on beneficial uses.

The creation of the State Water Resources Control Board in 1967 and the adoption of the Porter-Cologne Water Quality Control Act in 1970 recognized the need for a long-range, balanced plan for water quality management that will anticipate man's potential needs and technological abilities. This plan is a major step toward fulfilling this responsibility.

This Interim Water Quality Management 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 waste water 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 report is the summary of the interim plan for the Central Coastal Basin. As the term "interim" implies, this document and its supporting information are the initial step toward a more comprehensive "Fully, Developed Basin Plan". It will guide the state's water quality management activities by establishing priorities and time schedules for actions required to meet water quality and environmental objectives during the next several years.

CHAPTER II

SCOPE

The Central Coastal Basin is shown on Figure 1 and extends in a general northwest to southeast direction along the Pacific Ocean from Pescadero Point in San Mateo County to Rincon Point in Ventura County. The basin area includes the counties of Santa Cruz, Monterey, San Luis Obispo and Santa Barbara, as well as the southern part of Santa Clara, the western portion of San Benito, and small portions of San Mateo, Kern and Ventura Counties. The basin is about 350 miles long, 50 miles wide and encompasses an area of 11,274 square miles or approximately 7,221,000 acres. The basin is generally mountainous with several intermountain valleys. The Coast Ranges, with peaks that vary in elevation from 3,800 to 8,750 feet, possess no majestic peaks but they contain unique areas of unequaled scenic beauty. The cypress dotted coast of the Monterey Peninsula, the forested summits of the Coast Ranges and miles of breathtaking coast line are but a few of the outstanding features of the basin. The intermountain valleys lie mostly below an elevation of 400 feet. Only about 20 percent of the basin has a land slope less than five percent. The area lies entirely within the Coast Ranges geomorphic province, except for a small area in the southern end of the basin which lies in the Transverse Ranges geomorphic province.

The basic water quality management problem within the Central Coastal Basin derives from the divergent needs of providing man with a water resource of sufficient quality and quantity to satisfy the demand for all beneficial uses and of providing a method of accommodating man's wastes. Presently, the greatest source of fresh water is ground water used for domestic, municipal, and agricultural water supplies. Likewise, the most significant demand for recreation, fish and wildlife habitat and aesthetic enjoyment occurs in the coastal nearshore marine environment. The major goal of all waste water management activities described in this plan is to protect and enhance the quality of all basin waters for present and anticipated beneficial uses. Accomplishing this goal will require the construction of waste water treatment and disposal facilities at a rate and on a scale unprecedented in recent history. It will also necessitate a change from current thinking concerning waste treatment and disposal. The problem will be compounded in some areas such as northern Monterey County by rapidly increasing urbanization, but it is not unsolvable.

STATUS OF EXISTING BASIN PLANNING

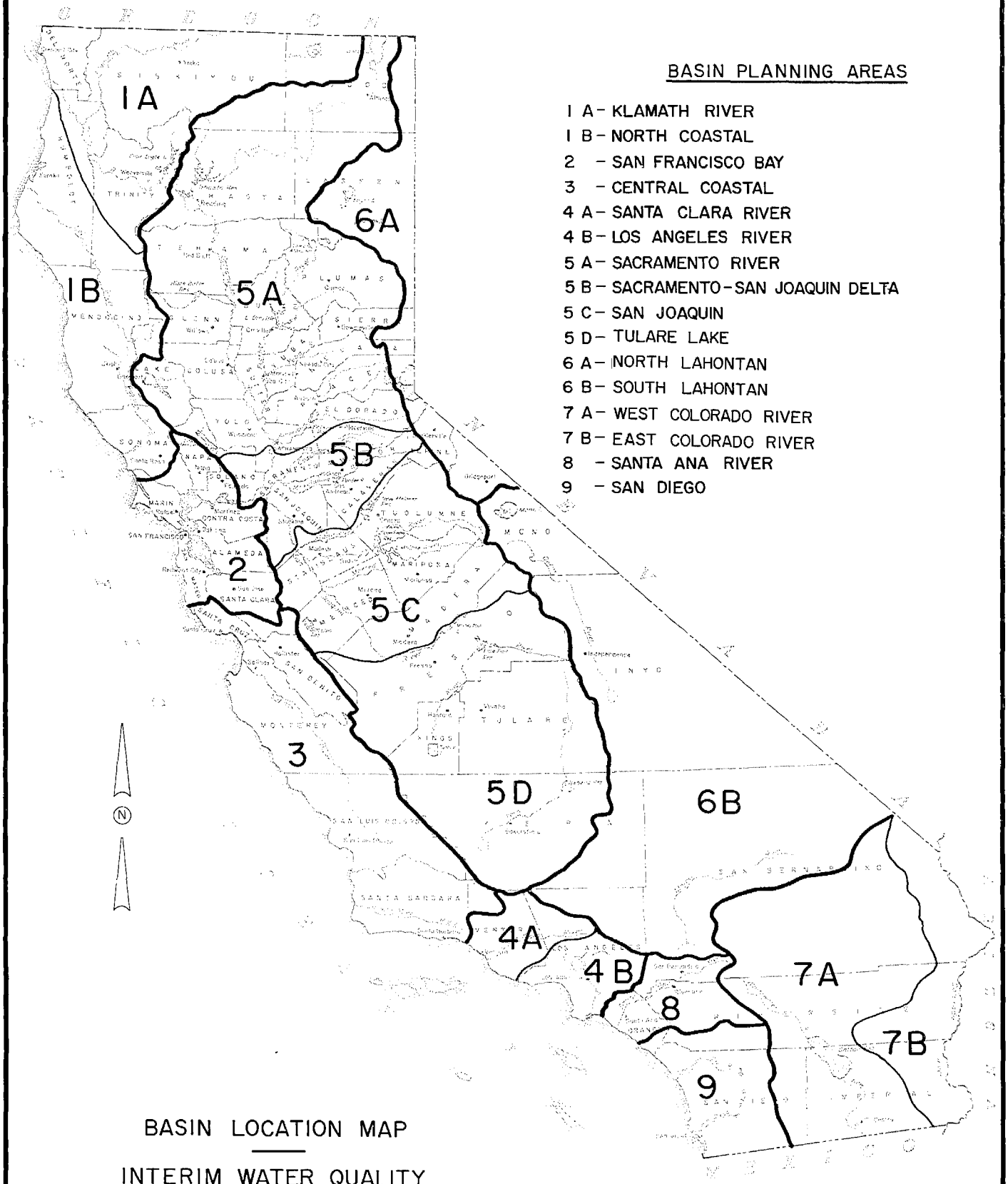
Within the Central Coastal Basin, there exists a multitude of agencies with various degrees of responsibility and authority to review, certify and/or approve plans on a regional basis. The exception is San Benito County, which relies almost entirely on the County Planning Commission. San Benito County is a member of the Association of Monterey Bay Area Governments, to be discussed later. In most cases, in the immediate past, these broad agencies did no original planning but merely "rubber stamped" plans that had been proposed by cities and counties. However, there are now a number of moves toward regional planning within the true concept of regionalization. The following discussion includes a very general status report and overview of planning, specifically sewerage planning, in the basin.

Association of Bay Area Governments

San Mateo and Santa Clara Counties are affiliated with the Association of Bay Area Governments, the designated local area Metropolitan Clearinghouse. No study for sewerage planning has been done in that portion of San Mateo County that lies within the Central Coastal Basin.

In South Santa Clara County, planning reports have been prepared that establish preliminary quantifiable estimates of the need for new sewerage facilities. The first phase recommendation of Gilroy providing sewerage service to San Martin-Morgan Hill has been partially carried out by construction of a major interceptor between Morgan Hill and Gilroy. Presently, a consulting firm has been retained by the City of Gilroy to develop alternative sewerage plans for South Santa Clara County. Planning is underway and progressing.

FIGURE 1. BASIN LOCATION MAP



BASIN LOCATION MAP

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

Santa Cruz County

In addition to being affiliated with the Association of Monterey Bay Area Governments, which will be discussed subsequently in this section, the local planning for Santa Cruz County is coordinated through the Santa Cruz County Regional Planning Agency. A county master plan of water development, completed in 1968, outlined water needs of the area to 2020. The county has retained a consultant to complete a comprehensive county sewerage plan. Authorization to proceed has not been given at this time (June 10, 1971).

Monterey County

Within the county, there are three agencies that participate in planning functions. The Association of Monterey County Governments is the recognized Metropolitan Clearinghouse. Additionally, the Monterey Peninsula Area Planning Commission is designed to provide innovations in the Peninsula's development. Probably the most viable organization with broad planning goals in the Monterey area is the Association of Monterey Bay Area Governments. A summary of area planning activities follows:

North County Public Facilities Element – This area extends from the Monterey-Santa Cruz County line on the north to just north of Chualar on the south and from the San Benito County line on the east to the Salinas River on the west but extends out along the Salinas-Monterey Highway to include the San Benancio-Corral de Tierra and Pine Canyon areas. Its purpose is to make a study of and recommendations for Water Supply, Sewage Disposal and Hydrology in the area previously described. It was approved by HUD with Hahn, Wise and Associates as Planning Consultants and George S. Nolte, Inc. as Civil Engineering Consultants. The Public Facilities Element was adopted by the Board of Supervisors on March 25, 1969 as a part of the General Plan of the County of Monterey.

Carmel Valley – Carmel Highlands Public Facilities Element – This area includes all of the Carmel Valley from Carmel Bay to east of the Carmel Valley Village in the vicinity of Chupines Creek and all of the Carmel Highlands-Carmel Riviera area to south of Malpaso Creek. Its purpose is to study and make recommendations for alleviation of problems related to Water Supply, Sewage Disposal and Drainage within the study area. It was approved by HUD with Hahn, Wise and Associates as Planning Consultants and Neill Engineers, Inc. as Engineering Consultants. The Public Facilities Element of the Carmel Valley-Carmel Highlands area was adopted by the Board of Supervisors as a part of the Monterey County General Plan on February 17, 1970.

Monterey Peninsula Area Planning Commission General Plan – This Area Planning Commission has been in existence since 1958 and its application for a 701 planning grant was approved by HUD in February, 1960. Hall and Goodhue were the principal planning consultants with Eisner-Stewart and Associates. The area covers all of the Monterey Peninsula from Marina to Soberanes Point and from the Pacific Ocean to Laureles Grade and east of the Carmel Valley Village. The Area Planning Commission is comprised of the cities of Monterey, Seaside, Carmel, Pacific Grove, Del Rey Oaks, and San City, as well as Monterey County. The purpose of the plan was to propose innovative ideas for the future development of the Monterey Peninsula. The Monterey Peninsula Area Plan entitled **The Peninsula Tomorrow** was adopted by the Area Planning Commission in June of 1964 and by the Board of Supervisors of the County of Monterey as a part of the General Plan of Monterey County on July 26, 1966. Although the contract for the planning grant has been terminated, the Monterey Peninsula Area Planning Commission is still active in reviewing new developments that might affect the Area General Plan.

Nacimiento–San Antonio Area General Plan – The Nacimiento–San Antonio Area Planning Commission is comprised of representatives of Monterey and San Luis Obispo County. It is comprised of an area extending from San Lucas in Monterey County to Templeton in San Luis Obispo County and from the Pacific Ocean to approximately a mile east of Highway 101. It includes the city of Paso Robles in this secondary planning area. The primary planning area is the immediate vicinity of the Nacimiento and San Antonio Reservoirs. The construction of these reservoirs brought the potential for growth and the

need for planning to derive maximum benefit from recreational use of the area while protecting its agricultural economy and the natural environment. The application for a 701 planning grant was approved by HUD in 1968, the Preliminary Plan for Nacimiento/San Antonio Planning Area has been approved and the General Plan for Nacimiento/San Antonio Planning Area has been circulated prior to holding public hearings.

Association of Monterey Bay Area Governments

This organization presently includes representatives of the Counties of Santa Cruz, San Benito and Monterey, and the incorporated cities within the three counties. A comprehensive water quality management program was initiated by AMBAG prior to this Board's planning effort. Accordingly, the entire activity was fully coordinated with this Board's interim planning program.

The Interim Water Quality Management Plan prepared by AMBAG under contract to the State Water Resources Control Board was consistent with the basin plan being developed by this Board. Large blocks of information in the AMBAG report were derived by this Board's staff. The areawide goals, objectives and land use elements were obtained from the local and regional planning agencies and were reviewed jointly by AMBAG's consultant and this Board's staff. Solutions for achieving adequate water quality control and the waste water collection treatment and disposal program are consistent with the areawide sewerage plan as proposed.

San Luis Obispo County

The Council of Governments organization in San Luis Obispo County that acts as a planning clearinghouse is the San Luis Obispo County-Cities Coordinating Council. The Council membership consists of the County Board of Supervisors and representatives of every incorporated community in the county. To date, the Council has reviewed and adopted proposals and plans from cities as being part of the county's plan of development.

Presently, the County has a consultant under contract to develop a comprehensive county sewerage plan. The study and planning effort is being funded by FHA. A report should be available by August 1, 1971.

Santa Barbara County

The Santa Barbara County-Cities Area Planning Council was organized on October 26, 1966, following the signing of a Joint Powers Agreement by the County of Santa Barbara and the Cities of Carpinteria, Santa Barbara, Lompoc, Guadalupe, and Santa Maria. Authority for creation of an Area Planning Council is contained in Sections 65600–65604 of the Government Code, the Planning and Zoning Law. Boundaries of the jurisdiction of the Area Planning Council are co-terminus with the boundaries of the County of Santa Barbara which were designated a Standard Metropolitan Statistical Area (SMSA) in November, 1956. The Area Planning Council is composed of the five members of the Board of Supervisors and one representative from each of the five incorporated cities.

By Resolution 69–APC–1, the Area Planning Council designated the County Planning Director as its Executive Secretary and Area Planning Director. There is one full-time staff member, a Senior Planner, whose salary and expenses are paid by the County. This Senior Planner is responsible for carrying out all the work of the Council, including the initiation and development of planning programs, preparation of staff reports, public contacts, Council meetings and agendas, and general administration. The staffs of the various cities were also designated to assist the County Planning Department in staff work. There are seven technical advisory committees presently assisting the staff with Council programs. The committees are composed of professionals, most of them department heads, from cities, County, State, special districts, and Vandenberg AFB.

The same resolution 69–APC–1, authorizes the Board of Supervisors of the County to act as agent for the purpose of making application for Federal Planning Grants and to execute contracts for the Area Planning Council, and, subject to approval of the Board of Supervisors, for the Executive Secretary to sign such applications. The Area Planning Council does not have a budget, since expenses are paid by the member cities and the county, and by the service contributions, cited above.

Santa Barbara County-Cities Area Planning Council has been designated a metropolitan clearinghouse for the purpose of reviewing applications for federal grants, as required by Bureau of the Budget Circular A-95. The Area Planning Council receives projects involving applications for federal grants and comments on their compliance with the various plans of the cities and the county. It also initiates regional plans involving the county, its cities and its special districts. It has no legislative authority and must receive approval of its member jurisdictions on organizational and authority matters.

A consulting firm is presently developing a comprehensive water and sewerage plan for South Santa Barbara Coast and Upper Santa Ynez Basin. This study should be completed by July 1, 1971. Sewerage planning for the Lompoc Valley has been initiated by the City of Lompoc, Mission Hills, Vandenberg Village and the Federal Correctional Institution. No regional sewerage planning is being done in the Santa Maria Basin.

Ventura County

The county is affiliated with the Southern California Association of Governments, a recognized metropolitan clearinghouse. No sewerage planning is being done in the Central Coastal Basin portion of Ventura County.

INTERIM WATER QUALITY CONTROL PLAN

For purposes of this planning effort, the Central Coastal Basin was divided hydrographically into 13 sub-basins as shown on Figure 2, page 8. Seven sub-basins are included in the Monterey Bay Regional Planning Area which comprises that portion of the basin tributary to Monterey Bay and the Monterey Coastal Sub-Basin. The Monterey Regional Planning Area is being investigated by AMBAG for development of the local comprehensive water quality management plan.

Information and data required for preparation of this report were obtained from local agencies and from available planning, investigative and engineering reports. Data relative to waste discharges and water quality were obtained from the Board's records and files.

Generally, this report describes the basin planning area, enumerates existing and anticipated future beneficial uses of water in the basin, specifies water quality objectives and discharge prohibitions to protect the beneficial uses and to maintain or enhance water quality. It presents information on existing facilities and discusses the specific sewerage facilities needed in the next five years, and generally within the next 10 to 30 years, to meet the proposed water quality objectives.

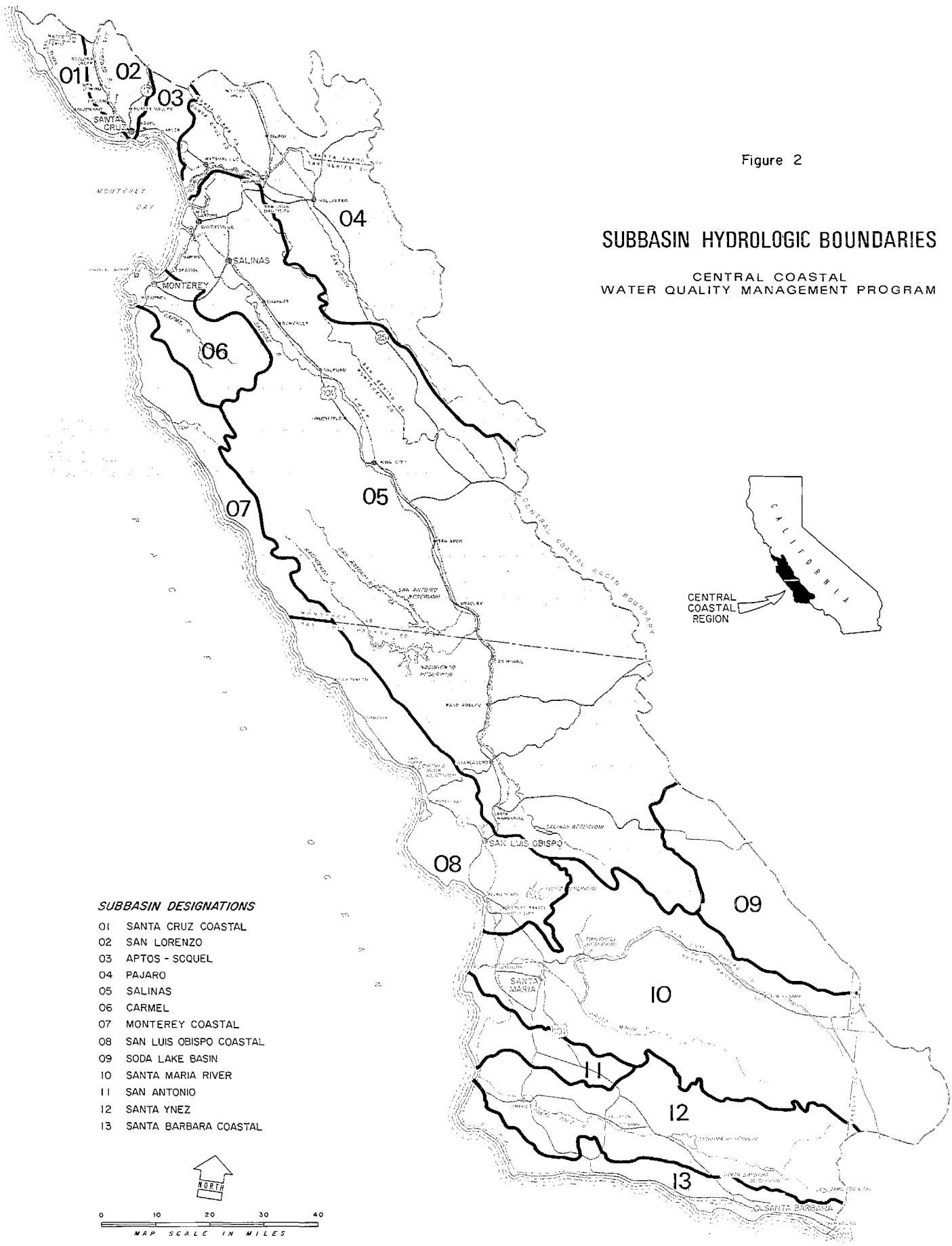
Appendix A is the recommended five year project list which consists of anticipated sewerage facility needs.

Included in Appendix B of this plan is the testimony received at a public hearing held on May 5, 1971, and a summary of written comments received subsequently.

Figure 2

SUBBASIN HYDROLOGIC BOUNDARIES

CENTRAL COASTAL
WATER QUALITY MANAGEMENT PROGRAM



CHAPTER III

BASIN DESCRIPTION

INTRODUCTION

The Central Coastal Basin extends in a general northwest to southeast direction along the Pacific Ocean from Pescadero Point in San Mateo County to Rincon Point in Ventura County. Figure 2 shows the basin area which includes the Counties of Santa Cruz, Monterey, San Luis Obispo and Santa Barbara, as well as the southern portion of Santa Clara, the western portion of San Benito, and small portions of San Mateo, Kern and Ventura Counties. The basin is about 350 miles long, 50 miles wide, and encompasses an area of 11,274 square miles.

Included within the basin is the Monterey Regional Planning Area which comprises that portion of the basin tributary to Monterey Bay and the Monterey Coastal Sub-Basin, as shown in Figure 2.

Topography

The sub-basin is generally mountainous with several intermountain valleys. The Coast Ranges, with peaks that vary in elevation from 3,800 to 8,750 feet have no majestic peaks but they contain unique areas of unequaled scenic beauty. The intermountain valleys lie mostly below an elevation of 400 feet. Only about 20 per cent of the basin has a land slope less than five per cent.

Geology

The basin lies entirely within the Coast Ranges geomorphic province, except for a small area in the southern end of the sub-basin which lies in the Transverse Ranges geomorphic province. The geologic history of the basin is complex, involving a variety of uplifting, folding and faulting.

The Coast Ranges comprise a series of northwest-trending longitudinal ranges and intervening valleys characterized by parallel faults and folds. Most of the Coast Ranges are formed of sedimentary rocks of varying geologic ages and degrees of metamorphism. Igneous rocks of both intrusive and extrusive origins are also present. Within the Coast Ranges lie a number of fault zones, including the most extensive in California, the San Andreas Fault.

The Transverse Ranges are the only system of mountains and valleys in California with longitudinal axes trending in an east-west direction. The portion of the Transverse Ranges within the basin has had a geologic history similar to that of the Coast Ranges.

Geologic formations are subdivided, based on their water-bearing characteristics. The two divisions are the relatively impermeable (nonwater-bearing) formations and the permeable (water-bearing) formations.

Nonwater-Bearing Formations

The nonwater-bearing formations consist of pre-Franciscan plutonic and metamorphic rocks and consolidated sedimentary rocks. The metamorphic rocks consist of schist, marble, gneiss, and quartzite, which have been derived from sedimentary and igneous rocks. The sedimentary rocks consist of shale, siltstone, sandstone, and conglomerate.

Water-Bearing Formations

The boundaries of ground water basins are shown on Figure 3 and are identified as follows in Table 1:

TABLE 1

IDENTIFICATION OF GROUND WATER BASINS

Number	Basin	Number	Basin
301	Soquel Valley	311	Arroyo Grande Valley
302	Pajaro Valley	312	Santa Maria Valley
303	Gilroy-Hollister	313	Cuyama Valley
304	Salinas Valley	314	San Antonio Creek Valley
305	Cholame Valley	315	Santa Ynez River Valley
306	San Antonio Valley	316	Goleta
307	Carmel Valley	317	Santa Barbara
308	Morro Bay Valley	318	Carpinteria
309	San Luis Obispo Valley	319	Carrizo Plains
310	Pismo Creek Valley		

Climate

The basin exhibits a distinct variation in climate between its coastal and inland areas. Along the ocean side of the Coast Ranges, the climate is dominated by the Pacific Ocean. Warm winters, cool summers with frequent coastal fog, and small daily and seasonal temperature ranges are characteristic of the coastal portion.

In the inland valleys, the climate is subject to wide variations, with generally warm summers and cooler winters. Average temperatures range from 48° in January to 63° in July and August. Seasonal temperature ranges of 15° and 112° have been recorded.

Precipitation occurs predominantly in the form of rainfall, with nearly 50% of the seasonal total occurring during the six-month period from November to April, with wide variations from year to year.

Sub-Basin Description

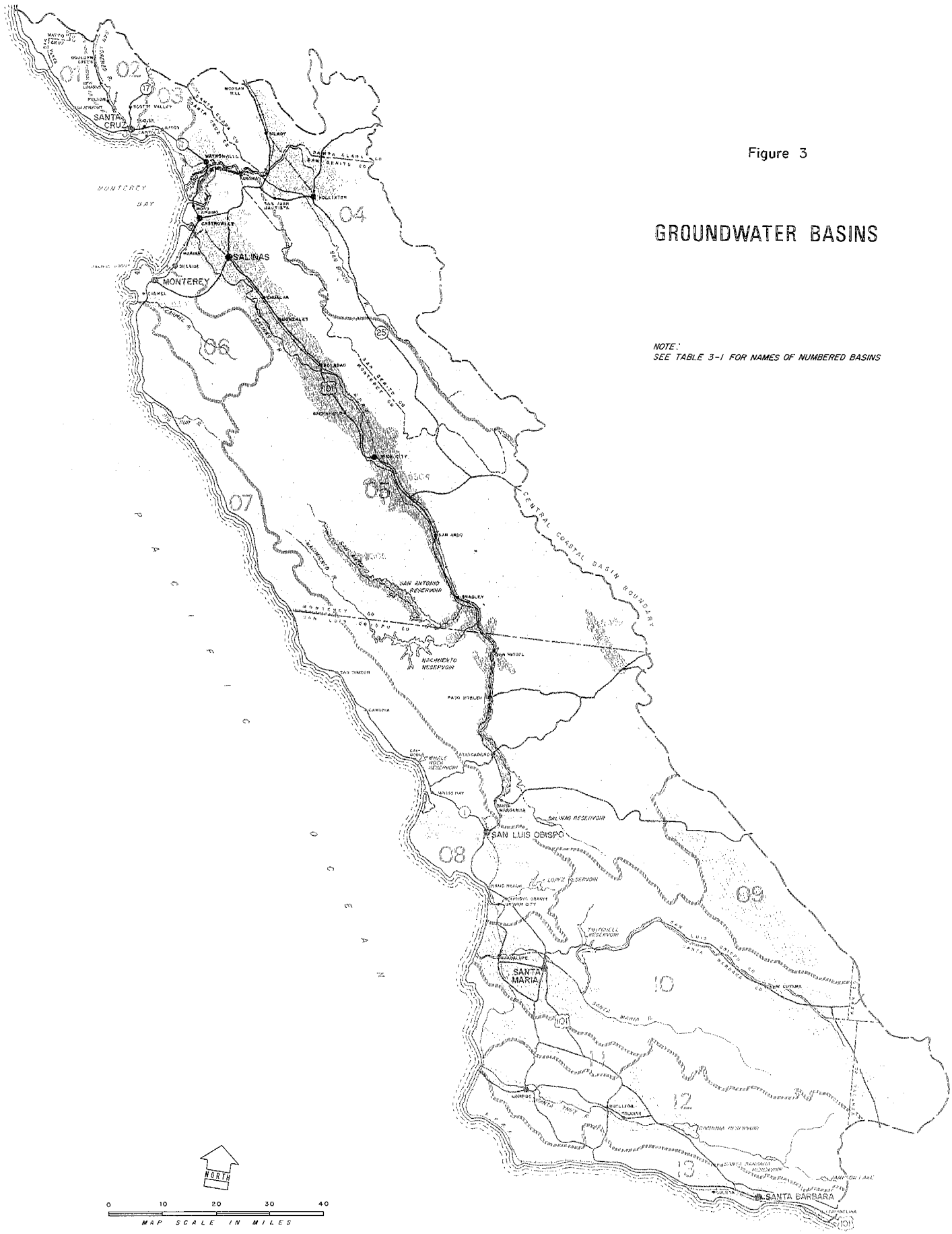
The Central Coastal Basin is girded and traversed by several mountain ranges. The major ranges include the Santa Cruz Mountains, the Diablo, Gabilan, Santa Lucia, La Panza and Temblor Ranges, and the Santa Ynez Mountains of the Transverse Ranges.

