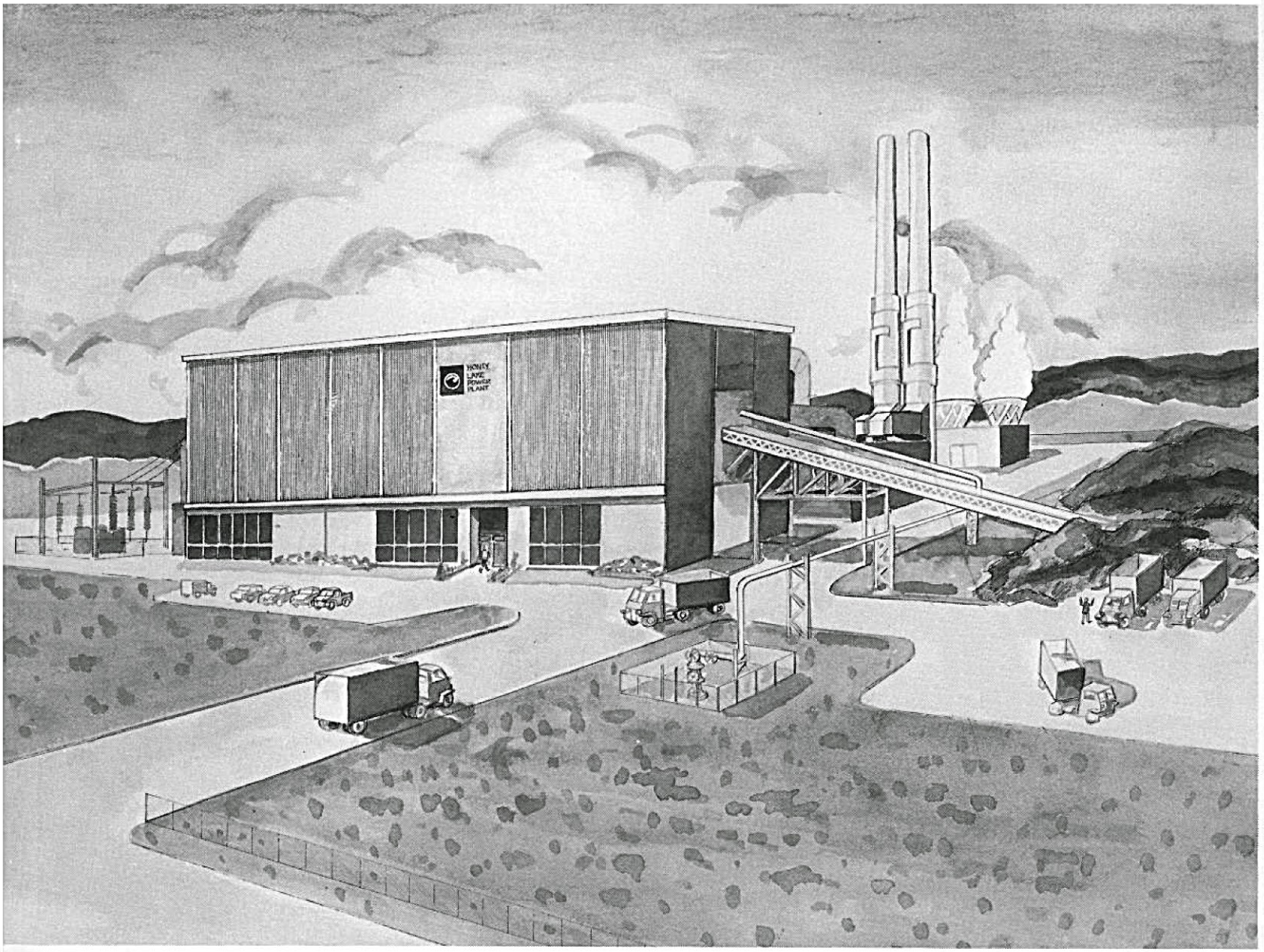


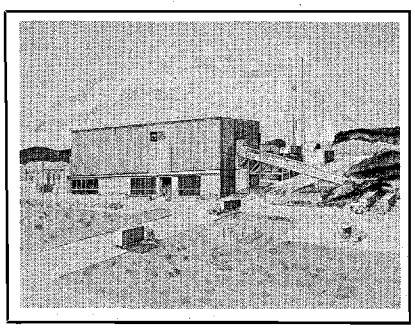
State of California
The Resources Agency

Department of
Water Resources

save water
DWR

The California State Water Project– Current Activities and Future Management Plans.

Bulletin 132-81
November 1981



ON THE COVER is an architect's rendering of the Department's innovative wood waste-geothermal Honey Lake Project. This first-of-its kind project will be located east of Susanville, California, in Lassen County. When completed, the facility will provide 55 megawatts of energy for the State Water Project. The plant will use geothermal energy to dry wood waste and preheat the boiler. The dried waste will then fuel the boiler, producing steam for a steam turbine and generator. This concept has a sizeable potential throughout the western United States. The proposed project is an integral part of the Department's efforts to maximize the use of renewable resources for operating the pumps of the State Water Project.

Cover rendering by William L. Wilson, Art Director Department of Water Resources

Department of
Water Resources
Bulletin 132-81

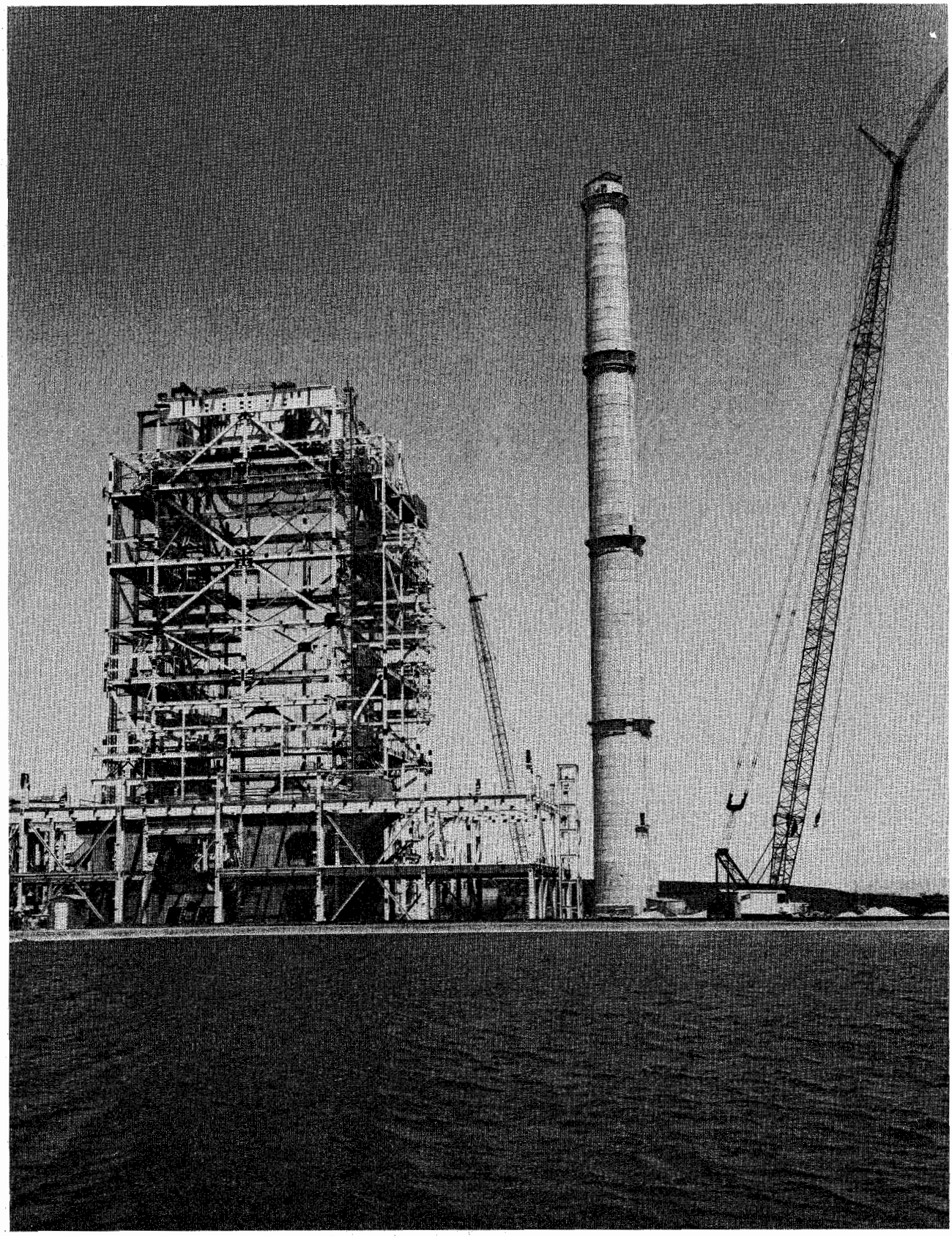
The California State Water Project– Current Activities and Future Management Plans.

November 1981

Huey D. Johnson
Secretary for Resources
The Resources Agency

Edmund G. Brown Jr.
Governor
State of California

Ronald B. Robie
Director
Department of Water Resources



Construction of Reid Gardner Powerplant-Unit No. 4. The Department of Water Resources is a joint owner of the 250-MW coal-fired powerplant with the Nevada Power Company. Initial operation of the plant is scheduled for early 1983.

FOREWORD

The most important State Water Project (Project) court decision in nearly 20 years was handed down by the Sacramento Superior Court in Tulare Lake Basin Water Storage District v. State of California. The action was brought by Tulare and other Project contractors. The decision, which was in favor of the Department of Water Resources (Department) on all counts, held that the Department did not breach its water supply contracts in 1976-77, when it released stored water for salinity control in the Delta in compliance with the State Water Resources Control Board (SWRCB) Basin Plans. In further finding that the Department acted under its broad powers in its management of the Project, the court has completely vindicated our past operational actions in compliance with SWRCB orders. The court further found that (1) the Delta Protection Act requires the Department to provide an adequate water supply for the Delta that is not conditioned on advance payment by Delta users, although Delta water users do have an obligation to pay for service from the Project; (2) the Porter-Cologne Act requires the Department to comply with water quality control (basin) plans; and (3) the Burns-Porter Act did not create an exception for the Project. The decision will make future Project operations considerably easier and should set to rest forever attempts by some water contractors to deny Project obligations to protect the Delta.

Since publication of Bulletin 132-80, two significant actions have occurred regarding Senate Bill 200 (SB 200), the State's plan for meeting the water needs of the State Water Project through year 2000. The first was voter approval of Assembly Constitutional Amendment 90 (ACA 90), appearing as Proposition 8 on the November 4, 1980 ballot. Proposition 8 places the environmental guarantees contained in SB 200 into the Constitution and provides greater protection for Delta water quality standards and the North Coast wild rivers. The second action was the Governor's decision not to call a special election to vote on the referendum to repeal SB 200, which had qualified for the ballot. The Governor made the decision after consultation with legislators as well as opponents and proponents of the Peripheral Canal in both Northern and Southern California. The vote will take place in June 1982 in conjunction with a regular election, thus saving the cost of a special election and allowing more time for public debate.

In addition, during the past year, the Department has taken a number of other important actions. The Department has:

- Released a draft Two-Agency Fish Agreement. This is an agreement between the Department of Fish and Game and the Department of Water Resources to manage the fish and wildlife resources of the Sacramento and San Joaquin Delta Estuary.

- Sold $150 million of Bond Anticipation Notes to finance Reid Gardner Powerplant construction.

- Selected the Southern California Edison Company's proposal following competitive bids for the sale of 225 MW of Project power capability.

- Dedicated a pumping plant to honor the first Director of Water Resources, Harvey O. Banks, (1956 through 1960). The California Water Commission also named the power plant under construction at Pyramid Lake after the second Director, William E. Warne (1961 through 1966).

- Dedicated our first wind energy resources, a 50-kW turbine located near Romero Overlook at San Luis Reservoir.

- Executed an agreement with PGandE and Windfarms Ltd. to purchase energy from a planned 350 MW wind facility, the world's largest, to be built in Solano County.

- Dedicated the expanded fish facility at Clifton Court Forebay to memorialize John Skinner, a long-time Department of Fish and Game employee who helped develop solutions to Project fishery problems in the Sacramento-San Joaquin Delta.

- Reorganized the Division of Operations and Maintenance to enhance its capability to operate the Project as California's fifth largest electric utility, beginning in 1983.

- Initiated a program for removal of 750,000 cubic yards of asbestos-laden sediment from the California Aqueduct.

- Began removing all remaining equipment containing PCB from the Project.

- Continued the Integrated Pest Management Program - the most cost effective and least environmentally hazardous method of protecting Project facilities from undesirable animals and vegetation.

- Made significant progress in negotiating the CVP-SWP Coordinated Operating Agreement.

- Initiated action to implement the Governor's Executive Order B-68-80 to establish a project-wide cooperative program of water conservation and waste-water reclamation.

- Broke ground for Bottle Rock Powerplant in Lake County, our first geothermal power plant.

- Executed a contract amendment with Santa Barbara County Flood Control and Water Conservation District reducing its maximum annual entitlement by 15 100 cubic dekametres (12,214 acre-feet) and its repayment obligation commensurately.

- Executed Project service contracts with two Delta water agencies covering 44 percent of the Delta area.

- Consolidated two water contracts, thereby reducing the number of long-term Project water service contractors to 30.

Existing and future facilities of the Project are shown on twin maps on the following pages titled "State Water Project Water Facilities" and "State Water Project Power Facilities". These maps illustrate the planned expansion of the Project over the next two decades, and show the progress made in the last few years in assuring a power supply for the Project and in planning for its future water supplies. This Department planning has helped strengthen the Project and enhanced its financial integrity.

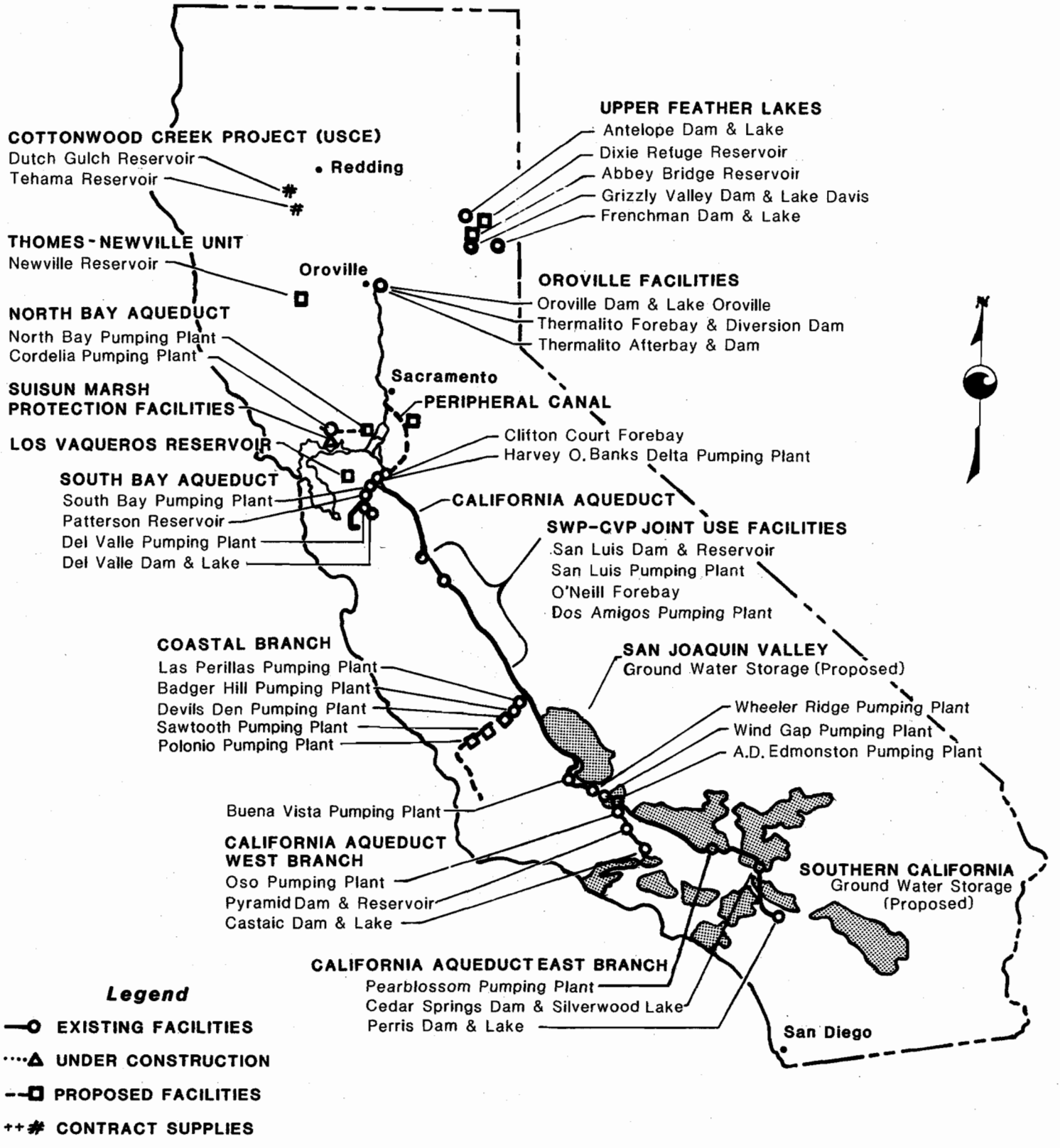
In late October 1981, the Department renamed Cottonwood Powerplant as Alamo Powerplant. The new name uses the Spanish word for cottonwood, which is alamo.

This is the nineteenth bulletin of the 132 series, published annually by the Department to document information, operational data, and management plans of the State Water Project. In general, this publication provides information and operational data for calendar year 1980 with some lead into 1981 operation. The future management plan section concentrates on actions between July 1, 1980 and June 30, 1981, but, for continuity, includes a summary of the major actions reported in previous bulletins and pertinent discussions of future actions or conditions that are expected to influence current activities.

Ronald B. Robie, Director
Department of Water Resources
The Resources Agency
State of California

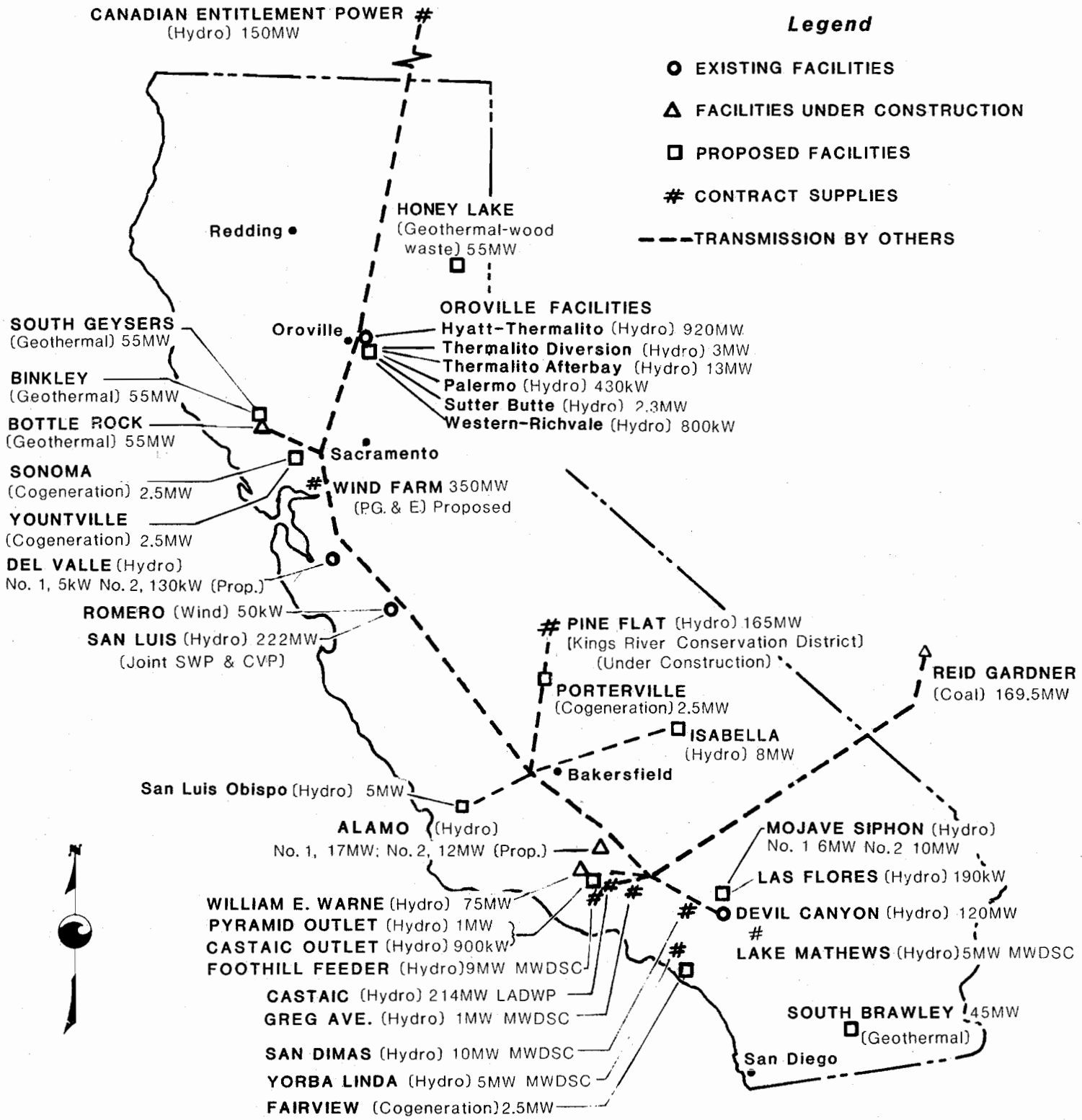
CALIFORNIA STATE WATER PROJECT

WATER FACILITIES



CALIFORNIA STATE WATER PROJECT

POWER FACILITIES



Note:

Power exchange and transmission service supplied by Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric Companies and the Los Angeles Department of Water and Power.

