# CHAPTER 1. INTRODUCTION

## I. FUNCTION OF THE WATER QUALITY CONTROL PLAN (BASIN PLAN)

The objective of this Water Quality Control Plan for the Central Coastal Basin, or Basin Plan, is to show how the quality of the surface and ground waters in the Central Coast Region should be managed to provide the highest water quality reasonably possible. Water uses and water benefits vary. Water quality is an important factor in determining use and benefit. For example, drinking water has to be of higher quality than the water used to irrigate pastures. Both are legitimate uses, but the quality requirements for irrigation are different from those for domestic use. The plan recognizes such variations.

This Basin Plan lists the various water uses (Beneficial Uses, Chapter Two). Second, it describes the water quality which must be maintained to allow those uses (Water Quality Objectives, Chapter Three). Federal terminology is somewhat different, in that beneficial uses and water quality objectives are combined and the combination is called Water Quality Standards. Chapter Four, the Implementation Plan, then describes the programs, projects, and other actions which are necessary to achieve the standards established in this plan. Chapter Five, Plans and Policies, summarizes State Water Resources Control Board (State Board) and Regional Water Quality Control Board (Regional Board) plans and policies to protect water quality. Chapter Six describes statewide surveillance and monitoring programs as well as regional surveillance and monitoring programs.

The Regional Board implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges can affect water quality. These requirements can be either State Waste Discharge Requirements for discharges to land, or federally delegated National Pollutant Discharge Elimination System (NPDES) permits for discharges to surface water. Methods of treatment are not specified. When such discharges are managed so that: 1) they meet these requirements; 2) water quality objectives are met; and, 3) beneficial uses are protected, water quality is controlled.

The Basin Plan is also implemented by encouraging water users to improve the quality of their water supplies, particularly where the wastewater they discharge is likely to be reused. Public works or other projects which can affect water quality are reviewed and their impacts identified. Proposals which implement or help achieve the goals of the Basin Plan are supported; the Regional Board makes water quality control recommendations for other projects.

## II. LEGAL BASIS AND AUTHORITY

California's Porter-Cologne Water Quality Control Act (1969), which became Division Seven ("Water Quality") of the State Water Code, establishes the responsibilities and authorities of the nine Regional Water Quality Control Boards (previously called Water Pollution Control Boards) and the State Water Resources Control Board (SWRCB). The Porter-Cologne Act names these Boards "... the principal State agencies with primary responsibility for the coordination and control of water quality" (Section 13001). Each Regional Board is directed to "...formulate and adopt water quality control plans for all areas within the region." A water quality control plan for the waters of an area is defined as having three components: beneficial uses which are to be protected, water quality objectives which protect those uses, and an implementation plan which accomplishes those objectives (Section 13050). Further, "such plans shall be periodically reviewed and may be revised" (13240). The federal Clean Water Act (Public Law 92-500, as amended) provides for the delegation of certain responsibilities in water quality control and water quality planning to the states. Where the Environmental Protection Agency (EPA) and the SWRCB have agreed to such delegation, the Regional Boards implement portions of the Clean Water Act,

such as the NPDES program and toxic substance control programs.

The Porter-Cologne and Clean Water Acts also describe how enforcement of waste discharge regulations is to be carried out. Enforcement tools available to the Regional Board range from simple letters to the discharger, through formal Regional Board order, and direct penalty assessments, to judicial abatement for civil and/or criminal penalties. Legally noticed public hearings are required for most actions, but some enforcement actions (e.g., Cleanup or Abatement Orders) have been delegated to staff to allow for a quicker response than regularly scheduled Regional Board meetings can provide.

# III. THE CENTRAL COASTAL REGION

One of nine Regional Water Quality Control Boards in California, the Central Coast Regional Board has jurisdiction over a 300-mile long by 40-mile wide section of the State's central coast. Its geographic area encompasses all of Santa Cruz, San Benito, Monterey, San Luis Obispo, and Santa Barbara Counties as well as the southern one-third of Santa Clara County, and small portions of San Mateo, Kern, and Ventura Counties. Included in the region are urban areas such as the Monterey Peninsula and the Santa Barbara coastal plain; prime agricultural lands as the Salinas, Santa Maria, and Lompoc Valleys; National Forest lands, extremely wet areas like the Santa Cruz mountains; and arid areas like the Carrizo Plain. Figure 1-1 shows the Central Coast Regional boundary. Some physical characteristics of the Region are listed below:

**CENTRAL COAST REGION[1]**

| CHARACTERISTICS | NUMBER | MEASURE |
|---|---|---|
| Area of Region | - | 11,274 square miles |
| Streams | Unknown | 2,360 miles |
| Lakes | 99 | 25,040 acres |
| Ground Water Basins | 53 | 3,559 square miles |
| Mainland Coast | - | 378 miles |
| Wetlands and Estuaries | 59 | 8,387 acres |
| Areas of Special Biological Significance | 9 | 235,825 acres |

1 Water Quality Assessment for Water Years 1986 and 1987, Water Quality Monitoring Report No. 88-1 Water Quality, Division of Water Quality, State Water Resources Control Board, July, 1988.

Topographic features are dominated by a rugged seacoast and three parallel ranges of the Southern Coast Mountains. Ridges and peaks of these mountains, the Diablo, Gabilan, and Santa Lucia Ranges, reach to 5,800 feet. Between these ranges are the broad valleys of the San Benito and Salinas Rivers. These Southern Coast Ranges abut the west to east trending Santa Ynez Mountains of the Transverse Ranges that parallel the southern exposed terraces of the Santa Barbara Coast.

This coastal area includes urbanized and agricultural areas along Monterey Bay, the rugged Big Sur Coast, Morro Bay with its famous rock, the sandy clam beds of Pismo Beach, and a varied coastline south to Point Conception and eastward along the terraces and recreational beaches which line the Santa Barbara Channel. The inland valleys and cities reflect an agricultural, oil, and tourism economy, as well as the early history of California expressed in the architectural styles of the famous Spanish missions which are found throughout this region.

The trend of the mountain ranges, relative to onshore air mass movement, imparts a marked climatic contrast between seacoast, exposed summits, and interior basins. Variations in terrain, climate, and vegetation account for a multitude of different landscapes. Seacliffs, sea stacks, white beaches, cypress groves, and redwood forests along the coastal strand contrast with the dry interior landscape of small sagebrush, short grass, and low chaparral.