With the exception of the Santa Ynez Mountains, these ranges trend generally in a northwest direction and separate the basin into 13 fairly distinct hydrologic sub-basins. To aid in the identification of present and potential water quality and quantity problems and to enhance the analysis of proposed solutions, the basin has been divided into the 13 sub-basins, the boundaries of which generally lie along drainage divides of major streams, as shown on Figure 2.

This section briefly describes the sub-basins and existing wastewater treatment and disposal facilities located in each sub-basin of the Central Coastal Planning Basin. Table 2 lists all of the municipal dischargers, and Figure 4 shows the location of each. Similarly, Table 3 contains a list of all industrial dischargers, and Figure 5 presents their locations.

Figure 3

GROUNDWATER BASINS



Santa Cruz Coastal Sub-Basin

The Santa Cruz Coastal Sub-Basin embraces the coastal strip northwest of Santa Cruz in Santa Cruz County and the southerly tip of San Mateo County adjacent to the Pacific Ocean. The area encompasses about 149 square miles.

Despite its small area, the sub-basin varies widely from heavily forested, steep mountains to sandy beaches along the ocean. The rugged mountains are separated from the coast by a sloping marine terrace averaging about one-half mile in width. Water quality in the sub-basin is generally good and is suitable for all beneficial uses. However, water quality data is limited.

The most significant water quality problem in the sub-basin involves sewage disposal from the small coastal community of Davenport. The present discharge to the ocean, while in a relatively inaccessible location, represents a potential health hazard and threat to the receiving waters.

The existing sewerage facilities in this sub-basin consist of a primary plant and ocean outfall operated by the City of Santa Cruz, biological secondary plants owned by Big Basin State Park and Capitola Berry Farms, an Imhoff tank used by the Davenport Sewer Maintenance District prior to discharge to the ocean surf, and septic tanks followed by oxidation ponds and land disposal systems used by the Ben Lomond Conservation Facility and Campbell Soup Company's Pacific Mushroom Farm. Two other industrial waste-water systems provide settling prior to discharge to the surf.

San Lorenzo River Sub-Basin

The San Lorenzo River Sub-Basin extends from the southern boundary of San Mateo County to Monterey Bay and is bounded by Ben Lomond Mountain on the west and the Santa Cruz Mountains on the east. The area comprises 140 square miles of generally rugged, mountainous terrain covered with dense forests. Elevations vary from sea level to about 3,200 feet. The narrow seven-square mile valley floor is essentially dotted with concentrations of private residences and resorts.

The sub-basin is drained by the San Lorenzo River system which has essentially unregulated flow during the rainy season. Accordingly, the river stage rises and declines rapidly during and following a storm.

The present general mineral quality of surface waters within the basin is excellent for all water uses. In a few cases, the values of nitrate and phosphate levels indicate a possibility of contamination from domestic sewage. Data on turbidity and suspended solids indicate tributaries on the west side of the sub-basin are more clear than those on the east side. Ground water in the sub-basin is also of excellent quality and suitable for all uses.

The primary water quality problem in the sub-basin involves unsewered areas in the San Lorenzo Valley. The major developed areas are not sewered and waste disposal is by means of individual septic tanks and leaching systems which represent potential health hazards and a direct threat to the San Lorenzo River. In addition, erosion resulting from construction activities causes water quality problems through siltation of surface streams.

The most common type of community treatment system in this sub-basin is an extended aeration package treatment plant followed by sub-surface or spray disposal. Since much of this area is not sewered, individual septic tank and absorption systems are very numerous and a constant threat to the quality of water in the San Lorenzo River. All four of the sand quarries in the sub-basin operate essentially closed water systems which discharge wastewater to percolation ponds and then pump it back out of the ground for reuse.

TABLE 2

LIST OF MUNICIPAL DISCHARGES

Number	Discharger	Number	Discharger
001	Big Basin State Park	039	Cambria Radar Station
002	Ben Lomond Conservation Facility	040	San Miguel Sanitary District
003	San Lorenzo Valley County Water District	041	Paso Robles
004	Davenport Sewer Maintenance District	042	Paso Robles School for Baoys
005	Scotts Valley	043	Atascadero County Sanitation District
006	Santa Cruz County Service Area #10	044	Morro Bay – Cayucos
007	Santa Cruz	045	Atascadero State Hospital
008	East Cliff Sanitation District	046	San Luis Obispo County Schools
009	Aptos County Sanitation District	047	California Men's Colony
010	Watsonville	048	Santa Margarita School
011	Gilroy–Morgan Hill	049	San Luis Obispo
012	Castroville County Sanitation District	050	Avila Sanitary District
013	Pacific Grove	051	Pismo Beach – Shell Beach
014	San Juan Bautista	052	Pismo Beach – Main Plant
015	Marina County Water District	053	Lopez Recreational Area
016	U.S. Army – Fort Ord	054	So. San Luis Obispo Sanitation District
017	Hollister Municipal Airport	055	Guadalupe
018	Pebble Beach Sanitary District	056	Santa Maria
019	Hollister	057	Santa Maria Airport
020	Monterey	058	Laguna County Sanitation District
021	Seaside County Sanitation District	059	U.S. Air Force – Vandenberg AFB
022	Carmel Sanitary District	060	Federal Correctional Istitute – Lompoc
023	San Benito County Hospital, etc.	061	Lompoc
024	Salinas Main Plant	062	Buellton Community Services District
025	Salinas Alisal	063	Solvang Municipal Improvement District
026	Tres Pinos County Water District	064	Cachuma County Sanitation District
027	Chualar County Sanitation District	065	Goleta Sanitary District
028	U.S. Navy – Point Sur	066	Santa Barbara
029	Gonzales	067	Montecito Sanitary District
030	Big Sur State Park	068	Summerland Sanitary District
031	Soledad Prison	069	Carpinteria Sanitary District
032	Soledad		
033	Greenfield		
034	King City		
035	San Antonio Reservoir – North Shore		
036	San Antonio Reservoir – South Shore		
037	San Simeon Acres Community Services Dist.		
038	Cambria Air Force Housing		

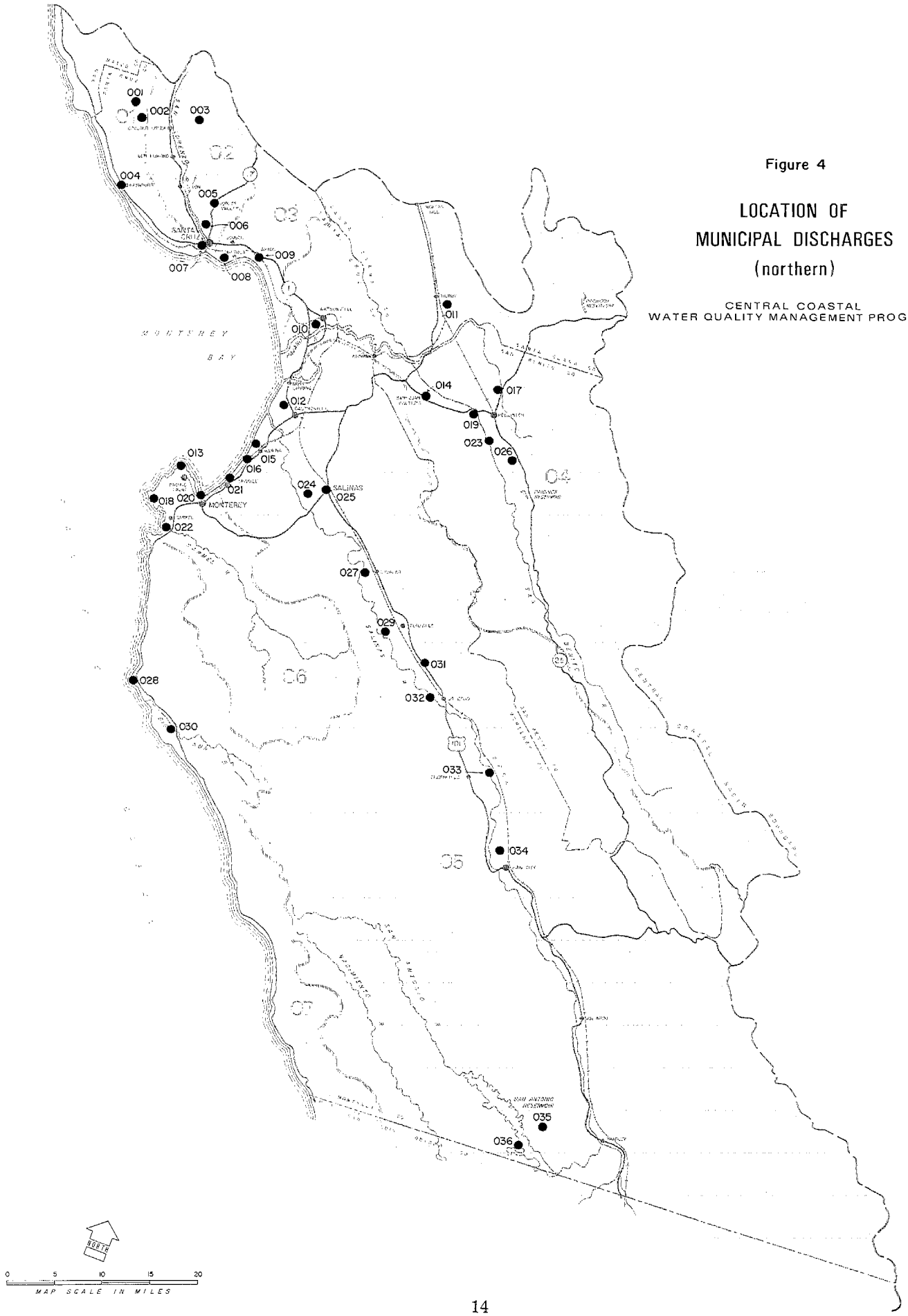


Figure 4

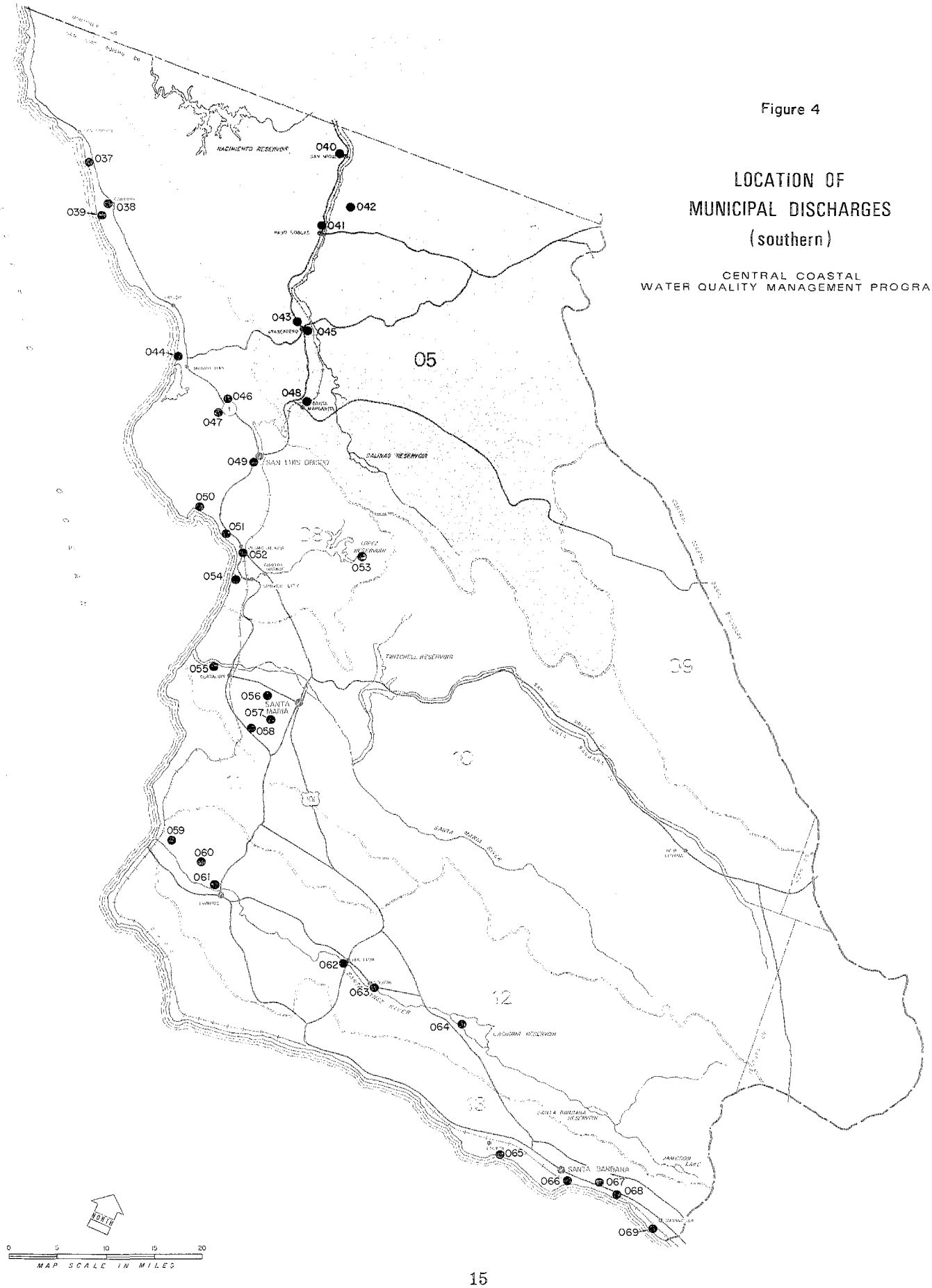
LOCATION OF MUNICIPAL DISCHARGES (northern)

CENTRAL COASTAL
WATER QUALITY MANAGEMENT PROGRAM

Figure 4

LOCATION OF MUNICIPAL DISCHARGES (southern)

CENTRAL COASTAL
WATER QUALITY MANAGEMENT PROGRAM



Aptos-Soquel Creeks Sub-Basin

This sub-basin extends southerly from the Santa Clara County line to Monterey Bay and easterly from the drainage divide between Soquel and Branciforte Creeks to that between Aptos and Corralitos Creeks. The sub-basin includes 77 square miles of rugged mountains and rolling hills and is drained principally by Soquel and Aptos Creeks. Marine terraces, adjacent to the rolling foothills on the north, are found along the coast. These terraces are well developed and are abruptly terminated at the coast line by high sea cliffs.

Quality of surface waters in the sub-basin is generally good and suitable for all uses. Limited data on ground water quality indicate that ground waters are of acceptable quality although usage is minor.

In the sub-basin, the major threats to water quality are the domestic sewage discharge from East Cliff and Aptos County Sanitation Districts. The receiving waters in the vicinity of all of these discharges receive high order uses. In addition to treatment facilities, sewage pumping installations have, in the past, experienced failures, resulting in the discharge of untreated sewage to surface waters. These factors contribute to serious health hazards.

Presently there are two primary treatment plants and outfalls into Monterey Bay in this sub-basin. The East Cliff County Sanitation District plant features a sludge incinerator and also serves the Capitola County Sanitation District. The Aptos County Sanitation District plant is approaching capacity and will probably be eliminated within the next few years when an interceptor to East Cliff can be built. Private systems using land disposal serve the Sand Dollar Beach development and the Monterey Bay Academy, and the Bargetto Winery discharges screened industrial wastewater to Soquel Creek.

Pajaro River Sub-Basin

The Pajaro River Sub-Basin covers about 1,300 square miles in portions of San Benito, Santa Clara, Santa Cruz, and Monterey Counties, as shown on Figure 2. The sub-basin is about 90 miles long and varies in width from about 30 miles in the northern portion to about four miles at the southern extremity.

The area is predominantly mountainous and hilly with flat lands restricted mainly to the flood plains of the Pajaro River and its tributaries, Llagas, Uvas, and Pescadero Creeks and the San Benito River. The valley floor areas, bounded by the Diablo Range on the east and the Santa Cruz Mountains and Gabilan Range on the west, rise gently from Monterey Bay to about 300' above mean sea level. The surrounding mountain ranges rise from the valley floor to elevations of from 3,200' to 3,400' in the east and south, and 2,000' in the west. Near the coast, sand dunes are found over an extensive area.

Quality of surface waters in the Pajaro River steadily deteriorates from the headwaters, primarily the result of mineralization by irrigation return flows. Ground water quality varies throughout the basin, but generally is of poor quality in areas of heavy pumping for agricultural use. In parts of the upper basin, high concentrations of boron exist. In the lower portions, there are high concentrations of iron and nitrate.

A water quality problem in the sub-basin involves ground water degradation as the result of waste discharges. In the Gilroy-Hollister ground water basin, ground water impairment near the Hollister industrial waste disposal site is occurring. In addition, road construction in the Llagas and Uvas Creek watersheds have resulted in siltation of surface waters. In the Watsonville area, overflows of sewage pumping and treatment facilities in the past have resulted in surface water pollution of the lower Pajaro River.

The Gilroy-Hollister Ground Water Basin extends southeasterly from the drainage divide near Morgan Hill to Tres Pinos at the head of Hollister Valley and comprises 250 square miles. The Pajaro Valley Ground Water Basin contains two independent pressure zones, the Upper and Valley Floor Pressure Zones, and one large Forebay.

TABLE 3

LIST OF INDUSTRIAL DISCHARGERS

Number	Discharger	Number	Discharger
001	Campbell Soup Co.	036	Elkhorn Farms
002	Capitola Berry Farms	037	Moonglow Dairy
003	Big Basin Woods Subdivision	038	Minhoto and Silva Dairy
004	Brookdale Lodge	039	Sea Products Co.
005	Ben Lomond Solid Waste	040	Kaiser Aluminum & Chemical Co.
006	Happyland Subdivision	041	Oak Hills Subdivision
007	Pacific Cement & Agg. – San Vicente Creek	042	D'Arrigo Bros. Co.
008	Pacific Cement & Agg. – Zayante Creek	043	Monterey Peninsula Garbage District
009	Davenport Refuse Disposal Site	044	San Juan Bautista Solid Waste
010	San Lorenzo V.C.W.D. – Logging	045	Crazy Horse Solid Waste
011	Kaiser Sand Plant	046	Del Monte Sand Plant
012	Santa Cruz Aggregate	047	Blanco Drain
013	Sporup Sanitarium	048	Vierra Dairy
014	Santa Cruz Solid Waste Site	049	Seaside Storm Drain
015	Santa Cruz Water Filt. Plant	050	Hollister Gas Field
016	Chesbro Reservoir	051	Teledyne Inc., Domestic
017	Walti Schilling Co.	052	Teledyne Inc., Industrial
018	Bargetto's Winery	053	Hollister Industrial
019	Western Refrigeration & Cold Storage	054	Salinas Industrial
020	Allied Foods	055	Union Ice Co.
021	Sand Dollar Beach	056	Hibino Farms
022	Mann Apple Processing	057	Alameda Co.
023	Rider, H. A. & Sons	058	Monterey Co. Ice & Devel. Co.
024	Watsonville Garbage & Refuse District	059	Salinas Tallow Co.
024	Monterey Bay Academy	060	Shippers Development Co.
026	Certified Egg	061	Growers Ice & Devel. Co.
027	Buena Vista Solid Waste Site	062	Inglis Frozen Foods
028	Watsonville Dressed Beef	063	Liquid Ice Co.
029	Gilroy Industrial	064	Highlands Inn
030	Gilroy Solid Waste Site	065	Carmel Highlands
031	Lewis Road Solid Waste Site	066	Cal-American Water Co.
032	Santa Cruz Canning Co.	067	Hollister-San Benito Co. Refuse District
033	General Fish Corp.	068	Firestone Tire Co.
034	Granite Rock Co.	069	Toro Park Estates
035	P. G. & E. Moss Landing	070	Spreckels Sugar Co.

TABLE 3 (con't.)

LIST OF INDUSTRIAL DISCHARGERS

Number	Discharger	Number	Discharger
071	Almaden Vinyards	109	Daisy Hill Mobile Home Park
072	Chualar Road Solid Waste Site	110	Cuesta Mobile Home Park
073	Gonzales Potato Company	111	TVRRI Road Dump
074	Fat City Cattle Company	112	Perry Ranch Dump
075	Gonzales Solid Waste Site	113	Calif. State Poly College – Solid Waste
076	Henry Hoffman	114	Camp San Luis Obispo – Solid Waste
077	Valley Potato Company	115	Calif. State Poly College – Swine Unit
078	Pyramid Van & Storage	116	P. G. & E. – Diablo Canyon
079	United Feed Yards	117	San Luis Tallow Company
080	Salinas Valley Feed Yard	118	Hidden Hills Mobilodge
081	Soledad Solid Waste Site	119	San Luis Bay Prop. Solid Waste Site
082	Westates Petroleum	120	San Luis Bay Properties
083	King City Solid Waste Site	121	Fairway Manor Subdivision
084	Maggio Vegetable Company	122	Union Oil Company – Avila
085	King City Oil Field	123	HYLA Oil Company
086	San Ardo Solid Waste Site	124	Signal Oil Company – Arroyo Grande
087	Ragged Point Inn	125	Cold Canyon Solid Waste Site
088	Lockwood Solid Waste Site	126	Union Oil Company – Santa Maria Ref.
089	Cantinas Campground	127	Union Oil Company – Santa Maria
090	General Resources Development	128	Guadalupe Solid Waste
091	Bradley Solid Waste Site	129	Sinton and Brown
092	San Antonio Reservoir Solid Waste	130	Union Sugar Company
093	Cambria Solid Waste	131	Santa Maria Solid Waste Site
094	Parkfield Solid Waste	132	Santa Maria Airport Solid Waste Site
095	Trophy Meat Company	133	Union Oil Company – Lompoc Field
096	New Klau Mining & Construction Company	134	Vandenberg Village
097	Buena Vista Mines	135	Signature Homes Sub.
098	Paso Robles Solid Waste	136	Lompoc Solid Waste Site
099	IVR Hog Farm	137	GREFCO, Inc.
100	Bryan Meat Company	138	Santa Ynez Solid Waste
101	Atascadero Garbage Disposal District	139	Richfield Oil Co. – Cuyma Valley Community
102	Standard Oil – Estero Bay	140	Union Oil Co. – Pt. Conception
103	Morro Bay Pump Stations	141	Phillips Oil Co. – Platform Harry
104	Atascadero State Hospital Solid Waste	142	KROC Ranch
105	P. G. & E. – Morro Bay	143	Standard Oil Co. – Gaviota
106	Creston Solid Waste	144	Getty Oil Company
107	Sawyer Convalescent Hospital	145	Shell Oil Co. – Capitan Field
108	Stark Development	146	Rancho La Scherpa

TABLE 3 (cont'd.)

LIST OF INDUSTRIAL DISCHARGERS

Number	Discharger
147	Tajiguas Solid Waste Site
148	Richfield Oil Co. – Platform Holly
149	Signal Oil Co. – Elwood Field
150	Goleta Lemon Association
151	Sunbird Mines Ltd.
152	Ozena Valley Refuse Site
153	Santa Barbara Dredge
154	Montecito County Water District
155	Standard Oil Co. – Carpinteria
156	Cate School
157	Sun Oil Co. – Platform Hillhouse
158	Granite Rock Co. Sand Plant
159	B & P Packing Shed

Figure 5

LOCATION OF INDUSTRIAL DISCHARGES (northern)

CENTRAL COASTAL WATER QUALITY MANAGEMENT PROGRA

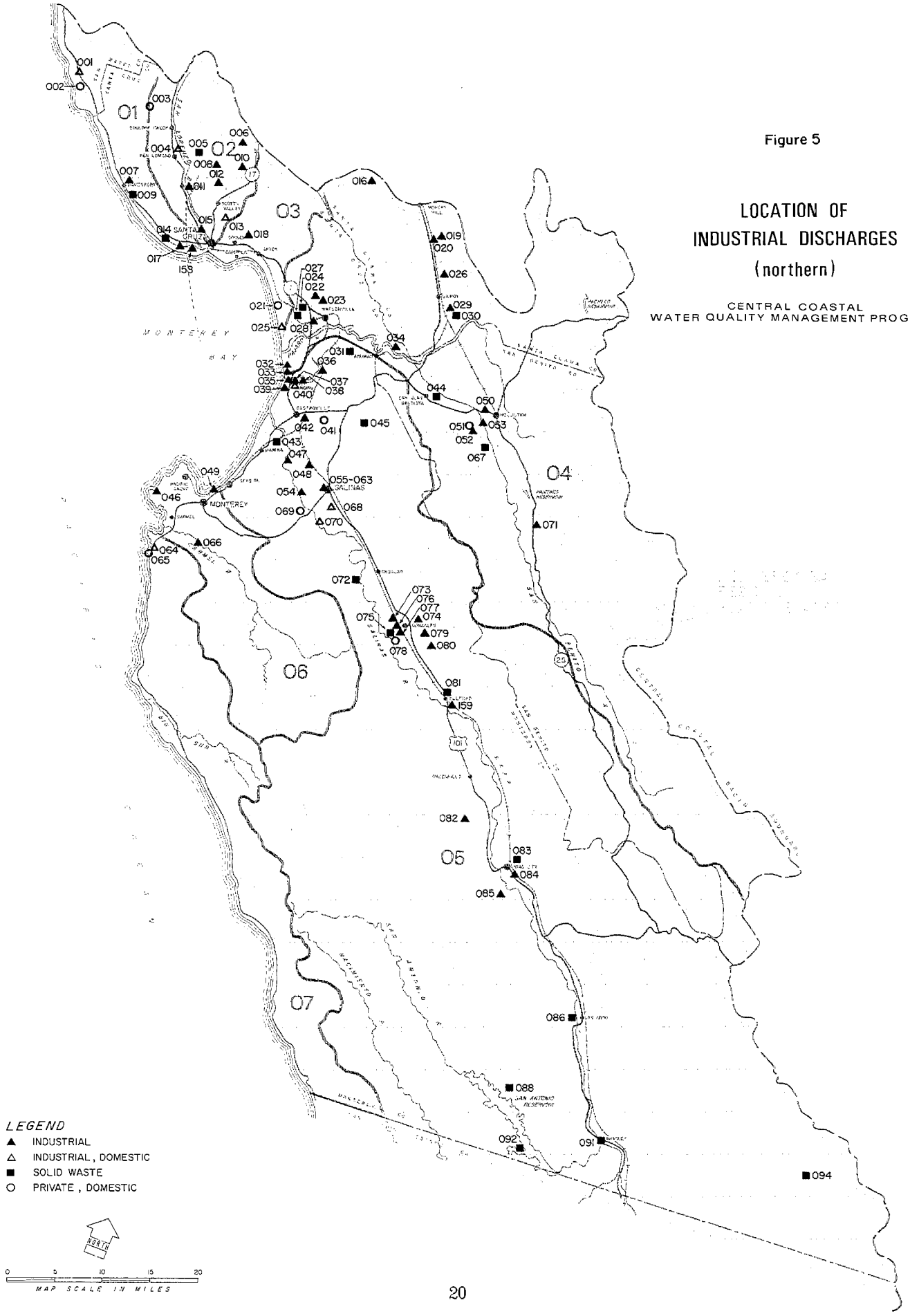
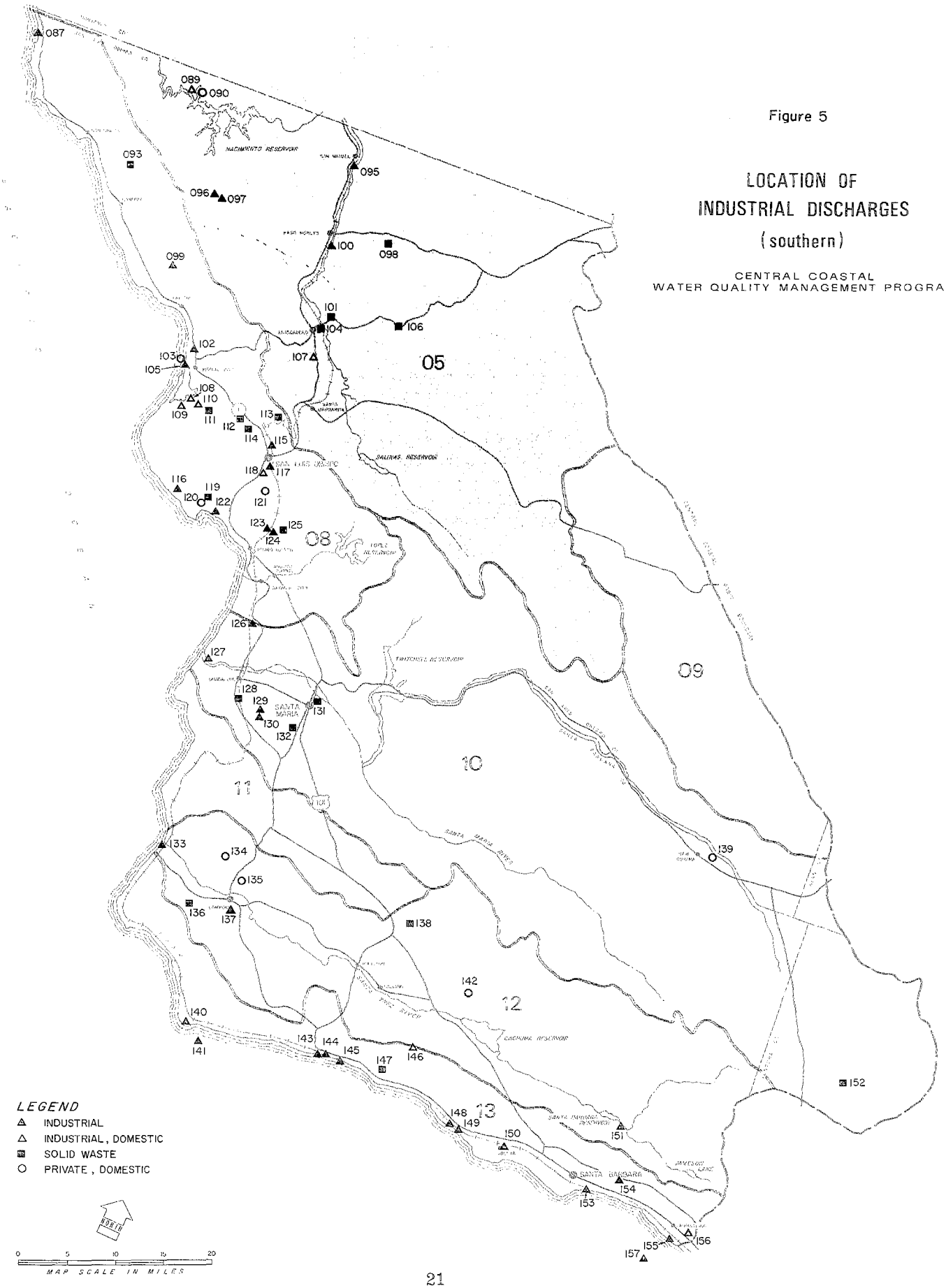


Figure 5

LOCATION OF INDUSTRIAL DISCHARGES (southern)

CENTRAL COASTAL
WATER QUALITY MANAGEMENT PROGRAM



Sewage treatment facilities in this sub-basin vary from raw sewage lagoons to secondary plants. Effluent is usually discharged to land for disposal, although some surface water discharges exist and one outfall to Monterey Bay is in use. Primary plants and land disposal systems are used by the City of Hollister and the City of Gilroy, which also serves Morgan Hill. Raw waste lagoons are used by the Tres Pinos County Water District and the San Benito County Hospital. San Juan Bautista has a secondary plant and the City of Watsonville maintains a primary treatment plant and an outfall into Monterey Bay.