TABLE OF CONTENTS

	Page
FOREWORD	iii
DEPARTMENT OF WATER RESOURCES CREDITS	xii
CALIFORNIA WATER COMMISSION	xiv
ORGANIZATION OF DEPARTMENT OF WATER RESOURCES	xv
CHAPTER I-STATE WATER PROJECT MANAGEMENT PLANS THROUGH YEAR 2000	1
Introduction	1
Senate Bill 200 and Related Activities	4
Delta Protection	4
Delta Facilities	5
Conservation, Reclamation and Water Storage-Surface and Underground	5
Water Transport Facilities	5
Referendum on SB 200	9
Implementation Program For SB 200	9
Assembly Constitutional Amendment 90	11
Future Costs of Water Service	12
Governor's Executive Order B-68-80	14
Water Conservation	15
Water Reclamation	15
Ground Water	15
Water Exchanges and Purchases	15
Planning and Implementation Programs	15
Long-Range Energy Program	15
Ground Water Storage Programs	31
Waste Water Reclamation and Desalination	32
Local Water Supply Programs	34
Colorado River Projects	35
Interagency Activities	36
Reauthorization of the CVP-SWP Coordinated Operating Agreement	36
Future San Felipe Water Deliveries	37
Cottonwood Creek Agreement	38
Los Vaqueros Agreement	39
Two-Agency Fish Agreement	39
Expanded Fish Facilities Testing Program	39
Interagency Drainage Program: San Joaquin Drainage Facilities	40
California Aqueduct Extensions	42
Extension of the East Branch	42
Future Construction of the Coastal Branch	42
Future Construction of the North Bay Aqueduct	43
Transfer of Water Entitlements	44
Significant Events: July 1980 Through June 1981	45
Resources Investment Program (Resources Agency)	45
Dedications	46
John E. Skinner Fish Protective Facility	46
Romero Wind Energy Facility	47
Harvey O. Banks Delta Pumping Plant	48
William E. Warne Powerplant	49
Bottle Rock Powerplant Groundbreaking	50
Administrative Actions	52
Utility Management Reorganization	52
Employee Relations	54
Civil Maintenance Apprenticeship Program	55

TABLE OF CONTENTS

	Page
CHAPTER II-PROJECT CONSTRUCTION, MANAGEMENT, OPERATIONS AND LITIGATION, JULY 1, 1980-JUNE 30, 1981	56
A. PROJECT CONSTRUCTION	56
Design Activity	56
Land Acquisition	58
Construction Progress	62
Safety of Department-Owned Dams	64
Antelope Dam	64
Frenchman Dam	65
Grizzly Valley Dam	65
B. PROJECT MANAGEMENT	65
Water Rights Management	65
Delta Water Quality Monitoring and Reporting	65
Water Entitlement Negotiations	66
Pyramid and Castaic Lakes Water Rights Applications	74
Water Contracts Management	74
Water Deliveries in 1980	81
Wheeling of Federal Water	91
Future Project Water Delivery Plans	92
Contract Amendments	94
Contract Issues	96
Negotiation of Water Charge Settlements	97
Protests of Water Contractor Charges	97
Project Purpose Cost Allocation-California Aqueduct	99
Power Contracts Management	100
Emergency Service to Pacific Gas and Electric Company and Southern California Edison Company	100
Use of DWR Pacific Northwest Intertie Capacity	100
Adjustment of Suppliers' Firm Capacity Order for 1983	100
Los Angeles Department of Water and Power (LADWP) Litigation	101
Sale or Exchange of Additional Capacity from Hyatt and Thermalito Powerplants	101
Summary of Major Power Contracts	101
C. PROJECT OPERATIONS	103
Water Operations in 1980	103
Water Conditions	103
Water Deliveries	103
Other Activities	109
Power Operations	117
SWP Recovery Plants	117
Castaic Pumping-Generating Plant	117
Canadian Entitlement Power	117
California Suppliers' Energy	117
Transmission Service	117
Recreation and Fish and Wildlife Activities	120
California Aqueduct Bikeway	121
Fishing Access Site Program	121
DWR Field Divisions	122
Southern California Wildlife Preservation	124
D. LITIGATION	126
Control Over SWP Operation	126
Proposition 13-Project Financial Feasibility	128
Corps Permits for Delta Pumps	128
Sacramento-San Joaquin Delta Water Cases	129
Seepage Suits, Sacramento and Feather Rivers	130
Kern River Intertie	131

TABLE OF CONTENTS

	Page
Construction Claim	131
Wild and Scenic River Cases	132
Federal-State Water Rights Relationships	133
Electrical Power Cases	134
CHAPTER III-FUTURE CONSTRUCTION COSTS, OPERATING COSTS AND PROJECT FINANCING	136
Project Construction Expenditures	145
Other Capital Requirements	151
Financing of Capital Expenditures	152
Miscellaneous Receipts	157
Project Operating Revenues	159
Application of Revenues and Miscellaneous Receipts	165
Power Costs	173
INDEX TO TABULAR MATERIAL IN BULLETIN	307
PROJECT STATISTICS (METRIC UNITS)	308
PROJECT STATISTICS (ENGLISH UNITS)	310
CONVERSION FACTORS	inside back cover

TABLES

		Page
1	Annual Project Energy Loads and Resources.	16
2	Annual Water Requirements.	78
3	Summary of 1980 Entitlement and Surplus Water Service to Long-term Contractors	80
4	Water Deliveries in 1980	84
5	Water Quality Measurements at Selected Stations in 1980.	115
6	Monthly Power Operations in 1980	118
7	Project Financial Analysis, December 31, 1980.	140
8	Project Capital Expenditures	144
9	Actual Bond Sales and Project Interest Rates	163
9A	Projected Bond Sales and Project Interest Rates.	164
10	Project Operating Costs.	168
11	Annual Service on Bonds Sold as of December 31, 1980	171
12	Annual Service on Assumed Future Bond Sales.	172

FIGURES

1	Staging of Delta Facilities and Additional Conservation Facilities . . .	3
2	Delta Facilities	6
3	Estimated Electrical Energy Loads and Resources.	18
4	State Water Project Construction Divisions	58
5	Long-term Water Supply Contracting Agencies.	76
6	Water Supply Contract Amendments as of April 1, 1981	95
7	Summary of Project Water Operations, 1980.	104
8	Aqueduct Recreation Developments	121
9	Financing of Construction Expenditures	138
10	Application of Project Operating Revenues.	139
11	Generalized Construction Schedule.	146
12	Local Projects Under the Davis-Grunsky Act Program	154

EXHIBITS

1	Implementation of SB 200 Comparison of New Delta Facilities Schedule With Bulletin 132 Assumptions.	9
2	Estimated Total Unit Water Rates in SWP Service Areas Through Year 2000.	13
3	State Water Project Electric Resource Mix.	19
4	Small Hydro Projects at SWP Sites.	24

EXHIBITS

		Page
5	SWP Desalting Facility, Conceptual Process Flowchart.	33
6	Conceptual SWP Desalting Facility	34
7	Status of Local Water Supply Projects	35
8	North Bay Aqueduct-Phase II Alternative Alignments.	43
9	Division of Operations and Maintenance Organization Chart	53
10	SWP Design Activities in Progress	57
11	Water Facilities.	59
12	Power Facilities.	60
13	Acquisition of Land Parcels	61
14	SWP Construction Activities in Progress	63
15	Suisun Marsh Physical Facilities.	68
16	Entitlement and Surplus Water Deliveries For Kern County Water Agency and Member Units	82
17	Water Contractors Total Requests for Entitlement Water 1975 Thru 1980.	92
18	Summary of Programs Protested by State Water Contractors	99
19	Summary of Major Electric Power Contracts for the California State Water Project.	102
20	Accumulative Natural Runoff to Selected Reservoirs.	106
21	Monthly Reservoir Storage During 1980 for Lake Oroville and San Luis Reservoir.	107
22	Statewide Precipitation 1979-80 Water Year.	108
23	Comparison of Actual Storage with Plan of Operations.	109
24	Kern River Intertie 1980 Diversions	110
25	State Water Project Benefits Through 1980	116
26	Recreation Use at State Water Project Facilities in 1979 and 1980.	120
27	Fish Planted by Department of Fish and Game State Water Project Facilities During 1980.	123
28	Wildlife Mitigation Land at San Jacinto Borrow Site	125
29	Estimated Energy Requirements and Costs	175

APPENDICES

A	1980 Annual Financial Report.	(bound separately)
B	Data and Computations Used In Determining Water Charges for 1981.	179
C	. . . . .	(discontinued)
D	Costs of Recreation and Fish and Wildlife Enhancement . . .	(bound separately)
E	Water Operations in the Sacramento-San Joaquin Delta. . . .	(bound separately)

Copies of this bulletin at $5.00 each may be ordered from:

State of California
DEPARTMENT OF WATER RESOURCES
P.O. Box 388
Sacramento, California 95802

Make checks payable to STATE OF CALIFORNIA.
California residents add sales tax.

State of California
EDMUND G. BROWN JR., GOVERNOR

The Resources Agency
HUEY D. JOHNSON, Secretary for Resources

Department of Water Resources
RONALD B. ROBIE, Director

CHARLES R. SHOEMAKER
Deputy Director

M. CATHERINE BERGREN
Assistant Director

ROBERT W. JAMES
Deputy Director

MARY ANNE MARK
Deputy Director

GERALD H. MERAL
Deputy Director

DIVISION OF OPERATIONS AND MAINTENANCE

Howard H. Eastin. . . . . .Division Chief
Lawrence A. Mullnix. . . . . Acting Chief of Operations

This bulletin was prepared by the

STATE WATER PROJECT ANALYSIS OFFICE

Lawrence E. Swenson. . . . . Office Chief

by

George W. Deatherage
Donald R. Long
Van Lemons
Dennis Letl
Dave Hitzeman
Earl G. Bingham

Assisted by

Jesse J. Cason
Margaret A. Hutchinson
David L. Cleavinger
Susan M. Shafer
Chuck B. Wong
Howard Lockard
Michael Wofford
Medhi Davalou
Ken Hedstrom
Nancy Tagupa
Shahram Zarafshar
Ted Olds
Robert Kadell
Virginia Merson
Dave Knock
Charles E. Robbins
Roxanne Cargill-Greer
Jay D. Heiman
Donald A. Williams
Erwin Endres
Esther M. Dennis
Kermit Bjorklund
Robert Garcia
William B. Mierke
James M. Randall

Operations and Maintenance Activities
and cost data were provided
As coordinated with the following Field Division Chiefs

Forrest D. Neff . . . . . Oroville Field Division
Charles F. Tarbox . . . . . .Delta Field Division
Merle S. Bashor . . . . . .San Joaquin Field Division
H. Duane Knittel. . . . . San Luis Field Division
Herman R. Musgrove. . . . . Southern Field Division

DIVISION OF DESIGN AND CONSTRUCTION

Design and Construction activities and cost data were provided under the direction of

Gordon W. Dukleth. . . . . .Division Chief

DIVISION OF LAND AND RIGHT OF WAY

Land and relocation activities and cost data were provided under the direction of

Thomas H. T. Morrow. . . . . .Division Chief

OFFICE OF THE CHIEF COUNSEL

Summary of Litigation was provided under the direction of

Porter A. Towner. . . . . .Chief Counsel

DISTRICT OFFICES

Planning and investigation activities and cost data were provided under the direction of

Albert J. Dolcini. . . . . .Chief, Northern District
Wayne MacRostie . . . . . .Chief, Central District
Lou Beck. . . . . .Chief, San Joaquin District
Jack J. Coe. . . . . Chief, Southern District

ENERGY DIVISION

Long-range energy program activities were provided under the direction of

Frank J. Hahn. . . . . .Division Chief

DIVISION OF PLANNING

Planning cost data, Davis-Grunsky and recreation and fish and wildlife activities were provided under the direction of

Donald E. Owen. . . . . Division Chief

DIVISION OF FISCAL SERVICES

Financial statements and data on incurred costs were compiled under the direction of

Donald A. Sandison. . . . . .Comptroller
Chester M. Winn. . . . . .Deputy Comptroller

Preparation of the Financial Analysis was coordinated with

FINANCIAL CONSULTANTS

Dillon, Read & Co., Inc.
New York, N.Y.

State of California
Department of Water Resources
CALIFORNIA WATER COMMISSION

SCOTT E. FRANKLIN, Chairperson, Newhall
Thomas K. Beard, Vice Chairperson, Stockton

James E. Shekoyan . . . . . Fresno

Roy E. Dodson . . . . . San Diego

Alexandra C. Fairless . . . . . Arcata

Daniel S. Frost . . . . . Redding

Merrill R. Goodall . . . . . Claremont

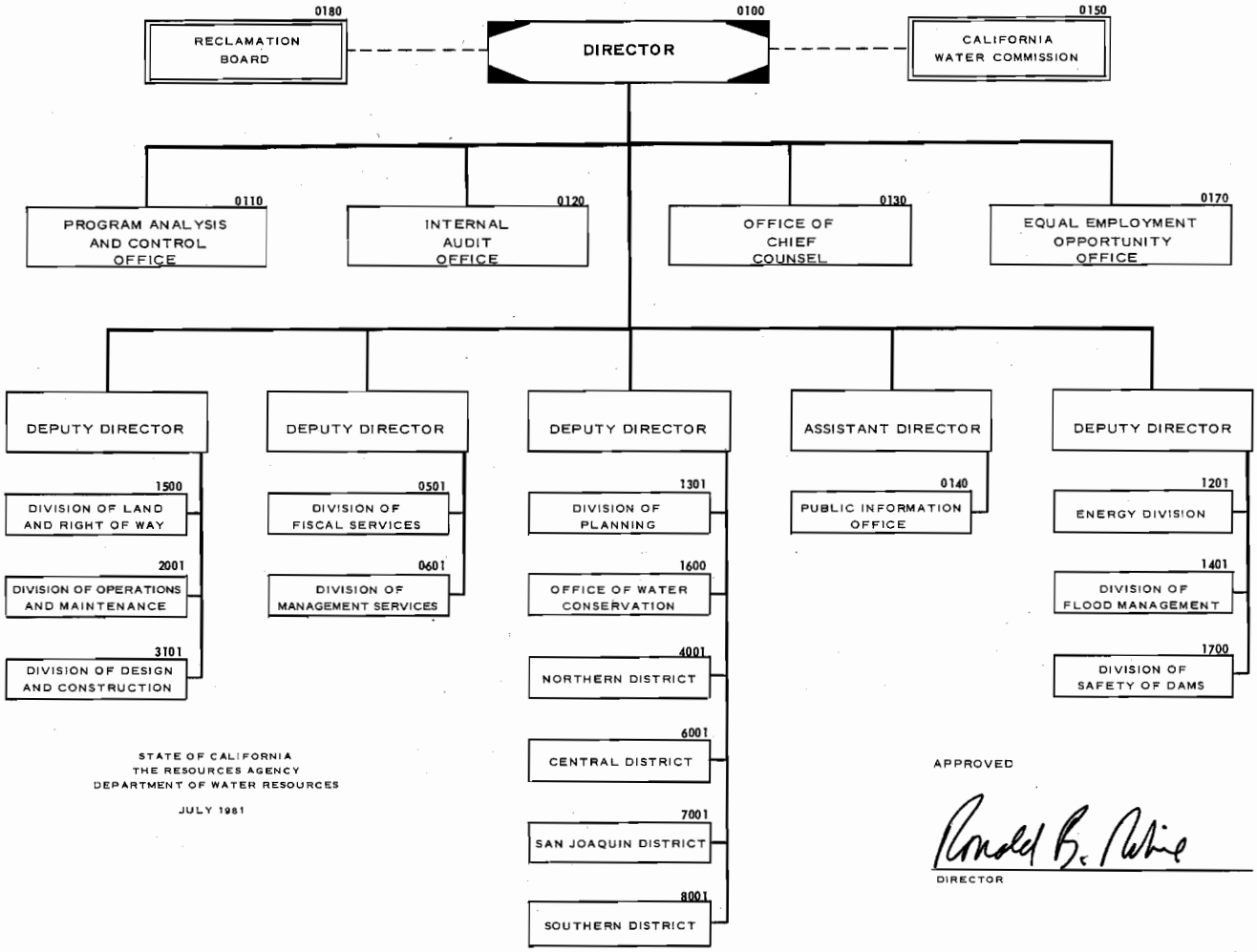
Donald Hayashi . . . . . San Francisco

Charlene H. Orszag . . . . . Los Angeles

Orville L. Abbott
Executive Officer and Chief Engineer

Tom Y. Fujimoto
Assistant Executive Officer

The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine-member citizen Commission provides a water resources forum for the people of the State, acts as liaison between the legislative and executive branches of State Government, and coordinates Federal, State, and local water resources efforts.



ORGANIZATION OF THE DEPARTMENT OF WATER RESOURCES

Photo Credits

Page	
ii	Department of Water Resources, 5942-18
20	Department of Water Resources, 5906-4
22	Department of Water Resources, Division of Design and Construction
23	Department of Water Resources, Division of Design and Construction
24	Kings River Conservation District
25	Kings River Conservation District
28	Pacific Gas and Electric Company
29	Pacific Gas and Electric Company
30	Department of Water Resources, 5942-10
45	Department of Water Resources, Office of Water Conservation
46	Department of Water Resources, 5921-9
47	Department of Water Resources, 5868-3 (lower left)
47	Department of Water Resources, 5800-3 (upper right)
47	Department of Water Resources, 5868-40 (lower right)
48	Department of Water Resources, 5921-47
49	Department of Water Resources, 21584
50	Department of Water Resources, 5906-20
51	Department of Water Resources, 5906-13
62	Department of Water Resources, TWB 21116 (upper)
62	Department of Water Resources, TWB 21122 (lower)
64	Department of Water Resources, 5942-8
66	Department of Water Resources, Division of Design and Construction
67	Department of Water Resources, Division of Design and Construction
71	Department of Water Resources, 5847-1
72	Department of Water Resources, 5792-9
96	Department of Water Resources, 5966-1
110	Corps of Engineers
111	Department of Water Resources
112	Department of Water Resources
114	Department of Water Resources

2—82066

CHAPTER I

STATE WATER PROJECT MANAGEMENT PLANS THROUGH YEAR 2000

Introduction

In 1959, the California Legislature enacted the Water Resources Development Bond Act, known as the Burns-Porter Act after its authors-Senator Hugh Burns of Fresno and Assemblyman Carley V. Porter of Compton. Under the Act, which was approved by the California voters in 1960, commitments were made for the eventual delivery of 5.2 million cubic dekametres (4.23 million acre-feet) of water to 31 contracting agencies.[1/]

Bulletin 132-81 reports on the current status of the California State Water Project (SWP), the progress of planning studies for future water-supply facilities, and financial requirements for completing the SWP.

The 1959 legislation authorized (1) a complete aqueduct system; (2) specific initial storage facilities; and (3) additional, but unspecified, future storage facilities for local needs and to augment water supplies in the Delta as necessary.

Although the major aqueducts and initial reservoir facilities of the SWP have been constructed, only about one-half of the water committed by the water contractors has been developed, and even this will diminish over the next 20 years due to increased water use in the areas of origin. Furthermore, the Delta facilities have not been constructed. Instead, natural Delta channels are being used by both the SWP and the federal Central Valley Project (CVP) to transport water across the Delta. This causes problems in controlling salinity intrusion and has also drastically depleted the fishery resources of the Delta-Bay estuary. Without corrective action, more frequent and prolonged water shortages can be expected, along with the continued decline of the fishery resources that depend on the estuary.

The present dependable SWP water yield is about 2.8 million cubic dekametres (dam^3)--(2.3 million acre-feet) per year. In the future, this yield is expected to decrease to between 2.0 and 2.2 million dam^3 (1.6 and 1.8 million acre-feet) per year, as a result of increased use in areas of origin, maturity of contractual obligations of the CVP, and other prior rights. Even after allowing for slower population growth, substantial water conservation programs, and waste water reclamation projects, SWP water deliveries in year 2000 are expected to grow to between 3.9 and 4.1 million dam^3 (3.2 and 3.3 million acre-feet) per year. Without new surface and underground storage by year 2000, the potential water shortages in a year of normal rainfall will be about 1.8 million dam^3 (1.5 million acre-feet). The maximum contract delivery of 5.22 million cubic dekametres (4.23 million acre-feet) is not expected to occur until about year 2026.

The major direction of the Department's planning for future water facilities and management of the SWP is to develop and implement water conservation and reclamation goals, as directed under the Governor's Executive Order B-68-80, and to provide sufficient surface and underground storage to (1) offset potential water shortages, and (2) reverse the decline of Delta fishery resources and restore them to historic levels. These studies are being performed under the general framework of Senate Bill 200 (SB 200), which, after more than 15 years of study, restudy, and debate, was

1/ Early in 1981, Hacienda Water District and Tulare Lake Basin Water Storage District executed a consolidation agreement, reducing the number of contractors to 30. (See "Water Contracts Management," page 74 in Chapter 2.)

enacted by the Legislature and signed by the Governor on July 18, 1980. (SB 200 is more fully discussed on page 4.)

Figure 1 shows the relationship between water demand ("Demand Estimates") and the firm water supplies ("Firm Yield Range") developed by existing and planned SWP facilities through year 2000. The "Firm Yield Range" shows water supplies available during a period of subnormal rainfall, similar to the historical dry period of 1928 through 1934. The "Demand Estimates" reflect the Department's conservation and reclamation goals discussed in Bulletin 76, "Delta Water Facilities," which the Department published in July 1978. From Figure 1, the staging (year) of initial operation of each facility and the estimated range of SWP firm yields can be determined.

The operational dates shown in Figure 1 illustrate two different assumptions for staging (and initial operation) of the planned facilities, together with the schedule presented in Bulletin 132-80. The Bulletin "132-81" column updates the schedule presented in Bulletin 132-80 and reflects a delay of up to two years in operation of some future projects, due to the referendum on SB 200. The "132-81" schedule provided the basis for computing the cost and water-charge information shown in Chapters II, III, and Appendix B (of this report).