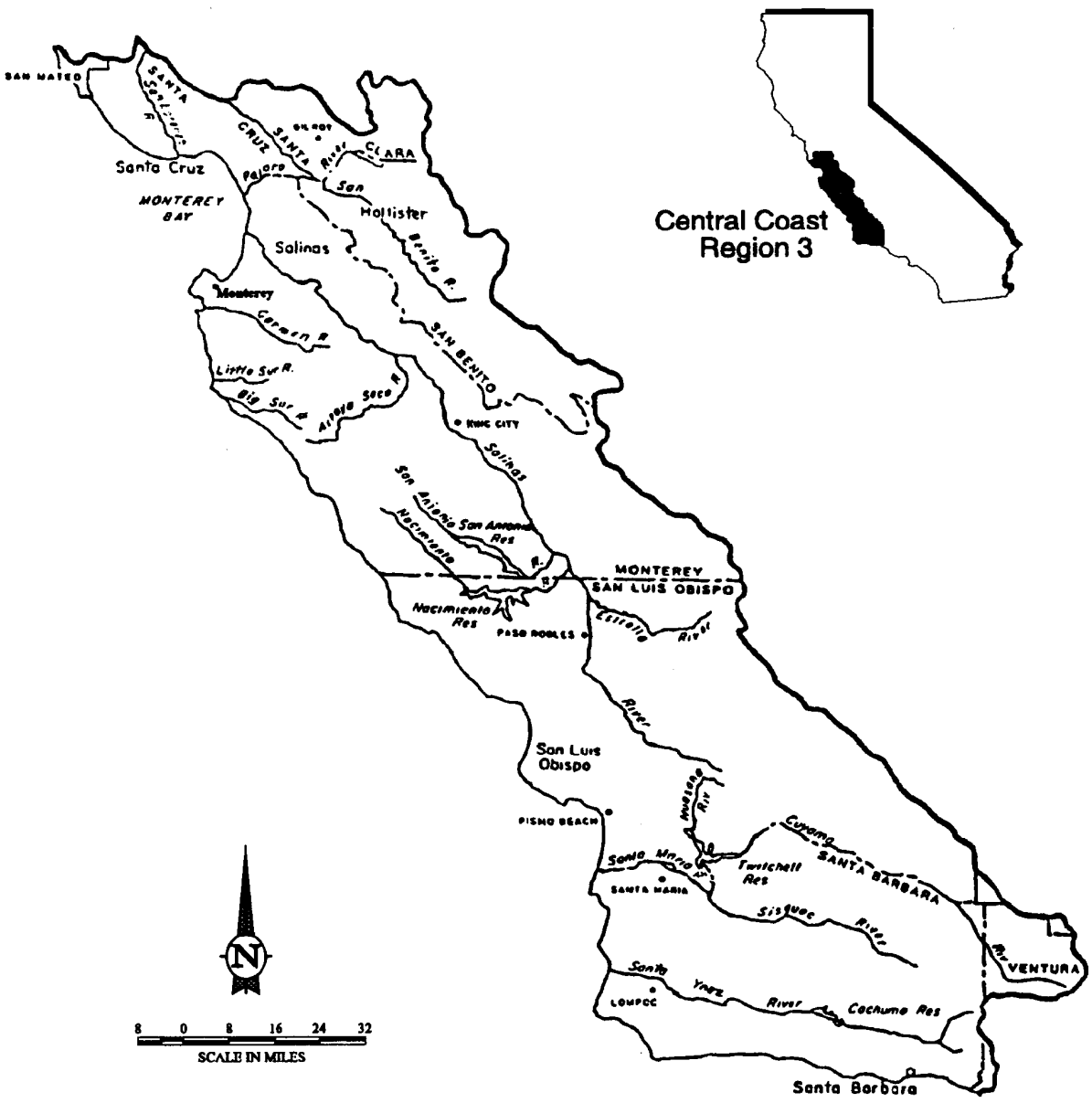


**FIGURE 1 - 1 CENTRAL COAST REGION 3**

In times past, the beaches and ocean waters offshore have been prolific producers of clams, crustaceans, and important sport and commercial fish. Past fishing practices and disruption of habitat have reduced fishery resources; protective controls are now in effect. Terrestrial wildlife includes a wide range of valley and upland species including the more common raccoon, quail, bear, and deer. Rare, endangered, or unique species include various shore birds, the Morro Bay Kangaroo rat, the European boar, and the California condor. The Sespe Condor Range serves as a sanctuary for this impressive bird.

Historically, the economic and cultural activities in the basin have been agrarian. Livestock grazing persists, but it has been combined with hay cultivation in the valleys. Irrigation, with pumped local ground water, is very significant in intermountain valleys throughout the basin. Mild winters result in long growing seasons and continuous cultivation of many vegetable crops in parts of this basin.

While agriculture and related food processing activities are major industries in the region, oil production, tourism, and manufacturing contribute heavily to its economy. The northern part of the region has experienced a significant influx of electronic manufacturing industry, and the southern part is being heavily influenced by expanded offshore oil exploration and production.

The Central Coast Region has three times the volume of average annual precipitation (12,090,000 acre-feet) as the Los Angeles Region, but one-seventh the population (1.2 million versus 8 million). The North Coast Region receives 52 million acre-feet of precipitation on the average with a population of 460,000. These three regions demonstrate the range of California's water and population distribution imbalance:

| Region | Annual Average Precipitation (Ac. Ft.) per Person |
|---|---|
| North Coast | 113.0 |
| Central Coast | 9.9 |
| Los Angeles | 0.56 |

Although this table shows the Central Coast is somewhat in the middle of the State's water-versus-population distribution, the region is considered arid for the most part. An exception is the Santa Cruz mountain area with its relatively high average precipitation.

Total population of the region is estimated to be 1.22 million people. San Luis Obispo County continues to grow more rapidly than other large counties in the region. The population of San Luis Obispo County has doubled since 1970:

**CENTRAL COAST REGION POPULATION**

| County | 1970 | 1988 |
|---|---|---|
| Santa Cruz | 124,000 | 225,400 |
| Santa Clara (South) | 29,000 | 65,800 |
| San Benito | 18,000 | 34,100 |
| Monterey | 249,000 | 346,100 |
| San Luis Obispo | 107,000 | 204,300 |
| Santa Barbara | 265,000 | 345,000 |
| Total[1] | 792,000 | 1,220,700 |

[1]Table does not include relatively small populations of portions of Ventura, Kern, and San Mateo Counties that are within the Central Coast Region.