Both Hollister and Gilroy maintain separate industrial waste treatment and disposal systems consisting of exidation and percolation ponds. Percolation ponds are also used by several of the food processing industries located in the sub-basin. Teledyne, an industrial firm near Hollister, maintains an extended aeration plant for its sanitary wastes and extensive chemical treatment facilities for its industrial waste.

Salinas River Sub-Basin

The Salinas River Sub-Basin includes the major portion of Monterey and San Luis Obispo Counties and a small part of San Benito County, as shown on Figure 2. The area embraces 4,468 square miles, including Elkhorn Slough Basin and Moro Cojo Group, and is bounded on the north by Monterey Bay, on the east by Gabilan, Diablo and Temblor Ranges, and on the west and south by the Santa Lucia Range.

The floor of the Salinas Valley, the largest intermountain valley of the Coastal Ranges, extends about 93 miles northward from Bradley, where it is less than one mile wide, to Monterey, where it is about nine miles wide. The elevation of the major portion of the valley floor is less than 400 feet.

The Salinas Valley Ground Water Basin underlying the valley floor has been divided into five subareas for purposes of describing ground water hydrology. These ground water subareas are the Upper Valley, Arroyo Seco Cone, Forebay, Eastside and Pressure areas. The upper Salinas hydrologic unit in San Luis Obispo County consists of the Paso Robles and Pozo subarea. Ground water movement is toward the lower and centrally located Salinas River Valley. Subsurface flow along the river and its tributaries usually follows the same course as surface flow.

With few exceptions, the surface and ground water quality in the sub-basin is suitable for all water uses. Surface waters originating in the Diablo Mountains are high in mineral concentrations as are the waters in the lower Salinas River. Ground water quality in the sub-basin varies from one area to the other but is generally acceptable for most uses. The poor quality surface water from the Diablo Range results in ground water degradation in the upper reaches of the sub-basin. Agricultural waste waters also contribute to impairment of ground water quality, as does sea water intrusion in the Castroville area.

Except for sea water intrusion, the primary water quality problems in the sub-basin are the result of domestic, industrial and agricultural waste discharges. Domestic waste discharges in the Salinas Valley produce water quality problems. Many treatment facilities are subject to flooding and the discharges from the City of Salinas municipal and industrial waste facilities create nuisance conditions and potential health hazards in the lower Salinas River. Disposal of oil field waste water in San Ardo Oil Field creates a hazard to fresh ground water supplies and surface waters.

Treatment facilities for municipal wastes produced within this sub-basin vary from raw sewage lagoons to activated sludge treatment plants. Most of the industrial waste treatment systems consist of ponds or lagoons to settle solids from the waste water before discharge or disposal by percolation. Secondary plants discharging to surface waters or flood plains of the Salinas River include the two owned by the City of Salinas, one serving the Castroville area and another at the Soledad Correctional Facility used by Paso Robles. Marina County Water District and Fort Ord both discharge secondary effluent into Monterey Bay. Pacific Gas & Electric Company and Kaiser Refractories both discharge cooling water and treated waste water to the Moss Landing Harbor area. Primary treatment plants and/or exidation ponds with land disposal facilities are used by essentially all of the remaining communities and industries in the sub-basin.

The City of Salinas also maintains a separate industrial wastewater system for the food processing industries in the city which consists of oxidation and percolation ponds. This system is being enlarged for the 1971 season.

Carmel River and Point Pinos Sub-Basin

The Carmel River Sub-Basin, including the Point Pinos Peninsula, comprises 319 square miles. The Carmel River portion of the sub-basin extends about 35 miles southeastward from Carmel Bay and encompasses an area of about 254 square miles, consisting essentially of mountains and foothills. The major drainage courses of the basin are the Carmel River and its two main tributaries, Tularcitos and Las Gazas Creeks.

The valley floor is bounded on the north and east by the Sierra de Salinas, on the south by the Santa Lucia Range, and on the west by the ocean. The width of the valley floor is approximately one-half mile along the flood plain of the Carmel River.

Ground water occurs principally in the alluvial and terrace deposits of the valley floor and is unconfined. The primary source of recharge is the Carmel River. The ground water gradient is generally toward the ocean. Surface and ground waters in the sub-basin are generally of good quality except for occasional high iron content.

Water quality problems in the sub-basin are associated with the Carmel Valley where lack of sewers represents a health hazard and threat to water quality and on the Point Pinos Peninsula where a multiplicity of waste discharges endangers the water quality of Monterey Bay. Inadequate disinfection facilities at sewage treatment plants discharging to Monterey Bay resulted in the closing of public beaches in Monterey Bay and Carmel Bay.

All municipal sewage systems in this sub-basin discharge to either Monterey Bay, Carmel Bay, or the ocean. The Seaside County Sanitation District, the City of Pacific Grove, and the Carmel Sanitary District all maintain primary treatment plants although Carmel is planning to begin construction on a new secondary plant during 1971. The City of Monterey has an activated sludge plant featuring a sludge burner. The Del Monte Sand Plant also discharges settled effluent to the ocean. The only other industrial discharge is a filter backwash water produced by iron removal facilities on one of the California American Water Company's wells in Carmel Valley.

All of the municipal systems except Monterey were under Cease and Desist Orders from the Regional Water Quality Board during the early part of 1970 for failing to maintain bathing water bacteriological standards in the receiving waters.

Monterey Coastal Sub-Basin

The Monterey Coastal Sub-Basin consists of the area tributary to the Pacific Ocean immediately to the south of Carmel Bay and extending to the Monterey-San Luis Obispo County line. The sub-basin comprises 242 square miles of generally mountainous terrain in the Santa Lucia Range. There are no apparent threats, at present, to the excellent water quality.

There are no municipal treatment and disposal systems in this sub-basin. The U.S. Navy at Point Sur and Pfeiffer Big Sur State Park both maintain extended aeration package treatment plants to handle wastewater produced by their respective installations. Effluent from the Navy's plant is discharged to the ocean, while that from the park goes to a sub-surface leaching field.

San Luis Obispo Coastal Sub-Basin

This sub-basin consists of that portion of San Luis Obispo County lying on the western slopes of the Santa Lucia Range, including a small portion of Monterey County, of the San Carpoforo Creek drainage area. The sub-basin comprises 788 square miles and extends from the northerly portion of San Luis Obispo County to the northern Santa Maria River drainage divide.

The sub-basin is generally mountainous and hilly with numerous small stream valleys and the more extensive valley and coastal plain area of Arroyo Grande Creek. Other major streams of the sub-basin are San Simeon, Santa Rosa and San Luis Obispo Creeks, Arroyo de la Cruz and Old Creek, all of which drain the western slopes of the Santa Lucia Range.

Surface and ground water quality in the sub-basin is generally acceptable for all uses with the exception of occasional high mineral content. Ground waters in the southern portion of the sub-basin exhibit high nitrate concentrations. Selected wells in the Baywood Park-Los Osos area also indicate high nitrate levels but otherwise, ground water in this portion of the sub-basin is of exceptional quality.

Water quality problems in the sub-basin are chiefly the result of domestic and agricultural waste disposal practices. Disposal of domestic waste water constitutes a threat to the quality of receiving waters. Although degree of treatment in marine discharges is rather high, treated wastes are discharged through outfalls that terminate in the nearshore waters in areas that receive very high order uses. Ground water impairment as a result of domestic waste discharges, particularly septic tank systems in unsewered areas, presents a water quality hazard. Disposal of agricultural wastes, particularly irrigation return water and animal wastes, are also sources of water quality impairment.

Seven municipal waste treatment facilities are located in the sub-basin. These are San Simeon Acres Community Services District, City of Morro Bay, which also serves the Cayucos Sanitary District, Avila Sanitary District, and the South San Luis Obispo County Sanitation District which serves the communities of Arroyo Grande, Oceano and Grover City. In addition, separate treatment and disposal facilities serve the Air Force Radar Station at Cambria, the Radar Station dependent housing area, California Men's Colony, and some private residential developments in Baywood Park and south of San Luis Obispo.

All of the treatment facilities mentioned above provide secondary treatment prior to discharge to receiving waters with the exception of the Avila Sanitary District which offers primary sedimentation before discharge and the Cambria Air Force Radar Station which utilizes a septic tank and ocean disposal. Coastal discharges in the sub-basin are to areas receiving a high order of water uses, including shellfish harvesting and water contact activities.

The major industrial waste discharge in this sub-basin is the cooling water from Pacific Gas and Electric Company's Morro Bay Power Plant. Treated oil tanker ballast water is discharged to the ocean from Standard Oil Company's Estero Bay facility. Oil field production waste from the Arroyo Grande Oil Field is discharged to Arroyo Grande Creek.

Soda Lake Sub-Basin

The Soda Lake Sub-Basin is a large, enclosed, arid basin located between the Temblor and Caliente Ranges, adjacent to the Upper Salinas River Sub-Basin. The area comprises 447 square miles and is separated from the Salinas Sub-Basin by a low drainage divide between the Temblor and La Panza Ranges. Elevations vary from about 1,900 feet above sea level at Soda Lake to 5,095 feet at Caliente Mountain. The basin floor lies at an elevation of about 2,000 feet.

Ground water occurs in alluvium and in the Paso Robles Formation, consisting of nonmarine sand, gravel and clay up to 1,000 feet thick. Runoff in streams tributary to Soda Lake is insignificant in amount and is disposed of naturally through evaporation. Water quality data indicate that surface and ground water in the sub-basin is somewhat mineralized but acceptable for most uses. The Carrizo Plain ground water basin is a closed basin and as a result, recycling of ground waters results in a mineralization problem.

No formal treatment and disposal facilities exist in this sub-basin. All properties are served by individual sewage disposal systems.

Santa Maria River Sub-Basin

This area comprises about 1,850 square miles and is drained by the Santa Maria River and its two major tributaries, the Cuyama and Sisquoc Rivers. The La Panza and Caliente Ranges separate the sub-basin from the Salinas River and Soda Lake Sub-Basins, respectively.

The sub-basin consists of the Santa Maria and Cuyama Valleys. The Santa Maria Valley embraces the coastal plain in the vicinity of Santa Maria, the adjoining Nipomo Mesa, and tributary mountain and foothill areas. The Santa Maria Valley floor varies in elevation from sea level to about 300 feet. The Cuyama Valley consists of the drainage of the Cuyama River above Vaquero Dam. The floor of Cuyama Valley ranges in elevation from 1,900 to 2,900 feet with an average of 2,300 feet. The principal water sources are the Santa Maria and Cuyama Ground Water Basins.

Water quality in the sub-basin is generally acceptable for all uses. In the Santa Maria area ground water is more mineralized than in other parts of the sub-basin because of a recycling of ground water supplies and domestic and agricultural waste disposal practices. The major water quality problems in the sub-basin are the mineralization of ground waters through domestic, industrial, and agricultural waste disposal, and degradation of the lower Santa Maria River.

Within this sub-basin, four municipal treatment and disposal facilities serve the lower Santa Maria River drainage and one municipal system serves the needs of the New Cuyama Townsite. The City of Santa Maria, Santa Maria Airport, and Laguna County Sanitation District provide biological secondary treatment and receive the major portion of municipal waste water in the sub-basin. Both the City of Guadalupe and the New Cuyama Townsite provide primary sedimentation prior to discharge. All of these treatment facilities dispose of their effluent by percolation into the ground water basin. Most of the industrial wastes in this sub-basin are discharged into the City of Santa Maria sewerage system. Oil field production wastewater from the Santa Maria Valley is either injected or handled by treatment disposal facilities. Wastewater from the Union Sugar Company's sugar beet refinery and Sinton and Brown are disposed of on land.

San Antonio Creek Sub-Basin

The San Antonio Creek Sub-Basin extends inland 28 miles from the Pacific Ocean to the Purisima Hills and is bounded on the north by the Solomon and Casmalia Hills, and on the south by Purisima Hills. The area consists of 211 square miles and is drained by San Antonio Creek.

The valley floor comprises about 16 square miles with a maximum width of one mile and slopes gently toward San Antonio Creek, which follows the valley through its entire length. The elevation of the valley floor varies from sea level on the coast to 750 feet east of Los Alamos. The surrounding hills reach elevations between 1,600 and 1,900 feet.

Water quality in the sub-basin is generally acceptable for all uses. The principal water quality threat in the sub-basin is in the community of Los Alamos where the present method of sewage disposal is by means of individual septic tank systems. Poor soil conditions and small lot size have resulted in several septic tank failures.

Santa Ynez River Sub-Basin

The Santa Ynez River Sub-Basin includes about 900 square miles in the southern portion of Santa Barbara County. The sub-basin parallels the westward-trending coastal reach of Santa Barbara County from which it is separated on the south by the narrow Santa Ynez Mountains of the Transverse Ranges. The northern boundary consists of the San Rafael Mountains to the east and the lower Purisima Hills to the west.

The narrow valley floor is an east-west depression about 70 miles long with a maximum width of 15 miles. The Santa Ynez Mountains extend eastward from Point Arguello to the Ventura River with crest elevations from 1,500 to 4,800 feet. The San Rafael Mountains trend northwest and the Purisima Hills trend nearly west. The principal ground water basins are located in the rolling hills area inland from the Lompoc Plain and north of the Santa Ynez River. Smaller ground water basins are situated along the Santa Ynez River and on the Lompoc Plain.

Surface and ground water quality in the sub-basin is generally suitable for all uses although dissolved solids concentration in certain areas, particularly in the lower sectors of the basin, are higher than desired for most uses as a result of recycling of the basin's water resources. In addition, most waters in the basin are very hard.

Disposal of municipal, industrial, and agricultural waste waters represent the primary source of water quality impairment. In the Lompoc Valley, because of the geologic structure and hydrologic balanee, the water quality is deteriorating. Outflow is restricted, waste waters are recycled and a satisfactory salt balance is not being maintained. It is absolutely essential that an investigation of the Lompoc Plain salt balance be undertaken in preparation of a fully developed plan.

Since 1966 studies relating to Cachuma Reservoir have been conducted to investigate problems associated with thermal stratification in the lake. A progress report published in 1967 by U.S.G.S. concluded that stratification of Lake Cachuma can be prevented. A final report on this study will be published in the near future. It is recommended that a joint federal-state and local effort be put forth following publication of the U.S.G.S. final report, to initiate and implement a program to eliminate stratification, or the problems it causes in Cachuma Reservoir. This program, including a review of economic feasibility, should be formulated within one year following release of the Geological Survey's final report.

There are four municipal, two federal, three private and two industrial wastewater treatment and disposal systems in the sub-basin. The City of Lompoc and the Federal Correctional Institution both have secondary treatment plants and discharge to the Santa Ynez River. Package type treatment plants followed by land disposal are used by the Buellton Community Services District, the Solvang Municipal Improvement District, Cachuma Recreational Area, and the Ray Kroc Guest Ranch. Vandenberg Air Force Base maintains a secondary plant and an ocean outfall, while two private systems, Vandenberg Village, and Mission Hills subdivision, provide secondary and primary treatment respectively. Both of the latter systems use land disposal.

Santa Barbara Coastal Sub-Basin

The Santa Barbara Coastal Sub-Basin is the narrow coastal strip south of the Santa Ynez Mountains, extending eastward from Point Arguello to about the Ventura County line. The sub-basin consists of 378 square miles of generally mountainous and hilly terrain.

The Santa Ynez Mountains are a linear, rugged transverse range rising steeply from Point Arguello on the coast to elevations of 2,000 to over 4,000 feet. The portions of the coastal strip, less than one mile wide, consist mostly of elevated alluvial terraces. These terraces slope toward the ocean and terminate at the coast line in steep cliffs 50 to 150 feet high. The portion of the sub-basin from Carpinteria to Goleta consists essentially of alluvial plains two to three miles wide. These plains slope gently to sea level.

Quality of surface and ground waters in the sub-basin are of suitable quality for most present and anticipated uses. Limited use of ground water resources is made since most waters are imported surface waters.

The chief water quality problem involves the discharge to the ocean of municipal and industrial waste waters. Most of the ocean discharges are through rather short outfalls and minimum dilution and dispersion is achieved. Also, insufficient data are available on the toxicity of industrial waste discharges, particularly petroleum wastes.

There are five municipal waste water treatment and disposal systems serving the southern Santa Barbara Coast, all discharging to the ocean. The Carpinteria, Montecito and Summerland Sanitary Districts all provide secondary treatment, while the City of Santa Barbara and the Goleta Sanitary District which also serves the Isla Vista Sanitary District, the University of California at Santa Barbara, and the Santa Barbara Airport provide primary treatment. The two private domestic systems located in the basin are Cate School and Rancho La Scherpa. Both utilize land disposal facilities. All separate industrial discharges in this sub-basin are related to oil production. Standard Oil Company, Getty Oil Company, Atlantic Richfield Company, Phillips Petroleum Company and the Union Oil Company all maintain separate waste treatment and disposal facilities.

CHAPTER IV

BENEFICIAL USES OF WATER

INTRODUCTION

The Central Coast Basin essentially spans the coastal interval between the metropolitan centers of San Francisco Bay and Los Angeles. Mountain ranges follow the coast and extend through the area with many fertile valleys between them.

Local economy is based primarily on agriculture and related activities, but the extraction and refining of petroleum, mining, commercial fishing, lumbering, and recreation are also important.

In 1967, about 25 percent of the truck crops produced in California were grown in the intensely developed valleys of the basin. Over 800,000 acre-feet of local ground and surface water were used to irrigate approximately 350,000 acres. The agricultural demand for water will increase to about 1.2 million acre-feet by 2000.

Net urban water demands amount to over 150,000 acre-feet/year. A rapidly expanding population is expected to increase the urban demand to more than 350,000 acre-feet/year.

The present water requirement of 5,000 acre-feet/year for fish, wildlife and recreation is expected to double by 2000.

BENEFICIAL USES OF WATER IN THE BASIN

General

Water uses in the Central Coast Basin presently include municipal and domestic, agricultural and industrial water supply, recreation, fish and wildlife habitat, swimming, boating, aesthetic enjoyment and groundwater recharge. These uses are expected to remain the same in the future although the distribution of uses in any one area may change as land uses and population densities change.

Since the majority of the water used for municipal and domestic, industrial and agricultural water supply comes from ground water storage, surface waters must be of sufficient quality to be usable once percolated to the underlying aquifers. The largest surface facilities in the basin were constructed to provide storage for water for ground water recharge instead of wasting the runoff to the ocean. These recharge waters presently provide the only truly reliable water supply for the basin. Practically all recharge occurs in the valleys of the large river sub-basins.

Many of the beneficial water uses in this basin are directly related to land use. Agricultural irrigation generally occurs in the flat valleys, while municipal and industrial water supplies are most needed in the urban areas of the basin. Figure 6 shows the existing patterns of land use.

Streams in the basin are pleasant to view, particularly those that flow in the upper foothills and areas of higher elevations. One of the important natural resources and main tourist attractions to the area is the plentiful supply of aesthetically pleasing waters.

Table 4 shows the present and anticipated future uses of water for most of the major streams in the Central Coastal Basin. Ground waters are normally used for municipal, domestic, agricultural, and industrial purposes. Table 5 presents the beneficial uses for the coastal waters of the basin.

Figure 6

EXISTING LAND USE
(northern)

CENTRAL COASTAL
WATER QUALITY MANAGEMENT PROGRAM

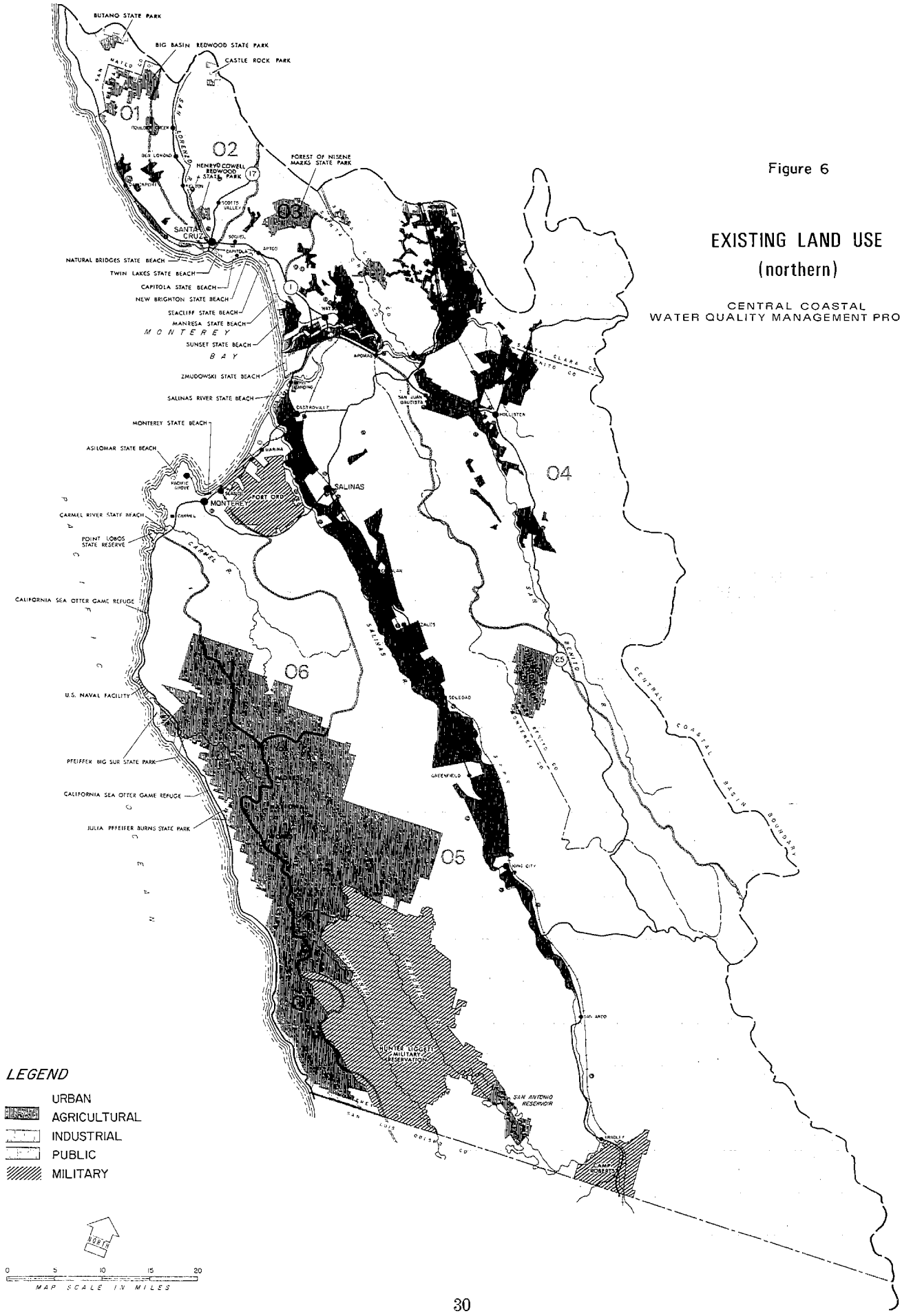
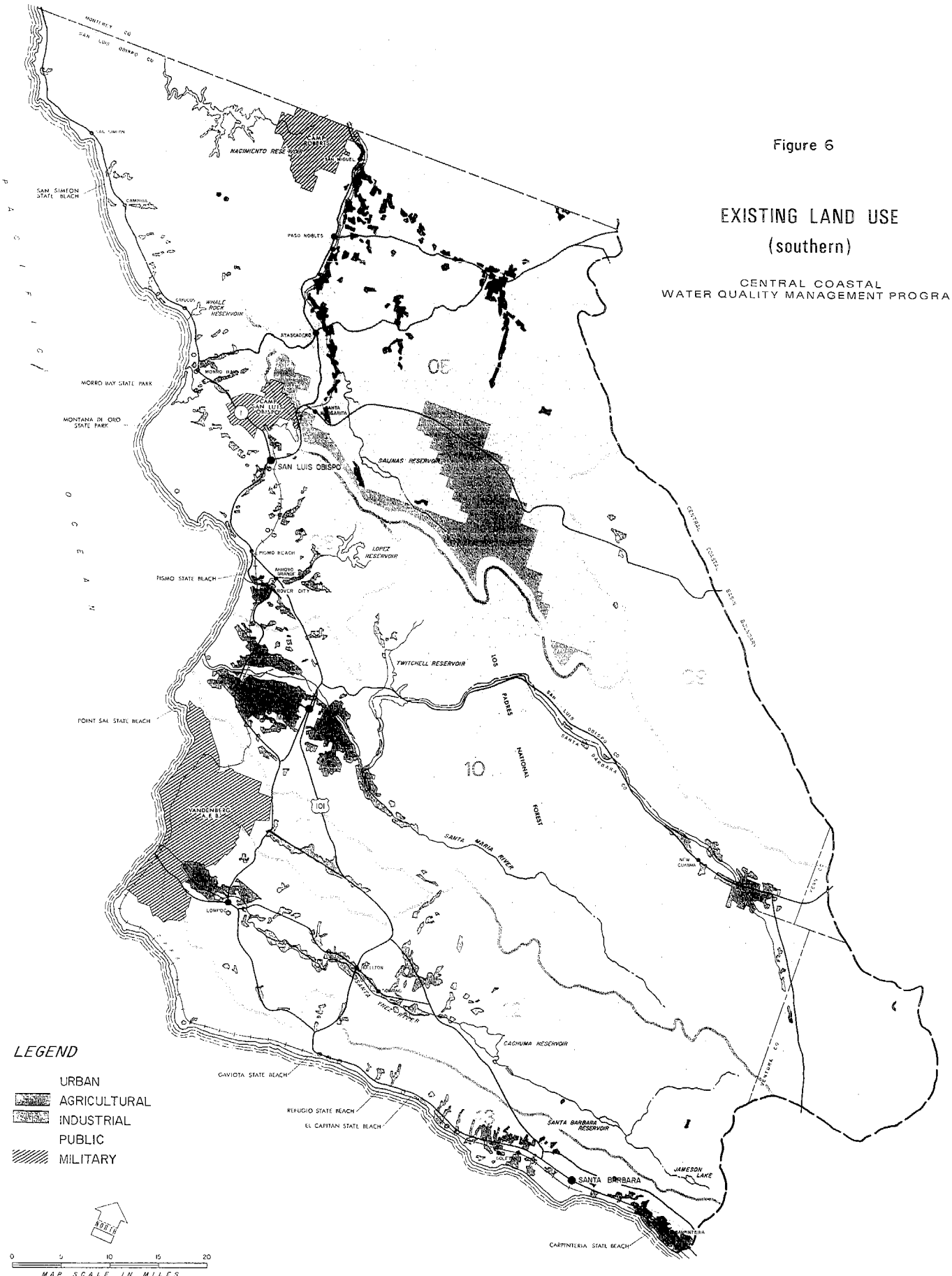


Figure 6

EXISTING LAND USE
(southern)

CENTRAL COASTAL
WATER QUALITY MANAGEMENT PROGRAM



Definition of Uses

Beneficial uses of the waters of the state that may be protected against quality degradation include, but are not necessarily limited to the following:

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 and all uses in support of farming and ranching operations

Industrial Supply (IND)

Groundwater Recharge (GRW) – recharge for later extraction for municipal, industrial, recreational and agricultural uses.