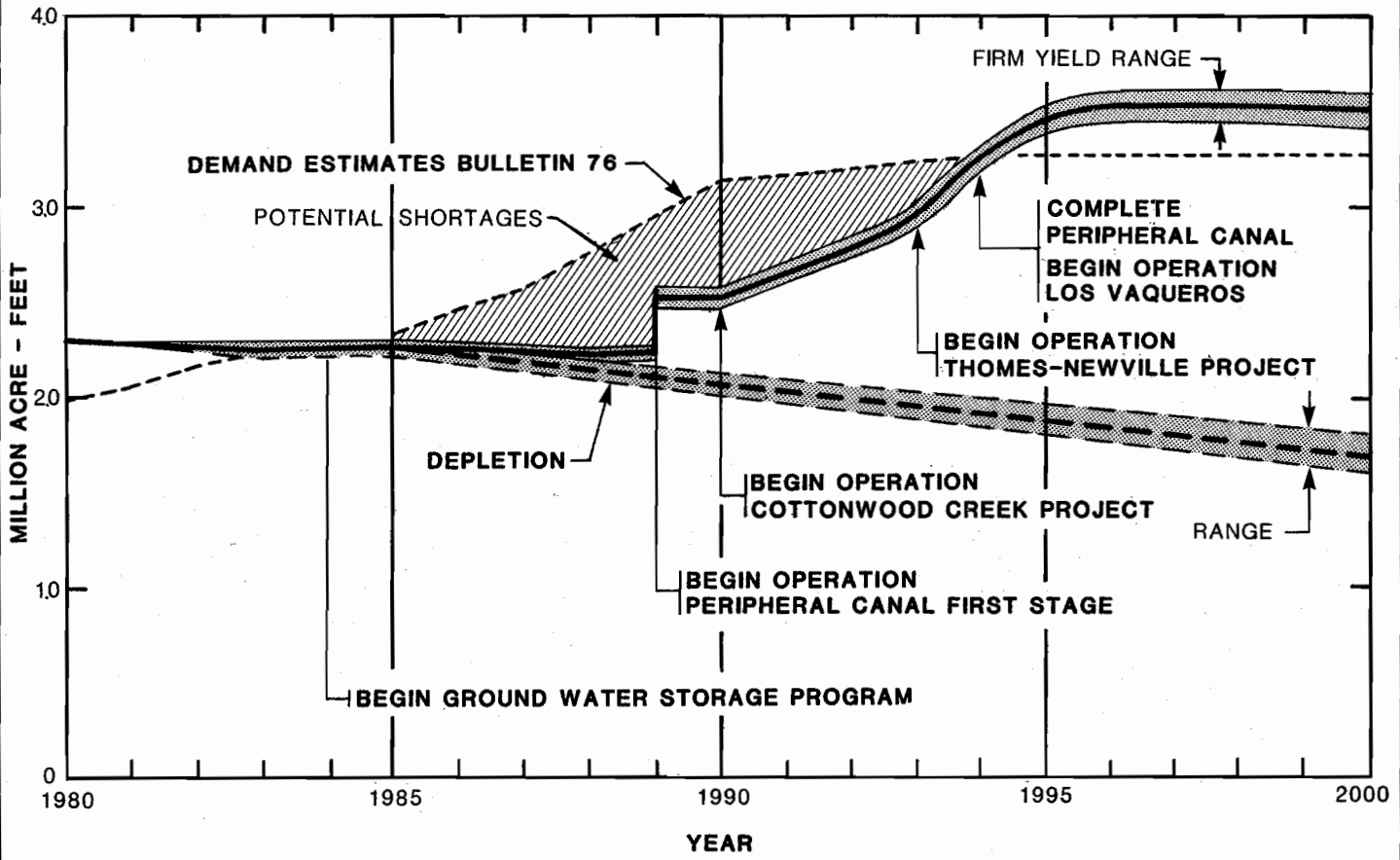
During the first half of 1981, a Department task force conducted a more detailed scheduled study. The task force developed the "New Planning Schedule" to expedite completion of the Peripheral Canal and other facilities at the earliest practical date. Whereas the costs shown in Bulletin 132-80 were based on the "132-81" schedule, the "New Planning Schedule" is being followed for planning the new facilities, and, barring the need for additional changes, will be the basis for the costs shown in Bulletin 132-82 (next year). Complete details of the planning studies are provided in Bulletin 76-81, "State Water Project: Status of Water Conservation and Water Supply Augmentation Plans". (To be released in late 1981.)

The "New Planning Schedule" in Figure 1 is optimistic. Nevertheless, the firm yield will be lower than projected entitlement deliveries for about 10 years (1984-1994), as shown in Figure 1, creating a period of potential shortages in below-normal water years. On the other hand, in normal and above-normal years, water in excess of firm yield is usually available for storage and delivery. And, should a prolonged drought occur, deficiencies in annual deliveries of up to 740 000 dam^3 (600,000 acre-feet) are possible.

After 1994, the projected SWP yield exceeds the estimated entitlement demands by a modest amount, assuming the works included in SB 200 are constructed. However, the "New Planning Schedule" is based on the assumption that all legal and mitigation problems will be solved quickly, and this may not be possible. Any delays in construction of the Peripheral Canal will (1) postpone fishery benefits that will result from operation of the Canal, and (2) postpone water supply yield to SWP projects. Operation of the Peripheral Canal will also increase the yields of most other new SWP facilities, because it will more efficiently transfer water across the Delta to the Harvey O. Banks Pumping Plant.

The "New Planning Schedule" includes an annual yield of 493 000 dam^3 (400,000 acre-feet) from the Department's ground water storage program by 1996. The Department assumes that about one half of that amount would be developed south of the Tehachapi Mountains in the Chino Ground Water Basin; the other half would be devloped in the Kern River Fan Area in the southern San Joaquin Valley. Implementation of this ground water program will depend on early favorable negotiations and agreements with all affected agencies. To date, south of the Tehachapi programs have shown much promise. However, Kern County interests have virtually shut the door on such programs and have not cooperated with the Department.

Figure 1: STAGING OF DELTA FACILITIES AND ADDITIONAL CONSERVATION FACILITIES



INITIAL OPERATION DATE OF NEW YIELD-PRODUCING SWP FACILITIES DESCRIBED IN SB 200

	Schedule Shown in Bulletin: 132-80	132-81	New Planning Schedule
Peripheral Canal:			
Stage 1 Canal	1988	1990	1989
Complete Canal	1993	1995	1994
Los Vaqueros	1992	1992	1994
Ground Water Storage	1986	1984	1984
East Branch Enlargement	1988	1990	1990
Thomes-Newville Unit	1996	1996	1993
Cottonwood Creek Project[a] (Corps of Engineers)	1989	1990	1990

a) This facility not defined in SB 200. Department's plans assume this project will be constructed by the Corps of Engineers and will provide water supplies (yield) for the SWP.

Senate Bill 200 and Related Activities

SB 200 was introduced on January 15, 1979, amended four times, passed by the Senate on January 23, 1980, passed by the Assembly on July 7, 1980, and signed by the Governor on July 18, 1980. The Department supported this bill (see Bulletin 132-80, pp. 2 ff).

Besides authorizing construction of the Peripheral Canal and related facilities in the Sacramento-San Joaquin Delta, shown in Figure 2, SB 200 requires agreements to ensure protection of Delta water quality and fish and wildlife within the Delta; agreements to ensure implementation of additional surface and ground water storage; and water conservation and reclamation programs to meet the water needs of the SWP through year 2000. It also authorizes, separate from the SWP, (1) the Mid-Valley Canal to help stop falling ground water levels on the east side of the San Joaquin Valley, and (2) undefined facilities to transport water to Alameda, Contra Costa, San Joaquin, San Francisco, and San Mateo counties. Following is a summary of the major provisions in the bill:

Delta Protection

For protection of the Delta, SB 200:

1. Requires that the Peripheral Canal and other facilities of the SWP as a whole be operated to restore fish and wildlife at historic levels (1922-67). This will be accomplished by (a) eliminating cross-Delta flows that interfere with migrating salmon and other fish; (b) providing the net positive downstream flow in all major Delta channels; (c) eliminating present detriment to aquatic fish food organisms in Delta channels; (d) greatly reducing the loss of eggs, larvae, and young fish to the export diversions; and (e) meeting water quality standards (per items 4 and 5 below).

2. Requires a staged construction of the Peripheral Canal to facilitate extensive testing of the fish screen and a determination of its adequacy before completing the canal.

3. Provides for limitations on Delta exports necessary to restore and maintain historic levels of fish and wildlife.

4. Clarifies that the SWP, including the Peripheral Canal, must be operated to meet SWRCB water-quality standards to protect the Delta, Suisun Marsh, and San Francisco Bay. This is the first time that the Marsh and Bay have had clear protection under the law.

5. Requires the SWP to make water releases to rectify any failure of the Department of the Interior to operate the federal CVP in compliance with SWRCB water-quality standards for the Delta, Marsh, and Bay. The Federal Government has had a long history of vacillating on this obligation.

6. Requires the Department of Fish and Game (DFG) and other State agencies to make a comprehensive joint study of San Francisco Bay fish and Wildlife and other needs for Delta outflows, including "flushing flows". The study results will be used by the SWRCB in its future water right decisions to assure that future exports and diversions to storage in new SB 200 reservoirs will not appreciably deplete unregulated Delta outflows needed to protect the Bay.

7. Assures adequate quantity and quality of water to continue a high level of agriculture in the Delta by requiring that DWR enter into permanent and enforceable water right/water quality contracts (either through negotiation or binding arbitration) with Delta agencies; the contracts will both recognize water-user rights and establish water-quality criteria that will have priority over Delta export.

Delta Facilities

SB 200 also:

1. Authorizes the Peripheral Canal, an isolated water-transfer facility. The Canal will be operated to move water more efficiently across the Delta to aqueducts serving Southern California, the San Joaquin Valley, and South San Francisco Bay area, and will improve the flow of water through the Delta and into San Francisco Bay.

2. Authorizes relocation of the federal CVP intake to the Contra Costa Canal to improve the quality of water for industrial and domestic users of water from the canal.

3. Provides for west and south Delta facilities to improve irrigation-water quality through pumping plants, canals, and channel control structures.

4. Requires channel improvements, control structures, and other facilities to protect the Suisun Marsh as a migratory waterfowl area.

Conservation, Reclamation and Water Storage - Surface and Underground

In this regard, SB 200:

1. Provides for waste-water-reclamation projects to provide yield for the SWP.

2. Authorizes water-conservation and reclamation programs within the boundaries of State water service contractors.

3. Authorizes the Glenn Reservoir--River Diversion Unit, and provides that it may be constructed in stages. This would be a large offstream storage development on the west side of the Sacramento Valley. 2/

4. Authorizes the Colusa Reservoir--River Diversion Unit, another off-stream storage facility, as an alternative to the Glenn Reservoir.

5. Authorizes the Los Vaqueros Unit, an off-stream storage reservoir in Contra Costa County, to help meet SWP needs and possibly, as a joint venture with local or federal agencies, to serve Contra Costa County and other Bay area agencies and San Joaquin Valley agencies as well.

6. Authorizes ground-water storage and extraction facilities within SWP service areas to provide additional yield for the SWP.

7. Permits participation by the State with the Federal Government in a study of the feasibility of enlarging Shasta Dam and Reservoir.

8. Assumes that conservation and waste-water reclamation will reduce demands by SWP contractors by 863 000 dam^3 (700,000 acre-feet) by year 2000.

Water Transport Facilities

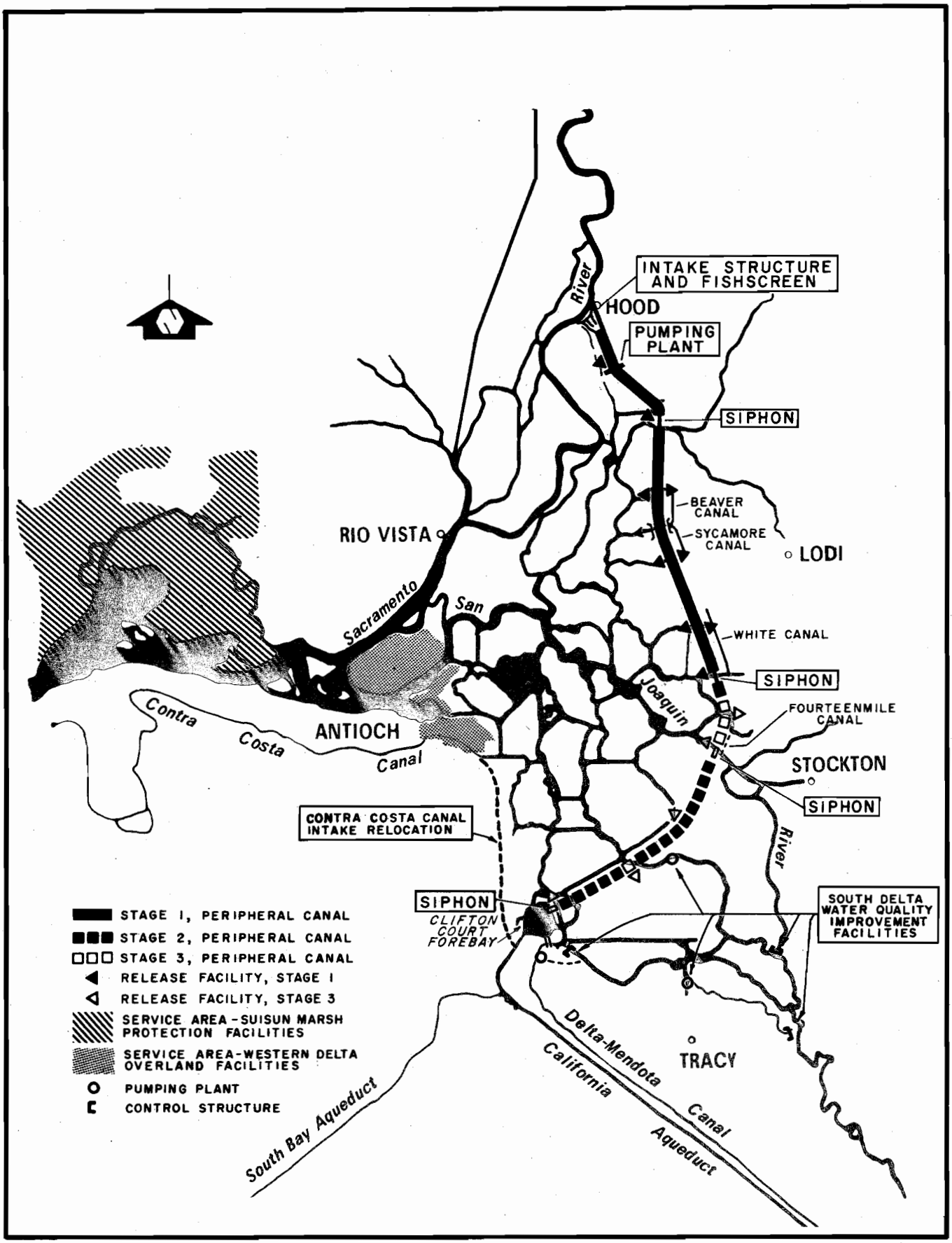
SB 200 also authorizes:

1. State construction of the Mid-Valley Canal to reduce ground water overdraft on the east side of the San Joaquin Valley, if it is not constructed as part of the federal CVP. This project has long been planned as a federal project, and the Department has participated in the Mid-Valley Canal study on that premise. In 1979, when the Bureau of Reclamation (USBR) tried to abandon the study, the Department persuaded the Federal Government to resume and complete its study. However, if it becomes clear that the USBR will not proceed with Mid-Valley,

---

2/ Subsequent studies have focused on a smaller version of this plan, called the Thomes-Newville Unit; it would develop surplus local runoff of Stony and Thomes Creeks rather than provide offstream storage for Sacramento River water. Although the Thomes-Newville Unit would be compatible with a later Glenn Reservoir offstream storage development, it would be an independently viable plan. Further studies of the full-scale Glenn Reservoir have been deferred except as needed to evaluate alternatives to other potential developments.

Figure 2: DELTA FACILITIES



PERIPHERAL CANAL STATISTICS

DIMENSIONS

Length – Total 68 Kilometres (42 miles)
- Stage 1 – 39 Kilometres (24 miles)
- Stage 2 – 24 Kilometres (15 miles) (Preconsolidation)
- Stage 3 – 29 Kilometres (18 miles) (Completion)

Width
- Bottom – 61 Metres (200 feet)
- Top – 122-152 Metres (400-500 feet)

Depth – 6-9 Metres (20-30 feet)

Right of Way – 2660 Hectares (6,570 acres)

Siphons
- Mokelumne R. 4-7.6 Metres (25 feet) square
  192 Metres (630 feet) long
- Disappointment Sl. 4-7.6 Metres (25 feet) square
  165 Metres (540 feet) long
- San Joaquin River 4-7.6 Metres (25 feet) square
  244 Metres (800 feet) long
- Old River 4-6.9 Metres (22.5 feet) square
  152 Metres (500 feet) long

OTHER FEATURES

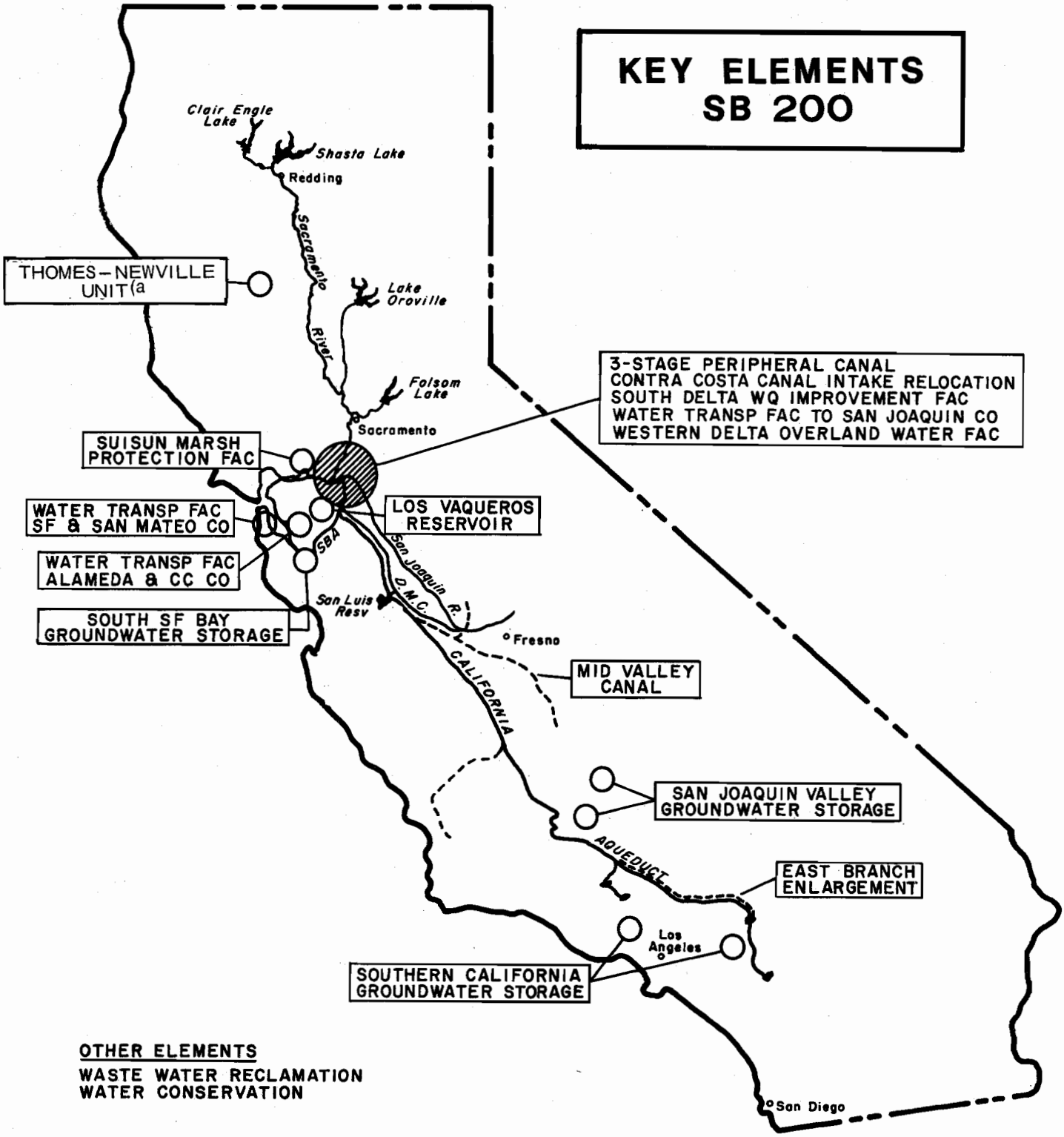
Fish Screen – positive, low approach velocity type
Control Gates
Sediment Basin
14 Bridges (13 roads, 1 railroad)
135 Kilometres (84 miles) of public access and operating roads
16 Kilometres (10 miles) of public and private roads

CAPACITIES

	Cubic Metres per Second	(Cubic Feet per Second
Canal		
Hood Intake to Middle River [1]	617	(21,800)
Middle R. To Clifton Court	518	(18,300)
Export Pumps		
SWP Delta	292	(10,300)
CVP Tracy	130	(4,600)
CVP Contra Costa Canal	10-16	(350-550)
Los Vaqueros	85	(3,000)
Release Facilities		
Stage 1		
Snodgrass Slough West	11	(400)
Lost Slough & Mokelumne R.	17	(600)
Beaver Slough West	9	(300)
Beaver Slough East	11	(400)
Sycamore Slough West	14	(500)
Sycamore Slough East	11	(400)
White Slough West	21	(750)
White Slough East	21	(750)
Disappointment Slough	43	(1,500)
Subtotal, Stage 1	**159**	**(5,600)**
Stage 3		
Fourteen Mile Slough East	3	(100)
San Joaquin River	17	(600)
Whiskey Slough West	3	(100)
Middle River East [2]	62	(2,200)
Old River West	34	(1,200)
Total Release Capacity, Stages 1 & 3	**277**	**(9,800)**
Hood Pumping Plant		
Stage 1, 2 units	154	(5,450)
Stage 3, 6 units	463	(16,350)
Maximum lift – 3 Metres (10 feet)		
Total [1]	**617**	**(21,800)**
Fish Screens		
Stage 1	154	(5,450)
Stage 3 [1]	617	(21,800)

[1] Capacity will depend on releases required for water quality in the Delta.

[2] Subject to change. Depends on which alternative of the South Delta Water Quality Improvement Facilities are selected. These are the subject of negotiations with the South Delta Water Agency for Delta contracts.



a)SB 200 authorized Glenn Reservoir - River Diversion Unit, however, Department studies focused on a smaller version of this plan called Thomes-Newville Unit.

at the request of local authorities, the Department could undertake the project as a cooperative venture with local interests under the SB 200 authorization. The Mid-Valley beneficiaries would have to agree to repay all the costs, with interest, incurred by the Department. Financially, the venture would be separate from the SWP. Moreover, no SWP water would be used; an independent water supply would have to be developed. On April 8, 1980, the Department entered into a memorandum of understanding with the Kings River Conservation District outlining terms and conditions for a joint venture.

2. Unspecified facilities to transport water to Alameda, Contra Costa, San Joaquin, San Francisco, and San Mateo counties; the bill also directs the Department to study possible interconnections between the SWP and water supply systems serving these counties.