Adequate quality water for many beneficial uses in the Central Coastal Basin is in short supply. Water rationing for domestic purposes is seriously considered and sometimes implemented during water shortages. The use of water by the human population and its activities is increasing in the basin. Water mining and seawater intrusion have resulted in some locations. Consequently, the competition for waters of adequate quality will become more intense in the future.

Water quality problems most frequently encountered in the Central Coastal Basin pertain to excessive salinity or hardness of local ground waters. Ground water basins containing 1000 mg/l Total Dissolved Solids (TDS) or higher are found near Hollister, the Lower Forebay of the Salinas Sub-basin, the Carrizo Plain, the Santa Maria and Cuyama Valleys, San Antonio Creek Valley, Lompoc and Santa Rita Basins of the Santa Ynez River Valley, and Goleta and Santa Barbara. The Carrizo Plain ground waters are most highly mineralized --- averaging over 5,000 mg/l TDS. Increasing nitrate concentrations is a growing problem in the Salinas River Basin, Los Osos Creek Basin, the Santa Maria Valley, and near Arroyo Grande. Surface water problems are less frequently evident, although bacteriological contamination of coastal waters has been a problem in Morro Bay and South Santa Barbara County. Eutrophication occurs in Pajaro River and Llagas Creek, Salinas River below Spreckels, and in the

lower reaches of San Luis Obispo Creek. Some streams in the basin are naturally highly mineralized and contribute to the excessive salinity of local ground waters; examples include Pancho Rico Creek in the Salinas River Sub-basin, and the Cuyama River in the Santa Maria Sub-basin. Both surface waters contain in excess of 1000 mg/l TDS.

# IV. THE REGIONAL BOARD

The Regional Board consists of nine members appointed by the Governor to serve staggered four-year terms. Members must reside or maintain a place of business within the Region and must be associated with or have special knowledge of specific activities related to the control of water quality. Members of the Regional Board conduct their business at regular meetings and public hearings at which public participation is encouraged.

All duties and responsibilities of the Regional Board are directed at providing reasonable protection and enhancement of the quality of all waters in the Region, both surface and underground. The programs by which these duties and responsibilities are carried out include:

- Preparing new or revised policies addressing region-wide water quality concerns;
- Adopting, monitoring compliance with, and enforcing waste discharge requirements and NPDES permits;
- Providing recommendations to the State Board on financial assistance programs, proposals for water diversion, budget development, and other statewide programs and policies;
- Coordinating with other public agencies which are concerned with water quality control; and
- Informing and involving the public on water quality issues.

# V. HISTORY OF BASIN PLANNING AND THE BASIN PLAN

Prior to 1970, the Regional Board did not have an active water quality planning function. Water quality problems in surface streams and ground water were responded to by setting controls on discharges. Those discharge controls generally consisted of limiting the allowable increases in TDS concentrations and certain other parameters. Normally, the only additional requirement specified by the Regional Board was that the discharge could not create a nuisance or pollution.

At the request of the federal Water Quality Administration, predecessor to the EPA (and suc cessor to the federal Water Pollution Control Administration), the so-called 1967 Standards were developed and published. These standards applied to coastal and estuarine waters .

By 1970, the Regional Board was actively involved in the formulation of plans to meet established water quality objectives. The federal Clean Water Act and the Porter-Cologne Act, requiring basinwide planning in order to qualify for state and federal funding, plus the National Pollution Discharge Elimination System (NPDES), which empowers the states to set discharge standards, placed new tools in the hands of the Regional Boards and encouraged the development of new approaches to water quality management.

The first single plan for this Region was the 1971 Interim Water Quality Control Plan. It represented significant progress in that the 1967 Standards were incorporated and standards were designated for fresh water streams as well.

Following adoption of the 1971 Interim Plan, the State Board developed and adopted the Ocean Plan and the Thermal Plan. The Regional Board expanded objectives for municipal and domestic water supplies. Chemical objectives for the San Lorenzo River Sub-basin were made more stringent. Incorporation of these State Board plans and Regional Board revisions produced the Revised Interim Water Quality Control Plan of 1973.