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

Swimming (SWIM) – special recreational use.

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, tidepool and marine life study, camping, aesthetic enjoyment, pleasure boating, and waterfowl hunting.

Boating (BOAT) – special recreational use.

Clamming and shellfish harvesting (SHELL)

Commercial Fishing (COM)

Navigation (NAV) – includes commercial and naval shipping.

Scientific Study, Research and Training (SCI)

Marine Habitat (MAR) – provides habitat for fish propagation and sustenance, shrimp, crab, other shellfish, waterfowl, and other water-associated birds, and mammal rookery and hauling grounds.

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

TABLE 4

PRESENT AND ANTICIPATED FUTURE USES OF WATER
IN THE CENTRAL COASTAL BASIN

Sub-Basin and Watercourse	MUN	AGR	IND	REC 1	FRESH	SWIM	BOAT	REC 2	GRW
Santa Cruz Coastal Sub-Basin									
Waddell Creek	X	X	X	X	X	X	X	X	X
Scott Creek	X	X	X	X	X	X	X	X	X
Little Creek	X	X	X	X	X	X	X	X	X
Big Creek	X	X	X	X	X	X	X	X	X
Mill Creek	X	X	X	X	X	X	X	X	X
San Vicente Creek	X		X	X	X			X	X
Liddell Creek, East Branch	X	X	X					X	
Laguna Creek	X	X	X	X	X	X	X	X	X
Majors Creek	X	X	X					X	X
San Lorenzo River Sub-Basin									
Bean Creek	X	X	X	X	X	X	X	X	X
Boulder Creek	X	X		X	X	X	X	X	
Branciforte Creek	X	X		X	X	X		X	X
Carbonero Creek	X	X	X	X	X	X		X	
Lompico Creek	X	X		X	X	X		X	X
Newell Creek	X	X	X	X	X	X	X	X	X
Newell Creek Reservoir	X	X	X	X	X		X	X	X
San Lorenzo River	X	X	X	X	X	X	X	X	X
Zayante Creek	X	X	X	X	X	X	X	X	X
Soquel-Aptos Sub-Basin									
Doyle Gulch	X	X	X	X	X	X	X	X	X
Soquel Creek	X	X	X	X	X	X	X	X	X
Hinckley Creek	X	X	X	X	X	X	X	X	X
Aptos Creek	X	X	X	X	X	X	X	X	X

TABLE 4 (con't.)

Sub-Basin and Watercourse	MUN	AGR	IND	REC 1	FRESH	SWIM	BOAT	REC 2	GRW
Pajaro River Sub Basin, Santa Clara County									
Llagas Creek	X	X	X	X	X	X		X	X
Uvas Creek	X	X	X	X	X	X		X	X
Bodfish Creek	X	X		X	X			X	X
Pacheco Creek	X	X		X	X			X	X
Chesbro Reservoir		X		X	X	X	X	X	X
Uvas Reservoir		X		X	X	X	X	X	X
Pacheco Lake		X		X	X	X	X	X	X
Corralitos Creek	X	X	X	X	X			X	
Brown's Creek	X	X	X	X	X			X	
San Benito County									
Tres Pinos Creek	X	X	X	X	X			X	X
San Benito River		X		X	X			X	X
Hernandez Reservoir	X	X		X	X		X	X	X
Pajaro River	X	X	X	X	X	X	X	X	X
Salinas River Sub-Basin									
Alisal Creek		X		X	X	X	X	X	X
Arroyo Seco	X	X	X	X	X	X	X	X	X
Estrella Creek	X	X		X	X			X	X
Gabilan Creek		X		X	X	X	X	X	X
Las Tablas Creek	X	X		X	X			X	X
Nacimiento River	X	X	X	X	X	X	X	X	X
San Antonio River	X	X	X	X	X	X	X	X	X
San Lorenzo Creek		X		X	X	X	X	X	X
San Marcos Creek	X	X		X	X	X	X	X	X

TABLE 4 (con't.)

Sub-Basin and Watercourse	MUN.	AGR	IND	REC 1	FRESH	SWIM	BOAT	REC 2	GRW
Santa Lucia Creek	X	X		X	X	X		X	X
Santa Rita Creek	X	X	X	X	X	X	X	X	X
Tassajara Creek	X	X		X	X	X		X	X
Elkhorn Slough			X	X	X		X	X	
Salinas River	X	X	X	X	X	X	X	X	X
Carmel River Sub-Basin									
Carmel River	X	X	X	X	X	X		X	X
Tularcitos Creek	X	X		X	X			X	X
San Clemente Creek	X	X		X	X			X	X
Cachaqua Creek	X	X	X	X	X	X	X	X	X
Laguna de Rey				X	X	X	X	X	X
Monterey Coastal Sub-Basin									
San Jose Creek	X	X		X				X	X
Palo Colorado Canyon	X	X		X		X		X	X
Little Sur River	X			X	X	X		X	X
Big Sur River				X	X	X		X	X
Limekiln Creek	X	X		X	X			X	X
S.L.O. Coastal Sub-Basin									
San Carpoforo Creek	X	X	X	X	X	X	X	X	X
Arroyo de la Cruz	X	X	X	X	X	X	X	X	X
Burnett Creek	X	X		X	X	X	X	X	X
Pico Creek	X	X		X	X			X	X
San Simeon Creek	X	X	X	X	X	X	X	X	X
Steiner Creek	X	X		X	X	X		X	X

TABLE 4 (con't.)

Sub-Basin and Watercourse	MUN	AGR	IND	REC 1	FRESH	SWIM	BOAT	REC 2	GRW
Santa Rosa Creek	X	X	X	X	X	X	X	X	X
Cayucos Creek	X	X		X	X			X	X
Old Creek	X	X	X	X	X	X	X	X	X
Toro Creek	X	X		X	X			X	X
Morro Creek	X	X		X	X	X	X	X	X
Chorro Creek	X	X	X	X	X	X	X	X	X
Los Osos Creek	X	X		X	X			X	X
San Luis Obispo Creek	X	X	X	X	X	X	X	X	X
Pismo Creek	X	X	X	X	X	X	X	X	X
Arroyo Grande Creek	X	X	X	X	X	X	X	X	X
Lopez Creek	X	X	X	X	X	X	X	X	X
Lopez Reservoir	X	X	X	X	X	X	X	X	X
Soda Lake Sub-Basin									
Unnamed tributary	X	X	X	X	X	X	X	X	X
San Antonio Creek Sub-Basin									
San Antonio Creek	X	X		X	X	X	X	X	X
Santa Maria River Sub-Basin									
Cuyama River	X	X		X	X	X	X	X	X
Huasna River	X	X		X	X			X	
Alamo Creek		X		X	X			X	X
Sisquoc River	X	X		X	X	X	X	X	X
Santa Ynez River Sub-Basin									
Agua Caliente Canyon	X	X	X	X	X			X	
Alama Pintado Creek	X	X	X	X	X			X	X
El Jaro Creek	X	X	X	X	X	X	X	X	X

TABLE 4 (con't.)

Sub-Basin and Watercourse	MUN	AGR	IND	REC 1	FRESH	SWIM	BOAT	REC 2	GRW
Indian Creek	X	X	X	X	X			X	
Lompoc Canyon	X	X	X	X	X	X		X	X
Mono Creek	X	X	X	X	X			X	X
Oak Canyon	X	X	X	X	X	X		X	X
Salsipuedes Creek	X	X	X	X	X	X	X	X	X
Santa Cruz Creek	X	X	X	X	X		X	X	X
Santa Rita Creek	X	X	X	X	X	X		X	X
Santa Ynez River	X	X	X	X	X	X	X	X	X
Santa Barbara Coastal Sub-Basin									
Glen Anne Creek	X	X		X	X		X	X	X
Atascadero Creek	X	X		X	X		X	X	X
San Jose Creek	X	X		X	X		X	X	X
San Antonio Creek	X	X		X	X			X	X
Franklin Creek								X	X
Carpinteria Creek				X	X		X	X	X
Rincon Creek				X	X			X	

TABLE NO. 5

PRESENT AND ANTICIPATED FUTURE USES OF WATERS
IN THE INTERSTATE AREAS OF CENTRAL COAST BASIN

COASTAL WATERS	SCI	SHELL	IND	REC 1	MAR	COM	SWIM	NAV	REC 2
Pescadero Pt. to Pt. Piedras Blancas	X		X	X	X	X	X	X	X
Salinas River to Soquel Pt.	X	X	X	X	X	X	X	X	X
San Lorenzo River Estuary				X	X	X	X	X	X
Santa Cruz Harbor			X	X	X	X		X	X
Elkhorn Slough	X	X	X	X	X	X	X	X	X
Monterey Harbor			X	X	X	X		X	X
Pt. Piedras Blancas to Pt. Arguello	X		X	X	X	X		X	X
Pt. Piedras Blancas to Pt. Estero	X			X	X	X	X	X	X
Estero Bay (Morro Bay)	X	X	X	X	X	X	X	X	X
Pt. Buchon to Pt. San Luis	X		X	X	X	X	X	X	X
Pt. San Luis to Point Sal	X	X	X	X	X	X	X	X	X
Pt. Sal to Pt. Arguello	X			X	X	X		X	X
Pt. Arguello to Rincon Pt.	X	X*	X	X	X	X		X	X
Coal Oil Pt. to Rincon Pt.	X		X	X	X	X	X	X	X
Santa Barbara Harbor			X	X	X			X	X
Beach Parks				X	X		X	X	X

*Areas not well defined.

CHAPTER V

POLICY GUIDELINES

GOALS

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

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

2. The quality of all surface waters shall be such as to permit unrestricted recreational use.

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

4. Achieve maximum effective use of fresh waters through reclamation and recycling for agriculture, industry, and municipalities, and

5. Continually improve waste treatment systems and processes to assure consistent high quality effluents at minimum cost.

MANAGEMENT PRINCIPLES

The following general water quality objectives include guidelines for treating and disposing of wastes:

1. Water quality management systems throughout the basin shall provide for eventual waste water reclamation but may discharge wastes to the aquatic environment (with appropriate discharge requirements) when waste water reclamation is precluded by processing costs or lack of demand for reusable water.

2. The number of waste sources and independent treatment facilities shall be minimized and the consolidated systems shall maximize their capacities for waste water reclamation, assure efficient management of, and meet potential demand for reclaimed water.

3. All discharges to the aquatic environment shall be considered temporary unless it is demonstrated that no undesirable change will occur in the natural receiving water quality.

4. Land use practices should assure protection of beneficial water uses and aquatic environmental values.

5. Municipal and industrial sewering entities should implement comprehensive regulations to prohibit the discharge to the sewer system of substances listed below which may be controlled at their source: -

Chlorinated hydrocarbons

Toxic substances

Harmful substances that may concentrate in food webs

Excessive heat

Radioactive substances

Grease, oil, and phenolic compounds

Mercury or mercury compounds

Excessively acidic and basic substances

Heavy metals such as lead, copper, zinc, etc.

Other known deleterious substances

6. Sewering entities should implement comprehensive industrial waste ordinances to control the quantity and quality of organic compounds, suspended and settleable substances, dissolved solids, and all other materials which may cause overloading of the municipal waste treatment facility.

7. 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 industrial waste ordinances, including an equitable system of cost recovery.

8. Ground water recharge with high quality water shall be encouraged.

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

10. Waste waters 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 groundwaters of the basin.

11. The quality of all surface waters of the basin shall be such as to permit unrestricted recreational use.

12. The discharge of wastes into surface fresh waters shall be discontinued prior to July 1, 1978, unless the effluent is of a quality equivalent in constituent concentration to that of the receiving waters, or unless the discharge is part of a recognized water reclamation scheme.

13. There shall be no waste discharged into areas which possess unique or uncommon cultural, scenic, aesthetic, historical or scientific values. Such areas will be defined by the Board.

14. This Board intends to discourage high density development on septic tank disposal systems and generally will require increased size of parcels with increasing slopes and lower percolation rates. Consideration of development will be based upon the percolation rates and engineering reports supplied. In an questionable situation, engineered designed systems will be required.

MANAGEMENT CRITERIA

The water quality management plan selected for the Central Coastal Basin must meet the following criteria. First and foremost, the plan must meet all water quality objectives and protect all beneficial uses within each subbasin. Second, any environmental damage which could result from the discharge of waste material must be prevented by the elements of the plan. The plan should also provide for the best allocation of the water resources within each drainage basin or regional planning area. It must provide for logical development of areawide solutions to water quality problems caused by waste discharges and permit an orderly consolidation of sewage systems wherever feasible. Closely related with orderly development is the plan's ability to permit expansion of facilities before a water quality problem is created. In addition to these criteria, the selected plan must be economically feasible for the area involved in each project. The remainder of this section is devoted to discussing these criteria in detail.

Water Quality Objective

The basic water quality objective is to preserve or enhance all surface, ground and tidal waters, and waters of all bays and estuaries to the highest quality conditions. Therefore, the water quality management plan includes provisions for ultimately eliminating all waste discharges to these areas unless treatment is provided to produce an effluent quality that would not degrade the quality of the receiving water. The plan prohibits the disposal of sewage sludge to the aquatic environment and the discharge of toxic or harmful materials. The plan contains provisions controlling construction practices which result in a minimum number of independent and maximum consolidation of wastewater facilities.

Beneficial Water Uses

The beneficial uses made of waters of the basin will control the specific water quality objectives adopted. The quality required for the highest level of use will prevail. The plan recognizes that essentially all of the surface and tidal waters and the waters of all of the bays and estuaries in the basin have recreation potential. Therefore, it is essential that the quality of all tidal waters within the basin be maintained or upgraded to permit unrestricted recreation use. This will require that natural water quality be maintained in coastal areas receiving waste discharges and within all areas of special significance. The water quality management plan specifies discharge prohibitions to provide adequate protection to the marine resources of the areas. As a general criterion, no discharge of domestic effluent will be permitted within 1000 feet of the shore or in less than 100 feet of depth, as measured from the mean low water mark. Furthermore, disposal of waste water through extended deep water outfalls shall be beyond nearshore currents through diffusion systems adequately designed to disperse waste constituents and assure against their return to inshore areas. In addition, waste effluents discharged to tidal waters shall contain no materials which are hazardous to human life or harmful to aquatic life as a result of accumulation in the environment or food webs. The discharge of industrial and municipal effluents shall be permitted only after submission of a detailed environmental impact study which conclusively shows that all practical steps have been taken to control the entrance of toxicants into the system, that nonbiodegradable toxic substances are not present in amounts which could be concentrated in food webs, and that the resultant discharge will not adversely affect aquatic environments of beneficial uses of waters.

Environmental Damage

Waste discharges must exist. However, it is possible for them to exist without degrading the environment. Damage to the environment caused by waste discharges can be prevented by reducing the volume of material discharged, treating the waste water to remove all materials which might affect the receiving waters, relocating the discharge to an area of greater environmental acceptance or by completely changing the method of disposal. The selected water quality management plan will indicate which of these choices is the best for each discharge that could adversely affect the environment.

Allocation of Water Resources

The final water quality management plan will examine the total water resources of the basin and compare all reasonable alternatives to the present methods of water use. In only a very few instances will the present practice of using water once before disposal represent the best allocation of the available water resources. The ultimate goal of the basin water quality management program is the reclamation and reuse of all fresh waters. The basin plan recognizes this goal and encourages reclamation projects wherever feasible. Waste water reclamation offers a viable alternative to larger and larger water supply dams and lower and lower ground water levels. If opportunities for using reclaimed water are limited in the vicinity of an existing treatment facility, the plan will examine the possibilities of transporting the waste water to an area where it can be reused. Within each sub-basin, waste water reclamation programs will be initiated as soon as it is economically sound and appropriate to immediate and future water requirements. Reclamation programs shall provide for constructive and beneficial reuse of the majority of the water reclaimed. Furthermore, reclamation programs shall include provision for appropriate disposition of surplus reclaimed waters and unusable residues of reclamation processes. Physical facilities must be capable of controlling the quality of reclaimed water and the composition and concentration of residues of reclamation processes.

Fresh waters are the invaluable water supplies for agricultural, industrial, and domestic consumption. Also, fresh waters support numerous nonconsumptive uses which depend on almost natural water quality. All risks to the quality of fresh waters must be avoided. Therefore, it is essential to afford positive protection to fresh waters through elimination of the discharge of wastes into fresh water lakes, rivers, and streams. Discharge of effluents into surface fresh waters shall be prohibited unless the effluent is of a quality consistent in constituent concentration to that of the receiving waters. Groundwaters will be protected from surface pollutants that may percolate into aquifers. In particular, land discharge of waste waters will be carefully regulated since ground waters are especially susceptible to degradation from this practice. Ground waters are important sources of water for immediate consumption. Moreover, groundwaters constitute a distinct phase in the complete hydrologic cycle which requires every degree of protection accorded to surface waters. Therefore, land surface discharge of wastes will be conducted in ways which will assure the continued beneficial uses of ground waters.

Waste waters percolated into ground waters shall be of a quality at the point where they enter the ground so as to assure the continued use of ground water. Discharges recharging ground water basins shall not contain toxic substances in excess of accepted drinking water standards and all taste and odor producing substances shall be removed prior to discharge. Ground water recharge with high quality water shall be encouraged.

In all ground water basins known to have an adverse salt balance, the total salt content of waste discharges shall not exceed that which normally results from domestic use, and control of salinity shall be required by local ordinances which effectively limit municipal and industrial contributions to the sewerage system. Land discharge systems shall be designed for and be capable of year-round operation without direct discharge, overflow or bypass to surface waters.

Regional and Consolidated Systems

Changes from the present waste treatment and disposal practices cannot occur overnight. New collection, treatment, and disposal facilities take time to conceive, design, finance, and construct. The water quality management plan recognizes these facts and presents an orderly succession of development based upon facilities that already exist. If an interim solution to an immediate problem is required, its implementation will not preclude another possible alternative future solution. The plan encourages the consolidation of discharges wherever possible to eliminate unnecessary discharges and to improve the reliability of treatment facilities. Consolidation of treatment facilities will be carried out in an orderly manner as one facility reaches its capacity and the required additional capacity can be made available in a combined facility.

The plan recognizes that sewage systems do not need to stop at political boundaries, but can be extended to serve logical areas whether or not they lie within a particular jurisdiction. Entire drainage basins will generally be considered as a unit, although some cases will require consideration of areas larger or smaller than a single sub-basin.

Timely Expansion

Another important consideration in this water quality management plan is the provision for expansion of facilities before water quality problems develop. The plan is flexible enough to permit shifts in the timing of various projects if development does not follow the projected patterns. Sufficient information concerning the flows and operation of each waste treatment facility must be available to anticipate the need for new or larger facilities far enough ahead to provide for the construction of the necessary facilities. The plan provides for some measure of control over sudden changes in land use which could severely effect the loads on waste treatment and disposal facilities.

Economic Feasibility

The management plan should be economically feasible for a specific area. The projects included in the plan must be financially practicable to the people paying the costs or they will never be constructed. The economics of many projects can be improved by staged construction techniques or by increasing the supporting base. Careful timing of projects to take advantage of other work can also help to make the economics more favorable. All of these factors will be considered in the final plan.

CHAPTER VI

WATER QUALITY OBJECTIVES AND DISCHARGE PROHIBITIONS

The protection of the waters of the Central Coastal Basin for the beneficial uses presented in Tables 4 and 5 requires the establishment of water quality objectives. These objectives prescribe levels of certain water quality parameters. In some instances, the discharge of waste materials will be prohibited in order to protect waters for certain beneficial uses.

The remaining sections of this chapter present specific water quality objectives and discharge prohibitions which have been established for this basin.

WATER QUALITY OBJECTIVES

Certain water quality characteristics are more significant than others when a number of beneficial uses are involved. Adherence to the objectives contained in this section will protect waters used for any of the beneficial uses listed earlier.

The following objectives will maintain waters suitable for aesthetic enjoyment, boating, including shipping and navigation, and general recreation:

Color: The apparent color caused by materials of waste origin shall not be greater than 15 units or 10 percent above natural background color, whichever is greater.

Turbidity: Waters shall be maintained at turbidity levels below that which may create unfavorable aesthetic conditions. Where natural turbidity is between 0–50 units, increase shall not exceed 20 percent. No increase shall be greater than 10 units above natural background levels when natural turbidity is between 50 and 100 units or greater than 10 percent when above 100 units.

Odors: Waters shall be maintained free from odors of waste origin at all times.

Floatables, Oil and Grease: Waters shall be maintained free from floating solids, liquids, or foams of waste origin at all times.

Bottom Deposits: Waters shall be maintained free from bottom deposits or sludge banks of organic or inorganic waste origin at all times.

Biostimulants: Dissolved nutrients of waste origin shall be limited to additions below those which may cause undesirable algal, slime, bacteriological or other undesirable biological growths.

Dissolved Oxygen: Dissolved oxygen concentrations shall be maintained at or above an average of 5.0 mg/l. Ground waters are excluded from this objective.

Waters to be used for swimming must meet the following objectives in addition to those listed above.

Bacteria: As stipulated for fresh water by the California State Department of Public Health when such standards are available, and at no time during the interim, greater than those standards set for ocean water contact-sports areas, or a maximum of 1000 coliform organisms per 100 milliliter.

Water Temperature: Temperature changes resulting from waste discharges shall comply with the State Water Resources Control Board "Policy Regarding the Control of Temperature in Coastal and Interstate Waters and Enclosed Bays and Estuaries of California."

pH: The pH shall not be depressed below 7.0 units nor raised above 8.5 units as a result of waste discharges.

Toxicity: There shall be no organic or inorganic substances in concentrations which are toxic to human, animal, plant or aquatic life, or which create undesirable tastes or odors in the waters or in fish, wildlife or agricultural stock.

Radioactivity: Radionuclides shall not be present in concentrations that exceed the maximum permissible concentration for radionuclides in water as set forth in Chapter 5, Title 17, of the California Administrative Code.

Waters used as a fish habitat or for wildlife protection must meet the following objectives as well as all those listed above except for the bacteria objective.

Dissolved Oxygen: Dissolved oxygen concentrations shall be maintained at or above an average of 5.0 mg/l, except for those areas designated by the Department of Fish & Game as spawning and nursery areas, and cold water biota and trout habitat, or in the marine environment where the minimum dissolved oxygen shall be 7.0 mg/l.

Pesticides: The concentration of the total summation of individual pesticides shall not be greater than 0.1 microgram per liter, nor shall concentrations or pesticides be allowed that are detrimental to fish and wildlife.

Water used for agricultural and industrial water supply or groundwater recharge must meet all of the objectives outlined for fish habitat and wildlife protection with the following changes and additions:

Dissolved Oxygen: Dissolved oxygen concentrations shall be maintained at or above an average of 1.0 mg/l. Groundwaters are excluded from this objective.

Chemical Quality: Waters shall not exceed the qualitative classification corresponding to that water, as shown in Table 6, and in no case shall a specific chemical constituent exceed 10 percent of the quality naturally occurring, as measured from a statistically meaningful historic baseline for each monitoring station or well, except where specific objectives are enumerated as in Table 6.

TABLE 6

WATER QUALITY OBJECTIVES FOR

QUALITATIVE CLASSIFICATION OF IRRIGATION WATER

Chemical Properties	Class 1 Excellent to Good	Class 2 Good to Injurious	Class 3 Injurious to Unsatisfactory
Total dissolved solids, in mg/l	Less than 700	700 – 2000	More than 2000
Conductance, in micromhos at 25° C	Less than 1000	1000 – 3000	More than 3000
Chlorides, in mg/l	Less than 175	175 – 350	More than 350
Sodium, in percent of base constituents	Less than 60	60 – 75	More than 75
Boron, in mg/l	Less than 0.5	0.5 – 2.0	More than 2.0

Class 1 – Regarded as safe and suitable for most plants under most conditions of soil and climate.

Class 2 – Regarded as possibly harmful for certain crops under certain conditions of soil or climate, particularly in the higher ranges of this class.

Class 3 – Regarded as probably harmful to most crops and unsatisfactory for all but the most tolerant.

Water used for municipal and domestic water supplies shall meet all of the objectives established for agricultural, industrial and ground water recharge and the following treatment be consistent with the criteria promulgated by the United States Public Health Service and/or standards adopted by the California State Board of Public Health, as shown in Table 7.

In addition to the water quality objectives mentioned above, specific objectives for certain chemical constituent concentrations have been established for the waters of San Lorenzo Sub-Basin, the Upper Salinas River Sub-Basin, and certain streams in the Salinas River Sub-Basin. These chemical concentration objectives are presented in Tables 8, 9, and 10.

TABLE 7

WATER QUALITY OBJECTIVES

MUNICIPAL AND DOMESTIC WATER SUPPLIES

PHYSICAL CHARACTERISTICS IN DRINKING WATER

Characteristic	Recommended Limit
Turbidity, units	5
Color, units	15
Threshhold odor number	3

TABLE 7 (cont'd)

UNITED STATES PUBLIC HEALTH SERVICE DRINKING WATER STANDARDS

Chemical Substance	Recommended Limit, in mg/l	Mandatory Limit,in mg/l
Alkyl benzene sulfonate (detergent) Methylene blue active substance (MBAS) as ABS	0.5	
Arsenic (As)	0.01	0.05
Barium		1.0
Cadmium (Cd)		0.01
Carbon chloroform extract	0.2	
Chloride (C1)	250	
Hexavelent chromium (Cr^{+6})		0.05
Copper (Cu)	1.0	
Cyanide (Cn)	0.01	0.2
Fluoride (F)		
Iron (Fe)	0.3	
Lead (Pb)		0.05
Manganese (Mn)	0.05	
Nitrate (NO_3)	45	
Phenols	0.001	
Selenium (Se)		0.01
Silver (Ag)		0.05
Sulfate (SO_4)	250	
Total dissolved solids (TDS)	500	
Zinc (Zn)	5	

CALIFORNIA STATE BOARD OF PUBLIC HEALTH

Constituent	Permit, mg/l	Temporary permit mg/l
Total solids	500 (1000)	1500
Sulfates (SO_4)	250 (500)	600
Chlorides (Cl)	250 (500)	600
Magnesium (Mg)	125 (125)	160
Radium 226	3[b]	
Strontium	10[b]	
Gross beta activity	1,000[a, b]	

[a] In the known absence of Strontium 90 and alpha emitters.