Referendum on SB 200

In the summer of 1980, opponents of the Peripheral Canal circulated a petition to submit a referendum on SB 200 to the voters. The referendum has qualified and the voters will be asked to approve or reject SB 200 at the next general election in June 1982. The Department will take no action under SB 200 until there is a favorable vote by the people on the measure. If the electorate rejects SB 200, such rejection would also nullify ACA 90, which was approved by the voters in November 1980 (Proposition 8). The discussion of the provisions in Proposition 8, together with protections provided in the Delta under the proposition, are discussed on page 11.

Implementation Program for SB 200

During the first half of 1981 the Department determined the earliest practicable schedule for implementing the State Water Project (SWP) facilities contained in SB 200.

The primary assumptions and decisions required to achieve the new schedule, shown in the tabulation below, include the following:

1. SB 200 is assumed to be approved at the June 1982 election.

IMPLEMENTATION OF SB 200
COMPARISON OF NEW DELTA FACILITIES SCHEDULE
WITH BULLETIN 132 ASSUMPTIONS

	New Schedule Operational Date	132-81 Operational Date	132-80 Operational Date
Peripheral Canal:			
Hood to Shima Tract (Stage 1)	1989	1990	1988
Shima Tract to Clifton Court Forebay (Stage III)	1994	1995	1992
Hood Pumping Plant Units 1, 2, & 3	1989	1990	1988
Hood Pumping Plant Remaining Units	1994	1995	1993
Contra Costa Canal Intake Relocation	1994	1995	1988
South Delta Water Quality Improvement Facilities	1994	1995	1988
Western Delta Overland Facilities	1991	1991	1988
Suisun Marsh Facilities	1984	1984	1984
Los Vaqueros	1994	1992	1992
Ground Water Storage	1984[a]	1984	1986
East Branch Enlargement	1990	1990	1988
Thomes-Newville Unit	1993	1996	1996

a) Begin filling groundwater storage basins.

EXHIBIT 1

2. The Peripheral Canal will be operational at the same time as or prior to Los Vaqueros Reservoir, but at the same time the relocated Contra Costa Canal Intake, and the South Delta Water Quality Improvement Facilities are put into operation.

3. The Peripheral Canal Fish Screen System is assumed to be successful and approved by the Departments of Water Resources and Fish and Game at the end of the two-year evaluation period.

The compilation compares the new operational dates with those used for the financial data in this bulletin (132-81) and in Bulletin 132-80.

Peripheral Canal. The Peripheral Canal is the most important facility required for the efficient transportation of project water across the Sacramento-San Joaquin Delta. Without it, the water quality standards in the Delta cannot be met efficiently and the projected yields from surface and ground water storage facilities would be greatly reduced.

The Peripheral Canal schedule has an earliest full operational date of January, 1994. This is two years later than projected in Bulletin 132-80.

Relocation of the Contra Costa Canal Intake. The relocation of the Contra Costa Canal Intake is scheduled to be completed at the same time as the Peripheral Canal (January 1994). If the Intake is relocated to divert water from Clifton Court Forebay without the Peripheral Canal, the present yield of the SWP would be reduced. Therefore, operation of the Intake should not occur ahead of the Peripheral Canal operation. The final alignment is subject to negotiations with Contra Costa Canal beneficiaries; the appropriate costs of the canal relocation will be repaid by these beneficiaries. In February 1981, negotiations were suspended, pending the outcome of the SB 200 referendum. Negotiations are expected to continue in June 1982.

South Delta Water Quality Improvement Facilities. These facilities are also scheduled for operation concurrent with the Peripheral Canal. The primary water supply for these facilities would be provided by the Peripheral Canal, and it would be impractical to schedule their full implementation ahead of the canal. Since the specific facilities are subject to negotiations, for scheduling purposes, the "Middle River Plan" has been assumed. Negotiations with the South Delta Water Agency are discussed in detail in the "Water Entitlement Negotiations" section of Chapter II.

Western Delta Overland Facilities. These facilities are tentatively scheduled for completion by 1991; however, they will not be completed until they are needed, as provided in the North Delta Water Agency contract (see Chapter II, "Water Entitlement Negotiations").

Suisun Marsh. Initial facilities have been completed. The present schedule calls for completion of all facilities by October 1984.

Los Vaqueros Reservoir. This project is scheduled to be operational no earlier than the Peripheral Canal, primarily because its contribution to the project yield depends on the canal's cross-Delta transport capability. If this facility were operated prior to the Peripheral Canal, the Los Vaqueros demands, added to the existing export demands, would cause greater reverse flows in the Delta, resulting in greater salt intrusion and fishery problems and increasing the potential for erosion and siltation in the South Delta. Public Law 96375 authorizes the federal government to study Los Vaqueros Reservoir. However, funds have not been approved by the federal government, and efforts to gain local funding are in progress.

Ground Water Storage. The ground water storage programs will be implemented as quickly as possible. However, because of various institutional and legal problems yet to be resolved, the schedule does not indicate the names of basins to

be used. It is anticipated that a program in the Chino Basin will result from the joint MWD/DWR Chino Basin feasibility study now underway. To reach the goal of 493 000 dam^3 (400,000 acre-feet) from ground water storage, the use of several basins, including those in the San Joaquin Valley will be required. The schedule calls for full implementation by the year 2000.

East Branch Enlargement. The East Branch Aqueduct enlargement is scheduled to be completed by 1990. This is based on operation studies that show a need for early additional capacity in the aqueduct for the ground water storage programs. The size of the enlargement is expected to be either 800 cfs or 1,200 cfs. The Department and the water service contractors are now reviewing the alternatives and evaluating costs and operational flexibility.

Thomes-Newville Unit. Initial operation of Thomes-Newville Unit is planned to begin in January, 1993 under the Department's new schedule. This decision to accelerate the schedule was made because the project can be on line and operating earlier than Los Vaqueros, and reservoir filling will take about seven years, assuming average water year conditions and some releases during the filling period.

Assembly Constitutional Amendment 90.

During 1980, the Legislature passed a companion measure to SB 200, Assembly Constitutional Amendment 90 (Kapiloff). This act was strongly supported by Governor Brown and the Department. ACA 90, introduced on April 10, 1980 to lessen the controversy on SB 200, passed the Legislature on June 26, 1980, and appeared as Proposition 8 on the November 1980 ballot, where it won voter approval. Since it will become effective only if SB 200 becomes effective, it too, is subject to referendum. If SB 200 is approved by the voters, the provisions of Proposition 8 will require a vote of the people for any change in SB 200 protections for the Delta, Suisun Marsh, and San Francisco Bay. The Legislature, by two-thirds vote, may revise these provisions as long as the revisions do not reduce such protection.

The Delta protections in SB 200 that would be given constitutional protection by the Proposition 8 provisions are: (1) that the SWP must meet SWRCB water quality standards to protect the beneficial uses of water in the Delta, Suisun Marsh, and San Francisco Bay; (2) that the SWP must provide water releases in case the Federal Government fails to operate the Central Valley Project in compliance with such standards; and (3) that the Department of Water Resources, before constructing the Peripheral Canal, must enter into a permanent agreement with the Department of Fish and Game to restore and maintain Delta fish and wildlife resources to their historic levels (1922-1967).

Proposition 8 also provides that no statute may repeal or weaken the existing Delta Protection Act unless approved by a majority vote of the electorate. The Legislature, by a two-thirds vote, may revise the law, providing the revisions do not reduce protection of either the Delta or fish and wildlife. Proposition 8 prohibits any public agency from condemning for export any water rights held for uses within the Delta or any contract rights for water quality maintenance in the Delta.

Proposition 8 would give constitutional protection to 1 770 kilometres (1,100 miles) of the State's Wild and Scenic Rivers in Northern California in prohibiting the construction of dams or the export of water from North Coast rivers without either a favorable two-thirds vote of the Legislature or a vote of the people. (Currently, only a favorable majority vote of the Legislature with the concurrence of the Governor is required.)

Finally, the provisions of Proposition 8 would consolidate and speed up any lawsuits on the Peripheral Canal, so that it can be constructed in a timely manner to reverse the decline of the Delta fishery and help meet the water supply needs discussed earlier.

Future Costs of Water Service

Estimates of future water cost are both useful and needed by SWP contractors in short and long-range planning of their needs, operations, and economy. In this regard, Appendix B contains a set of tables providing both past and projected costs, annual water charges, and water delivery information through the end of the project repayment period, year 2035. The project costs and water charges are based on prices and the project interest rate in effect during the year the bulletin is issued. The information in Appendix B does not reflect estimates of future inflation or cost escalation, except for minor amounts related to operation, maintenance, and energy costs.

The Department has developed projections of future inflation rates applicable to SWP construction, operation, and energy costs. On the basis of those inflation rates, average unit water rates have been estimated for project water delivered within major SWP service areas at 5-year intervals through year 2000. The unit water rates are shown on Exhibit 2 in both 1981 dollars and escalated to the years indicated.

The unit rates update the information shown in Bulletin 132-80 (page 19) and, when compared, are increased in all service areas. The escalated costs used in determining the average unit rates in the Exhibit are based on an assumed annual inflation rate of 9 percent for construction (capital) and 7 percent for operation, maintenance, and replacement (OM&R) costs. The costs of future energy sources, including construction costs of off-aqueduct powerplants, are escalated at rates varying from 7.5 to 10 percent, depending on the energy component being escalated. These costs are shown in the unit rates for energy in Exhibit 2.

Since the SWP does not charge on an acre-foot basis, the unit rate estimates for each year shown in Exhibit 2 are derived by dividing the total projected charges in a service area by the estimated quantities of entitlement water the SWP will deliver during that year.

Any change in projected water deliveries within a service area has a direct impact on the dollars per acre-foot unit rate values shown in the table. For example, water deliveries for the Feather River and the North Bay Areas are down significantly from the projections in Bulletin 132-80.

Comparison of Unit Rates for 1980 and 1981. The unit water rates for 1981 in the new table are higher than those for 1980, shown in Bulletin 132-80 (page 19). These increases are mainly due to changes in SWP criteria, operational problems encountered in 1981 and in changing SWP conditions since the rates for 1980 were developed (in early 1980). These include:

1. A change in Department's Peripheral Canal criteria. The Canal was planned as a State-Federal facility (with the Federal Government reimbursing 50 percent of project costs) when the 1980 rates were developed. Under current plans the project is a State-only facility with the yield from the project pledged to the SWP and with all costs reimbursed by Project beneficiaries.

ESTIMATED TOTAL UNIT WATER RATES
IN SWP SERVICE AREAS
THROUGH YEAR 2000 *(a*

The rates shown are in 1981 dollars. The values in parentheses include the effects of assumed future inflation.

(in dollars per acre-foot) *(b*

SWP Service Area	1981	1985	1990	1995	2000
Feather River *(c (d*					
Capital, OM&R	27	30 (37)	54 (111)	63 (183)	64 (207)
North Bay					
Capital, OM&R		299 (352)	206 (391)	193 (468)	183 (489)
Energy *(e*		10 (10)	10 (11)	12 (18)	15 (32)
Total	*(f*	309 (362)	216 (402)	205 (486)	198 (521)
South Bay					
Capital, OM&R	46	57 (75)	87 (178)	85 (236)	88 (278)
Energy	6	31 (31)	39 (45)	40 (58)	42 (87)
Total	52	88 (106)	126 (223)	125 (294)	130 (365)
Kern Co. Water Agency (KCWA)					
Capital, OM&R	35	38 (51)	62 (133)	63 (180)	64 (203)
Energy	3	16 (17)	21 (24)	22 (31)	23 (47)
Total	38	54 (68)	83 (157)	85 (211)	87 (250)
San Joaquin (excluding KCWA)					
Capital, OM&R	26	32 (44)	56 (123)	56 (168)	58 (188)
Energy	2	13 (13)	16 (19)	17 (24)	17 (36)
Total	28	45 (57)	72 (142)	73 (192)	75 (224)
Southern California					
Capital, OM&R	148	132 (186)	159 (335)	160 (399)	159 (446)
Energy	12	87 (87)	118 (141)	123 (193)	129 (307)
Total	160	219 (273)	277 (476)	283 (592)	288 (753)

a) These unit rates are higher than those shown in Bulletin 132-80 due to many factors; the major ones are:
- *Decreases in projected water deliveries in some service areas;*
- *Increase in projected energy costs after 1983;*
- *Increase in projected future project interest rates;*
- *Increased escalated costs of Delta facilities and future conservation facilities;*
- *Increases due to assuming the Peripheral Canal as a State-only facility instead of 50 percent Federal participation;*
- *Unforeseen costs of sediment removal and lining repair on the California Aqueduct.*

b) Metric conversion is dollars per acre-foot times .8107 giving dollars per cubic dekametre.

c) Operations, maintenance, and replacements.

d) No energy costs are required for delivery to Feather River area contractors.

e) Energy costs of transportation facilities to deliver project water to the service area, including costs of off-aqueduct power plants.

f) Delivery to North Bay contractors are currently planned to begin in 1985.

EXHIBIT 2

2. Unforeseen costs of sediment removal and lining repair on the California Aqueduct in 1981. (See Chapter II, pages 111, 114.)

3. A significant decrease in projected water deliveries in 1981 in the Southern California Service Area when compared to the projection used in estimating the 1980 unit rates.

4. An increase in the Project Interest Rate from 4.584 percent to 4.606 percent due to sale of Reid Gardner Bond Anticipation Notes. (See Chapter III, Table 9A.)

Effects of Inflation. It is difficult to compare future escalated costs, caused by inflation, with present-day standards of ability to pay. As an example, to put inflated cost projections in perspective, with a 9-percent inflation rate for 19 years, the purchasing power of today's dollar will be reduced to only 19 cents by the year 2000. Another way of expressing the same concept is to assume a 9-percent annual cost-of-living adjustment. Thus a family with an annual income of $20,000 today would be receiving $103,000 in the year 2000; but the purchasing power would still be only $20,000 in what could be considered today as "real" dollars.

Governor's Executive Order B-68-80

When the Governor signed SB 200, he also issued Executive Order B-68-80, directing the Department to prepare a plan of water conservation, reclamation, and management for the SWP and to implement, as quickly as possible, a program of recycling agricultural drainage and other brackish water to augment project supplies by 493 000 cubic dekametres (400,000 acre-feet) by year 2000.

The Executive Order is in furtherance of Article X, Section 2 of the California Constitution, which states that "...the water resources of the State shall be put to beneficial use to the fullest extent to which they are capable and that the conservation of the State's water is to be exercised with a view to their reasonable and beneficial use." It reiterates the Department of Water Resources' policy that water resources already developed shall be used to the maximum extent before new sources are developed.

In order to develop the plan the Department formed a planning team made up of Department staff with varying expertise. The goal of the plan is to coordinate and maximize the use of existing water supplies and optimize the use of existing facilities in State Water Project service areas. The planning team's objective is to prepare a water management plan by June 1982 for the State Water Project service areas that:

1. recommends actions to reduce demand, reclaim waste water, use ground water basins conjunctively with surface supplies, facilitate water exchanges, and undertake other measures that will reduce or delay the need for new surface water facilities.

2. is practicable;

3. is sufficiently flexible to be effected in stages; i.e., it will enable some actions to be effected as soon as possible, while other actions, which are subject to institutional, economic, or technologic constraints, can be effected as the constraints are resolved.

Emphasis will be placed on making maximum use of the results from other completed and ongoing studies. New work will be limited to completion of feasibility and impact studies of actions analyzed in current studies, and identification of incentives for implementation of the plan. Not all of the desired work can be completed with the time available; therefore, the plan will include provisions for future modifications based on the results of ongoing work. The major areas to be covered in the plan are discussed below.

Water Conservation

Water conservation has received considerable attention in recent years; consequently, many studies have been completed or are underway. Many water saving possibilities have been identified; some are in various stages of research and some have already been implemented.

The planning team is working with the water service contractors to determine which water saving possibilities are feasible in each contractor service area. Determination of conservation potential in each service area will require additional hydrologic studies and development of farm budgets. Future conditions of water use and current water conservation will be determined for use in measuring the effectiveness of potential conservation actions.

Water Reclamation

In each SWP service area, the planning team will identify achievable water-reclamation and reuse projects through review of completed and ongoing studies. To project the potential for additional reclamation and reuse projects beyond those identified in current studies, sources of additional waste water that may be reclaimed for reuse in each SWP service area will be evaluated.

Ground Water

Conjunctive use programs in operation by local agencies will be identified. The potential for augmentation or expansion of these local programs by local agencies or cooperatively with the SWP will be determined. Ground water management possibilities will be reviewed.

Water Exchanges and Purchases

A concurrent study by the Department to identify potential water exchanges affecting SWP service areas will be the basis for conclusions in this area. This study will emphasize identifying physical possibilities and the legal/institutional arrangements necessary to implement such exchanges and purchases.

To aid the planning team during the development of the plan, the Department formed an advisory group of representatives from the water service contractors, environmental organizations, and others. The schedule for development of the plan calls for a public review draft in February 1982, public hearings in March, 1982, and the final document in June 1982.

Planning and Implementation Programs

The Department's programs for meeting future water and power needs include (1) a long-range energy program (2) ground water storage programs, (3) a program to reclaim agricultural drainage water in the San Joaquin Valley, (4) various local water reclamation projects, and (5) a long-term program for storage of Colorado River water.

Long-Range Energy Program

The purpose of the Department's "Long-Range Energy Program" is to obtain environmentally sound, cost-effective power supplies for operation of the SWP.

Initial efforts have focused on providing SWP energy requirements through year 2000. Those projected energy requirements--and the expected resources to meet them--are shown by year in Table 1

TABLE 1: ANNUAL PROJECT

(in millions

PROJECT PUMPING PLANTS/ PROJECT ENERGY RESOURCES	CALENDAR 1962 1980	1981	1982	1983	1984	1985	1986	1987	1988
Pumping Plants									
Thomes-Newville	0	0	0	0	0	0	0	0	0
North Bay	0	0	0	0	0	4	3	4	5
Cordelia	35	3	2	2	2	3	3	3	3
Hood	0	0	0	0	0	0	0	0	0
South Bay & Del Valle	1,401	120	139	132	135	140	139	138	126
Los Vaqueros	0	0	0	0	0	0	0	0	0
Harvey O. Banks	5,226	603	866	1,008	1,015	1,082	1,186	1,189	1,196
San Luis	1,556	91	274	241	204	251	322	239	241
Dos Amigos	1,959	293	381	416	438	450	475	502	508
Buena Vista	1,607	292	324	382	399	394	437	484	492
Wheeler Ridge	1,454	274	286	346	362	355	399	445	453
Wind Gap	3,059	621	642	784	819	803	909	1,019	1,035
Pearblossom	1,513	377	417	522	553	543	584	595	582
Edmonston	10,536	2,213	2,275	2,817	2,950	2,886	3,263	3,654	3,696
Oso	612	94	84	104	118	113	142	184	192
Las Perillas & Badger Hill	411	34	43	43	44	45	46	46	46
Devil's Den	0	0	0	0	0	0	0	0	0
Sawtooth	0	0	0	0	0	0	0	0	0
Polonio	0	0	0	0	0	0	0	0	1
System Losses (3%) (a	0	0	0	153	211	212	237	255	257
TOTAL PUMPING LOADS	29,367	5,013	5,733	6,952	7,250	7,280	8,142	8,753	8,832
PROJECT POWERPLANTS AND OTHER ENERGY RESOURCES									
Hyatt-Thermalito	0	0	0	1,512	2,331	2,331	2,331	2,331	2,331
Project Recovery Plants									
San Luis	849	90	135	141	144	153	162	150	154
Devil Canyon	2,441	638	735	889	960	947	990	983	959
Castaic	1,853	286	315	381	405	388	490	636	664
William E. Warne	0	0	107	231	245	235	296	384	401
Proposed (b	0	0	0	0	0	0	0	0	0
Project Small Hydro									
Cottonwood	0	0	0	0	42	95	102	104	103
Others	0	0	0	0	37	78	83	120	119
SCE Exchange	0	0	0	1,321	1,465	1,411	1,360	1,310	1,264
Pine Flat	0	0	0	362	423	423	423	423	423
MWD Hydro, Phase I	0	0	0	151	184	194	199	208	206
Reid Gardner	0	0	0	846	1,193	1,193	1,193	1,193	1,193
Bottle Rock	0	0	0	0	218	372	372	372	372
South Geysers	0	0	0	0	0	218	372	372	372
Binkley	0	0	0	0	0	0	0	0	93
Honey Lake	0	0	0	0	0	0	21	255	255
Isabella Lake	0	0	0	0	0	0	20	20	20
Wind	0	0	0	12	29	30	30	30	30
Purchases (c	24,224	3,999	4,441	1,106	0	0	0	0	0
Potential Sales (d	0	0	0	0	-426	-788	-302	-138	-127
TOTAL RESOURCES	29,367	5,013	5,733	6,952	7,250	7,280	8,142	8,753	8,832

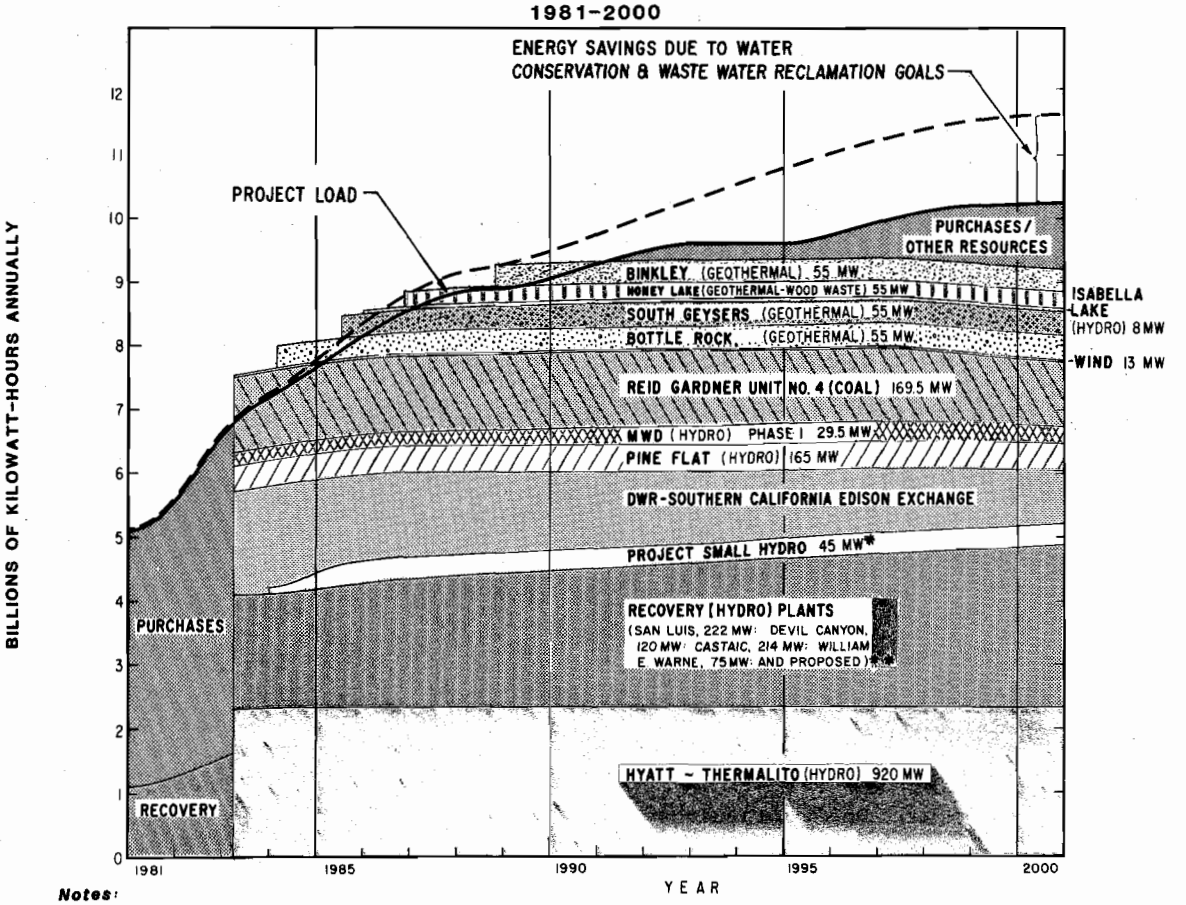
a) Pumping plant shares of losses are specified by contract through 3/31/83 only.
b) Future recovery plants include pumping-generating plants at Thomes-Newville and Los Vaqueros Reservoir Complexes and a power plant on the Coastal Branch.
c) Through 3/31/83, purchases will be and have been made from the Pacific Northwest and the California Suppliers (and from the Federal CVP during the mid-1960's). After 3/31/83, purchases will be made from the Southern California Edison Company under an executed contract--and other utilities under future arrangements.
d) Excess resources during the period 1984 through 1991 under this analysis would either be sold or exchanged.