Work then began in earnest on a complete Water Quality Control Plan, the 1975 Basin Plan, which has been the foundation of the Regional Board's planning operations since its adoption in 1975. Basin Plans were being developed statewide at that time under the direction of the State Water Resources Control Board (SWRCB). In this region, the prime contractors for basin planning were Brown and Caldwell Consulting Engineers; Water Resources Engineers, Inc.; and Yoder, Trottner, Orlob and Associates. Water quality objectives were based largely on existing water quality.

After adoption of the 1975 Basin Plan, some thirty-eight amendments were made to the Basin Plan. Management of those amendments became cumbersome and led to the need for a Basin Plan reprint which included all current amendments. This document is intended to fulfill that need.

# VI. TRIENNIAL REVIEW AND BASIN PLAN AMENDMENT PROCEDURE

The federal Clean Water Act (Section 303(c)) requires states to hold public hearings for review of water quality standards at least once every three years. Water quality standards consist of beneficial use designations and water quality criteria (objectives) necessary to protect those uses. The Porter-Cologne Water Quality Control Act requires the entire Basin Plan to be reviewed periodically. While a major part of the review process consists of identifying potential problems, an important part of the review is the reaffirmation of those portions of the plan where no potential problems are identified.

At the conclusion of the triennial review public hearing, Regional Board staff prepares a priority list of potential problems to the Basin Plan that <u>may</u> result in amendments. Placing a potential problem on the priority list will only require the Regional Board staff to investigate the need for an amendment. It does not necessarily mean a revision of the water quality control plan will be made.

Other items completed after the public hearing include:

- Detailed workplans of each issue;
- Regional Board identification of issues that can be completed within existing resource allocations over a three-year period; and
- List of issues requiring additional resources to complete.

Once the triennial review process is complete, Regional Board staff begin investigating the issues in order of rank. After each investigation, staff determines the need for a Basin Plan amendment.

Basin Plan amendments can also occur for issues not identified during the triennial review. Amendments can occur for urgent issues to reflect new legislation.

Basin Plan amendment hearings are advertised in the public notice section of a newspaper circulated in areas affected by the amendment. Persons interested in a particular issue can also notify the Regional Board staff of their interest in being notified of hearings on that topic.

Basin Plan amendments do not become effective until approved by the State Board. Surface water standards also require the approval of the Environmental Protection Agency to become effective.

# VI.A. CONTINUING PLANNING

The Basin Plan is a flexible tool which must be reviewed and revised regularly for it to adapt to changing conditions. "Continuing planning" allows this to occur. The following section prioritizes Regional Board tasks and resources. This ranked list is referred to as the "Triennial Review List" and is shown in Table 1-1.

Items listed were ranked in order of priority by the Regional Board on May 6, 1988 and July 8, 1988. Each item is followed by an estimate of staff time needed to complete the item (actual time and duration). For those items requiring contract funding, estimated contract needs are identified following the description of each

item. Resolution of these items may result in future Basin Plan amendments.