[b] Recommended maximum limits in micromicrocuries per liter.

Mean Annual Temperature	Mean Monthly Fluoride Ion Concentration, mg/l
50° F	1.5
60° F	1.0
70° F and above	0.7

TABLE 8

WATER QUALITY OBJECTIVES: SAN LORENZO RIVER SUB-BASIN

Constituent	Concentration, mg/l	
	Average	Maximum
Total dissolved solids	300	600
Calcium	40	60
Magnesium	8	15
Hardness	160	300
Sulfate	60	110
Chloride	40	80
Fluoride	0.3	0.6
Boron	0.2	0.5
Detergents	0	0.1
Specific Conductance in Micromhos	500	1000

TABLE 9

WATER QUALITY OBJECTIVES FOR UPPER SALINAS RIVER SUB-BASIN

Constituent[a]	(1)[b]	(2)	(3)
Total dissolved solids	1000	500	500
Calcium	80	50	50
Magnesium	60	50	50
Sodium	150	100	100
Potassium	10	5	5
Sulfate	250	150	80
Chloride	150	80	80
Nitrate	10	5	15
Fluoride	0.7	0.5	0.5
Boron	0.8	0.5	0.5
Detergents	0.5	0.5	0.5
Specific Conductance in Micromhos	1400	700	700

[a] Milligrams per liter, except where noted.

[b] (1) Surface water in Cholame, San Juan, and San Marcos Creeks and Estrella River.

(2) Surface water and ground water in alluvium other than mentioned in Footnote (1).

(3) Ground water in Terrace deposits and Paso Robles formation.

TABLE 10

WATER QUALITY OBJECTIVES FOR

SURFACE WATERS IN THE SALINAS RIVER SUB-BASIN

	Specific Conductance[a]		Boron	Percent Sodium	
	Max. Monthly	Avg. Annual	Mg/l	Max. Monthly	Avg. Annual
Nacimiento River	400	300	0.5	30	20
San Antonio River	600	500	0.5	30	20
Arroyo Seco	500	300	0.5	30	20
Salinas River near Bradley	700	500	0.5	35	25
San Lorenzo Creek	3000	2000	1.5	60	50
Pancho Rico Creek	4000	1500	2.0	50	40
Chalone Creek	900	600	0.5	50	40
Chualar Creek	500	300	0.5	30	20
Quail Creek	600	400	0.5	40	30
Natividad Creek	700	600	0.5	40	30
Gabilan Creek	600	500	0.5	30	20

[a] in Micromhos

Prohibition of Discharges

1. Due to the unique cultural, scenic, aesthetic, historical, scientific, or ecological value of areas within the basin, domestic waste discharges are prohibited in the following locations:

   a. Monterey Bay, northern and southern extremes within the following areas: inshore from a line extending from Santa Cruz Point to the mouth of the Pajaro River; and inshore from a line extending from Point Pinos to the mouth of the Salinas River.

   b. Carmel Bay, within 1000 feet from the Point Lobos Preserve of the State Department of Parks and Recreation, as recorded in 1970.

   c. Tidal waters within 1000 feet of the coast and 100 foot depth contour, measured from mean low water. An exception to this prohibition may be allowed by the Board in prescribing waste discharge requirements after finding that all beneficial water uses will otherwise be protected.

2. In order to achieve water quality objectives, protect present and future beneficial water uses, protect public health and prevent nuisance,waste discharges are prohibited in the following locations:

   a. All surface, fresh water impoundments and their immediate tributaries.

   b. Water contact recreation areas located in fresh waters.

   c. All surface waters within the San Lorenzo River, Aptos–Soquel, and San Antonio Creek Sub-Basins.

   d. All coastal surface streams and natural drainageways that flow directly to the ocean within the Santa Cruz Coastal Sub-Basin, Monterey Coastal Sub-Basin, San Luis Obispo Coastal Sub-Basin from the Monterey County line to the northern boundary of San Luis Obispo Creek drainage and the Santa Barbara Coastal Sub-Basins.

   e. In the Los Osos-Baywood area of San Luis Obispo County, specifically Section 13, 23 and 24 of T30SR10E and Sections 7, 17, 18, 19 and 20 of T30SR11E, MDB&M, after July 1, 1974 all proposed and existing waste discharges will be prohibited.

   f. The Santa Maria River downstream from Highway 1 bridge, and

   g. The Santa Ynez River downstream from the salt water barrier.

3. As further implementation of this plan to meet water quality objectives and protect beneficial uses, discharge of solid wastes are prohibited under the following conditions and/or in specific locations:

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

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

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

4. To protect surface and ground water quality from degradation and to prevent nuisance conditions, such as discharge of improperly treated wastes to the land surface, the discharge from individual sewage disposal systems, including but not limited to septic tanks seepage pits, cesspools, pit privies, chemical toilets, etc., is prohibited:

a. On all parcels of land within the projected horizontal distance of 200 feet of all reservoirs and impoundments as determined by the spillway elevation.

b. On individual parcels of land of less than 2.5 acres beyond the projected horizontal distance of 200 feet from the high water elevation of reservoirs and impoundments, as determined by the spillway elevation.

c. On individual parcels of land where any part of the disposal system is within a horizontal distance of 100 feet of surface streams, natural watercourses or domestic water supply wells.

d. On parcels of land less than 0.5 acres in new subdivisions not located on reservoir watersheds where depth of usable ground water is less than 100 feet below ground surface.

5. **Disposal of Wastes Transported by Vessels:**

a. Dumping of all wastes of whatever nature transported by vessels to tidal waters of the Central Coastal Basin, or to waters that affect the quality of the waters of the Central Coastal Basin, is prohibited.

b. Use of waste materials to rehabilitate or enhance the marine environment, as opposed to activities primarily aimed at waste disposal, shall be conducted under controlled conditions. Such operations shall be regulated, requiring proof by the applicant of no adverse effects on the marine environment, human health, safety, welfare and amenities.

6. **Discharge from Vessels:**

a. On or after January 1, 1974, no person, whether engaged in commerce or otherwise, shall place, throw, deposit or discharge, or cause to be placed, thrown, deposited or discharged on or in the waters of the basin any waste, except vessel washdown water, from any vessel.

b. Effective upon adoption of this plan, discharge of wastes from vessels, as defined in "a" above, to fresh waters of the basin is prohibited.

7. **Sludge Discharge:**

Discharge of raw, partially treated or completely oxidized or digested sludge or supernatant liquor to waters of the basin is prohibited.

8. **Oil and Grease:**

The discharge of oil or grease from other than natural sources which produces a visible or measurable effect on or in the receiving water is prohibited.

9. Waste discharges that do not comply with the following provisions are prohibited:

a. Elevated temperature and thermal waste discharges shall comply with the "State Policy Regarding the Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California", adopted January 7, 1971.

b. Waste discharges shall contain essentially none of the following:

Toxic substances
Mercury or mercury compounds
Grease, oil and phenolic compounds

c. Wastes discharged to groundwaters shall not contain toxic substances in excess of accepted drinking water standards; taste, odor or color producing substances; or nitrogenous compounds in amounts which could result in groundwater nitrate concentration above 45 mg/l.

d. Waste discharges shall not contain materials in concentrations which are hazardous to human life or harmful to aquatic life.

The discharge prohibitions and water quality requirements presented above become effective for new discharges upon adoption of the plan and will be implemented with respect to existing discharges as rapidly as feasible, or in accordance with specific time schedules established in this plan or subsequently established by the Board.

CHAPTER VII

PROGRAM OF IMPLEMENTATION

WASTE WATER MANAGEMENT FACILITIES

The major goal of all waste water management activities described in this plan is to protect and enhance the quality of all basin waters for present and anticipated beneficial uses. This chapter briefly describes the waste water treatment and disposal facilities which will be needed over the next 30 years and discusses those facilities to be constructed during the next five years.

Table 11 (starting on Page 68) presents a list of the projects that are planned for the next five years, including information on the effluent disposal method to be used, the estimated cost, possibilities for reclamation and needed governmental modifications. Appendix A of this report contains the recommended five year project list.

MONTEREY REGIONAL PLANNING AREA

Santa Cruz Coastal Sub-Basin

Ultimately, treatment facilities capable of producing a high quality effluent and land disposal methods are expected to adequately serve this area. The present waste discharges to the nearshore waters of the ocean will all be eliminated as land disposal and recycling of industrial effluents become more common. By 1985, the City of Santa Cruz will be reusing almost the entire waste water flow from the northern Monterey Bay area to irrigate agricultural lands up the coast and parks and golf courses immediately around the city.

Protecting the beneficial water uses of the streams in the northern part of this sub-basin will require few physical facilities in the immediate future. Big Basin State Park will construct a small pump station and an irrigation disposal system during 1972 to eliminate the present discharge of treated waste water to Waddell Creek.

The area surrounding the community of Davenport will require construction of sewage collection systems in the presently unsewered areas, a new treatment plant, and another method of effluent disposal within the next five years. In addition to these community projects, Pacific Cement & Aggregates must provide new treatment and disposal facilities for both the industrial and sanitary waste water produced by their cement plant, and the Pacific Gas & Electric Company will require similar facilities if the proposed nuclear power plant is constructed at El Jarro Point.

The City of Santa Cruz plans an expansion of the treatment plant in 1972 that will increase the capacity to 14 million gallons per day. A new outfall which will extend approximately two miles into the ocean off Lighthouse Point is planned for 1971. This outfall line will also handle the effluent from the East Cliff, Capitola and Aptos areas. Land disposal facilities and/or agricultural irrigation as a method of waste water disposal must be developed as quickly as possible. The construction of a long outfall by the City of Santa Cruz will adequately protect the nearshore waters of the ocean for the immediate future, but greater protection lies with reducing the volume discharged through the outfall by the construction of reclamation projects.

San Lorenzo River Sub-Basin

Essentially all of the San Lorenzo Valley will need sewers to protect the natural quality of water in the sub-basin from degradation. As additional areas of the valley are urbanized, the demand for water will exceed the limited local supplies. Accordingly, careful consideration must be given to providing one or more local treatment plants which would be capable of producing a reclaimable water. This water could then be used to replenish the limited ground water supplies which exist. It would be possible for the City of Scotts Valley to reclaim all of the waste water produced in the vicinity.

Construction of sewage collection systems in the San Lorenzo Valley will be staged with the lower portions being served by 1974 and the upper end of the Valley by 1977. Initially, treatment and disposal will be provided by the City of Santa Cruz at its present treatment plant site. Temporary improvements that will be required in the disposal system of the Bear Creek Estates subdivision are planned for 1972.

The City of Scotts Valley plans to install a 65,000 gallon per day capacity package treatment plant in parallel with its present 35,000 gallon per day plant in 1971. This project will not provide capacity sufficient to serve all of the dwellings currently located in the city. It is impossible for the city to provide sewer service to the entire community until the interceptor line from Felton to Santa Cruz is built and Scotts Valley is permitted to connect to it.

Expansion of the City of Santa Cruz collection system to the Pasatiempo area along Carbonera Creek and along Branciforte Creek will be required to protect the waters of those streams. Service to the Pasatiempo area is planned for 1974.

Aptos-Soquel Sub-Basin

By 1975, the East Cliff and Aptos Sanitation District outfalls to Monterey Bay will be eliminated and most of the urbanized areas of the sub-basin will have sewer service. Little change is expected to take place during subsequent years. A local waste water reclamation project may be constructed to supply water to the Aptos Beach Golf Course, but generally, reuse of waste water will be minimal in this predominantly residential sub-basin.

East Cliff and Capitola Sanitation Districts will construct an interceptor line to carry treated waste from the East Cliff plant to the headworks of the Santa Cruz ocean outfall line for disposal during 1972. At the same time, they will build another clarifier to increase the present capacity of the treatment plant to eight million gallons per day. The Aptos Sanitation District will either expand the present treatment plant and construct an interceptor line to carry the effluent to the East Cliff plant where it can enter the interceptor line to Santa Cruz or will construct a pump station at the present plant site and a transmission line to convey raw sewage to the Capitola District collection system, whichever is most economical. The La Selva Beach area will be sewered by 1975 following the construction of a collection system and an interceptor line to the Aptos Sanitation District.

Other projects that will be needed in this sub-basin are new disposal facilities for Bargetto's Winery to eliminate the present discharges to Soquel Creek, and an interceptor line to the Sand Dollar Beach Development, the Monterey Bay Academy, and the proposed Canyon development to transport sewage to the Aptos County Sanitation District. Most of this work should be completed by 1975.

Pajaro Sub-Basin

Most of the waste water produced in this sub-basin will be reclaimed, either directly or indirectly through ground water recharge. A central reclamation plant located near Gilroy will produce water which can be transported to northern Santa Clara Valley to recharge the ground water basin, used locally for irrigation or process and cooling waters, or transported to the Pacheco Creek watershed to augment natural and imported water flows. In the Hollister area, much of the industrial waste water will be recycled by the canneries and the remaining will be treated and used to irrigate orchards located east of Hollister. The City of Watsonville's discharge to Monterey Bay will be eliminated and reclaimed for use in the orchards in the Pajaro Valley or used to develop recreation impoundments, or for augmenting the low flows in the Pajaro River.

A new sewage treatment plant to serve the Morgan Hill, San Martin, and Gilroy areas of the sub-basin is planned for 1974. It is anticipated that the plant will provide at least secondary treatment and will produce an effluent which can be discharged to percolation ponds for disposal or can be used for agricultural irrigation.

The Hollister Airport sewage lagoons will be relocated when the present runway is lengthened and will be adequate for 30 years at the current rate of growth. Entirely new industrial waste treatment and disposal facilities will be built by the city during 1971. The industrial waste discharge has the potential of creating severe water quality problems in both the San Benito River and the underlying ground water basin.

The community of Aromas proposes to construct a sewage collection system, a secondary treatment plant, and develop a land disposal system during 1976.

In 1970, the City of Watsonville completed construction of an expanded primary treatment plant and effluent pumping facilities for the 3,500 foot long outfall line into Monterey Bay. The design capacity of 13.4 million gallons per day is planned to last for several years and could be made to last longer if the food processing plants using the sewer system for disposal were forced to recycle their wash and cooling waters. The city plans to convert the treatment plant to a secondary facility in 1976. An advanced waste treatment process which would produce reclaimable water should be considered at that time.

Salinas Sub-Basin

Eventually, there will be one regional treatment plant located in the vicinity of Salinas and Castroville which will serve the entire northern end of the Salinas Valley. Waste waters from Moss Landing, Castroville, Oak Hills, Santa Rita, Salinas, Toro Canyon, and Spreckels will be received at the plant, treated and used to irrigate nearby crop land or injected into the shallow ground water basin to repel the intrusion of sea water.

Most of the cities and communities located in the Salinas Valley south of Salinas will continue to use their present treatment and land disposal methods for some time to come. Agricultural irrigation is not an attractive means of disposal in many areas of the Valley because of the small quantity of water produced in any one place. The southern end of the Valley will, in all probability, have a regional system that will serve Atascadero, Templeton, Paso Robles and possibly San Miquel. Effluent from this facility will be used for crop irrigation part of the time and used to recharge the upper valley ground water basin.

Construction of a public sewer system in the Moss Landing area is planned for 1975. Waste water collected by the system will be treated at an expanded Castroville treatment plant or at a new regional plant when it is constructed.

The present secondary treatment plant operated by the Castroville Sanitation District will require extensive expansion and development of a disposal method which does not involve discharge to Tembladero Slough if it is to be used as a temporary regional sewage treatment facility. No separate time schedule or cost estimates have been prepared for expansion of the Castroville plant since it is anticipated that each development desiring to use the plant will pay for facilities needed to provide service.

The Marina County Water District has planned an expansion which will double the present size of the District's treatment plant for 1975.

The City of Salinas will construct a larger industrial waste treatment and disposal complex during 1971 to eliminate the overloaded conditions experienced during 1970. Normal anticipated growth in the Salinas area will require expansion of the present municipal sewage treatment plants within this decade. The plan calls for abandoning the present Alisal plant in favor of a single treatment facility that would produce an effluent capable of being used for agricultural purposes or for injection into the ground water basin near Castroville. The construction of such a plant is now scheduled for 1975.

The present practice of discharging cooling and wash waters into the Salinas Reclamation Canal used by many of the food processing industries in Salinas will be discontinued in the future if the canal is used to convey fresh water to the Castroville area.

Cities such as Gonzales, Soledad, Greenfield and King City as well as the community of Chualar will handle routine expansions of existing treatment facilities by the construction of additional clarifiers or oxidation ponds. Many of these communities will have to relocate their percolation ponds out of the river's flood plain if the quality of the river is to be protected.

Carmel–Point Pinos Sub-Basin

Complete protection of the waters of Monterey and Carmel Bays and the Carmel River will require the construction of interceptor lines, consolidated treatment plants, and several waste water reclamation projects. Ultimately, all of the urbanized areas of the sub-basin will be served by sewers which terminate exclusively in reclamation projects. One such project will take effluent from treatment facilities located around the south bay area and transport it to the lower Salinas Valley where it will be used to reduce the current rate of sea water intrusion into the shallow aquifer. The reclaimed water will be injected directly into the ground water basin or will be used as a source of irrigation water to reduce the quantity that must be pumped from the aquifer. Two more reclamation projects will take effluent from the present Carmel Sanitary District treatment plant and another plant to be built in Carmel Valley and either percolate or inject it into the Carmel Valley ground water basin.

A fourth reclamation project could take a portion of the sewage produced on the peninsula and create a source of water to irrigate some of the numerous golf courses located nearby or be injected in the ground water basin near Seaside. Prior to the construction of reclamation projects, it will be necessary to begin consolidating the independent discharges which now exist. The municipal projects scheduled for this area during the next few years are designed to accomplish this consolidation.

Effluent from the Fort Ord, Seaside, and Monterey Sewage treatment plants will be collected in a series of interceptor lines and transported to Point Pinos where it will be combined with effluent from the Pacific Grove plant and discharged to the ocean through a 6,000 foot long outfall when the consolidation project scheduled for 1972 is completed.

The Carmel Sanitary District will complete an expansion and conversion of its present treatment plant to a three million gallons per day activated sludge plant early in 1972. The current outfall into Carmel Bay will have to be replaced with another disposal method during the next five years to protect the waters of Carmel Bay.

In addition to the treatment and disposal facilities already mentioned, this sub-basin will require the construction of sewage collection systems in several rapidly developing areas. The Laguna-Seca Hidden Hills area can be served by extensions to the present Monterey or Seaside systems, or by the system which will be built to serve Carmel Valley. Carmel Valley will require a sewer system before 1975 if the present pace of development continues. Both of these projects are now scheduled for 1975.

Monterey Coastal Sub-Basin

Development in this sub-basin will be minor and extensive waste water handling facilities will not be required. Discharges to the nearshore ocean waters in this very scenic sub-basin will be eliminated as rapidly as alternate disposal methods can be constructed.

The Carmel Highlands area is planning to construct a sewage collection system and an interceptor line to the Carmel Sanitary District's treatment plant in 1976.

The increasing popularity of the Big Sur area will require the installation of a sewage collection, treatment and disposal system sometime within this decade. It is likely that the treatment facility will be an extended aeration package plant and that a spray disposal system will be used. No time schedule or cost estimates have been prepared for this project.

At some time in the near future, the ocean discharge from the U.S. Naval Facility at Point Sur will be abandoned in favor of another disposal method. Spray irrigation appears to be the logical possibility.

CENTRAL COASTAL BASIN PLANNING AREA

San Luis Obispo Coastal Sub-Basin

The north coastal portion of the sub-basin will be served by a single treatment and disposal system. The existing treatment and disposal facilities of the San Simeon Acres Community Services District will serve the District as well as the areas lying to the north by means of an interceptor sewer to the Community Services District facility. The Cambria County Water District, located to the south of the San Simeon area, will be served by a separate sewerage system utilizing treatment and land disposal of waste effluent. Eventual consolidation of the two systems will occur, resulting in a single treatment plant with probable reclamation of waste effluent.

Cayucos and Morro Bay and the Baywood-Los Osos area south of the City of Morro Bay will be served by a single sewerage system. Ultimate reclamation of waste water by means of irrigation of the Morro Bay State Park or agricultural irrigation in the Morro or Chorro Basins will reduce the need for the existing ocean outfall to dispose of treated waste water. The Baywood Park-Los Osos area will be sewered in the interim planning period. Disposal of sewage effluent will be by means of the Morro Bay treatment plant with local land disposal outside of the Baywood-Los Osos ground water basin.

In the San Luis Obispo Creek drainage, a single waste treatment and water reclamation system will eventually serve the entire drainage. In the interim, it is anticipated that a staged construction program will precede the eventual consolidation of waste water management systems serving the drainage area.

The City of San Luis Obispo will develop new treatment and disposal facilities to replace the present discharge of secondary effluent to San Luis Obispo Creek. Waste water will be reclaimed.

The presently unsewered area in the vicinity of the San Luis Obispo Country Club (San Luis Obispo County Service Area 18) will be sewered in the interim plan and collected waste water conveyed to the City of San Luis Obispo treatment plant. The other presently unsewered area in the San Luis Obispo Creek drainage that will require sewers in the interim plan is the area between Highway 101 and Avila Beach (San Luis Obispo County Service Area 12). An interceptor sewer to convey wastes to the existing Avila Sanitary District facility will be constructed in the interim planning period.

The southern portion of the sub-basin will ultimately be served by a single waste water management system. Waste water will be treated to a high degree and reclaimed in the Arroyo Grande Valley. Such a system will serve the entire coastal area of the sub-basin south of Avila Beach. The City of Pismo Beach treatment plant will undergo an expansion and the present Shell Beach treatment plant will be abandoned in the interim plan. The Pismo Beach treatment plant will be abandoned, or modified by about 1990 or at such time that the city fails to meet waste discharge requirements or exceeds the available treatment capacity, in favor of consolidation with the existing South San Luis Obispo County Sanitation District treatment facility, or reclamation of waste water. The present ocean outfall will be phased out of existence and treated waste water will be reclaimed by agricultural irrigation and direct ground water recharge in the Arroyo Grande ground water basin. Sewerage facilities in the Nipomo area will be constructed in the interim plan and will consist of collection, treatment and local land disposal facilities.

Existing and future industrial and privately owned domestic waste discharges in the sub-basin will be required to utilize existing municipal treatment facilities. The Pacific Gas & Electric Company's nuclear power plant at Diablo Canyon will discharge cooling water to the ocean. Construction is currently under way and will be completed in the interim planning period.

Santa Maria River Sub-Basin

The greatest concentration of municipal and industrial waste water is produced in the Santa Maria metropolitan area and is treated and disposed of by means of three separate treatment facilities. These will be integrated into a single plan for treatment, disposal, or reclamation. In addition to the present treatment plants serving Santa Maria and the immediate surrounding area, the city of Guadalupe will be included in a lower Santa Maria Valley water quality management system. Treated waste water will be reclaimed and used for agricultural irrigation or direct ground water recharge.

The interim planning period will launch a staged construction program aimed at accomplishment of the long range goals of consolidation and waste water reuse. The existing treatment facility serving the city of Santa Maria has sufficient capacity to serve the needs of the city in the interim planning period. However, additional treatment or modification in effluent disposal will be necessary to correct an existing ground water degradation problem. The treatment facility serving the Santa Maria Airport will be eliminated and consolidated with the Santa Maria system. The Laguna County Sanitation District will construct facilities for agricultural irrigation. The city of Guadalupe will expand its treatment facility, upgrade the level of treatment and provide land disposal of treated waste water.

Within the sub-basin, there are industrial waste discharges that are expected to continue to be handled separately from municipal systems. The Union Sugar Company beet sugar refinery and the Sinton & Brown Company discharges will be confined to land without discharge to surface drainages. The quality of Union Oil Company's discharge at the mouth of the Santa Maria River will be improved and an alternate method of disposal of production waste water will be investigated. The present ocean discharge of waste water from the Union Oil Company Refinery will be studied to determine if alternate waste disposal methods are required due to the high order beneficial uses of the receiving waters and the shellfish resource of the beaches in the vicinity of the present discharge.

San Antonio Creek Sub-Basin

In the interim planning period the Los Alamos Community Services District will construct sewage collection, treatment and land disposal facilities. Future residential developments will utilize these facilities, either by annexation to the District or through a contract arrangement.

Santa Ynez Sub-Basin

Within the sub-basin, two independent waste water management systems will eventually serve the sewerage needs of the sub-basin. In the Lompoc Valley, a single treatment, disposal and water reclamation project will serve the city of Lompoc, the Mission Hills and Vandenberg Village Subdivisions, the Federal Correctional Institution and Vandenberg Air Force Base. Waste waters will be collected, conveyed to a central treatment facility and treated effluent used for agricultural irrigation, direct ground water recharge, or discharged to the ocean.

In the upper Santa Ynez River Sub-Basin, a single centralized sewerage facility will serve the communities of Buellton, Solvang and the presently unsewered surrounding areas, including Santa Ynez, Los Olivos, and Ballard. Waste water will be treated and reclaimed locally. In the interim planning period, specific projects will precede eventual consolidation in a single facility. The communities of Buellton and Solvang will construct additional waste treatment facilities and the unsewered area of Santa Ynez will construct sewers and an interceptor sewer to the Solvang Municipal Improvement District treatment facility. Within Cachuma Reservoir's immediate watershed, all waste water will be exported from the watershed. Cachuma Reservoir is a domestic water supply for the south Santa Barbara coastal area. During the interim planning period, necessary improvements in the sewerage system serving the recreational areas will be constructed in order to provide a maximum of protection to the reservoir water quality.

Within the Santa Ynez River Sub-Basin, industrial waste discharges are confined to the Lompoc Valley. If necessary, due to soil conditions, Grefco, Inc. will construct facilities to prevent the percolation of mineralized waste water to the ground water basin, or demineralization treatment of the waste water will be provided to prevent ground water degradation. The Union Oil Company's discharge of oil field production waste water brine from Lompoc Oil Field to the ocean at Surf will be investigated. The waste water may be injected into the producing zone. In the interim planning period, improved treatment facilities will be provided to enhance the quality of the discharge.

Santa Barbara Coastal Sub-Basin

Within the sub-basin, the municipal waste treatment and disposal needs will be served by three major sewerage systems. The Carpinteria Sanitary District sewerage system will continue to serve the area from Rincon Creek to Carpinteria through its existing treatment and disposal facilities. The present Carpinteria ocean outfall will be extended into deeper water for better dispersion. The discharges from the

Summerland Sanitary District and Montecito Sanitary District will be eliminated and consolidated with the system serving the city of Santa Barbara. Construction of necessary facilities to accomplish this objective will proceed in stages. In the interim planning period, the ocean discharge from Summerland Sanitary District will be eliminated and consolidated with the Montecito Sanitary District. Subsequent phases of eventual consolidation will involve construction of the interceptor sewer to Santa Barbara. The city of Santa Barbara treatment facility will be expanded and will form the centralized treatment plant for an area-wide sewerage system.

The present Goleta Sanitary District treatment plant and ocean outfall will serve the communities of Goleta, Isla Vista and the Embarcadero area. Discharge from the service area will eventually be by reclamation in lieu of the present ocean discharge, when a market for reclaimed water is developed. The areas of Capitan, Tajiguas and Gaviota can eventually be served by a common facility utilizing local treatment and reuse. In the interim planning period, the present method of disposal by means of septic tank systems will continue.

The future and continued discharge of oil production waste water which will cause damage will be prohibited. Removal of discharge of production waste water to the Santa Barbara Channel will be accomplished in the interim planning period. The alternative of discharge to the ocean is injection into the producing zone. Additional studies are required to determine the most effective means of disposing of production waste waters.

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, ground and coastal 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:

1. Compliance and noncompliance with water quality criteria.

2. Water quality baselines and trends.

3. Improvements in water quality produced by abatement measures undertaken.

4. Emerging water quality problems, in sufficient time to effect adequate preventive measures.

The California Regional Water Quality Control Board, Central Coast Region, has established a program of surveillance based on discharger self-monitoring, regional board routine sampling and data acquisition from other state agencies. 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 ground waters. 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 objectives 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, and

5. Prepare and implement the detailed program.

The detailed program for the Central Coast Basin is:

San Lorenzo River Sub-Basin

The surveillance program in the San Lorenzo River Sub-Basin for quality characterization is designed to reflect natural quality conditions as well as the influences from manjs activities. In view of the Board's policy of no direct discharge to streams in the sub-basin, the surveillance stations were selected to reflect conditions of natural runoff and percolation of seepage from septic tanks and subsurface leaching. Also, the stations were located to observe changes in surface water quality resulting from soil erosion.