ENERGY LOADS AND RESOURCES

of kilowatthours)

YEARS											
1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
0	0	0	0	0	0	0	185	185	185	185	185
6	8	8	8	8	8	8	8	8	8	8	9
3	3	3	4	4	5	5	6	6	6	7	7
0	3	32	42	48	45	48	52	47	51	49	50
125	124	125	125	126	127	127	128	128	127	126	125
0	0	0	166	249	283	284	287	287	287	287	287
1,196	1,196	1,193	1,180	1,166	1,087	1,174	1,269	1,151	1,251	1,198	1,236
227	194	210	226	286	202	312	377	267	353	302	360
513	520	500	500	474	481	490	513	514	519	522	521
499	503	497	516	508	509	500	508	510	518	524	520
459	464	466	485	477	478	469	477	480	488	494	490
1,050	1,060	1,070	1,115	1,097	1,098	1,076	1,096	1,103	1,121	1,136	1,126
570	577	591	629	626	625	626	619	619	622	621	619
3,743	3,764	3,832	4,000	3,932	3,936	3,855	3,930	3,954	4,023	4,078	4,040
201	199	201	206	198	198	186	197	199	205	211	206
46	54	48	48	49	50	50	51	52	52	53	53
0	18	20	21	23	24	26	27	29	30	31	33
0	14	16	17	18	19	20	21	22	23	24	26
1	39	42	45	48	51	54	57	60	62	66	69
259	262	266	280	280	277	279	294	289	298	298	299
8,898	9,001	9,118	9,611	9,617	9,501	9,587	10,100	9,909	10,229	10,220	10,259
2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331	2,331
152	140	121	140	150	164	188	198	213	205	213	218
935	950	970	1,035	1,035	1,033	1,028	1,031	1,020	1,020	1,026	1,014
695	687	696	711	683	683	642	681	688	709	732	715
420	416	421	430	413	413	389	412	416	429	442	431
0	12	13	14	15	89	99	176	177	177	178	179
102	104	106	112	112	113	113	113	113	114	114	114
117	118	119	123	123	123	123	122	122	122	122	122
1,221	1,181	1,149	1,119	1,088	1,058	1,030	1,006	981	960	938	919
423	423	423	423	423	423	423	423	423	423	423	423
231	257	263	268	272	275	277	278	278	277	276	275
1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,193	1,141	1,070	998
372	372	372	372	372	372	372	372	372	372	372	372
372	372	372	372	372	372	372	372	372	372	372	372
372	372	372	372	372	372	372	372	372	372	372	372
255	255	255	255	255	255	255	255	255	255	255	255
20	20	20	20	20	20	20	20	20	20	20	20
30	30	30	30	30	30	30	30	30	30	30	30
0	0	0	291	358	182	330	715	533	900	934	1,099
-343	-232	-108	0	0	0	0	0	0	0	0	0
8,898	9,001	9,118	9,611	9,617	9,501	9,587	10,100	9,909	10,229	10,220	10,259

Figure 3: ESTIMATED ELECTRICAL ENERGY LOADS AND RESOURCES



Notes:

Based on estimated project pumping during median conditions of water supply in the Sacramento-San Joaquin Delta and project service areas. Maximum generating capacities shown in megawatts(MW) for the respective plants do not represent dependable capacities and are subject to interruptions, water delivery requirements, and other limitations.

*14 small hydroelectric power plants including Cottonwood Powerplant.

**Future recovery plants include pumping-generating plants at Thomes-Newville and Los Vaqueros Reservoir Complexes and a power plant on the Coastal Branch.

2000 Supply, in billions of kWh

IDENTIFIED RESOURCES

(1) Edison Purchases/Other Purchases, estimated maximum possible off-peak energy purchases from Southern California Edison Company under the Power Contract signed October 11, 1979, based on a preliminary analysis of available transmission capacity (approximately 225 MW)..... 1.00

(2) Binkley, a proposed 55-MW geothermal development. Currently, DWR is negotiating an agreement with McCulloch Geothermal and Geothermal Kinetics Inc. for exploration and development of the Lake County resource..... 0.37

(3) Honey Lake, a proposed 55-MW wood-waste/geothermal development. Feasibility studies are underway, jointly funded by the Department of Energy, U. S. Forest Service, GeoProducts Inc., and DWR..... 0.26

(4) Isabella Lake, in June 1981, DWR received a FERC Preliminary Permit to conduct studies for construction of a power plant at the reservoir outlet. DWR is proposing to construct an 3-MW powerplant at the U. S. Army Corps of Engineer owned and operated lake. It is currently planned for completion in 1984..... 0.02

(5) South Geysers, a 55-MW geothermal development proposed to be constructed by the DWR in the Sonoma County portion of The Geysers area -- currently in the AFC process before the CEC..... 0.37

(6) Bottle Rock, a 55-MW geothermal development. Construction was started by DWR in May 1981, at the site in the Lake County portion of The Geysers area..... 0.37

(7) Wind, the output of this resource represents a possible future combination of DWR-owned facilities and joint-DWR/utility company facilities approximating a 13-MW resource..... 0.03

(8) Reid Gardner Unit No. 4, the estimated portion to be available to the DWR from the output of a 250-MW unit to be constructed jointly by the DWR and Nevada Power Company under an executed Participation Agreement. (169.5 MW DWR share)..... 1.00

(9) MWD Hydro, the output, under an executed purchase contract, from five small hydroelectric developments being constructed by The Metropolitan Water District of Southern California on its distribution system -- totalling about 29.5 MW capacity..... 0.28

(10) Pine Flat, the output, *under an executed purchase contract*, from a proposed 165-MW hydroelectric plant under construction by the Kings River Conservation District at the base of existing Pine Flat Dam..... 0.42

(11) DWR-Southern California Edison Exchange, the estimated amounts of off-peak energy to be made available to the DWR *in exchange* for 485 MW of SWP on-peak capacity to be provided to the Southern California Edison Company, under the Power Contract signed October 11, 1979..... 0.92

(12) Project Small Hydro, the output of 14 small hydroelectric powerplants including Cottonwood Powerplant (17 MW) *with a* total capacity of 45 MW..... 0.24

(13) Recovery Plants, the DWR's share of output of constructed Castaic Powerplant (214 MW), San Luis Pumping-Generating Plant (222 MW), and Devil Canyon Powerplant (120 MW); William E. Warne Powerplant now under construction (75 MW); *as well as* proposed powerplant along the Coastal Branch, and pumping-generating plants at the proposed Thomes-Newville and Los Vaqueros Reservoir Complexes..... 2.56

(14) Hyatt-Thermalito, the output from existing hydroelectric plants *(920 MW combined capacity) located below Oroville Dam* which is now sold to the California Companies under a power sale contract to be cancelled effective April 1, 1983..... 2.33

TOTAL, ALL IDENTIFIED SOURCES..... 10.26

and graphically in the "Estimated Electrical Energy Loads and Resources" chart. Also indicated in this chart is the estimated energy that will not be needed as the Department achieves its goals of water conservation and wastewater reclamation, as directed by SB 200. The realization of these goals will simply mean that less water will be required from the Delta, with a corresponding reduction in energy requirements. Exhibit 3 illustrates the estimated loads and mix of resources by type--classified as renewable or nonrenewable--for 1981 and 2000.

STATE WATER PROJECT ELECTRIC RESOURCE MIX

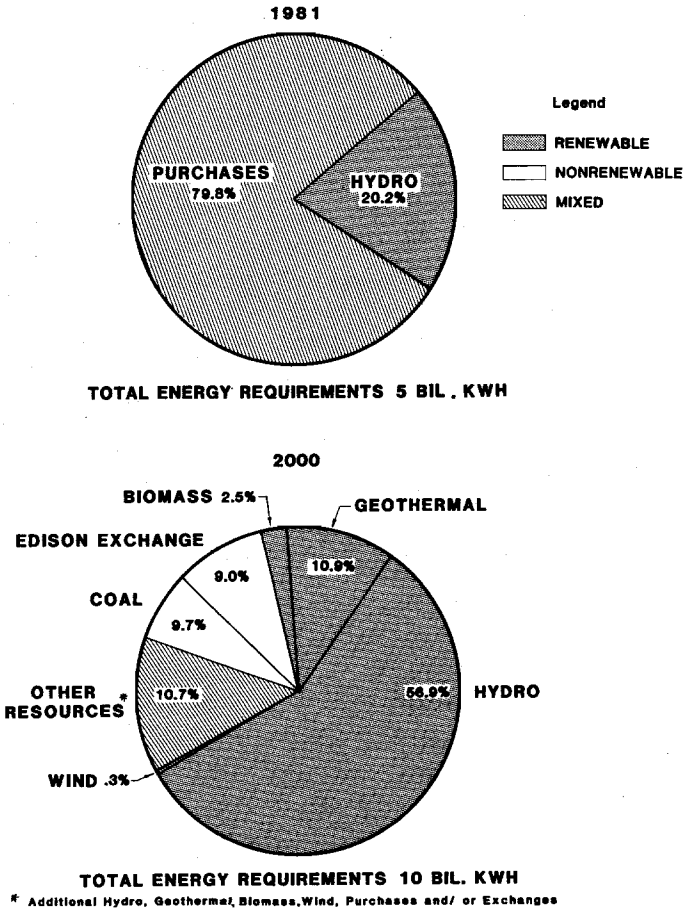


EXHIBIT 3

Initially, energy for operation of the Project was provided through the Department's recovery plants and energy purchases from other electric utilities. Contracts for these energy purchases will terminate March 31, 1983, and new supplies must be secured.

While there are a number of factors which influence the selection of specific resources (environmental and technical constraints, economic analyses, etc.), efforts to secure additional energy resources are guided by the Department's energy policy, which directs that the Department will:

- provide 70 percent of the energy requirements associated with operation of the SWP through utilization of renewable and geothermal resources;
- become energy self-sufficient and operate the SWP as an interconnected utility system by 1983;
- acquire energy and transmission resources for the SWP in a manner that (a) is economically sound, (b) has the highest regard for environmental concerns, (c) promotes the best utilization of the existing capacity of SWP facilities, and (d) represents a diversified mix of energy resources;
- maximize use of energy conservation techniques and systems (including water conservation) in order to reduce energy requirements;
- utilize SWP resources to meet SWP loads in a manner that minimizes the need for additional resources within the State; and
- Identify and undertake demonstration projects to determine the feasiblity of new energy generation techniques.

In line with this policy, Department activities to ensure that sufficient energy resources are available for operation of the SWP have moved in three general directions: (1) purchase, sale

and/or exchange of energy from other utilities; (2) participation in joint ventures or independent development of energy generation facilities; and (3) acquisition of transmission service to deliver the energy to the pumping plants.

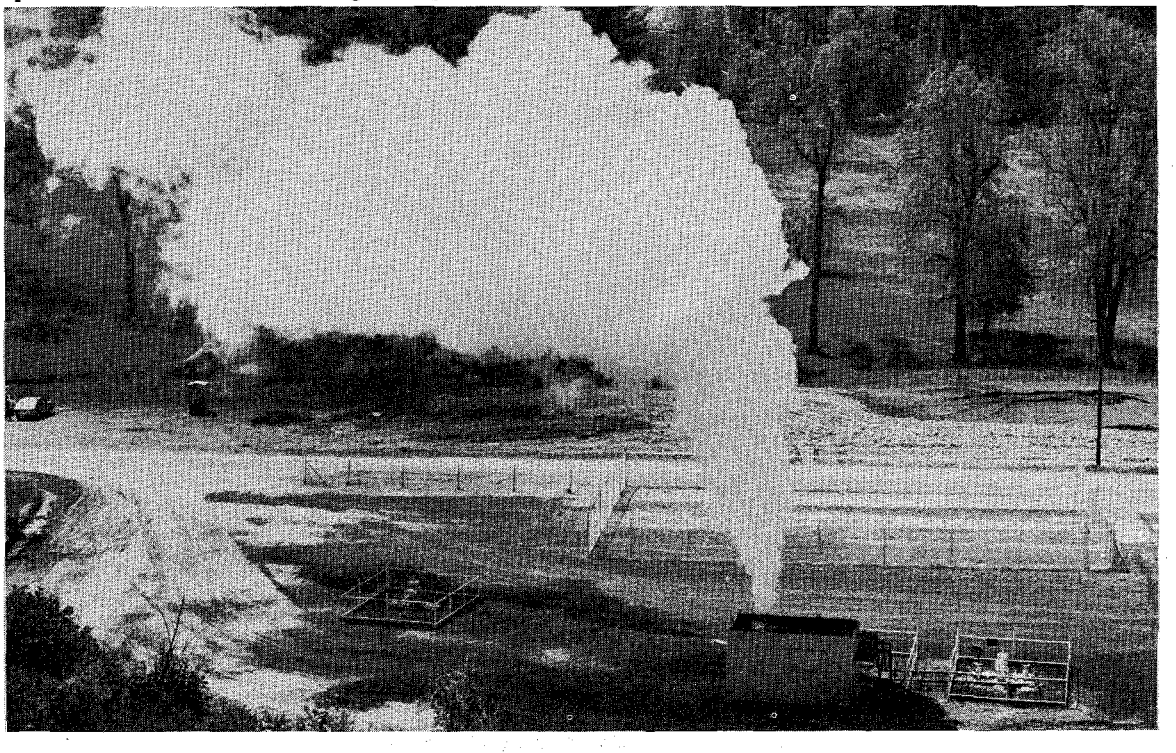
Purchase, Sale, and/or Exchange. In addition to power contracts negotiated in previous years, (see summary on page 102), during 1980, the Department requested proposals from California utilities for purchase or exchange of an additional 300 MW of Hyatt-Thermalito capacity beginning in 1985. Several proposals were received but none were believed capable of providing the Department with full value for the resource. While rejecting all initial proposals, the Department subsequently negotiated with interested utilities on an individual basis. As a result of these negotiations, an agreement in principle was reached with Southern California Edison Company for the exchange of 225 MW of Hyatt-Thermalito capacity.

The Department is continuing to pursue acquisition of surplus power from Bonneville Power Administration and other Pacific Northwest sources, as well as sources in the Pacific Southwest.

Resources Development Projects. Alternative energy options are constantly being evaluated as factors affecting the energy market change and as it becomes necessary to reevaluate the Department's resource plan. During 1980 and 1981, the range of options either being considered for development or actually being developed by the Department included the following:

° Geothermal. The Department is continuing development of this preferred energy resource.

1. Bottle Rock Powerplant. This plant, located on the Francisco Leasehold in Lake County, is the first 55-MW geothermal unit the Department is developing in The Geysers area (see also page 105, Bulletin 132-80). The steam will be supplied to the plant under contract with McCulloch Geothermal (MCR) Geothermal Kinetics Inc. (GKI), and Entex Petroleum.



A view of the Francisco Leasehold first well in foreground. Bottle Rock Powerplant will be located in upper left of photo.

In October 1978, the Department initiated efforts to obtain regulatory approval to begin construction of the project, and on November 5, 1980, the Department received final approval from the California Energy Commission (CEC) to proceed with construction. The power plant and related facilities will consist of a 55-MW turbine-generator, a condensing system cooling tower, electrical switchyard, atmospheric emission control systems, and a 1.8 (1.1 mile) long transmission line.

In October 1980, the Department awarded $6.1 million contract for the turbine generator. The Department has also awarded the initial site development contract. Groundbreaking ceremonies were held at the site on May 6, 1981, (see page 50) and the contractor has begun the work. The plant is scheduled to be in commercial operation by June 1, 1984.

2. *South Geysers Powerplant.* The Department's second geothermal plant in The Geysers "Known Geothermal Resources Area" is the South Geysers project, a 55-MW plant to be located on the Rorabaugh Leasehold in Sonoma County (also see page 107, Bulletin 132-80). The steam supplier for South Geysers is Geothermal Kinetics, Inc. The initial approval of the Notice of Intention (NOI) to construct the project was issued in June 1980. The Department filed an Application for Certification (AFC) with the CEC in March 1981. Final approval is expected in November 1981. Construction is planned to begin in the spring of 1982, with commercial operation beginning in July 1985.

3. *Binkley.* The Department owns the rights to explore and develop geothermal resources on the Binkley Leasehold, a 190-hectare (471-acre) parcel of land located adjacent to the Francisco Leasehold in Lake County. This project was first identified in Bulletin 132-79 (see page 120).

Exploratory drilling on the leasehold had been deferred, pending the outcome of the environmental review process for the Bottle Rock project. The Department is currently negotiating an agreement with MCR and GKI for exploration and development of the resource. The Department plans to complete environmental documentation for the exploratory phase of the project, drill exploratory wells, and evaluate the steam resource during the remainder of 1981 and into 1982.

4. *South Brawley.* As reported in Bulletin 132-80 (see page 108), the South Brawley project is a joint venture with MCR Geothermal Corporation and Geo Mac Incorporated (collectively known as CU I Venture). The Department is contributing 25 percent toward the capital costs for exploration, testing, and development of the geothermal resource on MCR's 4 622-hectare (11,422-acre) lease just south of Brawley in Imperial County. In return, the Department is entitled to a 25-percent share of any benefits derived from development of the resource. Furthermore, the Department has the right to equal the best offer received from any party to build a power plant and purchase steam from the leasehold.

The first phase of exploration and testing was completed in February 1981. Following analysis of the test data, a second (confirmation) phase, involving the drilling and testing of from one to three confirmation wells, will be instituted. This is scheduled to begin in September 1981. The objectives of this two-phase program are to define the fluid properties and chemistry, to measure well productivity, to assess reservoir chemistry and size, and to determine the commercial availability of the resource.

5. *Heber.* The purpose of the Heber Project is to demonstrate the commercial feasibility of utilizing the "binary cycle" to generate electricity from geothermal hot water. The project, managed by San Diego Gas and Electric Company (SDG&E), would be located in the

Imperial Valley near the town of Heber. The Department, the State of California, and the Imperial Irrigation District are participating in the project as part owners (3.2, 4.5, and 10.5 percent respectively, based on current cost estimates). In addition, the U.S. Department of Energy (DOE), the Electric Power Research Institute, and Southern California Edison Company are contributing funds to the project. The Department's share of ownership is being funded by, and the energy will be used by, the SWP. The State's share is the result of a $2 million appropriation from the Energy and Resources Fund, as included in the 1981 budget act (Chapter 99, Statutes of 1981).

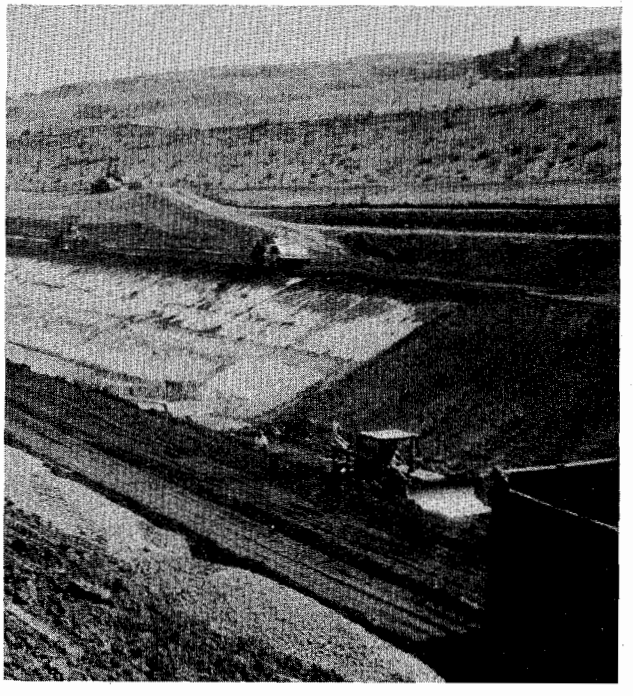
Construction is scheduled to begin in late 1982 and to be completed in November 1984. A two-year demonstration period will begin upon completion of plant construction.

° Hydroelectric. The Department has an agressive program to develop hydroelectric projects at existing hydraulic structures such as dams, canals, and pipelines.