**Table 1-1. 1988 Triennial Review Priority List**

| | Task | Estimated Time Staff Resources (Staff Years and Duration) |
|---|---|---|
| 1. | Adopt water quality limited segments* | 0.02 SY |
| 2. | Reprint Basin Plan* | 0.2 SY<br>1 year |
| 3. | Incorporate Proposition 65 criteria as developed by State Board | 0.2 SY<br>6 months |
| 4. | Determine water quality monitoring needs* | 0.4 SY |
| 5. | Establish nutrient objectives for Pajaro River and Llagas Creek<br>Contract $ = 40,000 | 0.3 SY<br>20 months |
| 6. | Establish nutrient objectives for San Luis Obispo Creek<br>Contract $ = 10,000 | 0.3 SY<br>20 months |
| 7. | Establish additional toxic pollutant objectives as developed by the State Water Resources Control Board | 0.1 SY<br>5 years |
| 8. | Reevaluate Santa Maria Basin ground water quality objectives (including Nipomo Mesa and Valley)<br>Contract $ = 20,000 | 0.3 SY<br>2 years |
| 9. | Reevaluate discharge prohibition to Santa Maria River below Highway One Bridge<br>Contract $ = 20,000 | 0.2 SY<br>2 years |
| 10. | Revaluate Lompoc Plain Boron objective* | 0.03 SY |
| 11. | Incorporate State Board Ground Water Strategy and Develop Regional Ground Water Strategy | 0.3 SY<br>3 years |
| 12. | Reevaluate San Lorenzo River nitrate objective<br>Contract $ = $30,000 | 0.4 SY<br>2 years |
| 13. | Review on-site sewage disposal prohibition in San Lorenzo Valley Class I & II areas | 0.2 SY |
| 14. | Review beneficial uses for: Santa Barbara Harbor (shellfish), Goleta Slough (migration and spawning), San Luis Obispo Creek (municipal water supply), Lower Salinas River (all) | 0.7 SY |
| 15. | Develop Upper Salinas Valley ground water salt management plan<br>Contract $ = 30,000 | 0.4 SY<br>1 year |
| 16. | Adopt amendments for water bodies affected by toxics as required by Clean Water Act | 0.2 SY |
| 17. | Develop toxic control strategy | 0.3 SY |
| 18. | | |
| a. | Develop beneficial uses for additional needed water bodies | 0.2 SY |
| b. | Add "Preservation of Areas of Special Biological Significant" (BIOL) beneficial use to needed water bodies | 0.05 SY |
| 19. | Determine need for septic tank prohibition in Prunedale, San Lucas, Los Olivos, Ballard and other needed areas | 1.0 SY |
| 20. | Establish septic tank sludge policy | 0.2 SY |
| 21. | Establish residual repositories policy | 0.3 SY |
| 22. | Establish Gilroy, Morgan Hill, San Martin ground water management plan | 0.4 SY<br>8 months |
| 23. | Establish nonpoint source runoff policy for sensitive watersheds (i.e. Elkhorn Slough) | 0.5 SY<br>1 year |
| 24. | Establish agriculture/ pesticide runoff policy | 0.2 SY |
| 25. | Establish greenhouse operations policy | 0.1 SY |
| 26. | Evaluate erosion/sedimentation problems in Santa Cruz County | 0.4 SY |
| 27. | Reevaluate vessel discharge policy | 0.2 SY |
| 28. | Reevaluate Santa Ynez ground water basin objective | 0.3 SY<br>6 months |
| 29. | Provide guidance for effluent limits in areas with high background concentrations (e.g. ground water nitrate exceeds objectives) | |
| 30. | Establish suitable criteria for Waste Discharge Requirements (e.g. standardize rainfall event used to evaluate capacity) | 0.2 SY |
| 31. | Provide guidance for regulation of point source discharges in the vicinity of significant nonpoint source discharges | 0.2 SY |
| 32. | Review unionized ammonia objective for receiving waters | 0.2 SY |
| 33. | Reevaluate nonpoint source controls for urban and rural runoff | 0.4 SY |
| 34. | Establish storm water discharge policy | 0.3 SY<br>0.5 SY |

**Table 1-1. 1988 Triennial Review Priority List**

| | Task | Estimated Time Staff Resources (Staff Years and Duration) |
|---|---|---|
| 35. | Review cumulative impact of Monterey Bay discharges. Determine need for policy | 0.4 SY |
| 36. | Establish policy for discharge of high temperature waters to ground water | 0.2 SY |
| 37. | Incorporate revised ground water basin boundary maps* | 0.2 SY |
| 38. | Review cumulative impact of future on-site disposal on Nipomo Mesa/Valley. Reevaluation of the Nipomo prohibition boundaries | 0.4 SY |
| 39. | Establish oil drilling mud policy | 0.2 SY |
| 40. | Establish Morro Basin ground water objectives | 0.5 SY |
| 41. | Establish ground water objectives for San Benito Basin<br>Contract $ = 40,000 | 0.5 SY<br>2 years |
| 42. | Establish ground water objectives for Price Canyon-Edna Valley Watershed<br>Contract $ = $20,000 | 0.3 SY<br>18 months |
| 43. | Establish offshore oil policy | 0.1 SY |
| 44. | Establish reclamation/conservation policy | 0.05 SY |
| 45. | Evaluate need for sewering Hidden Glen area of Scotts Valley | 0.2 SY |
| 46. | Review water contact recreation for San Miguel, Santa Rosa, and Santa Cruz Island | 0.05 SY |
| 47. | Update landfill policy to incorporate new State standards* | 0.05 SY |
| 48. | Update dairy waste policy to incorporate new State standards* | 0.05 SY |
| 49. | Delete Mission Canyon and Los Alamos prohibition areas* | 0.05 SY |

* These tasks accomplished by adoption of this Basin Plan