Surface Water

Surface water stations that were selected for surveillance are:

1. San Lorenzo River near Boulder Creek
2. Newell Creek below Loch Lomond
3. Zayante Creek near Felton
4. San Lorenzo River at Big Trees
5. Branciforte Creek at Highway 1 Bridge

Stations No. 2 and No. 4 will probably be sampled periodically by the City of Santa Cruz and the California Department of Water Resources, respectively. Unless this sampling is curtailed, additional sampling will not be required at these two stations. The two agencies will be requested to supply the Board's staff with sampling results.

The remaining three stations should be sampled semi-annually, May and September, for the following constituents:

Dissolved Oxygen	Turbidity
Temperature	Suspended Solids
Specific conductance	Phosphate
Total Dissolved Solids	Nitrate
pH	Coliform
Sediment grain size	Detergents

Sampling for coliform bacteria will be coordinated with the Santa Cruz County Health Department and, where possible, the Health Department's sampling data will be used.

Ground Water

In most cases, data that is available from the Scotts Valley County Water District and Santa Cruz County will be used to evaluate the quality conditions of ground waters in the sub-basin.

Special consideration will be given to quality conditions immediately north of Big Trees and Scotts Valley.

The following constituents should be determined at least semi-annually:

Specific conductance	pH
Total Dissolved Solids	Detergents
Nitrate	Hardness
Phosphate	Boron

Salinas River Sub-Basin

Surface Water

The surface water quality surveillance program consists of four stations listed below:

Station Number	Station Name
D21850.00	**Salinas River near Bradley**
D31450.00	**Salinas River at Paso Robles**
D21325.10	**Salinas River near Gonzales**
D21475.00	**Arroyo Seco near Greenfield**

Samples to be collected during January, May, July and September each year.

The stations "Arroyo Seco near Greenfield" and "Salinas River near Gonzales" are new stations with records starting July 1969. In addition to the collection of quarterly samples, a continuous recorder will be installed at the station near Gonzales to measure electrical conductivity, water temperature and air temperature.

The surface water quality surveillance program is intended to provide an optimum amount of data for use in future water resources planning studies, and for surveillance of the quality of the valley's most important source of ground water recharge. In addition, it will provide data for implementation of water quality control plans as well as monitoring for compliance with requirements.

Ground Water Quality Surveillance

The Department of Water Resources, in cooperation with the Monterey County Flood Control & Water Conservation District, collects ground water samples annually from wells in the Salinas River Sub-Basin.

The samples from these wells are analyzed for mineral and trace elements. In addition, the county collects samples from approximately 425 wells annually. These samples are analyzed for chloride concentration and electrical conductivity.

The ground water quality surveillance network for 1969-70 consisted of 33 selected wells. Well construction data are available for 31 of these wells. Data collected from the selected wells will be used to define the overall ground water quality condition of the Salinas River Sub-Basin. The analyses of water samples collected from these wells in 1969-70 and in subsequent years will also be used to determine ground water quality trends. These 33 wells will provide adequate areal coverage over the subbasin for the purpose of surveillance of ground water for water quality control. In addition to the samples collected from the 33 wells in the surveillance program, samples will be collected from many other wells in the Salinas Valley. Through a process of screening and limited field analysis, a significant amount of supplemental data will be collected.

The ground water quality surveillance network wells are not intended to monitor sea water intrusion. The sea water intrusion surveillance program will be established after the Department completes its sea water intrusion study in the area.

The present ground water monitoring program being conducted by San Luis Obispo County within the Salinas Sub-Basin consists of water level and quality sampling of approximately 120 wells. About 40 wells are sampled at least annually for a complete mineral analysis. Data collected are available from the County Flood Control & Water District.

Waste Discharge Monitoring

The following wells have been selected for the purpose of monitoring the effects of specific waste discharges upon receiving ground waters. These wells shall be sampled annually or semi-annually by appropriate discharger.

Discharger	Well Location
Atascadero County Sanitation District	**28S/12E–10R2**
Paso Robles	**26S/12E–21L1**
	26S/12E–21D2
Bryan Meat Company	**26S/12E–33B2**
San Miguel	**25S/12E–8R1**
	25S/12E–16D1
City of Gonzales	**16S/5E–31M1**
City of Soledad	**17S/6E–29K2**
King City	**20S/8E–07F1**

In addition to the above, sampling of the Salinas River at Spreckels will be conducted as a discharger responsibility. Flow at this point is predominantly waste water during most of the year and is not representative of Salinas River water.

This list of discharger monitoring stations does not include all dischargers of wastes in the Salinas River Sub-Basin. The effects of other waste discharges will be monitored by samples collected in the surveillance program. However, the monitoring and surveillance programs may be revised by the staff as needs change and as conditions warrant.

Ocean Water Surveillance

Sampling Frequency

Chemical and physical analyses - - - - - - - - - - - - Semi-annually
Bacteriological samples (Coliform) - - - - - - - - - - Monthly*

*Sampling schedule to be set by State and County Health Departments and to conform to the ability of the Departments to provide manpower, laboratory facilities and finances. Sampling shall be be discontinued during storms.

Sampling Locations – Pescadero Point to Point Piedras Blancas

I. Near Shore Waters

A. Bacteriological Stations

1. Carmel River Beach
2. Point Pinos
3. Monterey Beach
4. Seaside Beach
5. Palm Beach
6. Rio del Mar
7. Pleasure Point
8. Elkhorn Slough

B. Physical and Chemical Stations

1. Point Sur
2. Point Pinos
3. Moss Landing
4. Point Santa Cruz

II. Off Shore Waters

A. Bacteriological Sample Stations – None.
B. Chemical and Physical Stations

1. Point Pinos
2. Moss Landing
3. Santa Cruz Point

Sampling Locations – Point Piedras Blancas to Point Arguello

I. Near Shore Waters

A. Bacteriological Monitoring Stations

1. San Simeon Acres Beach
2. Atascadero Beach
3. Morro Bay
4. Avila Beach
5. Shell Beach
6. Pismo Beach
7. Oceano Beach

B. Physical and Chemical Monitoring Stations

1. Estero Bay at Atascadero Beach
2. Morro Bay at Small Boat Ramp
3. Avila Beach Pier
4. Pismo Beach Pier
5. Santa Maria River
6. Surf

II. Off Shore Waters

A. Bacteriological Sample Stations – None.

B. Chemical and Physical Monitoring Stations

1. Estero Bay
2. Port San Luis
3. Santa Maria River

Sampling Locations – Point Arguello to Rincon Point

I. Near Shore Waters

A. Bacteriological Sampling Stations

1. Carpinteria State Beach
2. Summerland Beach
3. Foot of Eucalyptus Lane
4. Butterfly Beach
5. Santa Barbara Beach opposite Bird Refuse
6. Santa Barbara Beach at foot of Sycamore Canyon
7. Santa Barbara East Beach
8. Santa Barbara Beach east of pier
9. Santa Barbara Harbor off wharf (offshore)
10. Santa Barbara beach opposite Veterans' Memorial Building
11. Santa Barbara Harbor – Yacht Club at surf
12. Santa Barbara Harbor West Beach
13. Goleta Beach

B. Physical and Chemical Stations

1. Carpinteria State Beach
2. Summerland Beach
3. Santa Barbara East Beach
4. Santa Barbara Pier – extreme end
5. Goleta County Beach
6. Gaviota Beach

II. Open Waters

A. Bacteriological Sampling Stations – None.

B. Chemical and Physical Monitoring Stations

1. Off Summerland between drilling platforms
2. Santa Barbara Harbor Channel – 2,500 yards southeast of end of pier
3. Off Goleta Point – 1,000 yards south

4. Off Capitan State Park – 2,000 yards south
5. Off Gaviota State Beach – 2,000 yards south
6. Off Jalama County Park Beach – 1,500 yards southwest

III. Inner Harbor Areas

A. Bacteriological Sampling Stations

1. Small boat landing area
2. End of breakwater

B. Chemical and physical Monitoring Stations

1. Off end of boat slips nearest to geometric center of harbor

Analytical and Observation Procedures

Analytical quantitative determinations will be performed in accordance with the latest edition of **Standard Methods for the Examination of Water and Wastewater** and other recognized standard procedures. Procedures for observations of water quality characteristics not amenable to quantitative determinations will be developed in cooperation with the appropriate agencies concerned.

Water samples should be collected from depths between two and five feet unless by reason of a discharge in the area there is a need to collect samples from various depths to measure the effect of such discharges. Discharges from streams and sloughs may affect the sampling and proper recognition of this factor must be recorded during monitoring procedures.

Physical and chemical analyses shall be performed to show the condition of water quality with respect to various water quality indicators noted in the water quality control plan.

Precise sampling station locations will be adjusted as dictated by results of the surveillance program and other considerations which may affect the frequency, location and extent of analytical determinations.

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Santa Cruz Coastal Sub-Basin							
Big Basin State Park 44–001–000–001	1971–72 Pumping Facilities. Pipeline & Spray Irrigation System	.120	Tertiary	Land Disposal	.050	None	None
Davenport S.M.D. 44–001–000–004	1974–75 Collection System in "New Town", interceptor line and extended aeration package plant	.050	Secondary	Land Disposal	.200	Good – Agriculture	Annexation of "New Town" into District
Granite Rock Company 44–001–000–158	1971–72 Construct higher levees on ponds to accomodate sediment build-up	.100	Primary	Land Disposal	–	None	None
Walti, Schilling & Co. 44–001–000–017	1970–71 Solids & Grease removal equipment & line to Santa Cruz system	.080	Primary	To Santa Cruz	–	Slight – Agriculture	City
San Lorenzo Sub-Basin	1972–73 Additional piping and	.030	Secondary	Land	.005	None	No change
San Lorenzo Valley County Water District	1972–73 Additional piping and sprinklers to expand spray disposal area	.030	Secondary	Land Disposal	.005	None	No change
	1973–74 Sewer – Ben Lomond and Glen Arbor areas and interceptor to Felton	–	None	To Santa Cruz plant	4.0	None	S.L.V.C.W.D.
	1975–76 Collection system, lift station trunk line to Ben Lomond and purchase capacity in force main to Santa Cruz treatment plant	–	None	To Santa Cruz plant	3.0	None	S.L.V.C.W.D.

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Santa Cruz County Service area #8 44–002–000–000	1972–73 Collection system pump station and force main from Felton to Santa Cruz treatment plant	–	None	To Santa Cruz plant	5.33	None	County Service area
City of Scotts Valley 44–002–000–006	1970–71 .065 MGD extended aeration package plant	.065	Secondary	Land disposal	.125	Good – Golf course irrigation	No change
	1975–76 Interceptor line from upper valley to existing plant		Secondary	Land	.250	Good – Golf course irrigation	No change
County Service Area No. 10	1972–73 Interceptor from present collection system to new trunk from S.L. Valley	.011	None	To Santa Cruz	.010	None	City–County
City of Santa Cruz 44–001–000–007	1970–71 Expansion of plant to capacity of 14.0 MGD	14.0	Advanced	Ocean	1.0	None	No change
	1971–72 4–1/2 mile outfall off Lighthouse Point to 100' depth of water	7.0	Advanced	Ocean	4.5	None	No change
City of Santa Cruz 44–002–000–015	1971–72 Water treatment plant sludge to sewer system	–	None	To Santa Cruz	–	None	No change
Soquel Aptos Sub-Basin							
East Cliff-Capitola S. D. 44–003–301–008	1970–71 Expansion of plant to double capacity	8.0	Primary	To Santa Cruz	.72	None	City–County
	1971–72 Construct transmission line to Santa Cruz outfall	8.0	Primary	To Santa	1.4	None	City–County

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Aptos Sanitary District 44–003–000–009	1972–73 Pump Station and consolidation with East Cliff	0.8	None	To Santa Cruz	1.5	None	City–County
	1975–76 Interceptor from outlying collection system to existing system	–	None	To Santa Cruz	.25	None	City–County
La Selva Beach	1973–74 Collection system pump station and force main to Aptos System	–	None	To Santa Cruz	2.0	None	City–County
Sand Dollar Beach	1973–74 Interceptor to La Selva Beach collection system	.03	None	To Santa Cruz	–	None	City–County
Monterey Bay Academy	1973–74 Interceptor to LaSelva Beach collection system	.08	None	To Santa Cruz	–	None	City–County
Pajaro River Sub-Basin							
Gilroy-Morgan Hill 43–004–303–011	1973–74 Secondary or advanced treatment plant and disposal facilities for South Santa Clara valley	3.0	Secondary	River or land disposal	4.5	Good – Agriculture	Agreement between cities
City of Hollister	1974–75 Second Outfall from plant to disposal beds	0.6	Primary	Land disposal	.10	Moderate – Agricultural	No change
	1975–76 Plant Expansion		Primary	Land disposal	.09	Moderate – Agricultural	No change
Hollister Industrial 35–004–303–053	1972–73 Relocate present industrial ponds or construct a spray disposal system	5.0	Ponds	Land disposal	1.05	Good – Agricultural	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
San Benito County Hospital	1970–71 Three new oxidation lagoons	.04	Ponds	Land disposal	.056	Fair – Agricultural	No change
City of Watsonville 44–004–302–010	1975–76 Construct secondary facilities	13.4	Secondary	Monterey Bay	1.50	Good – Agricultural	No change
Pajaro County Sanitary 27–004–302–000	1975–76 Replace interceptor to City of Watsonville plant	–	None	To Watsonville	.40	None	No change
Salinas River Sub-Basin							
Castroville County Sanitary District 27–005–304–012	1971–72 Purchase laboratory equipment	0.8	Secondary	Tembladero slough	.025	Good – Agricultural or control of sea water intrusion	No change
	1974–75 Expand plant or purchase capacity in regional system. Construct reclamation facilities	0.8	Secondary	Variable	1.0	Good – Agricultural	Unknown
City of Salinas 27–005–304–024	1971–72 Additional sludge lagoons and peak flow holding ponds	7.0	Secondary	Salinas River	.393	Good – Agricultural	No change
	1973–74 City's portion of interceptor line from Boronda area	7.0	Secondary	Salinas River	.083	Good – Agricultural	No change
	1974–75 Advanced treatment for nutrient and/or solids removal to permit reclamation	7.0	Tertiary	Reclamation	2.2	Good – Agricultural or control of sea water intrusion	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Salinas Industrial 27–005–304–054	1970–71 Additional oxidation ponds and new land disposal field	3.0	Ponds	Land disposal	1.738	Good – Agricultural	No change
Marina County Water District	1974–75 Expand collection system and double plant capacity or join regional system	2.0	Secondary	Ocean	.839	None	No change
City of Gonzales 27–005–304–029	1972–73 Additional oxidation and percolation ponds	0.3	Ponds	Land disposal	.500	Fair – Agricultural	No change
Soledad Prison 27–005–304–031	1971–72 Additional percolation ponds	0.75	Secondary	Land disposal	.038	Good – Agricultural	No change
City of Soledad 27–005–304–032	1973–74 Additional percolation and disposal ponds	0.5	Primary	Land disposal	.120	Fair – Agricultural	No change
	1975–76 Expand plant and disposal ponds	0.5	Primary	Land disposal	.300	Fair – Agricultural	No change
City of Greenfield 27–005–304–033	1971–72 Three additional oxidation and percolation ponds	0.5	Primary	Land disposal	.025	Fair – Agricultural	No change
	1972–73 Remodel sludge digester	0.5	Primary	Land Disposal	.030	Fair – Agricultural	No change
	1974–75 Expansion of plant facilities	0.5	Primary	Land disposal	.100	Fair – Agricultural	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
City of King 27–005–304–034	1972–73 Expansion of collection system and interceptor from area outside city	2.85	Ponds	Land disposal	.200	Fair – Agricultural	No change
San Antonio Reservoir 27–006–307–022	1975–76 Extension of collection system and enlargement of treatment and disposal facilities	.140	Secondary	Land disposal	.200	None	No change
San Miguel Sanitary District 40–005–304–040	1972–73 New treatment plant and land disposal facilities	–	Ponds	Land disposal	.150	Good – Agricultural	No change
Paso Robles 40–005–304–042	1970–71 Interceptor line from area east of river	2.2	Secondary	Salinas River	.700	Fair – Agricultural	No change
Paso Robles Boys School 40–005–304–042	1971–72 Additional Treatment facilities and evaporation percolation ponds	.081	Secondary	Land disposal	.021	Poor – Agricultural	No change
Atascadero C.S.D. 40–005–304–043	1972–73 Outfall from plant to Roselip Quarry and construction of effluent percolation ponds	0.5	Secondary	Land disposal	.250	Good – Agricultural	No change
San Ardo Water District 27–005–403–000	1970–71 Construct pump station and ponds	0.09	Ponds	Land disposal	0.188	None	No change
Atascadero C.S.D. 40–005–304–043	1975–76 Plant Expansion	–	Secondary	Land disposal	.450	Good – Agricultural	No change
Atascadero State Hospital 40–005–304–045	1971–72 Treatment Plant improvements and construction of permanent land disposal facilities	0.50	Secondary	Land disposal	.080	Good – Agricultural	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Elkhorn Farms 27–005–304–036	1970–71 Oxidation and settling ponds and disposal system	0.02	Ponds	Land disposal	–	Good – Irrigation	No change
Moonglow Dairy 27–005–304–037	1970–71 Repair culvert to lagoon	0.007	Ponds	Land disposal	–	None	No change
Minhoto & Silva Dairy 27–005–304–038	1970–71 Construction of oxidation and percolation ponds	0.008	Ponds	Land disposal	–	None	No change
Vierra Dairy 27–005–304–048	1970–71 Construction of ponds, pump and spray disposal	0.060	Ponds	Land disposal	–	Good – Irrigation	No change
Inglis Frozen Foods 27–005–304–062	1970–71 Modification of plumbing to permit waste separation	0.3	Screens	Salinas Rec. canal	–	Good – Agricultural	No change
Firestone Tire Co. 27–005–304–068	1970–71 through 1973–74 Settling basins and percolation ponds. Start plant expansion	0.200	Ponds	Land disposal	–	Fair – Agricultural	None
Fat City Cattle Co. 27–005–304–074	1970–71 Holding ponds	Varies	Ponds	Land disposal	–	None	None
Buena Vista Mines 40–005–000–097	1970–71 Treatment facilities and spray irrigation system	Varies	Secondary	Land disposal	–	None	None
Sawyer Convalescent Hospital 40–005–000–097	1970–71 Additional disposal area	.015	Secondary	Land disposal	–	Good – Agricultural	None
Kaiser Alum. & Chem. Co. 27–005–304–040	1971–72 51-inch outfall into Monterey Bay	36.0	None	Monterey Bay	–	None	None

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Growers Ice & Devel. Co. 27–005–304–061	1971–72 Screens, Ponds and outfall	0.30	Ponds	Salinas reclamation canal	–	Good – Agricultural	None
Western Pac. Services Co.	1971–72 Buy land and construct additional ponds or spray disposal	0.130	Secondary	Salinas River	–	Good – Agricultural	None
U.S. Army – Fort Ord 44–005–000–160	1971–72 Local Reclamation facilities or outfall to Monterey area regional system	4.0	Secondary	Land disposal or ocean	–	Good – Agricultural	No change
Trophy Meat Co. 40–005–304–100	1971–72 Connection to public sewers	0.005	Primary	To San Miguel	–	None	San Miguel S. D.
Bryan Meat Co.	1972–73 Connection to Paso Robles System	0.04	Primary	To Paso Robles	–	None	Paso Robles
Carmel & Pt. Pinos Sub-Basin							
Seaside San. Dist. 27–006–000–021	1970–71 Install Flocculation equipment and screening equipment	2.0	Primary	Monterey Bay	.100	None	No change
	1971–72 Share of outfall line at Pt. Pinos Regional Transmission line	2.0	Primary	Ocean	2.386	None	Create regional agency or joint powers agreement
	1972–73 Expand plant and convert to secondary or consolidate with Monterey	2.0	Secondary	Ocean	1.0	Fair – Agricultural or sea water intrusion control	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
City of Monterey 27–006–000–020	1971–72 Share of outfall line at Pt. Pinos	9.0	Secondary	Ocean	1.0	None	Create regional agency or joint powers agreement
	1974–75 Additional clarifier, activated sludge units and sludge thickener	–	Secondary	Ocean	.950	Fair – Agriculture or sea water intrusion control	No change
City of Pacific Grove 27–006–000–013	1970–71 Screening facilities and additional chlorination	2.0	Primary	Ocean	.100	None	No change
Del Monte Park Co. Sanitation District	1971–72 Construction of an interceptor line	–	None	To Pacific Grove	0.028	None	No change
City of Pacific Grove 27–006–000–013	1971–72 Share of outfall line and plant improvements	2.0	Secondary	Ocean	1.911	Fair – Golf course irrigation	Create regional agency or joint powers
Carmel Sanitary District 27–006–307–022	1973–74 Disposal facilities and/or reclamation	4.0	Secondary	Ocean	1.0	Good – Replenish ground water	No change
	1975–76 Pump Station and interceptor line from Highlands area	–	Secondary	Ocean	2.0	Good – Replenish ground water	No change
California–American Water Company	1971–72 Iron removal facilities from three wells	–	–	Land disposal	–	None	None
Monterey Coastal Sub-Basin							
Big Sur State Park 27–007–000–030	1973–74 Plant Expansion	.100	Secondary	Land	.080	Poor	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Highlands Inn Inc. 27–007–000–064	1970–71 Chlorination facilities and outfall extension	.015	Primary	Ocean	–	None	None
Carmel Highlands Property Owners 27–007–000–065	1970–71 Common septic tank, Chlorination facilities and outfall extension	.020					
San Luis Obispo Sub-Basin							
San Simeon Acres C.S.D. 40–008–000–037	1970–71 Plant expansion	.050	Secondary	Ocean	.100	Good – Agricultural	No change
Cambria C.W.D. 40–008–000–000	1970–71 Collection system, treatment plant and disposal sprinklers	.160	Secondary	Land disposal	1.5	Good – Agricultural	No change
	1972–73 Expand plant and extend collection system	–	Secondary	Land disposal	.500	Good – Agricultural	No change
	1973–74 Expand plant and extend collection system	–	Secondary	Land disposal	.500	Good – Agricultural	No change
	1974–75 Expand plant and extend collection system	–	Secondary	Land disposal	.750	Good – Agricultural	No change
	1975–76 Wastewater reclamation facilities	–	Secondary	Land disposal	.750	Good – Agricultural	No change
Hearst San Simeon S.H.M. 40–008–000–000	1971–72 Interception from Monument, State Beach and town to San Simeon Acres	–	None	To San Simeon Acres C.S.D.	.380	Good – Agricultural	Contract with San Simeon Acres C.S.D.
California Mens Colony 40–008–308–047	1971–72 Additional Treatment units and percolation disposal ponds	1.5	Secondary	Land disposal	.069	Good – Agricultural	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
City of Pismo Beach 40–008–000–052	1970–71 Enlarge plant and construct interceptor from Shell Beach and collection	1.0	Secondary	Ocean	1.5	Good – Future agricultural	No change
San Luis Obispo 40–008–309–049	1972–73 Plant modifications and reclamation facilities for irrigation	4.0	Tertiary	San Luis Creek	1.0	Good – agricultural, irrigation or recreation use	No change
	1975–76 Additional land disposal area and trunk sewer to Edna Valley	4.0	Tertiary	Land disposal Reclamation	.615	Good – agriculture	No change
City of Morro Bay 40–008–308–044	1975–76 Interceptor from Morro drainage area	2.0	Secondary	Ocean	.300	Good – Golf course, irrigation or agricultural	No change
Pacific Gas & Elec. Co. 40–008–000–116	1971–72 Cooling water discharge facilities – Diablo Canyon	Varies	None	Ocean	–	None	None
Hyla Oil Co. 40–008–311–123	1971–72 Brine disposal facilities	–	Ponds	Land disposal	–	None	None
Roemer Dairy 40–008–308–000	1971–72 Land disposal facilities	–	Ponds	Land disposal	–	None	None
Fairway Manor Sub. 40–0080309–121	1972–73 Connection to public sewers	.015	None	To San Luis Obispo	–	None	City of San Luis Obispo
Hidden Hills Mob.	1973–74 Connection to public sewers	.0085	None	To San Luis Obispo	–	None	City of San Luis Obispo

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Robert Stark Devel. 40–008–308–108	1975–76 Connection to public sewers	.005	None	To municipal system	–	None	District formation
Cuesta Mobile Home Park 40–008–308–110	1975–76 Connection to public	.023	None	To municipal system	–	None	District formation
Santa Maria Sub-Basin							
City of Guadalupe 42–010–312––055	1970–71 Plant enlargement and land disposal facilities	0.45	Secondary	Land disposal	.108	Good – Agricultural	No change
Laguna Co. S. D. 42–010–312–058	1970–71 Outfall to new land disposal area	1.35	Secondary	Land disposal	.140	Good – Agricultural	No change
	1972–73 Additional Bio-filter and grit removal	–	Secondary	Land disposal	.130	Good – Agricultural	No change
	1973–74 Additional digester	–	Secondary	Land disposal	.150	Good – Agricultural	No change
	1974–75 Additional clarifier	–	Secondary	Land disposal	.070	Good – Agricultural	No change
City of Santa Maria 42–010–312–056	1971–72 Grit removal facilities and collection system extension	6.35	Secondary	Land disposal	.056	Good – Agricultural	No change
	1972–73 Additional land disposal facilities and plant modifications	6.5	Secondary	Land disposal	.227	Good – Agricultural	No change
	1974–75 Interceptor line to north area of city	6.5	Secondary	Land disposal	.077	Good – Agricultural	No change

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
City of Santa Maria (con't.)	1975–76 Grit removal units, headworks improvements and trunk sewer extension	6.5	Secondary	Land disposal	.108	Good – Agricultural	No change
Union Oil – Santa Maria 40–010–312–127	1971–72 Improved treatment facilities	1.2	Physical Chemical	Santa Maria River	.125	None	None
	1972–73 Improved disposal system	1.2	Physical Chemical	Land disposal or injection	.350	None	None
Union Sugar Co. 42–010–312–130	1972–73 Expansion of facilities	Varies	Ponds	Land disposal	–	Good – Recycle	None
Santa Ynez Sub-Basin							
Buellton C.S.D. 42–012–315–062	1970–71 Plant modification – increased aeration	0.30	Secondary	Land disposal	.088	Good – Agricultural	No change
City of Lompoc 42–012–315–061	1972–73 Expansion of facilities reclamation, interceptor sewers to Lompoc Valley	–	Secondary	Recharge, ocean or land disposal	4.0	Good – Agricultural	Regional District or Joint Powers
Solvang,M.I.D. 42–012–315–063	1972–73 Expansion of facilities - parallel aeration units	0.6	Secondary	Land disposal	.350	Good – Agricultural	No change
Cachuma C.S.D. 42–012–315–064	1973–74 Interceptor from new new recreation areas	0.18	Secondary	Land disposal	.080	Good – Agricultural	No change
Union Oil – Lompoc 40–012–315–133	1971–72 Improved treatment – sulphur recovery	1.3	Physical Chemical	Ocean	.075	None	None

TABLE 11

NEEDED WASTEWATER MANAGEMENT FACILITIES

IN THE CENTRAL COASTAL BASIN

Waste Discharger and Number	Schedule of Consolidation and Construction	Magnitude of Flow (MGD)	Recommended Level of Treatment	Location of Discharge	Estimated Cost ($Million)	Reclamation Potential	Needed Governmental Structure Changes
Western Pacific Services Co. 42-012-315-135	1972-73 Connection to Lompoc Valley interceptor	0.27	None	To Lompoc	–	Good – Agricultural	Regional district or Joint Powers
Vandenberg Disposal Co.	1972-73 Connection to Lompoc Valley interceptor	0.52	None	To Lompoc	–	Good – Agricultural	Regional district or Joint Powers
Federal Correctional Institution, Lompoc	1972-73 Connection to Lompoc Valley interceptor	0.20	None	To Lompoc	–	Good – Agricultural	No change
Santa Barbara Coastal Sub-Basin							
City of Santa Barbara 42-013-317-066	1971-72 Expansion of treatment plant and new outfall	16.0	Primary	Ocean	5.815	Fair – Agricultural	No change
Goleta Sanitary District 42-013-316-065	1972-73 Addition of Bio-Filter to plant	7.0	Secondary	Ocean	.150	Fair – Agricultural	No change
	1973-74 Trunk sewers and enlarged interceptors from developing areas	7.0	Secondary	Ocean	.300	Fair – Agricultural	No change
Montecito Sanitary District	1973-74 Expansion of existing facilities or consolidation with Santa Barbara	0.75	Secondary	Ocean	.500	Fair – Agricultural	Contract or regional district
Summerland S. D. 42-013-318-068	1974-75 Pumping facilities and force main to Montecito S.D.	0.15	None	To Santa Barbara	.200	Fair – Agricultural	Contract or regional district
Standard Oil – Gaviota 42-013-000-143	1970-71 New Treatment and disposal facilities for waste water brine	.06	Physical Chemical	Injection	–	None	None
Arco-Coal oil point 42-013-000-148	1973-74 Injection facilities	–	Physical Chemical	Injection	.050	None	None

APPENDIX A

PROJECT LIST

An important portion of the basin 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.