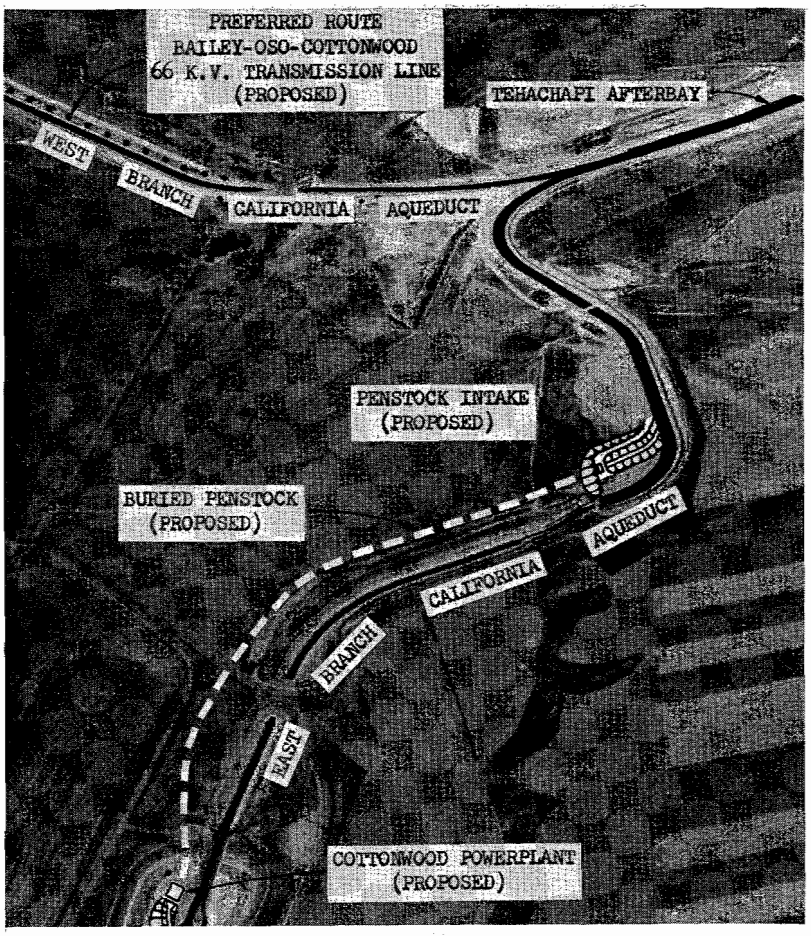
1. William E. Warne Powerplant. Facilities of this hydroelectric project include (1) Quail Lake and Lower Quail Canal; (2) Peace Valley Pipeline (Phase I) with one 3.65 metre (12 foot) diameter pipe; and (3) William E. Warne Powerplant (Phase I), with two 37.5 MW generators and appurtenant facilities.

The Quail Lake Enlargement and outlet structure contract was completed in December 1980. The Peace Valley Pipeline intake facilities, and construction of Quail Lake and Lower Quail Canal, were 60 percent complete as of June 30, 1981. Construction of the Peace Valley pipeline is almost finished. Construction of the William E. Warne Powerplant continues. The Phase I facilities are expected to be operational in 1982 and will be adequate to convey water deliveries until at least the mid 1990's.

Phase II, consisting of a parallel pipeline and additional generating units at the power plant, may be required, depending on Metropolitan Water District's requirement for water deliveries from the West Branch.



Aqueduct construction in progress for the Quail Canal facility on the West Branch of the California Aqueduct.



Looking east showing the proposed Alamo Powerplant (formerly Cottonwood) site. The powerplant will be located downstream from Tehachapi Afterbay, and juncture of the East and West Branches of the California Aqueduct.

2. Alamo Powerplant (formerly Cottonwood Powerplant). Alamo Powerplant will be located on the California Aqueduct about 16 kilometres (10 miles) east of Gorman. A 5.2-metre (17-foot) diameter concrete penstock will be constructed alongside the existing open chutes to utilize the 41.1-metre (135-foot) head drop in the aqueduct. The first phase of this facility (Unit No. 1) now under construction, will have a capacity of 17 MW, and will produce approximately 115 million kWh/yr. A contract for the turbine was awarded in October 1980, and bids for the civil works are scheduled to be opened in December 1981. Unit No. 1 is scheduled to be on-line in February 1985.

The size of the second turbine/generator unit at Cottonwood depends on the future enlargement of the Mojave Division of the California Aqueduct. The on-line date for the second unit is estimated to be 1988.

3. Small Hydro Projects at SWP Sites. The Department is committed to developing all feasible small hydro opportunities on the SWP. Further analysis of potential sites in 1981 has led to a revision of previously reported scheduling of project construction. Two previously reported projects (Frenchman and Antelope) have been indefinitely postponed, two projects (Western-Richvale Outlet and Sutter-Butte Outlet) have been added to the program, and Davis is being restudied. Following is a list of the Department's small hydroprojects and their anticipated completion dates.

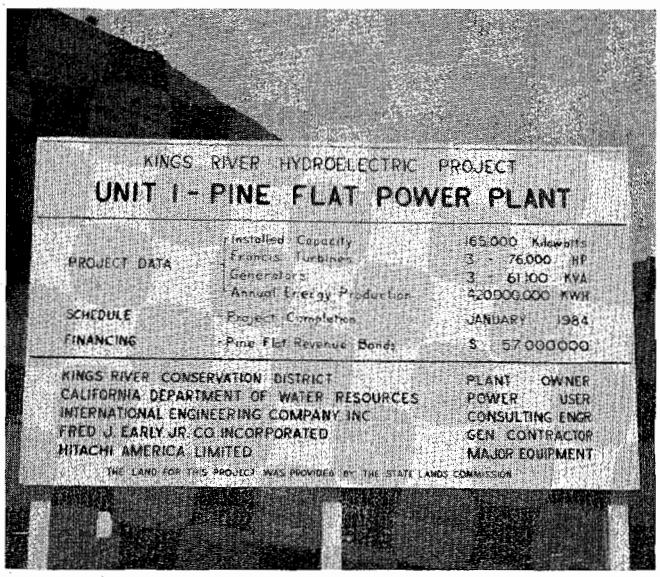
SMALL HYDRO PROJECTS AT STATE WATER PROJECT SITES

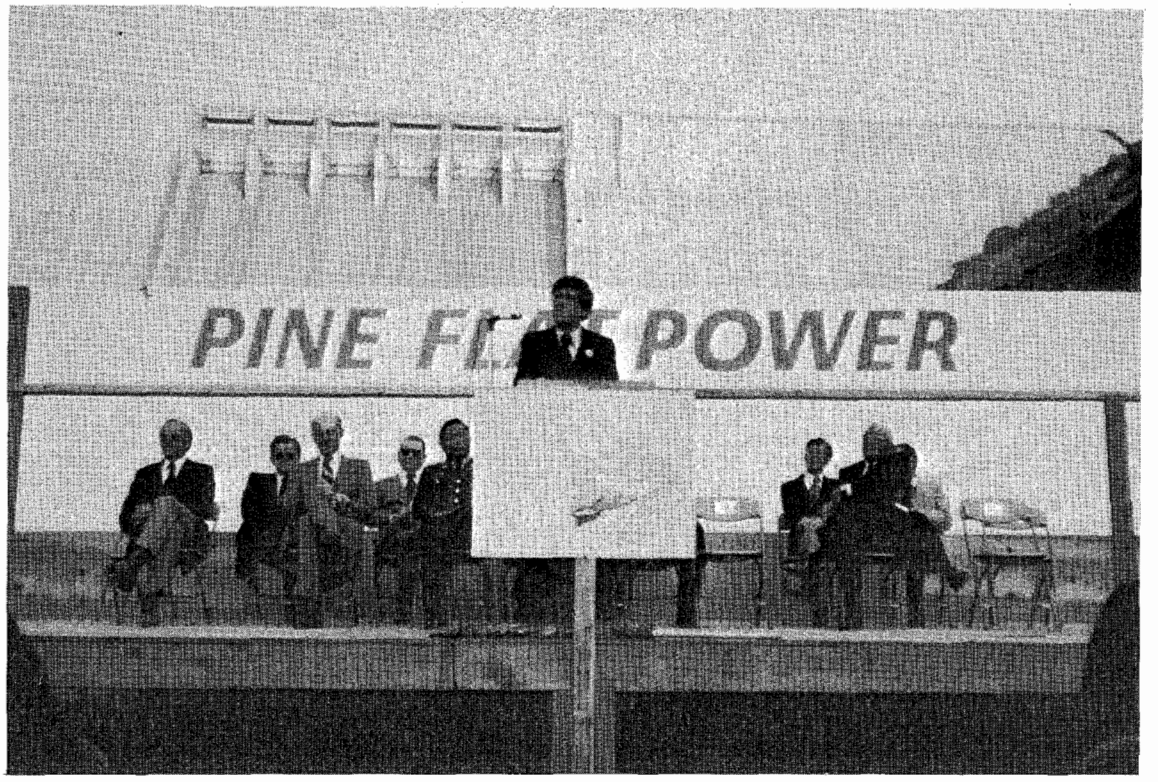
Project	Location	Anticipated Completion Date
Mojave Siphon No. 1 6.0 MW	San Bernardino County	July 1985
Mojave Siphon No. 2 10.0 MW	San Bernardino County	Depends on California Aqueduct Enlargement
Thermalito Diversion 3.0 MW	Butte County	February 1985
Thermalito Afterbay 13.0 MW	Butte County	November 1984
Palermo 0.5 MW	Butte County	July 1985
Castaic Outlet 0.9 MW	Los Angeles County	May 1985
Pyramid Outlet 1.0 MW	Los Angeles County	May 1985
Del Valle No. 1 .005 MW	Alameda County	Currently Installed
Del Valle No. 2 0.13 MW	Alameda County	December 1985
Las Flores 0.19 MW	San Bernardino County	December 1985
Western-Richvale 0.8 MW	Butte County	May 1984
Sutter-Butte 2.3 MW	Butte County	May 1984

EXHIBIT 4

Current scheduling indicates that Federal Energy Regulatory Commission (FERC) applications will be filed on all of the following projects by September 1981. In addition, water right applications will be prepared and filed, if needed, and all of these units are to be under constuction by February 1983.

4. Pine Flat. As a result of a successful competitive bid process in 1977, the Department, on November 6, 1979, executed a contract with Kings River Conservation District agreeing to purchase the output from this project (see also page 115, Bulletin 132-80). This project will capture energy now wasted through dissipation valves. The project





Director Ronald B. Robie participated in the groundbreaking ceremony for the Pine Flat Powerplant which took place December 1, 1980. The hydroelectric project is being built by Kings River Conservation District to supply energy for the SWP.

is currently under construction (groundbreaking took place December 1, 1980), and the plant is scheduled to come online in 1983. Construction is being monitored by the Department's Division of Design and Construction.

5. Isabella Lake. Isabella Lake is owned and operated by the U. S. Army Corps of Engineers. It provides storage of irrigation water, flood control, and conservation. On June 9, 1981, the Department received a FERC Preliminary Permit to conduct studies for the preparation of a FERC license application for a power plant at this existing facility.

Environmental and engineering studies for the FERC license application will be completed by May 1982. The proposed 8 MW power plant is scheduled for completion in 1984.

6. MWD Hydro. The Department's contract to purchase the output from five small hydro power plants on MWD's system (Phase 1) was described in Bulletin 132-79 (see page 10). Purchases will commence April 1, 1983. In addition to construction progress reported in Bulletin 132-80 (see page 116), the Foothill Feeder Plant was completed in January 1981, the San Dimas Plant was completed in June 1981, and the Yorba Linda Plant is scheduled for completion in October 1981.

The Department is currently negotiating for the possible purchase of the additional power that would be generated at additional proposed hydro plants being developed by MWD.

7. Bulletin 211. In April 1981, the Department published Bulletin 211, which reported the results of studies evaluating the feasibility and cost effec-

tiveness of developing power plants at existing hydraulic structures throughout California. From the studies, it was determined that 240 of the 285 potential sites identified, representing 99 percent of the total capacity, would be cost effective by 1989. This study was funded by the General Fund and the Department of Energy.

Progress in the development of small hydroelectric projects is illustrated by the number of projects completed or under construction and the number of preliminary exemption permits and license applications filed with FERC. As of June 1981, of the 285 potential projects, 92 facilities -- representing over 355 MW of the total potential capacity of 510 MW -- have been completed, are under construction, or have been applied for with FERC.

The Department, in cooperation with DOE, has established a joint DWR-DOE Outreach Program to encourage and facilitate the rapid growth of technically, economically, and environmentally sound small hydro facilities at existing sites in California. This program began in September 1980 and will terminate at the end of January 1982. The tasks undertaken to implement this program include conducting meetings and workshops to encourage public and private participation in small hydro development, and preparing descriptive materials, including the bimonthly newsletter "Small-Scale Hydro News" for use by interested parties.

° Biomass--Honey Lake Project. This proposed hybrid geothermal--wood-waste power plant is considered a biomass-fueled project. The Department is also evaluating development of other biomass projects in participation with other parties. In September 1979, the Department signed a three-party agreement (Department, GeoProducts Corp., and the U. S. Forest Service) to study the feasibility of constructing a unique hybrid wood-residue--geothermal power plant. (For additional details see Bulletin 132-80, page 120.) The 55-MW plant will be the first in the world to combine two abundantly available resources -- moderate temperature geothermal water and forest residues to generate electricity. Studies to evaluate the technical, economic, and environmental feasibility of constructing, operating, and maintaining a 55-MW hybrid geothermal--wood-residue plant are now in progress and are expected to be completed by October 1981. If the results are favorable detailed licensing and environmental studies will begin.

The estimated feasibility study costs are $2,848,000. Funding is by the three parties and DOE. DOE has granted $425,000 to the Department for use on project studies and has recently selected the project for cost-sharing of the $1,500,000 in exploration well expenses. Cost-sharing is based on the success of the well, with a 20-percent reimbursement for a successful well and a 90-percent reimbursement for an unsuccessful well.

° Cogeneration. The Department is now evaluating groups of potential cogeneration projects at State-owned facilities. Projects initially considered to have the highest potential are being evaluated. Only those projects considered technically feasible will be considered for development.

The final report by Kaiser engineers on the feasibility of the first group of projects (Porterville, Fairview, and Sonoma State Hospitals and the California Veterans Home at Yountville) has been completed. The studies indicate that a 2-1/2 MW cogeneration unit is technically feasible at each of these sites. The Department is considering selection of a consultant for the engineering design, construction drawings, and equipment specifications for the projects at Porterville, Fairview, and the Veterans Home. The first units could be operational in 20 months.

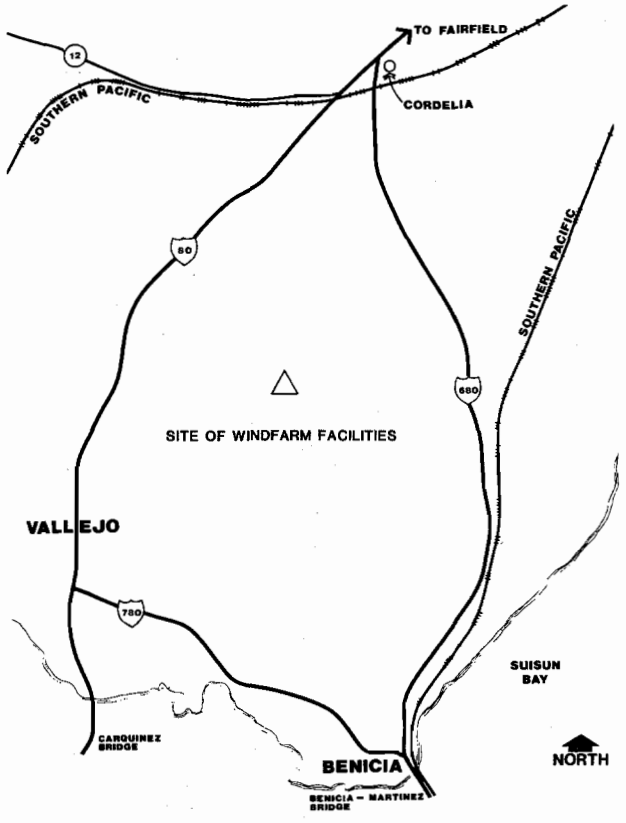
Further activity at Sonoma is being delayed for six months, pending the out-

come of investigations into the development of a geothermal well being conducted through the State Lands Commission. A feasibility investigation of the second group of sites has started. This group includes the U.C.D. Medical Center in Sacramento and the California Youth Authority facility at Chino. Detailed feasibility studies at the Medical Center and Chino are scheduled for completion in November 1981.

° Wind. The Department began studying wind energy conversion as a potential source of power in 1973. In 1974, the Energy Resource Development Administration funded a study, conducted by Aerospace Corporation, which identified several areas with potentially suitable wind velocities and durations near the SWP load centers. In 1976, anemometer stations were installed at two of the sites, one above Wheeler Ridge Pumping Plant and the other near Cottonwood in Antelope Valley. The Department had previously installed an anemometer at Romero Overlook near San Luis Reservoir.

Along with its data-collection program, the Department is watching developments in wind-turbine technology. About two years ago, it began to appear that large-scale generation of electricity from wind would be technically possible by the mid 1980's. Accordingly, the Department began work on a demonstration project, and, based on the wind data program, selected a site near San Luis Reservoir for the first wind-turbine generator. The machine is a 50-kW vertical-axis machine manufactured by DAF Indal Ltd. It was first rotated in January and officially dedicated on March 27, 1981 (see page 47). The major purposes of this installation are to gain operating and maintenance experience and to determine what problems may be associated with integrating wind energy into the electric utility grid.

The Department has offered to purchase wind energy generated by private developers. In March 1981, the Department, PGandE, and Windfarms Ltd. executed a Memorandum of Understanding for the



Approximately in the middle of the rough triangle formed by Interstate Routes 80, 680 and 780 is the area where Windfarms, Ltd., plans to install wind-powered turbine generators that will have an electric generating capacity of 350,000 kilowatts by the end of the third phase of development in 1989.

Pictured above is an artist's depiction of how wind-powered turbine generators might look on a portion of a proposed 350,000 kilowatt wind energy farm in Solano County. The wind farm, which would be the largest in the world, would upon completion include 146 wind-powered turbine generators. It would be partially visible from Interstate 680 pictured in the foreground.

world's largest wind farm (300 MW), to be located in Solano County. The Department and PGandE are currently negotiating to purchase a portion of the off-peak energy output from the first phase (92 MW) of the wind farm. PGandE plans to seek approval from the California Public Utilities Commission to purchase energy from the project. The environmental impact report is scheduled for completion in April 1982. At that time, the Department will make a final commitment regarding participation in the project. Phase I Construction is scheduled to start May 1982. Commercial operation, start of the first turbine, is scheduled for December 1983.

Separate discussions continue with other private developers, including U.S. Windpower, for development of wind-energy projects that are economically feasibile and compatible with operation of the SWP. Right now, however, none of those projects has reached the contract stage.

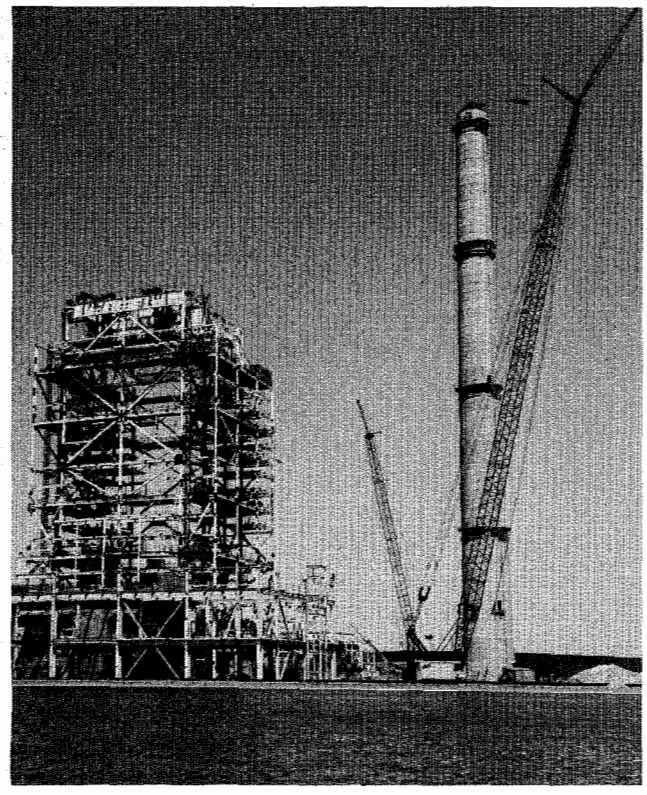
The Department's long-range goal is to have 100 MW of wind-powered generating capacity by 1990. This capacity will utilize a variety of sources, including facilities owned and operated by the Department, joint Department/utility company facilities, and power purchases from private wind-energy developers.

These rolling, windswept hills in Solano County west of Fairfield are typical of the area where Windfarms, Ltd., San Francisco, plans to develop a 350,000 kilowatt wind farm, the largest in the world. Commercial energy production from the facility could start by 1983, with completion of the 92,000-kilowatt first phase scheduled for 1985. The second phase of the project would add 124,500-kilowatts of generating capacity and the final phase, to be completed by 1989, another 134,000-kilowatts.

Coal--Reid Gardner Project. The only coal-fired project being developed by the Department at this time is the Reid Gardner Unit No. 4 coal-fired energy project in Nevada. On June 30, 1981, the Department sold $150 million in short-term revenue-bond anticipation notes to finance continued participation in construction of the Reid Gardner plant. The short-term notes are due June 1, 1984. The Department was unable to market long-term revenue bonds for Reid Gardner, because of the current high interest rates, which exceed the 8.5 percent limitation on interest that state agencies can pay on long-term bond issues. During the 1981 legislative session, the Department sponsored legislation (SB 1057, Ayala) increasing the maximum rate.

The Department's participation in events leading to the start of construction of the Reid Gardner plant is described in Bulletin 132-79 (pages 115-16) and Bulletin 132-80 (page 124). Design and construction management of the plant are by Fluor Power Services, Inc., under the supervision of the Nevada Power Company. The Department is also monitoring the construction work.

Contracts have been awarded for nearly all the major equipment to be installed at the facility. Morrison-Knudsen and Fegles and Lord are performing the general construction work as a joint venture. Construction continues on framework for the boiler and turbine buildings, and the 200-ton boiler drum hoisted to the top of the steel frame of the boiler building. The 500-foot chimney structure was completed, and foundation work for the coal-handling facilities and cooling towers is underway.



Reid Gardner Powerplant (Nevada) construction of the boiler building structural steel frame and the new 500-foot high chimney for Unit No. 4.

Most construction operations were shut down during May because toxic fumes from existing chimneys apparently caused structural steel workers to become ill. An air-monitoring system was installed, and construction is continuing. The contractor is also considering extending the chimneys as a corrective measure.

Construction is now about 25-percent complete. The main contractor is somewhat behind schedule, but Nevada Power Company is holding to the scheduled operation dates of early 1983.

Research and Development Activities. In 1977 the California Water Commission approved the Department's research and development (R&D) program to identify new sources of energy for the SWP. The Commission recommended that the Department conduct energy-oriented R&D programs in an amount not exceeding $500,000 per year. That level of activity is commensurate with R&D activities by other utilities, as recommended by the American Public Power Association and the Electric Power Research Institute.

The Department began the program during fiscal year 1977-78. Through fiscal year 1980-81, expenditures have averaged $303,000 per year; through fiscal year 1982-83, expenditures are expected to average about $415,000 per year (since 1977-78).

The first Department activities included (a) a wet/dry cooling tower project for water and energy conservation; (b) wind-energy assessment and modeling studies, which led to a Department of Energy grant for a meteorological data tower at Pacheco Pass to verify the existence of sufficient wind to operate a large wind-energy turbine; and (c) studies to determine the availability and cost of biomass as fuel for power plants, which led to participation in the four-agency Honey Lake Geothermal/Biomass project (see "Biomass--Honey Lake Project," on page 26).

Current program activities include (a) wind resource assessments at Pacheco Pass and in the Tehachapi Mountains; (b) a 50-kilowatt vertical-axis wind-turbine demonstration unit at Romero Overlook (funded in part by the California Energy Commission and Pacific Gas and Electric Company); (c) biomass and agricultural-residue feasibility studies (leading to a small rice-residue-fueled power plant in Northern California); (d) evaluation of solar photovoltaic applications to the SWP; and (e) support of the multiagency binary-cycle demonstration geothermal power plant at Heber in the Imperial Valley (see "Heber" on page 21).

Ground Water Storage Programs.

The Department's program for meeting future water needs includes storing water in ground water basins in the San Joaquin Valley, South San Francisco Bay area, and Southern California.

The potential for storing water in ground water basins during wet periods and withdrawing it during dry years has been recognized for many years. Interest was intensified in the early 1970's, with the increasing public opposition to the development of new onstream reservoirs as a means of augmenting water supplies. In Bulletin 76, "Delta Water Facilities", published in July 1978, the Department outlined its plans for developing up to 493 000 cubic dekametres (400,000 acre-feet) per year of firm SWP yield from storage in the San Joaquin Valley and in Southern California ground water basins. This was incorporated in SB 200.

In the initial phase of the Department's current ground-water-basin storage program, a number of ground-water basins with potential for SWP storage were identified for further study. In 1975, the Department began a study of the San Fernando Basin in Southern California to determine the possibility of implementing a program in the basin. The Department's Bulletin 186,[3/] released on August 8, 1979 at a Ground Water Basin Storage Symposium sponsored by the Department, reports on the study and includes the following information.

- Physical characteristics and capacilities of the basin.
- Potential for use of existing conveyance, spreading, and extraction facilities.
- Financial, legal, institutional and environmental impacts involved in the use of the basin.

In 1978, the Department completed reconnaissance-level studies for the White Wolf Basin and Kern River Fan Area in the southern San Joaquin Valley; and the Chino, Raymond, Bunker Hill-San Timoteo-Yucaipa, Antelope Valley, Santa Clara River Valley, San Gabriel, Orange County, San Fernando, and Dos Posas Basins in Southern California. Each of these areas was considered to meet the general criteria for ground water storage (see Bulletin 132-78, page 22). In 1979, DWR completed technical information records describing each of these studies. Additional reconnaissance-level studies have been completed by DWR in the Livermore Valley of San Francisco Bay area and the Coachella Valley of Southern California.

As a result of the reconnaissance-level studies, Chino, Raymond, Bunker Hill-San Timoteo-Yucaipa, Orange County, and the San Fernando Basins were recommended for feasibility studies.

The Department, the Chino Basin Municipal Water District, and The Metropolitan Water District of Southern California are sponsoring a Chino Ground Water Basin feasibility study, funded by DWR and MWD. Phase 2 of the Chino Ground Water Basin storage feasibility study is presently being conducted, and the study is to be completed by April 1982.

The Department, San Bernardino Valley Municipal Water District, and San Gorgonio Pass Water Agency have signed an agreement to determine the feasibility of increasing the SWP's yield through ground water storage in the Bunker Hill, Yucaipa, San Timoteo, and Colton-Rialto ground water basins. The study will also benefit San Gorgonio Pass Water Agency in determining alternatives for

3/ DWR Bulletin 186. "A Ground Water Storage Program for the State Water Project: San Fernando Basin Theoretical Model". May 1979.

meeting its future water demands through SWP imports. The study will be completed in December 1982.

The Department has also contracted for a San Joaquin Valley hydrologic-economic modeling study, which is scheduled for completion in October 1982. The objective of this general-funded study is to develop a modeling system that will assist the Department in evaluating agricultural-water imports under different supply and demand situations and alternative water management scenerios.

The Department is negotiating with the Kern County Water Agency to undertake a joint feasibility-level study of the Kern River Fan Area. The study is scheduled to begin in July 1982 and to be completed by June 1984.

Preliminary estimates indicate that ground water storage could provide up to 493 000 dam^3 (400,000 acre-feet) of SWP yield annually during the critical period. The Department will continue its efforts to select one or more basins for early implementation of a ground water storage program to augment SWP water supplies.

Ground Water Replenishment in Kern County. In 1979, the first large-scale program to mitigate chronic ground-water overdraft in the San Joaquin Valley portion of Kern County, using surplus SWP water, was organized and implemented by 12 established county water entities, including the Kern County Water Agency, which coordinated and managed the program. The 1979 Ground Water Replenishment Program was in addition to, not in place of, any existing ground-water-recharge programs.

Its purpose was to purchase as much surplus SWP water as possible, in addition to the normal amounts scheduled by Agency member units, and deliver it for direct or "in-lieu" ground water recharge. "In-lieu" recharge substitutes surface water for the ground water that normally would have been pumped to meet the demand. The 12 participating entities contributed funds for purchase and delivery of surplus SWP water and permitted use of their conveyance and recharge facilities.

The Agency's Cross Valley Canal (completed in 1975) was used for transporting SWP water to recharge sites and in providing means for water exchanges beneficial to the program. The program resulted in the addition of a total of 248 090 dam^3 (201,290 acre-feet) of water to the ground water basins--191 655 dam^3 (155,501 acre-feet) by direct recharge and 56 435 dam^3 (45,789 acre-feet) by "in-lieu" recharge.

Waste Water Reclamation and Desalination.

Senate Bill 200 includes waste water reclamation to provide additional yield for the State Water Project. Reclamation and recycling, together with water conservation measures within the boundaries of SWP contractors, could reduce total SWP demand by 863 000 dam^3 (700,000 acre-feet) annually by year 2000.

In addition, one part of Governor Brown's Executive Order B-68-80 directs the Department to implement, as quickly as possible, programs reclaiming agricultural drainage and other brackish water to augment SWP water supplies. The objective is to desalt 493 000 dam^3 (400,000 acre-feet) annually by year 2000. An outline of the work program is now being developed. The feasibility of desalting agricultural drainage water will be studied after results are available from operation of the reverse osmosis demonstration plant in the San Joaquin Valley.

Agricultural Waste Water. The first part of a two-phase study of reverse-osmosis desalting facilities in the San Joaquin Valley has been completed. The results indicate that up to 420 000 dam^3 (340,000 acre-feet) of agricultural drainage water may be available for treatment by State Water Project desalting facilities. The second phase of the study is now underway; its main features are the design, construction, operation, and evaluation of a desalting demonstration module with a nominal capacity of

3.9 megalitres (1 million gallons) per day. The study is one element in the Resources Agency's "Investing for Prosperity" program, a 20-year plan to enhance and restore California's forests, fisheries, wildlife, and other renewable natural resources. Programs are financed through the transfer of up to $120 million each year of State income from its tidelands oil revenues to the Energy and Resources Fund. This special fund was created to enable money from a declining and nonrenewable resource (oil) to be used for the restoration of renewable resources.

Design of the demonstration facility should be complete in November 1981, with construction to follow and operation scheduled to begin in November 1982. The demonstration facility will be operated until June 1985, and, assuming that commercial feasibility of the desalting alternative has been established, detailed plans and specifications will be prepared for the prototype SWP desalting plant.

Planning for solar salt-gradient ponds for power production at the demonstration facility is now underway, with construction scheduled for 1982-83 and operation in 1983-84. The initial facility will produce sufficient power to run a 190 000-litre (50,000 gallon) -per-day reverse-osmosis desalting unit, including preheating of the feedwater (to improve efficiency of the membranes). The solar reverse osmosis unit will be separate from the main reverse-osmosis test units to prevent interference with the primary test program, to minimize costs, and to best utilize the available time.

Capacity of the prototype desalting facility is 30 800 dam^3 (25,000 acre-feet) per year. A process flowchart and an artist's conception of the facility are shown in the following figures.

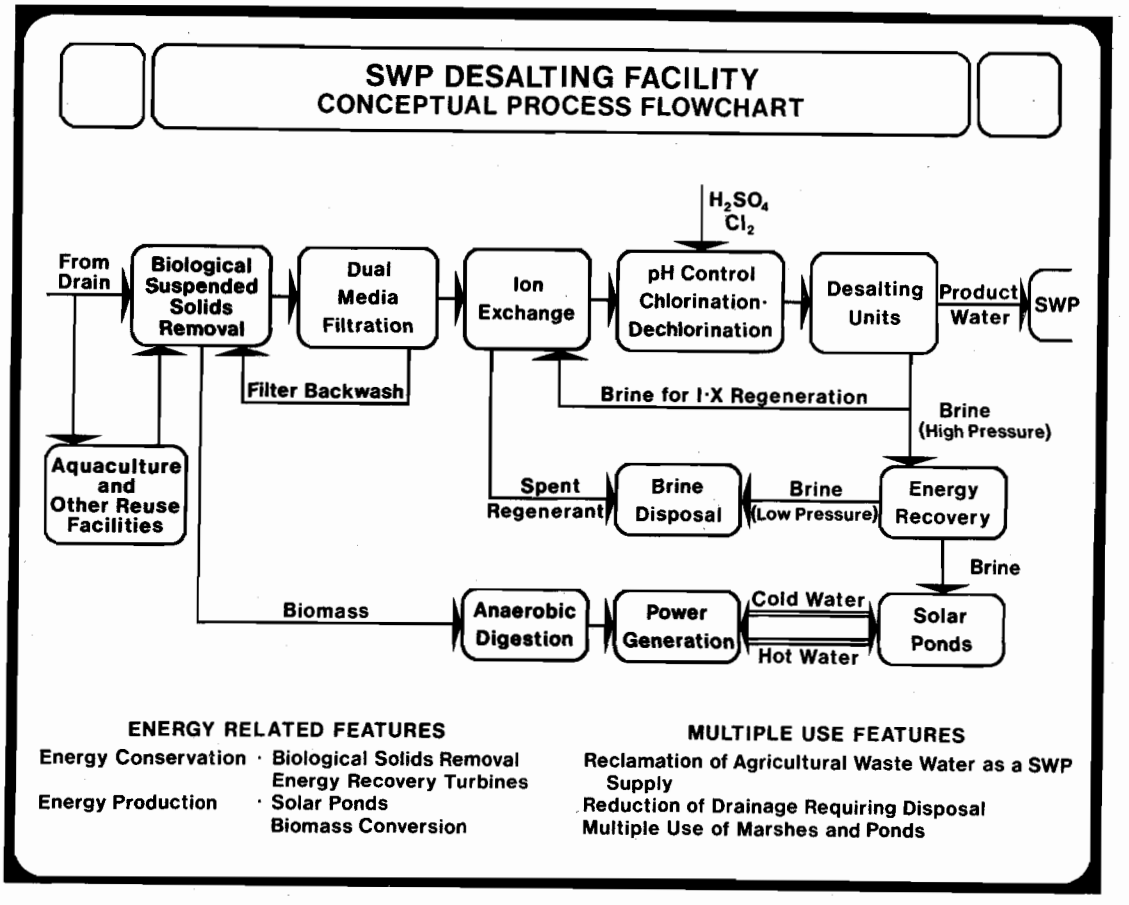
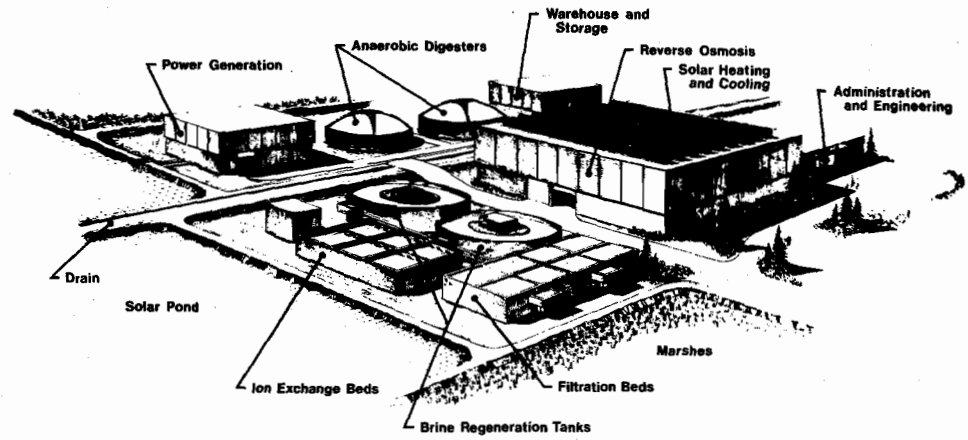


EXHIBIT 5

CONCEPTUAL SWP DESALTING FACILITY



Capacity - 100,000 cubic metres per day (26,400,000 gallons per day)

EXHIBIT 6

Brackish Ground Water. The Department has identified six ground water basins in Southern California SWP service area where brackish ground water could be extracted for desalting. The estimated annual yield from these basins is 48 000 dam^3 (39,000 acre-feet). In one of the six (Lower Chino Basin), the Santa Ana Watershed Authority is planning to desalt brackish ground water and has offered to sell it as an alternative SWP water supply. The Department is now determining an economical cost for that water.

Fifteen other basins containing brackish ground water have also been identified. However, the Department will study the feasibility of desalting that water only on request from the SWP contractor in whose service area the water might be used.

Local Water Supply Programs.

Under the Department's "Guidelines on Funding Local Water Supply Projects for Inclusion in the State Water Project," dated February 1979, local agencies may submit requests for local projects to become part of the SWP (see Bulletin 132-79, pp. 34-35). When requested by a local agency, the Department will study a proposed project to determine whether it meets the criteria for inclusion in the SWP. The status of current studies is shown in the following compilation:

STATUS OF LOCAL WATER SUPPLY PROJECTS

Project	Requesting Agency	Status	Completion Date
	Surface Storage Investigations		
Eagle Canyon Reservoir	Santa Barbara County Flood Control and Water Conservation District (SBCFCWCD) and Goleta Water District (GWD)	Conceptual study found economically unjustified. Project denied.	---
Lompoc Off-stream Water Spreading	SBCFCWCD/City of Lompoc	Conceptual study under review.	October 1981
Cachuma/Hot Springs	SBCFCWCD	Conceptual study under review.	November 1981
	Reclamation of Urban Waste Water		
Morro Bay	San Luis Obispo County Flood Control District (SLOCFCD)/City of Morro Bay	Conceptual study review terminated by City of Morro Bay.	August 1981
Oceano	SLOCFCD/South San Luis Obispo County Sanitation District (SSLOCSD)	Conceptual study held in abeyance pending decision by SSLOCSD.	----
Las Virgenes	The Metropolitan Water District of Southern California (MWD)/Las Virgenes Municipal Water District	Conceptual review completed, February 1981. Feasibility study now underway.	June 1982
Goleta	SBCFCWCD/GWD	Conceptual review completed, June 1981. Feasibility study now underway.	January 1982
	Desalting of Brackish Ground Water		
Lower Chino Basin	MWD Western Municipal Water District/ Santa Ana Watershed Project Authority	Cursory evaluation completed, June 1981. Preparation of data to negotiate potential contract.	January 1982

EXHIBIT 7

Colorado River Projects.

A summary of two recent Colorado River studies follows.

Colorado River Banking Plan. A cooperative reconnaissance-level investigation with DWR-MWD and the Colorado River Board was initiated in 1979 and is to be completed by April 1982. The investigation will determine the merits of a banking program for long-term storage of MWD's apportioned Colorado River water in Lake Mead. Under this plan, MWD would reduce its Colorado River deliveries below its apportionment in years when the SWP has supplies available for delivery from the Delta in excess of MWD's normal demand for SWP water. In return, MWD would receive "storage credits" in Lake Mead and would draw upon the lake during years of deficient SWP water supplies. The Colorado River Banking Plan could not be implemented until sometime after the Central Arizona Project becomes operational. Adequate storage space is not expected to be available in the Colorado River reservoirs until then.

Excess Colorado River Water. "Stretching California's Water Supply: Increased Use of Colorado River Water in California" (August 1980), a report by the Department's Southern District, states that up to about 121 000 cubic metres (760,000 barrels) of oil can be saved each year if The Metropolitan Water District of Southern California (MWD) pumps an additional 493 000 dam^3 (400,000 acre-feet) of Colorado River water instead of State Water Project water. That much less energy would be used to pump water from the Colorado River rather than from the Delta.

The Federal Government had released excess water from Colorado River reservoirs over the period May 1979 to February 1981 as anticipatory flood releases. Additional generation of hydroelectric energy and prevention of future damage along the downstream Colorado River channel were two resulting benefits. Had the water been held in storage until flood control releases were mandated, it is highly probable that such releases would have exceeded the capacities of the power plants and the floodway, and caused damage to structures and crop land in the floodplain.

However, 1980 was a below-normal rainfall year and no further excess releases have been made since February 1981. The USBR has indicated the probability exists for additional excess releases during the remainder of the 1980s.

The Department's Southern District report recommends that MWD carry out the water supply shift during the 1980s. An interagency task force is being formed to evaluate the merits and feasibility of this proposal and identify necessary actions to effect voluntary increaseed use. The flood releases may reduce SWP water shortages in the 1980s, but as Colorado River demands increase, these flows will probably end before the Department completes the Peripheral Canal and other SB 200 facilities.

Interagency Activities

Reauthorization of the CVP-SWP Coordinated Operating Agreement

The SWP and the CVP have been operated annually under terms of interim letter agreements since January 9, 1968. A draft agreement entitled "Supplemental Agreement Between the United States of America and the State of California for Coordinated Operation of the Central Valley Project and the State Water Project", dated May 13, 1971, is the basis for the recent annual letter agreements. Action resulting from Environmental Defense Fund Inc. v. Morton has prevented the agreement from being signed (see page 4, Bulletin 132-72). Since 1979, the letter has included the obligation of both projects to meet all requirements of Decision 1485.

In 1979, the Department and the U. S. Bureau of Reclamation (USBR) began negotiating a joint operating agreement that would replace the annual letter agreements (see page 18, Bulletin 132-80). During 1980, five negotiating sessions resulted in significant progress on many of the complex technical items, such as agreement on base hydrology for the 1980 and 2020 levels of development, and most recently, agreement on what values will be used for Delta consumptive uses and outflow. This last item was extremely involved and time consuming because the facts learned during the 1976-77 drought had to be quantified and developed.

The procedure for performing operational studies, which will determine each agency's available water supplies under the new agreement, is quite different from that used in developing the May 13, 1971, formulas. The basic operational study steps to be followed are: (1) operate the CVP, excluding Federal San Luis, to satisfy the CVP demands, Delta consumptive uses, and D-1485 outflows, using Central Valley hydrology that does not include Oroville Reservoir; (2) split the flows excess to the Delta (from the above study) between the CVP and the SWP, assuming various percentages; (3) operate the CVP's San Luis Unit with its share of the excess flows; (4) operate Oroville Reservoir and the California Aqueduct using the SWP share of the excess flows, with the State responsible for providing any additional carriage water; (5) select the split that will provide each agency an equitable water supply; and (6) through a series of sharing studies, develop a formula that will provide each agency

with the water supply determined in the previous steps.

An unresolved issue stems from the court decision in United States v. California. The decision requires USBR to comply with conditions established under State law by the State Water Resources Control Board (SWRCB), unless there is a clear congressional directive to the contrary. USBR maintains that it does not have the legal authority to agree to meet any SWRCB criteria. USBR further maintains that it would be more appropriate to complete the agreement on coordinated operation and leave the question of CVP water obligations to Congress or the courts. However, the Department and SWRCB hold that the decision (D-1485) in United States v. California is not contrary to any congressional directive and that the USBR must operate in compliance with it. (See United States v. California, p. 129).

Future San Felipe Water Deliveries

The Department and USBR have recently discussed transportation of water through the California Aqueduct for the CVP San Felipe Division, within the framework of the Coordinated Operating Agreement negotiations. The State's capability to convey San Felipe water beyond 1990 depends on completion of the Peripheral Canal and addition of the remaining pumping units at the Delta Pumping Plant.

A condition of San Felipe conveyance will be a Federal obligation to meet the Delta water quality criteria established by the SWRCB in Decision 1485 and any future standards adopted by the SWRCB. USBR refuses to agree to such a condition for the transportation of water under a firm, long-term contract until the Central Valley Project obligation for Delta water-quality maintenance is further clarified by the Secretary of the Interior, the courts, and/or Congress.

For several years, USBR has been planning to transport water to the San Felipe Division through the Delta Mendota Canal. The water delivery objectives for the Delta Mendota and San Luis canals have changed very little since they were established in 1964. The objectives, prior to USBR's decision to deliver the San Felipe Division water through the Delta Mendota Canal, are shown in the following schedule:

	Acre-Feet	Cubic Dekametres
Delta Mendota Canal (DMC):		
DMC marketing program	602,092	736,660
Exchange contractors (water rights)	840,000	1 036 140
Schedule II (water rights)	37,277	45 981
Grasslands	50,000	61 675
State of California (F&G)	19,000	23 437
Losses	120,000	72 776
Subtotal	1,668,369	2 049 893
San Luis Canal:		
San Luis Irrigation	1,179,200	1 454 543
San Luis Irrigation Interim	200,000	246 700
San Luis Interim M&I	7,000	8 634
Miscellaneous 1/	5,700	7 030
Municipal and Industrial 2/	16,500	29 352
Losses	59,000	72 776
Subtotal	1,467,400	1 810 835
Total	3,135,769	3 859 928

1/ Water rights, mitigation, etc.
2/ Cities of Avenal, Coalinga, and Huron

The available San Luis Canal capacity is approximately 3 985 000 dam^3 (3,230,000 acre-feet). Since the USBR now plans to deliver San Felipe water through the Delta Mendota Canal, approximately 155 000 dam^3 (125,000 acre-feet) of Delta Mendota Canal capacity originally allocated to San Luis interim irrigation will now be used for transportation of the San Felipe water supply.