Projects will be scheduled according to the following criteria:

(a) 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.

(b) 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.

(c) Treatment plants nearing flow or treatment design capacity will be scheduled so the expanded facilities will be available before a problem develops.

(d) Water reclamation projects which beneficially improve water quality and which conserve water resources through feasible reuse will be scheduled as soon as practicable.

(e) 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.

Following these criteria, project lists indicating those projects which will be considered for certification by the State Water Resources Control Board and the Environmental Protection Agency were prepared. They are included in this appendix.

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 basinwide 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 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.**

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 basinwide improvement in water quality and the regional water quality control board will take the necessary action to insure conformance.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1971–72

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
Castroville Co. San. Dist.	I	Purchase of laboratory equipment	$ 25,000
California Dept. of Corrections – Soledad Correctional Facility	I	Percolation Ponds	38,000
Greenfield, City of	I	Oxidation-percolation ponds	25,000
California Parks & Recreation – Big Basin State Park	I	Pump facility and spray irrigation	50,000
California Youth Authority – Paso Robles School	I	Expand facilities and percolation ponds	21,300
California Dept. of Mental Hygiene – Atascadero Hospital	I	Improve plant and disposal facilities	80,000
California Dept. Parks & Recreation – Hearst Historical Monument	I	Interceptor to treatment plant	374,500
California Dept of Corrections – California Men's Colony	I	Expand plant and percolation ponds	68,750

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1971–72

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
Santa Maria, City of	I	Extend sewers and improve plant	$ 5,000
California Parks & Recreation – Gaviota State Park	I	Construct treatment and disposal facilities	35,000
Santa Barbara, City of	I	Expand plant to 16 mgd and outfall	5,485,000
Tri-Cities Ocean Outfall (Joint Project)	I	Outfall for Pacific Grove, Monterey, and Seaside Co. S. D.	5,297,000
San Simeon Acres Community Serv. Dist.	I	Expansion of treatment facilities	155,000
Laguna Co. Sanitary District	I	Outfall and pump station	140,000
Pacific Grove, City of	I	Plant modifications	700,000
Seaside Co. Sanitary District	I	Plant modifications	100,000
Salinas, City of	I	Industrial disposal system	748,000
Paso Robles, City of	I	Interceptor (Templeton)	1,800,000
Port San Luis Harbor District	I	Interceptor	42,500
San Benito Co. Hospital	I	New sewage lagoons	37,000
San Ardo Co. Water District	I	Pump station, force main, percolation ponds	48,000
Pismo Beach, City of	I	Plant expansion, interceptor	1,400,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1971–72

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
Pismo Beach, City of	I	Plant expansion, interceptor	$1,440,000
Del Monte Park Co. Sanitation District	III	Interceptor to Pacific Grove	28,000
San Luis Obispo Co. Service Area #12	III	Construct interceptor	250,000
Isla Vista Sanitary District	III	Pump station and parallel interceptor	447,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1972–73

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
Bear Creek Estates – San Lorenzo Valley County Water District	I	Purchase additional equipment	$ 5,000
Rolling Woods – County Service Area #10, Santa Cruz County	I	Construct interceptor	10,000
Aptos County Sanitation District, County of Santa Cruz	I	Construction of pump station and interceptor line	1,500,000
Seaside County Sanitation District	I	Convert present plant to secondary treatment facility	1,000,000
City of Gonzales	I	Construction of additional oxidation and percolation ponds	500,000
Solvang Municipal Improvement District	I	Enlargement of existing treatment plant	300,000
Goleta Sanitary District	I	Addition of bio-filter unit	150,000
Cambria County Water District	I	Enlarge capacity of sewage treatment plant	50,000
Nipomo Community Services District	I	Construction of sewage collection system	300,000
San Luis Obispo County Service Area #16 – Shandon – San Luis Obispo County	I	Construction of sewage collection system	25,000
San Miguel Sanitary District	I	Construction of percolation and evaporation ponds	120,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1972–73

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
Atascadero County Sanitation District – San Luis Obispo County	I	Outfall sewer construction and percolation ponds	$ 250,000
City of San Luis Obispo	I	Treatment plant modifications	800,000
City of Santa Maria	I	Build new effluent land disposal facilities	200,000
Laguna County Sanitation District – Santa Barbara County	I	Add additional bio-filter and grit removal units	130,000
Lompoc Valley Regional Facilities – City of Lompoc	I	Expansion of sewage treatment facilities and disposal area	4,000,000
Santa Cruz, City of	I	Construction of outfall	4,500,000
Salinas, City of	I	Sludge lagoons and holding ponds	300,000
Los Alamos Community Services District	I	Construction of collection, treatment and disposal facilities	97,000
City of Greenfield	I	Refurbish sludge digester and install gas recirculation system	30,000
City of Hollister	I	Relocate present industrial waste ponds or construct a spray disposal system	500,000
Santa Ynez Improvement Association	III	Sewage collection system	578,000
San Luis Obispo County Service Area #18 – San Luis Obispo County	III	Sewage collection system	276,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1972–73

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
City of King	III	Construction of a collection system and an interceptor	$ 75,000
County Service Area #8 – County of Santa Cruz	III	Construction of collection system, pump station and force main	1,782,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1973–74

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
Cities of Morgan Hill and Gilroy	I	Construction of secondary treatment plant	$4,500,000
Carmel Sanitary District	I	Construction of disposal facilities	1,000,000
Pfeiffer Big Sur State Park – Dept of Parks and Recreation, State of California	I	Construction of package extended aeration treatment plant	80,000
City of Soledad	I	Construction of additional percolation and disposal ponds	50,000
Laguna County Sanitation District – Santa Barbara County	I	Construction of additional digester	150,000
Montecito Sanitary District	I	Enlargement of existing treatment plant	500,000
Cambria County Water District	I	Extension of sewer system	50,000
City of Salinas	III	Construction of interceptor line	83,000
Ben Lomond and Glen Arbor – San Lorenzo Valley County Water District	III	Construction of collection system and interceptor	300,000
Cachuma County Sanitation District Santa Barbara County	III	Construction of interceptor	60,000
Goleta Sanitary District	III	Construction of trunk sewers	200,000
La Selva Beach	III	Construction of collection system	750,000
Boronda Water District – Monterey County	III	Construction of collection system	250,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1974–75

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
City of Greenfield	I	Construction of clarifier	$ 100,000
Monterey County Service Area #46 Monterey County	I	Construction of collection system	615,000
City of Santa Maria	I	Sewage treatment plant additions	83,000
Laguna County Sanitation District Santa Barbara County	I	Construction of additional clarifier	70,000
Summerland Sanitary District	I	Construction of pumping facilities	200,000
Cambria County Water District	I	Extension of sewer system	75,000
Davenport Sewer Maintenance District Santa Cruz County	I	Construction of collection system	120,000
Castroville County Sanitation District	I	Expansion of present plant	550,000
Marina County Water District	I	Construction of a second 1 mgd activated sludge package treatment plant	550,000
City of Hollister	I	Construction of second outfall line	100,000
City of Monterey	I	Construction of additional clarifier	950,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1974–75

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
City of Salinas	I	Construction of advanced waste treatment	$2,000,000
Rural Castroville – County of Monterey	III	Construction of collection system	700,000
Hidden Hills – Laguna Seca County of Monterey	III	Construction of collection system	580,000
Toro Area – County of Monterey	III	Construction of collection system	700,000
City of Santa Maria	III	Construction of interceptor sewer	77,000
Templeton Sanitary District	III	Construction of collection sewers and interceptors	500,000
Baywood Park – Los Osos San Luis Obispo County	III	Construction of sewers	500,000
Santa Rita Water District and Gabilan Acres County of Monterey	III	Construction of collection system	700,000
Carmel Valley – Carmel Sanitary District	III	Construction of collection system	1,000,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1975–76

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
City of Watsonville	I	Construction of secondary treatment facilities	$1,500,000
City of Hollister	I	Construction of additional clarifier	90,000
City of Soledad	I	Construction of additional clarifier	150,000
San Antonio Reservoir – County of Monterey	I	Construction of collection system	100,000
Aromas Water District – County of Monterey	I	Construction of collection system	150,000
Atascadero County Sanitation District San Luis Obispo County	I	Enlarge treatment facilities	450,000
City of San Luis Obispo	I	Enlargement of disposal facilities	25,000
City of Santa Maria	I	Construction of additional grit removal units	20,000
Cambria County Water District	I	Construction of wastewater reclamation facilities	675,000
City of Morro Bay	III	Interceptor sewer addition	300,000
City of Santa Maria	III	Interceptor sewer addition	77,000
City of Scotts Valley	III	Construction of interceptor line	200,000
Aptos County Sanitation District	III	Construction of interceptor line	50,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

MUNICIPAL PROJECT LIST

1975–76

Responsible Agency	Project Group	Description of Project	Estimated Eligible Cost
Carmel Sanitary District	III	Construction of pump station and interceptor	$1,000,000
Pajaro County Sanitation District	III	Construction of replacement interceptor line	400,000
Carmel Highlands – Carmel Sanitary District	III	Construction of collection system	800,000
Fruitland Water District – Monterey County	III	Construction of collection system	300,000
Las Lomas – Hall Area – Monterey County	III	Construction of collection system	600,000
San Lorenzo Valley County Water District	III	Construction of collection system	400,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

INDUSTRIAL PROJECT LIST

1971–72

Responsible Agency	Description of Project	Estimated Eligible Cost
City of Santa Cruz	Connect water treatment plant sludge lines to the City's sanitary sewer system	
Kaiser Aluminum & Chemical Corporation Moss Landing Plant	Construct outfall line into Monterey Bay	
Growers Ice & Development Co. Salinas Plant	Construction of screening facilities, settling ponds and outfall line	
Western Pacific Services Toro Park Estates	Construct additional percolation pond area	
California-American Water Co.	Constuct iron removal facilities	
Granite Rock Co. Santa Cruz Sand Washing Plant	Construct higher levess on present evaporation and percolation ponds	
U.S. Army – Fort Ord	Construction of reclamation facilities or an interceptor line	
General Resources Development – Oak Shores, Lake Nacimiento	Sewerage system	$ 170,000
Trophy Meat Co. San Miguel – San Luis Obispo County	Connection to public sewer system	
Pacific Gas & Electric Co. – Diablo Canyon San Luis Obispo County	Discharge facilities for cooling water discharge	

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

INDUSTRIAL PROJECT LIST

1971–72

Responsible Agency	Description of Project	Estimated Eligible Cost
Hyla Oil Co. Arroyo Grande Oil Field San Luis Obispo County	Salt water brine disposal facilities to dispose of oil production wastewater	
Union Oil Company – Santa Maria Valley	Improved treatment facilities in Santa Maria	$ 125,000
Union Oil Company – Lompoc Oil Field	Improved treatment (sulphur recovery) of Lompoc Oil Field production wastewater	75,000
Roemer Dairy – San Luis Obispo County	Waste disposal facilities to confine wastewater	
Firestone Tire & Rubber Co. Salinas Plant	Construction of additional percolation ponds and a settling basin for industrial wastes	

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

INDUSTRIAL PROJECT LIST

1972–73

Responsible Agency	Description of Project	Estimated Eligible Cost
General Resources Development, Oak Shores Lake Nacimiento	Sewerage facilities to serve residential development	$ 150,000
Bryan Meat Company – Paso Robles	Connection to Paso Robles interceptor	
Union Sugar Company – Betteravia	Expansion of treatment and disposal facilities at beet sugar refinery	
Vandenberg Disposal Co. Vandenberg Village Subdivision	Connection to Lompoc Valley interceptor	
Western Pacific Services Co. Mission Hills Subdivision	Connection to Lompoc Valley interceptor	
Fairway Manor Subdivision San Luis Obispo County	Connection to public sewer system	
Union Oil Company – Santa Maria Valley	Improved disposal system for production wastewater from Santa Maria Valley oil producing areas	350,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

INDUSTRIAL PROJECT LIST

1973–74

Responsible Agency	Description of Project	Estimated Eligible Cost
El Hondo Seis – Sand Dollar Beach	Construction of an interceptor line	
Monterey Bay Academy	Construction of an interceptor line	
General Resources Development, Oak Shores, Lake Nacimiento	Sewerage system to serve residential development	$ 170,000
Hidden Hills Mobile Lodge San Luis Obispo County	Connection to public sewer system	
Atlantic Richfield Company Coal Oil Point	Facilities to inject wastewater brine from producing oil wells	50,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

INDUSTRIAL PROJECT LIST

1974–75

Responsible Agency	Description of Project	Estimated Eligible Cost
General Resources Development Oak Shores, Lake Nacimiento	Sewerage system to serve residential development	$ 170,000

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD

CENTRAL COASTAL REGION

BASIN 3 – CENTRAL COASTAL REGION

INDUSTRIAL PROJECT LIST

1975–76

Responsible Agency	Description of Project	Estimated Eligible Cost
General Resources Development Oak Shores – Lake Nacimiento	Sewerage system to serve residential development	$ 170,000
Robert Stark Development – Baywood Park San Luis Obispo County	Connection to public sewer	
Daisy Hill Mobile Home Park Los Osos	Connection to public sewer	
Cuesta Mobile Home Park	Connection to public sewer	

APPENDIX B

SUMMARY OF HEARING COMMENTS

State of California
California Regional Water Quality Control Board
Central Coast Region

MINUTES OF PUBLIC HEARING
May 5, 1971
Cuesta College
San Luis Obispo, California

The California Regional Water Quality Control Board, Central Coast Region, Public Hearing was called to order by Chairman Willard T. Branson at 2:02 p.m., May 5, 1971, in the Cuesta College Auditorium, San Luis Obispo, California.

The following Board Members were present:

Willard T. Branson, Chairman
Eugene E. Brendlin
Norman H. Caldwell
Dr. Harold M. Cota
James C. Glaser
Floyd M. Grigory
Lewis Nelson

Staff Present

Kenneth R. Jones, Executive Officer; Thomas E. Bailey, Senior Engineer; David F. Larson, Engineering Associate; and Margaret L. Sigerson, Secretary.

Others Present

Environmental Protection Agency: Herbert E. Pintler; **U.S. Forest Service:** Ray S. Dalen and Lawrence L. Hornberger; **U.S. Bureau of Reclamation:** Lloyd Fretwell; **State Water Resources Control Board:** Attorney William Attwater; **California Department of Water Resources:** V. B. McIntyre and Carl L. Stetson; **California Department of Fish and Game:** Michael E. Rugg; **California Department of Public Health:** T. J. Gannon; **Monterey County Health Department;** John Burns and Walter Wong; **San Benito County Health Department:** Roland L. Perkins; **San Luis Obispo County Health Department:** James D. Gates; **San Luis Obispo County Engineer:** David Bryan, Richard Drahn, Orville H. Poler, and G. C. Protopapas; **San Luis Obispo County Office of Education:** Earl M. Johnston; **Santa Cruz County Health Department:** Ray Talley; **Santa Cruz County Public Works Department:** Don A. Porath, Dennis Daughters, and Phil Sanfilippo; **Association of Monterey Bay Area Governments:** Leslie Doolittle; **Hopkins Marine Station, Stanford University:** Dr. Welton L. Lee and Dr. John Pearse; **City of Morro Bay:** Councilwoman Lila H. Keiser and D. M. Stuart; **City of Pismo Beach:** Mayor Richard Simpson and Councilman Ken Rooker; **City of Salinas:** Arnold Joens; **City of San Luis Obispo:** David F. Romero; **City of Santa Barbara:** R. Dennis Hogle; **City of Santa Maria:** William S. Litzenberg and Frank W. Salfingere, Jr.; **Santa Ynez River Water Conservation District:** Consulting Engineer Thomas M. Stetson; **Buellton Community Services District:** Kenneth G. Updike; **Isla Vista Sanitary District:** Frank H. Stevens; **Marina County Water District:** Mrs. Margaret Heldt and Louis H. Larson; **Solvang Municipal Improvement District:** Leo Mathiasen; **Summerland Sanitary District:** W. H. Akens and Russell L. Williams; **Baywood Park County Water District:** Joe Sheridan and Mary Louis Foster; **S. T. Mutual Water Company:** Jesse K. Penner and Lloyd H. Snyder; **Almaden Vineyards, Inc.:** Anthony L. Estalio; **Buena Vista Mines, Inc.:** Tony McLean; **California American Water**

Company: Wayne Millington; **Cambria Air Force Station**: Howard E. Williams; **Daisy Hill Mobile Home Park**: Walter M. Hoffman; **Firestone Tire & Rubber Company**: J. R. Laman and J. F. Wright; **John Inglis Frozen Foods**: Jack E. Helm; **Pacific Gas and Electric Company**: Roy F. Hawes, Bertram H. Mudgett, D. W. Phipps and Roy L. Whitford; **Standard Oil Company of California**: Robert V. Scott; **Southern California Edison**: Stephen A. Wiegman; **Union Oil Company of California**: Louis R. Anderson, Frank Heckel, Dean Humphrey, Roy W. Martens, K. J. Stracke, and D. J. Van Harreveld; **Shell Beach Taxpayers' Committee**: Dennis Chandler; **Environmental Quality Advisory Board, Santa Barbara**: L. Brundall; **Boyle Engineering**: P. A. Beautrow and Don Burr; **C.D.M. Environmental Engineers**: A. B. Pincince; **John Carollo, Engineers**: Howard M. Way; **Kennedy Engineers**: David Kennedy; **Penfield & Smith Engineers, Inc.**: Jerry D. Smith; **Switzer, Jennings & Associates**: Alfred I. Switzer; **Toups Engineering, Inc.**: Jack W. Pierce; **Yoder-Trotter-Orlob and Associates**: Larry C. Davis and Marvin Lindorf; **Buena Tri-County Laboratories, Inc.**: Don L. Bleak; **T. H. Creers Corporation**: C. Franklin Steiner; **Bay Osos Realty Company**: H. E. Bumpus; **Constentino Realty**: Luis Constentino; and **Others**: Richard A. Schalwitz and Dorothea B. Rible.

Interim Water Quality Management Plan, Central Coastal Basin

Chairman Branson announced that the hearing is required by the Porter-Cologne Water Quality Control Act for the purpose of taking testimony on the Water Quality Management Plan for the Central Coastal Basin. He said written comments would be preferred, but all relevant testimony will be considered. Because of the time limitations and the ability of the Board and staff to consider all facts presented, brief and concise testimony would be preferred and helpful. He requested that statements be limited to about ten minutes so that everyone who wished to speak would have an opportunity to be heard. He said at the termination of the hearing process, the taking of oral testimony would be concluded, but further written comments will be received for ten days, until May 15, 1971. After that date, no further evidence will be considered. The Board's staff will make the necessary revisions to the Plan after considering the evidence introduced at the hearing and in writing. The Board will hold a public meeting at a later date to consider adoption of the Plan as modified. A notice of that meeting will be mailed at least ten days prior to that meeting to all those in attendance at the hearing and to those who receive the regular Board meeting notices. He added that testimony would be received in the following order: (1) the Board's staff; (2) public agencies; (3) business and industries; and (4) general public. All those in attendance were asked to register and to indicate on the registration cards if they wished to be heard and the Chairman would recognize persons who had so indicated at the appropriate time. If time allows, he said others might be recognized at the end of the hearing. He called upon the Executive Officer of the Board, Mr. Jones, to introduce the Interim Water Quality Management Plan, Central Coastal Basin, and report on the correspondence received to date.

Mr. Jones stated that the Interim Plan was drafted in accordance with the Porter-Cologne Water Quality Control Act. The Federal Environmental Protection Agency requires that such a plan be adopted for the State to continue to participate in its grant program. Project lists of dischargers who are eligible to receive grants have been prepared and future financial needs anticipated. He reported that notices of the public hearing, dated April 5, 1971, were sent to interested persons, legal notices were published in each County during the week of April 5, 1971, and copies of the Plan's Summary were sent to waste dischargers in the Region and to other interested persons. He noted that the Plan includes a review of hydrological and water quality characteristics of the Basin, beneficial uses of water, water quality objectives, existing waste water treatment and disposal facilities, future waste water management facilities, and project lists for the grant program for the ensuing five years. He said the hearing was called to provide input of information that may have been missed by the staff, to correct errors, for clarification and interpretation, to answer questions, and to receive objections or approvals. He said after the hearing, minutes will be prepared and a summary of written testimony would be supplied to Board Members, changes will be made in the draft as deemed necessary and/or desirable, a special Regional Board Meeting will be held to adopt the Interim Water Quality Management Plan, and the State Water Resources Control Board will review the Plan and hold a hearing by June 17, 1971, and changes will be made in the Plan, if necessary. He said general water quality policy statements or concepts contained in this Plan may be modified subsequent to the public hearing and prior to Plan adoption, in order that they be consistent with policy statements and concepts in other Basin Plans throughout the

State and with State policy that will be considered by the State Water Resources Control Board. Such modifications, if any, will be designed to supply consistency and additional supportive material for elements of the Plan without making any substantial changes in those elements. The Interim Plan that is adopted by the State Water Resources Control Board will be submitted to the Environmental Protection Agency by July 1, 1971, and preparation of the Final Plan will be completed by July 1, 1973, through the use of consultants and special studies.

Mr. Jones summarized the correspondence that had been received from the Southern Region of the Bureau of Sanitary Engineering, dated April 30, 1971; Department of Public Works for Ventura County, dated May 3, 1971; the City Administrator of the City of Morro Bay, dated May 3, 1971; Robert Stark Development, dated April 30, 1971; Kennedy Engineers, dated April 30, 1971; Santa Clara County Health Department, dated April 27, 1971; Santa Barbara County Public Works Department, dated April 23, 1971; Region 5 of the State Department of Fish and Game, dated May 4, 1971; Northern Region of the Bureau of Sanitary Engineering, dated May 3, 1971; City of Pismo Beach; and Union Oil Company of California, dated May 5, 1971.

Carl L. Stetson, District Engineer for the San Joaquin District of the Department of Water Resources, read his memorandum to the Board dated May 5, 1971, which gave general concurrence to the Summary Report and supported the emphasis placed on waste water reclamation. It was noted that the Department views waste water reclamation as a significant element for management of the complete water system. Further assistance of the Department was offered to the Regional and State Boards in developing a Final Plan for the Central Coastal Basin during the next two years. He added that editorial comments will be furnished to the Board's staff.

Michael E. Rugg, California Department of Fish and Game, reviewed the communication from Region 5 of his Department, dated May 4, 1971, recommending revisions on Pages 3–10 and 3–11 of the Summary. He also reviewed a recommendation from the Water Quality Biologist in the Marine Branch of Region 6 that the pH section be changed to read: "In ocean waters no waste discharge shall cause a change in the normal pH value more than .1 of a unit nor cause the pH to exceed 7.5." The Inland Fisheries Branch recommended that the pH not drop below 7.0 units in fresh waters. It was noted that marine organisms are typically less tolerant than fresh organisms to pH changes. It was also recommended that the "Toxic Materials" section should include the requirement that "These toxic materials or substances should not make the fish, wildlife or agricultural stock unfit for human consumption." The Marine Biologists also recommend that the "Dissolved Oxygen" section be amended to include a statement that the marine habitat should have a dissolved oxygen concentration of 7.0 mg/l unless otherwise naturally occurring. With the changes recommended, his Department concurred with the draft of the Interim Plan.

Leslie Doolittle, Executive Director of Association of Monterey Bay Area Governments, filed a copy of Resolution No. 1971–1 adopted by that Association on April 28, 1971, which generally supported the efforts of the Board in preparation of the Interim Plan. He recommended that since AMBAG is initiating a water quality management study for the Monterey Bay Region, the Board should consider this as an **interim** plan, which is subject to change as further study is conducted. He also distributed copies of a "Statement Regarding the Interim Water Quality Management Plan for the Central Coastal Basin," which gave more detailed recommendations for revisions in the Interim Plan.

Walter Wong, Director of Environmental Health, Monterey County Health Department, read a letter from the Monterey County Board of Supervisors, dated May 4, 1971, which stated that inadequate time was allowed to make a detailed analysis of the effect of the report on the four sanitation districts governed by the Board. Endorsement of the ecological and environmental goals set forth on Page 2–4 was given, but it was noted that such endorsement should not be misunderstood to indicate that the Board believes that all of the Plan is feasible from an engineering or fiscal point of view. The reasonableness of some of the objectives listed in Chapter 4 was questioned. After having adequate time to consider the specific projects affecting the four districts, he said the District Engineer will submit detailed written comments. He reported that the Monterey County Health Department generally concurred with the Summary Report. He noted that the standard for coliform organisms in fresh streams is 200 fecal coliforms per 100 ml rather than 1000 as recommended in the Report. He requested clarification of Item 4 on Pages 4–21, which requires a minimum of one acre lots and percolation rates no less than one inch in thirty minutes. He felt

that there should be one requirement or the other, but not both. He pointed out that on Pages 5–10 of the Salinas River Sub-Basin, no mention was made of the direct discharge by Western Pacific. He also recommended further evaluation of ocean outfall discharges in terms of currents and oceanography studies being proposed by the Association of Monterey Bay Area Governments and that an evaluation be made of the use of secondary, rather than primary, treatment for ocean discharges. In addition, he said the Summary emphasizes the use of reclamation waters for irrigation purposes only, but he felt its use for recreational purposes should also be evaluated. The Chairman asked Mr. Wong the source of the fecal coliform standard of 200 per 100 ml. Mr. Wong reported that it has been recommended by several persons and has been adopted in some counties. However, it has not been adopted in Monterey County.

L. Raynor Talley, Director of Environmental Health for Santa Cruz County Health Department, concurred with Mr. Wong's comments and appreciated the Plan's recognition of the need for reclamation in the near future. As to the bacterial standard for fresh water streams, he wondered if the total bacteria level can be met in most places, especially if there was some contribution of soil organisms not related to animal wastes. Therefore, he suggested that consideration be given to the adoption of a fecal coliform standard, such as that outlined by Mr. Wong, which has been adopted in Santa Cruz County and has been given consideration by the Public Health Service in several of its studies. He recommended that Pages 4–20 be amended to include the Aptos–Soquel Sub-Basins where specific waste discharges are prohibited. The Santa Cruz County Board of Supervisors expressed concern regarding the blanket stipulation for minimum lot size which will preclude development of property by the use of individual sewage disposal systems on the basis of technical criteria. He noted that the type of soil has a definite bearing on the amount of area needed to adequately dispose of effluent. His Department also questioned whether the Plan's requirement for a percolation rate of 2" per hour is appropriate since the Public Health Service recognizes a minimum rate of one inch per hour. He said the Board of Supervisors wondered if the restrictions in Chapter 4 apply to single lots as well as new subdivisions. The problem of equity has also arisen and the Supervisors wondered if the requirements in Chapter 4 would apply if a subdivision locates next to single lots. Problems of administration and interpretation of these requirements were also noted. He wondered if consideration had been given to a schedule of lot sizes based on slope, rather than setting a requirement for a maximum slope of 25%. In addition, he wondered how the projects listed in Appendix A will be implemented in order to conform with the time schedule, i.e. will the Board initiate the proceedings to undertake the project or will the discharger or its representative do so? He reported that he will submit written editorial comments to the Board.

Don Burr, Boyle Engineering Company, Consulting Engineer for the City of Pismo Beach, expressed the City's objection to the statement on Pages 6–28 that the Pismo Beach treatment plant will be abandoned prior to 1985 in favor of consolidation with the existing South San Luis Obispo County Sanitation District treatment facility. He noted that the City's sewage treatment facilities will be able to treat one million gallons per day and its outfall can carry three million gallons per day. The City has been authorized to issue up to $775,000 in general obligation bonds to supplement available Federal and State grant funds to construct over $1,500,000 of sewerage system improvements. The bonds will be repaid during the next 20 to 25 years and the City's sewage disposal system should be sufficient to provide for the City's sewerage needs until 1990 or later. It was felt that the Interim Plan as drafted would not fully utilize the capacity of the facilities that is being invested under the current program and result in taxpayer monies not being utilized to the fullest extent possible. He also noted that by the date outlined, everyone may be looking toward other means of effluent disposal, such as land disposal, which will preclude an ocean discharge. He requested that that portion of the Summary Report be revised so that the City's treatment plant will not have to be consolidated until such time as its capacity and that of the sewer outfall is reached. Instead of using a fixed date of 1985 or prior thereto, it was requested that consideration be given to consolidation with the South San Luis Obispo Sanitation District at such time as the treatment plant of Pismo Beach no longer meets the requirements of the Regional Board. It was understood that the requirements may be revised and continually upgraded in the future. He read a statement that he had prepared for the City of Pismo Beach which substantiated its request for revision of the portion of Chapter 6 which pertains to the City.

R. Dennis Hogle, Director of Public Works for the City of Santa Barbara, reported that he and his staff had limited time to review the Summary Report and felt that the deadline given by E.P.A. for submission of such a Plan was too short. It was his opinion that nobody had sufficient time to evaluate the consequences of the Report. He expressed concern over prohibition of domestic discharges in tidal waters within 1000 feet of the coast, or 100 foot depth contour. He said at Santa Barbara, submergence of an outfall sewer at a depth of 100 feet would be one and one-half miles from shore and would cost some two million dollars in public monies to install. Yet, the stated objective of the Plan is prohibition of all discharges to the ocean. He reported that he discussed this matter with the City Attorney, who raised an objection of inadequate notice and felt that more time should have been allowed to review the Report. He said only one copy of the Report was received by the City, but many boards are deeply concerned with this matter. At the present time, detailed comments are being prepared.

Arnold Joens, Director of Public Works for the City of Salinas, concurred that insufficient time had been allowed to completely analyze this important document and he wondered if action should be taken on the local level to convey this objection to the State and Federal levels. He said it appears probable that the recommendations in the Report may be in conflict with the interests of the community. He said the City's consulting engineers did not have an opportunity to review the Report and expressed the desire to postpone the hearing for at least 30 days. He requested clarification of the first two general water quality objectives which appeared to be in conflict. He disagreed with the concept that discharge through the aquatic environment cannot be acceptable. The table showing the present and anticipated future uses of water in the Salinas River Sub-Basin does not include the Salinas River, which is a major watercourse, whereas several local creeks which are completely dry except for a month or two in the winter have been listed as having beneficial uses, such as swimming, boating and fishing. He felt it is not realistic to list these activities in Alisal, Santa Rita and Gabilan Creeks. He said it is nearly impossible to meet the requirement that dissolved oxygen be maintained above 5.0 mg/l, without incurring substantially higher treatment cost. In addition, if domestic waste discharges are prohibited in Monterey Bay and the Salinas River, as stated, the discharge of waste from the City of Salinas will be eliminated. He added that the City would be forced to spend all of its resources for reclaiming water with disregard for other community needs. In addition, it was estimated that it will cost approximately ten times as much to produce sewage effluent for irrigation purposes as that which can be obtained by farmers from other sources and this does not include the distribution costs. Therefore, the farmers have no interest in using this very expensive source of water. He felt that full public hearings should be held in each of the major population centers critically affected by this Plan, so that residents can be advised of the tax increases that may be incurred with approval of plans such as this. He strongly recommended that this matter be continued for further study.

D. M. Stuart, Acting Director of Public Works for the City of Morro Bay, expressed the City's objection prohibiting discharge in the tidal waters within 1000 feet of the coast, or 100 foot depth contour. He then reviewed the City's letter dated May 3, 1971, which substantiated its objection to this item. The City did not concur with the statement that its outfall could be eliminated. It was suggested that the wording be changed to allow a short outfall if utilized with a high degree of treatment so as to protect the marine environment. This would then allow the City to provide a highly treated water suitable for reclamation and during those times of year when all of the water could not be reclaimed, it would be discharged to the ocean through a short outfall. He said in order to comply, the City would have to construct an outfall approximately 8,000 feet in length. It was felt that the cost of extending the outfall as noted would be so high that it would make it prohibitive to continue with secondary treatment. He added that Howard Way, the City's Consulting Engineer, would offer additional comments for the City of Morro Bay concerning the Interim Report.

David Kennedy, Kennedy Engineers, Consulting Engineer for the Carmel Sanitary District, concurred with the five planning goals outlined and felt that they can be achieved. However, he felt that to achieve the stated goals, the Plan should be more flexible than in its present form and should be based on available facts and those that will become available. He felt that prohibition of a discharge will have an extremely expensive effect and possibly some of the associated environmental effects on the land will be expensive and possibly detrimental. He felt that not enough is known at this time to justify complete prohibition of discharges into the aquatic environment. In addition, such discharges should be given

consideration on the basis of water quality criteria and established beneficial uses. He noted that quite often, man-created discharges are insignificant when compared with natural discharges in the aquatic environment. He cited the area where Carmel River enters Carmel Bay and brings considerable amounts of nutrients, suspended and total dissolved solids, together with upwelling conditions. He said it is quite possible that the natural effects would completely overshadow the effects of the domestic discharge. He questioned prohibiting domestic discharges to the ocean and bays but not prohibiting industrial waste discharges. He felt that such restrictions are arbitrary and not based on fact or on studies that will become available, specifically within one or one and one-half years when AMBAG study is completed. He felt that Objective No. 1 contradicts subsequent objectives and does not provide the flexibility that must exist if a workable program is to result. He recommended that this objective be deleted since Objective Nos. 2 and 4 provide more rational and workable objectives regarding discharges to the aquatic environment. He noted that he had previously submitted comments to the Board by letter dated April 30, 1971, and additional technical comments will be submitted.

Frank W. Salfingere, Jr., Director of Public Works Department of the City of Santa Maria, read the letter from Mayor Hobbs dated May 3, 1971, which objected to the unrealistically short period of time that was available to prepare the Interim and fully developed Plans. The letter outlined its dissatisfaction with the Interim Water Quality Management Plan in its present form and with the procedures being followed to formulate the Interim and Final Plans and asked that before adoption of the Interim Plan, the technical staff distribute to the affected agencies copies of the full Interim Plan, or portions thereof necessary, in order to totally inform the affected agencies of the signficance of the Plan as it affects them, together with scheduling informational meetings to brief the affected agencies and to learn their reactions to the proposals. The cooperation of the City's technical staff, the Planning Commission and the City Council was offered.

Louis H. Larson, Marina County Water District, requested that his District be furnished a copy of the Summary Report and allowed adequate time to review and comment on it.

David F. Romero, Director of the Public Works Department of the City of San Luis Obispo, summarized the letter from the Mayor of the City of San Luis Obispo, dated May 5, 1971, which stated that it had inadequate time to conduct detailed studies and review required by a document which could have a major effect on the frowth and capital expenditures for many years. The City was in general agreement with the Plan's objectives, but expressed opposition to several of the objectives. It was felt that the objectives take the form of requirements more than general objectives and might be set without considering the multitude of sociological and economic factors faced by the residents in the community in attempting to meet these requirements. It was noted that prohibiting the City from considering an ocean discharge as an ultimate solution for disposal of effluent is a major factor which might involve millions of dollars and should not be made arbitrarily and without very thorough engineering studies of all the possible alternatives. It was felt that the only alternative for the City is retention of all effluent on City property, since ocean discharge or discharge into a receiving water (despite tertiary treatment) is precluded by this Interim Plan. He questioned why several plants within the Region which are discharging to natural streams are scheduled for secondary treatment, whereas others are scheduled for tertiary treatment, depending upon the opinion of the staff as to whether there is a potential for beneficial use of the effluent. He recommended that the requirements in all areas be consistent. It was felt that the preliminary schedule for plant modification to provide reclamation facilities is unrealistic, particularly in view of the fact that the present treatment plant is meeting all of the Board's discharge requirements. It was his opinion that requiring the City to retain all of its effluent on land would frustrate its plans for reclamation, He added that the City is anxious to cooperate with the Board in establishing reasonable standards for effluent discharge and offered the services of its staff and consultants in order to achieve this end.

Thomas M. Stetson, Consulting Engineer for the Santa Ynez River Water Conservation District, stated that he did not have an opportunity until the night preceding the meeting to review the Summary Report and asked for additional time in which to review it and to offer comments. However, he urged that the following statements which were included in the Board's Water Quality Control Plan for Santa Ynez Basin and Underlying Ground Waters be included in the Water Quality Management Plan, particularly if this Plan will supersede the earlier Plan:

"A budget request for a salt-balance study in the Lompoc Plain will be made for the 1971–72 Fiscal Year. It is anticipated that the study will be a joint federal-state project with U. S. Geological Survey participating as prime contractor on a matching fund basis.

"Since 1966 studies relating to Cachuma Reservoir have been conducted to investigate problems associated with thermal stratification in the Lake. A progress report published in 1967 by U.S.G.S. concluded that stratification of Lake Cachuma can be prevented. A final report on this study will be published in the near future. It is recommended that a joint federal-state and local effort be put forth following publication of the U.S.G.S. final report, to initiate and implement a program to eliminate stratification, or the problems it causes in Cachuma Reservoir. This program, including a review of economic feasibility, should be formulated within one year following release of the Geological Survey's final report.

"Specifically, this plan and the water quality objectives will be reviewed following completion of studies of the stratification in Lake Cachuma and the adverse salt-balance in the Lompoc Plain."

He reported that thermal stratification is a problem which has not been corrected by the Bureau of Reclamation at Lake Cachuma. In fact, he felt it is probably one of the most critical problems in the upper Santa Ynez area. Based on his cursory review of the Report, he questioned the statement which attributes the degradation of water quality to municipal, industrial and agricultural wastes. He felt that one of the major sources of quality impairment in the Santa Ynez River area is the export of a major source of the stream to the South Coast area. It was his opinion that it is incorrect to list boating on El Jaro and Salsipuedes Creeks. He questioned the meaning of "unrestricted recreation" and wondered if this includes swimming and boating. He concurred with others with reference to the U.S. Public Health Services's Manual of Septic Tank Practice, No. 526, 1967. It was his opinion that a very significant item was omitted from the Summary, i.e., the impact of imported water. This is particularly important in San Luis Obispo and Santa Barbara Counties, which have contracted to import State water and the serious consideration being given to a desalinization plant to supply practically distilled water, which must be mixed with local water. In answer to a question, he said that air injection tests have been discussed, but temperature stratification is a real problem in Cachuma Lake.

Dr. Welton L. Lee, Hopkins Marine Station, Stanford University, commended the Board for drafting such a forceful plan, with emphasis on long-range planning. He suggested that guidelines concerning harmful substances, such as pesticides, be flexible enough, so that they can be changed when additional information is received. In addition, such a comprehensive plan needs some kind of a monitoring system and he recommended that the Board consider the importance of this factor. He reported that he and Dr. Pearse submitted information to the Chairman of the State Water Resources Control Board concerning the effect of suspended solids on the marine environment and he recommended that the Board consider seriously the information contained in that document. He echoed Mr. Wong's concern over the efficacy of primary and advanced primary discharge to the ocean waters. He said he would like to see the Plan adopted as soon as possible. He concurred with those who objected to the short time available to review the Summary Report and recommended that in the future, documents such as this be presented in time to allow adequate review.

Dr. John Pearse, Hopkins Marine Station, Stanford University, stated that he was speaking in behalf of the Monterey County Environmental Information Committee. He commended the Board on preparation of the Summary Report and thought it was good from what he had seen of it. He was particularly pleased with the emphasis placed on reclamation and recycling as the ultimate goal. He concurred with Dr. Lee's statement concerning the need for environmental monitoring. He recommended that such a system provide a means for determining the changes occurring, both before and after treatment. He was also pleased that the goal for the Santa Cruz area is for complete reuse of water by 1985, but was puzzled that there were no steps included as to how this will be done. The Project List in Appendix A of the Report outlines consolidation of discharges into one plant for ocean disposal and construction of a 4–½ mile outfall at Santa Cruz which is just barely outside Monterey Bay, as delineated in the Report. He stated that there is very little information about currents in the area and no information that the discharge will not affect Monterey Bay. Areas such as this with large outfalls require very careful monitoring. He added that it is very difficult to monitor discharges with outfalls that are so long and in such deep water and suggested

that the Board consider a shorter outfall and spend the effort and money that would be required to construct the long outfall for upgrading the treatment of the City's effluent from primary to something more comparable to total reclamation. He said there is considerable information available, based on experience in Southern California, concerning the discharge of primary effluent to the ocean which indicates that long outfalls can be deleterious to the marine environment. He suggested that the Board give consideration to this factor when considering large outfalls such as contemplated for Santa Cruz. He said much of these comments also apply to Southern Monterey Bay and Pacific Grove. He added that this also applies to Carmel, although there is little in the Report concerning the Carmel Sanitary District, even though the Board is aware that there is considerable controversy concerning its treatment and disposal facilities. He expressed pleasure that there is to be no discharge to Carmel Bay in five years, although there is no indication in Appendix A as to how this can be achieved.

Robert V. Scott, Standard Oil Company of California, commended the staff on preparation of the Report in the short time allowed and reported that a letter will be forwarded to the Board with his Company's comments. However, he requested that the Board give consideration to rewording a paragraph concerning Future Wastewater Management Facilities, to the effect that discharge of any oil production wastewater which causes a demonstrated detriment to the environment should be prohibited. This would prohibit the ones that are known, as a result of tests, to have a detrimental effect on the marine environment. He noted that some, if not most, of the oil production waste waters in California, can be processed so that they can be discharged into open waters without a detrimental effect on the marine environment. He conceded that some waters cause a deleterious effect on the marine environment and should be prohibited.

Frank Heckel, Union Oil Company of California, stated that he would submit written testimony.

Alfred I. Switzer, Switzer, Jennings & Associates, questioned punctuation of Item 4. d. and it was agreed that the semi-colon should be removed and the prohibition of individual sewage disposal systems on parcels of land of less than 1.0 acre would apply to new subdivisions, not present subdivisions. He also wondered if consideration had been given to alternate proposals for discharge of effluent from the Baywood-Los Osos area south of the City of Morro Bay other than as proposed. The column entitled "Estimated Cost Eligible for Grant Participation" of Appendix A, Five-Year Project Construction List, was clarified. Mr. Switzer agreed to submit written comments to the Board.

Dorothea B. Rible said her question concerning Item No. 4. d. had been answered.

Howard M. Way, John Carollo Engineers, representing the City of Morro Bay, read a statement that his firm had prepared in opposition to Item No. 1.c. concerning a prohibition of domestic waste discharges to tidal waters within 1000 feet of the coast, or 100 foot depth contour. It was pointed out that the Morro Bay discharge has provided excellent protection of the receiving waters and adjacent beaches. He suggested that the Board modify the wording so that the restriction or prohibition be "a minimum length of 1000 feet from shore, and 100:1 dilution in the surface waters over the outfall," and that the actual length of outfall and depth at which the diffuser is placed be determined as a result of detailed oceanographic and engineering studies.

Dennis Chandler, Shell Beach Taxpayers' Committee, was advised that he would receive a written reply from the Board to the questions that he submitted.

Ray S. Dalen, U.S. Forest Service, stated that his Office is vitally interested in the Interim Plan, because approximately 20% of the area involved is National Forest Land in the Los Padres National Forest. He said he had not had an opportunity to review the Report, but had been promised a copy and would furnish written comments concerning it. He said as the responsible agency for managing forest service lands, his Office has many problems relating to water quality. After briefly reviewing the Abstract of the Report, he said he questioned the relationship of some of the material to recreation, but would furnish additional information concerning this when comments are submitted concerning the Report.

The Chairman offered apologies for the severe time constraints on the Report, but said it wouldn't do any good to debate the issue, as the environment grinds relentlessly on and we must meet the deadlines

whether we want to or not. He added that during the brief recess, the Board unanimously agreed that the comments received were excellent. The comments were pertinent, constructive and the questions asked were appropriate and he was certain that some modifications in the Summary Report will be made as a result of testimony received at the hearing.

The hearing adjourned at 4:02 p.m.

Chairman

SUMMARY OF CORRESPONDENCE RECEIVED CONCERNING

INTERIM WATER QUALITY CONTROL PLAN

1. **Isla Vista Sanitary District.**

   Requested inclusion of interceptor project in "Project List" for 1971–72 budget year.

2. **Santa Cruz County Departments of Public Health and Public Works.**

   Requested Aptos-Soquel sub-basin streams be identified in Santa Cruz County. Requested discharge prohibitions apply to these streams. Pointed out desirability of maintaining flexibility in plan so that current planning efforts of county, districts and cities and the Association of Monterey Bay Area Governments would have numerous alternatives available to consider. Objected to one acre minimum lot size for septic tank subdivisions and suggested other modifications in lot size and slopes for individual systems.

3. **Timothy M. Condon, T.R.O. Organization.**

   Objected to prohibitions relating to individual sewage disposal systems and suggested other factors to consider, parcel size, soil permeability, and slopes.

4. **City of Santa Barbara.**

   Objected to prohibitions of waste discharges in marine areas of less than 100 foot depth and 1000 feet from shore. Suggested that outfall design be based on oceanographic and biological investigations.

5. **Southern California Edison Company.**

   Commented on objectives in plan; noted redundancies and suggested other factors such as economic, engineering supply, etc. be considered of public interest. Suggested modification of statements; also recommended revision in water quality objectives to conform to existing State regulations and codes. Requested definition of terms such as "essentially none", "toxic substances."

6. **League of Women Voters of San Luis Obispo.**

   This organization supports efforts to maintain high water quality. Suggested efforts to reduce waste quantity, improved treatment, increased investment in better equipment for treatment and increased monitoring of waste discharges. The League supports holding of public hearings on water quality standards and alternative plans, reclamation of wastes, and consolidation of waste discharges.

7. **Hopkins Marine Station.**

   Endorsed the Water Quality Control Plan but suggested effective environmental monitoring be designed to detect possible deleterious effects of waste discharges and less emphasis on long, deep ocean outfalls. Believes that ocean outfall statements are not consistent with reclamation objective of the plan. Included copy of letter addressed to the State Water Resources Control Board stating possible effects of suspended materials on marine organisms.

8. **Marina County Water District.**

   The District favored reclamation and reuse of waste waters as a desirable goal. Requested extension of time to consider Water Quality Control Plan and suggested that prohibition of discharges into Monterey Bay include industrial and domestic discharges.

9. **Montecito Sanitary District.**

The District supports the basic goal of the plan but stated that requirements for ocean outfalls contradicted the goals and were an arbitrary limitation.

10. **City of Lompoc Director of Public Works.**

The department submitted corrected data for Lompoc waste discharges and asked for clarification of the method of identification of fish spawning areas in the Santa Ynez River. The city noted a need for a salt balance study in Lompoc Basin and to allow additional alternatives for waste disposal other than reclamation and/or recharge. Questioned the governmental structure for Lompoc area appearing in the plan draft.

11. **George C. Bestor and Associates, Inc.**

Objected to the plan's reference to individual sewage disposal systems. Suggested acceptance of U.S. Public Health Service Manual of Septic Tank Practices as a standard.

12. **U.S. Department of Agriculture – Forest Service.**

Recommended fecal coliform concentrations for fresh water recreation areas. Requested clarification of spawning areas in Cachuma Reservoir watershed and export of waste waters from Cachuma Lake watershed. Suggested additional reference to agricultural pollution, storm sewers and surface runoff. Suggested the plan clarify methods of amending and/or updating the proposed water quality standards.

13. **Santa Cruz County Board of Supervisors.**

Submitted a resolution indicating the intent of the Board of Supervisors to control the expansion of county sanitation districts to be consistent with waste treatment capacity available.

14. **Thomas M. Stetson, Consulting Engineer.**

Reviewed previous actions of the board relating to the Santa Ynez River Basin. Suggested inclusion in the plan of reference to the need for a salt balance study in the Lompoc Plain, destratification studies of Lake Cachuma, and the intent to review the plan when said studies are completed. Noted that the plan did not give consideration to imported water which is expected to reach 58,700 acre-feet per year by 1990, which may come from Northern California or from a desalinization plant proposed for San Luis Obispo County. Questioned the statements in the plan concerning cause of existing water degradation and stated that export of water from the watershed was the principal cause of quality problems. Recommended clarification of beneficial water uses in various streams and use of water for water contact sports. Suggested elimination of certain items relating to septic tanks.

15. **Emily M. Williams, Carmel.**

Requested that the board not take action relating to septic tanks since local officials have the authority and enforcement powers for control.

16. **Union Oil Company, Santa Maria Refinery.**

Suggested amendments to the plan relating to the Union Oil Company Refinery discharge. Reported research activities in the past years to monitor the discharge which indicate that no harmful effects result from the discharge.

17. **Standard Oil Company of California, Western Operations, Inc.**

Suggested clarification of water quality objectives relating to special, unique areas. Questioned justification for outfall prohibitions less than 1000 feet in length or 100 foot depth and suggested

that design should be based on detailed studies of waste involved and its effect on the marine environment. Requested clarification of certain terms such as "essentially none" and suggested the plan should include that wastes should not contain sufficient amounts of materials to cause demonstrable detrimental effects in receiving waters. Noted also that oil field wastes can be processed so the discharge to the ocean will not have a detrimental effect and, therefore, the plan should not prohibit such discharges.

18. Santa Clara County Department of Public Health.

Expressed concurrence with provisions in the Water Quality Control Plan relating to individual sewage disposal systems.

19. Kennedy Engineers.

Stated that implementation provisions of the plan will work against the accomplishment of the stated goals. Flexibility is necessary to achieve a workable program. Noted that objectives were not consistent with each other and questioned the inclusion of Prohibition of Discharges section of Interim Plan. Since wastes could be treated to any degree necessary, they could also be discharged without causing damage. Objected to prohibitions relating to outfall length and depth as arbitary. Questioned prohibition of domestic discharges in certain areas with the exclusion of industrial discharges from this prohibition.

Challenged the prohibition of discharges to Carmel Bay, since 20 years of discharge history has not shown damaging effects in the bay. Noted the requirements of Carmel to conduct a comprehensive biological, physical and chemical monitoring program in relation to the presently proposed outfall and to determine alternative measures to improve discharge conditions.

Suggested that Carmel River Basin be considered as an entire separate sub-basin. Objectives should be modified to allow consideration of economic and technical factors involved in consolidation of facilities. Suggested clarification of objectives as they relate to use of poor quality ground waters and and waste discharges which may not impair beneficial water uses. Stated that objectives do not allow consideration of economic, social, and technical factors involved. Suggested clarification of specific water quality objectives to indicate that they apply to conditions resulting from waste discharges. Noted other matters which need clarification, including bacteriological standards, dissolved oxygen for irrigation and industrial purposes, classification of irrigation waters, etc. Stated that discharge prohibitions were arbitrary and not made from actual or potential water quality problems. Noted the limited aquifer in the Carmel River Basin which limits the recharge and reuse potential for waste water. Suggested review of long range plans for the Carmel Sub-Basin in light of adopted master plan for the area.

20. Grefco, Inc.

Suggested clarification of reference to Grefco waste discharges. Maintains that wastes do not percolate and that the company will take appropriate steps to prevent significant percolation.

21. Boyle Engineering, Consulting Engineers.

Requested revisions and clarification in the references to Pismo Beach. Reviewed recent actions of the city to finance and plan for waste treatment facilities. Stated that the present plan will accommodate the city until approximately 1990 and conforms to short and long range regional plans for enhancement of water quality.

22. City of Morro Bay. (Including statement from consulting engineer to the City of Morro Bay.)

Stated that prohibition of waste discharges were not consistent with the objectives for waste water reclamation. Suggested changing the wording to allow short outfalls if a high degree of treatment is is utilized. Reviewed various factors which must be evaluated in designing an outfall. Suggested modification to provide for 100 to 1 dilution rather than specifying length and depth of outfall.

23. City of San Luis Obispo.

Agreed with the general goals but opposed to the objectives stated in the plan. The objectives appear to be requirements and may be adopted without considering sociological and economic factors of the residents. Noted that the city would have only one alternative for waste disposal which would be retention of all effluent on city property. City challenged the plan's schedule for plant modification to provide reclamation facilities as unrealistic. The city stated general opposition to the water quality control plan.

24. Department of Water Resources – San Joaquin District.

Concurred with the general concept of the basin-wide planning and agreed with the emphasis placed on waste water reclamation.

25. City of Carmel.

Submitted a resolution urging the eventual elimination of discharges of any polluted waters into Carmel Bay or Carmel River.

26. Union Oil Company – District Operations Manager.

Recommended modification of the plan as it relates to oil field brine discharges since injection of wastes may not be feasible. The waters are not always compatible with oil production operations, other wastes may be developed, legal factors may prevent action, and alternative means of disposal must be available to permit improved treatment and/or disposal means.

27. Department of Fish and Game – Region 5, Long Beach.

Recommended revisions relating to the Santa Maria Sub-Basin, noting degradation of the lower river surface waters from waste discharges. Also noted certain streams of naturally poor water quality which were not suitable for fish and aquatic resources.

28. Monterey County Board of Supervisors.

Endorsed the ecological and environmental goals but questioned some of the objectives.

29. City of Salinas Public Works Department.

Questioned certain water quality objectives and noted omission of the Salinas River in the list of major watercourses. Also noted certain discrepancies in beneficial uses in various streams. The plan will force the City of Salinas to spend all its resources on reclaiming waste waters. The use of waste water for irrigation is not considered feasible since a high degree of treatment is required for the types of crop grown in the area and the cost of water to farmers is only $15.00 per acre-foot. Requested that public hearings be held throughout the region before adoption of the plan.

30. State Department of Public Health – Bureau of Sanitary Engineering.

Suggested several minor corrections and recommended that not more than one of the U.S. Public Health Service drinking water standards be reached in any domestic water supply, since the synergistic effect of more than one toxic chemical is unknown.

31. City of Santa Maria.

The Interim Plan precludes consideration of sociological and economical factors and the time allowed for evaluation was too short. The planning has ignored local government. The city noted that the plan's objectives were unrealistically idealistic and that the comments regarding Santa Maria Sub-Basin are not consistent with the approved general plan for the area. The city questioned conclusions regarding waste water disposal and ground water conditions. The city records dissatisfaction with the plan and suggests conferences, hearings, and distribution of the full Interim Plan to effected agencies.

32. **Ventura County Department of Public Works.**

Requested that certain sections relating to individual sewage disposal systems not be applied to portions of the region located in Ventura County. Suggested alternative criteria for approval of absorption systems.

33. **State Department of Public Health – Santa Barbara.**

Noted certain corrections and omissions in the plan.

34. **Robert Stark.**

Questioned the feasibility of sewering the Baywood-Los Osos area and recommended enlargement of the area in San Luis Obispo County where septic tanks would be prohibited.

35. **Association of Monterey Bay Area Governments.**

The Association submitted a resolution requesting the Board to consider the plan as "interim" in fact, both technically and actually and to serve as a guide in water quality control planning in the Monterey Bay Region until a fully developed, comprehensive plan is completed. The Association supports long-term planning goals, suggests revision in the objectives and re-arranging in sequence. Questioned whether prohibition of discharges should not also apply to industrial discharges. AMBAG suggests that additional alternatives be available for consideration and suggests the possibility of discharging into certain areas of Monterey Bay as equivalent to ocean discharges.

36. **Santa Barbara County Department of Public Works.**

Noted corrections in the plan relating to Cachuma County Sanitation District to indicate that the discharge of effluent is not within the Lake Cachuma watershed.