Because delivery of water to the San Felipe Unit is not expected before 1987, the USBR said, on June 23, 1981, it does not want to expend time and energy negotiating an agreement that might be in effect for only three years. The USBR also believes that the Coordinated Operating Agreement negotiations are the appropriate forum for these discussions and that negotiations on a permanent agreement may be appropriate when the Peripheral Canal and the addition of four units at the Harvey O. Banks Delta Pumping Plant are nearer to initial operation. Therefore, the Department is free to use the San Luis Canal capacity that was reserved to deliver San Felipe water for other purposes, and will no longer hold it in reserve.

Cottonwood Creek Agreement

Congress authorized the Cottonwood Creek Project in the Flood Control Act of 1970, and later provided funds to the Corps of Engineers for advanced engineering and design studies in 1976. Phase I of those studies, which is still underway, is scheduled for completion in 1982. Additional investigations (Phase II studies) will then be undertaken to finalize design criteria for the project. Construction could begin as early as 1986 and could be operational in 1991 if no major institutional or funding problems are encountered.

The Department and the Corps have reached agreement on the general wording of a water supply contract for the use of storage space in the Cottonwood Creek Project (letter from Ronald B. Robie to Colonel Paul F. Kavanaugh of December 28, 1979). Execution of a contract with the Corps is awaiting mutual agreement on all of the specific details.

The incremental project yield for municipal and industrial use is estimated to be 247 000 dam^3 (200,000 acre-feet) per year. Under current conditions, local irrigation yield is not considered economically feasible as an initial project purpose, and there is no current demand in the local Cottonwood Creek area for additional municipal and industrial water supply. As future demands by local water agencies develop for additional municipal and industrial water supply, they could be met with water from the Cottonwood Creek Project. DWR has agreed to reserve storage space or make supplies available at some future date pursuant to the State's Area of Origin statutes and supplemental water-contracting principles of the State Water Project. The Department will request assignment of the State Filing for the Cottonwood Creek Project water rights at an appropriate time during project development.

The Corps estimates that the project has the potential to provide total generation capacity of 9 megawatts, with an average annual generation of about 30 million kilowatthours. The Corps expects to recommend that penstocks and related facilities be included in the initial project to allow for future addition of generating facilities. In all probability, the electric power would be marketed by the Western Area Power Administration and sold to preferential customers served by the Central Valley Project.

If the Corps decides not to construct the power plant, the Department would probably construct it at State expense to provide energy for the State Water Project. However, in anticipation of the Cottonwood Project, the city of Redding has filed for a FERC license to develop this source of energy.

Los Vaqueros Agreement

On January 7, 1981, the Department executed a Letter of Intent with USBR for a joint investigation of the feasibility of the Los Vaqueros Project as a storage reservoir for the SWP and the Federal Central Valley Project. The study was authorized by Congress in 1980 (H.R. 5278, Udall - Johnson, PL 96-375, 10/80.) A formal agreement will be signed when funding is approved by Congress.

Two-Agency Fish Agreement

The staffs of the Departments of Fish and Game and Water Resources have recommended approval of a draft agreement to manage the fish and wildlife resources of the Sacramento-San Joaquin Estuary. The objective of the agreement is to restore and maintain adult populations of fish and wildlife in the estuary at historic levels and, in relation to other project purposes, to higher levels if possible. The draft agreement was released for public comment on January 8, 1981. A combined public hearing and scoping session was held in Sacramento on February 27, 1981 and another was conducted in Los Angeles on March 3, 1981. The period for receiving comments on the draft agreement, and on the scope of environmental documentation, ended June 23, 1981. The draft agreement is being revised in accordance with the comments received, and a draft environmental impact report is scheduled for completion in early 1982.

An agreement of this kind is required by SB 200 as a condition precedent to constructing the Peripheral Canal. However, both Departments believe that an agreement on operation of the SWP and the Federal CVP, with regard to managing fish and wildlife resources in the estuary, is needed whether or not SB 200 becomes effective or the Peripheral Canal is constructed.

Long before SB 200 was enacted, the Departments of Water Resources and Fish and Game were negotiating a proposed "4-Agency Agreement" with the U. S. Fish and Wildlife Service (USFWS) and the U. S. Bureau of Reclamation (USBR) to define the responsibilities of the projects toward fish and wildlife management. The draft 4-Agency Agreement was used by the State Water Resources Control Board (SWRCB) as the basis for the fish and wildlife protection provisions of Decision 1485. However, the 4-Agency Agreement was never formally approved by the two federal agencies, which have since withdrawn from negotiations.

Therefore, the State decided to proceed toward a 2-Agency Agreement while continuing to solicit participation by the Federal Government. Future federal participation is recognized in several provisions of the proposed agreement.

Expanded Fish Facilities Testing Program

The Fish Facilities test program was initiated in 1975 to develop design criteria for the Peripheral Canal fish protection facility. Except for the drought years (1976-77), the program has been continuous, with the goal of providing the needed design criteria by June 30, 1982. Significant progress has been made towards reaching that goal with the general screen type now known and preliminary specifications available for many of the screen components.

During the spring of 1981, the Department's Fish Facilities Consulting Board reviewed the program's progress and concluded that, although many of the questions regarding the fish screens had been adequately answered, there were two key problems awaiting resolution. These two problems, screen approach velocity and the effects of bypass pumps on young and adult fish, were not amenable to resolution at the testing scale now available to the Departments of Fish and Game and Water Resources. On the basis of this conclusion by the Consulting Board, staff recommended an expanded program to the Directors of the four

participating agencies (DWR, DF&G, U. S. Bureau of Reclamation, and the U. S. Fish and Wildlife Service). On June 1, 1981, the agency directors approved the program.

In essence, the expanded program will involve constructing two large-scale test facilities. After construction, biological and engineering tests will be conducted to obtain the required approach velocities and configuration of the bypass pump. Estimated cost of the 5-year program is $4 million, with most of the money earmarked for construction.

The test facility to determine approach velocities will be a large revolving circular treadmill with a channel to confine the test fish. One side of the channel will have a fish screen similar to that anticipated for the Peripheral Canal. The operator will be able to control the velocity of water through the screen (approach velocity). A range of velocities will be tested and the highest approach velocity at which the test fish (small chinook salmon and American shad) do not become trapped and die will be the velocity recommended for the Peripheral Canal. The results of earlier tests with a similar, but much smaller, facility indicate that 0.2 feet per second will protect all fish exposed to the screens; however, there are some data indicating that 0.4 fps may be possible. If the approach velocity can be doubled, the required screen area and cost would be cut in half. The new tests should resolve the question of approach velocity.

The second part of the expanded program involves testing various pump designs to move the screened fish back into the Sacramento River without undue delay, stress, or mortality. The first pump design to be tested will resemble a 10-foot-diameter fan blade, moving at about 50 rpm. At times, the pump is needed in the off-stream configuration of the Peripheral Canal intake, when the combination of river flow and tide stage causes the water level at the lower end of the channel, where the fish return to the river, to be higher than the entrance to the Canal. In other words, the fish screened from the Canal must be pumped back into the river, although the elevation differences are much less than 1 foot. Department data indicates that the so-called "fan pump" will successfully pass small fish; however, the far pump has not been tested with adult fish. The test flume for the pump tests will also be designed to accommodate testing the effects of the pump on the vulnerability of small fish to predators.

Interagency Drainage Program: San Joaquin Drainage Facilities

Bulletin 132-80 reported on the drainage problem in the San Joaquin Valley and the Recommended Plan for a Valley Drain developed by the San Joaquin Valley Interagency Drainage Program (IDP). The Department is attempting to implement the State's responsibility described in the Recommended Plan. A key feature of this program will be the completion of the San Luis Drain by the Federal Government to a discharge point near Chipps Island. The San Luis Drain would be the initial phase of the Valley Drain.

The San Luis unit of the CVP will have to be reauthorized to permit a joint Federal-State San Luis Drain, which could provide drainage service for the entire Valley. Before funds would be advanced to the Federal Government for State capacity in the Drain, a repayment contract with local agencies would be required to provide assurances of repayment of State funds.

Contracting Principles. The Department's San Joaquin Valley Agricultural Drainage Office has developed contracting principles to provide a basis for drafting a contract with potential users of the Valley Drain. The principles cover such subjects as design, construction, and operation of drainage facilities; the basis for charges to users

of the drainage facilities; cost sharing between the United States and the State; cost allocation method; cost of collector systems to convey drainage water from the farm to the Valley Drain; quantity and quality of drainage service; and quality of waste water discharged into the Drain.

In January 1981, the Agricultural Drainage Office prepared a draft of a drainage service contract, and submitted a final version of the contract to the Director for approval on June 16, 1981.

Discharge Requirements. The U. S. Bureau of Reclamation has asked the State Water Resources Control Board (SWRCB) to establish discharge requirements for the San Luis Drain, discharging at Chipps Island. SWRCB, which has held several meetings and workshops on this subject, says it will be three or four years before it will be able to issue discharge requirements. Additional studies must be conducted by the Bureau of Reclamation to meet the needs of the SWRCB. These studies include toxicity impacts on aquatic organisms, biostimulation, environmental impact avoidance and mitigation measures, salinity standards, and dissolved oxygen depletion. The information from these studies will be essential in establishing appropriate waste discharge requirements. In the meantime, the Board has indicated that it will issue interim guidelines for establishing discharge requirements.

Legislative Hearings. The Senate Committee on Agriculture and Water Resources held a hearing October 9, 1980 on San Joaquin Valley drainage. Representatives of the Kern County Water Agency indicated that Kern County has a drainage problem and wants capacity built into the San Luis Drain for future needs but is reluctant to contract for repayment now. The Committee recognized that it will be difficult to formulate an acceptable program that will both accommodate opposition in the Delta and meet the needs for drainage in the Valley.

The Assembly Committee on Agriculture and the Assembly Committee on Water, Parks and Wildlife held two hearings on the San Joaquin Valley Drain. At the hearing in Los Banos on November 18, 1980, U. S. Bureau of Reclamation and Westlands Water District testified regarding the need for expediting construction of the San Luis Drain. SWRCB described the need for additional studies to establish discharge requirements at the proposed discharge point near Chipps Island. Kern County Water Agency recognized the need for drainage but said that landowners were reluctant to contract now to guarantee repayment for future drainage service that would not be needed for some 20 years or more.

At the hearing in Concord on November 19, 1980, local Delta representatives were all opposed to the drain discharge into Delta-Bay waters. Additional testimony similar to that given in Los Banos was presented by Valley representatives.

1981 Legislation Introduced. Assemblyman John Thurman, Chairman of the Assembly Committee on Agriculture, has introduced two pieces of legislation in the 1981 legislative session. Assembly Bill 1376 relates to the San Luis Drain and mandates that its design, construction, and operation shall be in compliance with certain additional requirements to the satisfaction of the SWRCB. Assembly Joint Resolution 12 calls upon the federal government to expedite completion of the San Luis Drain as a joint drainage facility for federal and other water users in the Valley. These measures have passed the policy committee and appropriations committee of the Assembly.

1980 Department Study. In December 1980, the Department's San Joaquin Valley Agricultural Drainage Office completed studies of the land area required to dispose permanently of agricultural

drainage water in the Valley by evaporation. The results of the study show that 44 500 hectares (110,000 acres) would be needed by year 2000, and that 61 500 hectares (152,000 acres) would be required by 2020, to dispose of the drainage water generated by the future development expected at those times. About 99 percent of the total area would be required for evaporation, while the remaining 1 percent would be needed for salt storage.

California Aqueduct Extensions

Extension of the East Branch. Five water contractors, Coachella Valley Water District, Desert Water Agency, San Gorgonio Pass Water Agency, Mojave Water Agency, and the San Bernardino Valley Municipal Water District, participated in and funded a study that resulted in a report entitled "Report on the Feasibility of Extending the California Aqueduct into Upper Coachella Valley", dated February 1979.

In the study, two alternative aqueduct routes were identified and found to be feasible for delivering SWP water to two contractors in the Upper Coachella Valley -- Coachella Valley Water District and Desert Water Agency. Varying degrees of enroute deliveries to other participating contractors would also be possible from the aqueduct routes. Several unresolved issues have delayed decisions by the contractors on selecting the most favorable route. Those issues pertain to project authorization, funding source, responsibility for design and construction, and timing of construction and project water deliveries.

Only one participating water contractor sought official action in 1979 by requesting the Department to implement steps to permit construction of the aqueduct extension. On August 13, 1979, San Gorgonio Pass Water Agency secured from its Board of Directors a resolution urging the Department to take prompt action to permit early construction of the "pass route".

Three of the remaining four contractors have informally indicated preference for the "pass route", while the Mojave Water Agency favored the "desert route". In the absence of a unanimous decision on the final aqueduct route, the Mojave Water Agency renegotiated and executed an amended contract in February 1980 with Southern California Edison Company to provide water for cooling and other uses for its proposed Lucerne Valley Powerplant. Southern California Edison has agreed to fund and construct a pipeline from the East Branch near Hesperia to its power plant with sufficient capacity to supply a portion of Mojave's water needs. Mojave would have to extend this pipeline to serve its Yucca Valley customers. Timing for construction of the proposed project has not yet been established.

Until the participating contractors reach a decision on the final route of the Coachella Aqueduct, the Department will take no action leading to the construction of the aqueduct extension.

Future Construction of the Coastal Branch. Water supply contracts signed in 1963, between the State and Santa Barbara and San Luis Obispo counties stipulated that SWP water deliveries would commence in 1980; however, these contracts also provided for the deferral or the elimination of the Phase II Coastal Branch if the counties so elect. At the counties' requests, the Department has granted several delays in initiating design on the Coastal Branch since 1973; the current approved date is July 1, 1982. Under this latest schedule, initial delivery of SWP water cannot begin sooner than the late 1980's.

Phase II was planned to be constructed at a later date to transport project water to San Luis Obispo and Santa Barbara counties. Phase II would extend approximately 80 miles from Devil's Den Pumping Plant to a terminous near the city of Santa Maria. The Phase I facilities, consisting of the first 15 miles leading

from the California Aqueduct, were constructed in the late 1960's to provide water service to agricultural water contractors in the vicinity of Avenal Gap.

The rejection by the voters of Santa Barbara County in March 1979 of a $102-million bond issue for the construction of distribution facilities for local delivery of SWP water prompted the county officials to take several actions. First, the county is evaluating local projects that may qualify for state funding under guidelines prepared by the Department in 1979. The Department has been working with the county in evaluating eligibility of proposed local projects for this combination.

During 1981, the Santa Barbara Flood Control and Water Conservation District voted to reduce its maximum annual entitlement from 71 200 dam^3 (57,700 acre-feet) to 56 100 dam^3 (45,486 acre-feet). A contract amendment executed on August 31, 1981 provides for recalculation of the District's Delta water charge and transportation charge to reflect the reduction.

Future Construction of the North Bay Aqueduct. The North Bay Aqueduct, to be located in Solano and southwestern Napa Counties, will supply SWP water for municipal and industrial use in both Solano and Napa Counties. The system,

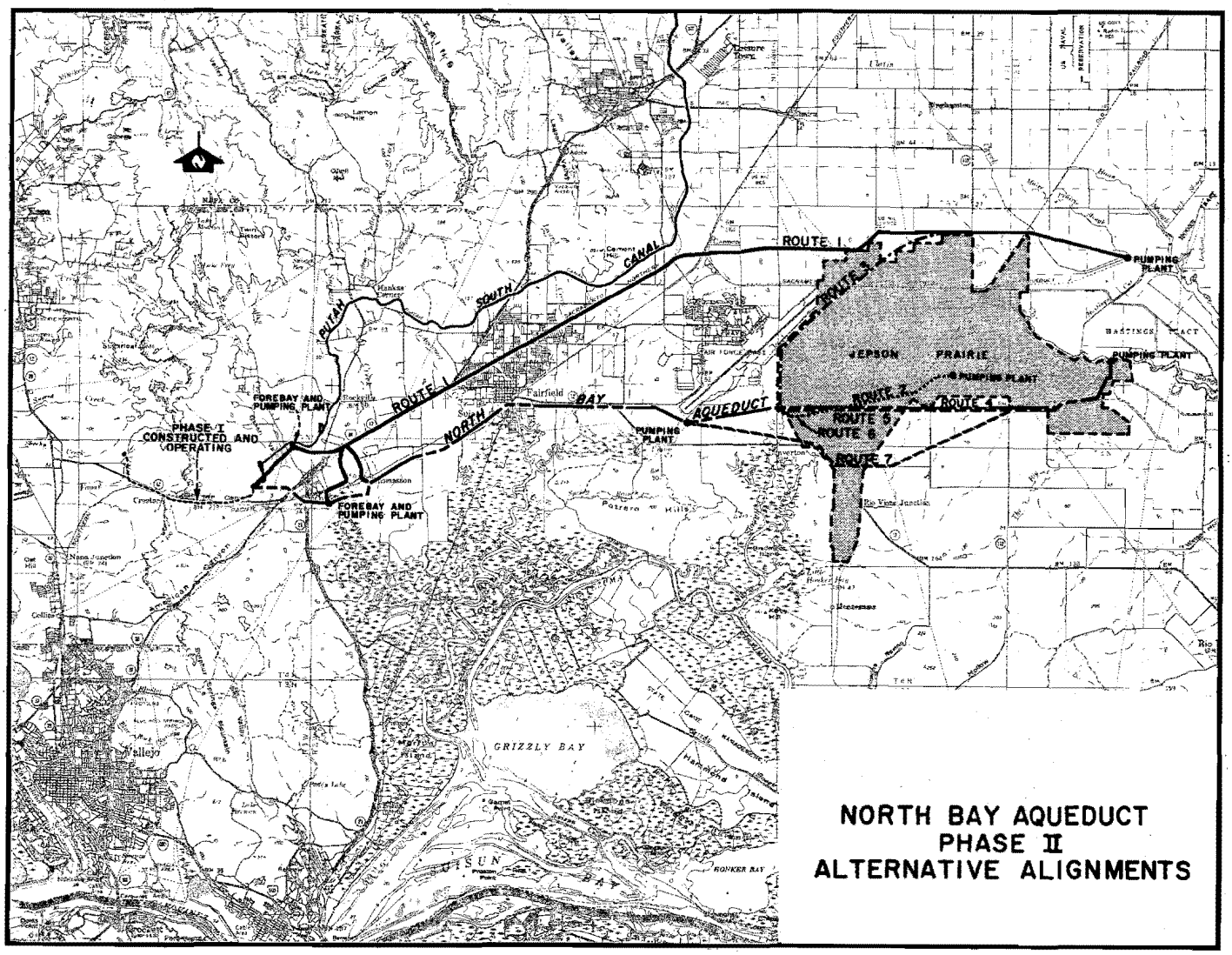


EXHIBIT 8

consisting of pipelines and pumping plant facilities, has been planned to be constructed in two phases: Phase I was completed in 1968. It conveys water from the end of the Putah So. Canal near Cordelia to the City of Napa treatment plant near the west end of American Canyon. When Solano County demands develop, Phase II will be constructed.

Two state water service contractors, Napa County Flood Control and Water Conservation District, with a maximum annual entitlement of 31 000 dam^3 (25,000 acre-feet) per year, and Solano County Flood Control and Water Conservation District, with a maximum annual entitlement of 52 000 dam^3 (42,000 acre-feet) per year, will begin receiving SWP deliveries from the Delta in 1985, when Phase II is scheduled for completion. The North Bay Aqueduct (NBA), when utilized to full capacity, will deliver all of Napa's entitlement of 31 000 dam^3 (25,000 acre-feet), and 45 000 dam^3 (36,400 acre-feet) per year of Solano's entitlement. The remaining 6 908 dam^3 (5,600 acre-feet) of Solano's entitlement will be delivered in the Delta at the City of Vallejo's Cache Slough Pumping Plant for transport to and use by the City of Vallejo under a subcontract with Solano.

Phase II of the NBA will consist of diversion facilities and a pumping plant either on Lindsey Slough or Cache Slough in the Delta, and a pipeline extending westward through Solano County to a small regulating reservoir near Cordelia. There, another pumping plant and discharge will connect with the existing Phase I facilities.

A joint draft EIS/EIR for the North Bay Aqueduct has been completed. With the approval of the U. S. Corps of Engineers, which must issue a permit for diversions from the Delta, thus requiring an EIS, the Department has submitted the report through the regular environmental review process. Alternative routes considered in the report are shown on page 43.

Following the review process, the Department will coordinate answers to the comments with the Corps, and with Napa and Solano Counties, to determine the preferred project plan. Final design work is to begin this year and the project is planned to be completed in 1985.

Transfer of Water Entitlements

A Task Force Established in 1975 reviewed the growing disparity between annual entitlements as set forth in Table A of each water contractor's long-term contract and their projected demands. Some contractor's entitlements are larger than projected needs while others are smaller. One of the approved recommendations the Task Force made to partially alleviating this problem was that both short-term and long-term decreases of future annual entitlements be approved, provided that the water contractor would accelerate transportation payments to maintain Project cash flow when entitlements are reduced. Pursuant to this recommendation, the 1978 entitlements of Devil's Den Water District and Empire West Side Irrigation District were reduced (see page 97 of Bulletin 132-79).

Other entitlement reductions have been negotiated with Butte County, Yuba City, Napa County Flood Control and Water Conservation District, and Solano County Flood Control and Water Conservation District.

Another approved Task Force recommendation was that except for short-term emergency situations, requests for transfers of entitlements among contractors should not be approved by the DWR. In the spring of 1980 this recommendation was reevaluated to determine if an equitable program of entitlement transfers could be worked out. Such a program would go into effect after SB 200 becomes effective. (A complete

discussion of this subject is presented on pages 26 ff. of Bulletin 132-80.)

Significant Events: July 1980 through June 1981

A summary of significant events and administrative actions, during the year follows.

Resources Investment Program (Resources Agency)

In January 1981, Secretary for Resources Huey Johnson released a comprehensive program to enhance California's resources to meet human and economic needs. The program, called "Investing for Prosperity," is based on the public trust in our natural resources and includes: (1) a set of policies, (2) goals for prosperity in year 2000, and (3) implementation for the next two years. Each major area administered by the Resources Agency is included: forestry and wildlands, fish and wildlife, water, soils, coastal resources, and parks and recreation.

As part of the program, the Department of Water Resources will continue construction of 15 small hydroelectric facilities, four geothermal power plants, and wind-energy projects to supply 7 billion kilowatt hours of electricity to the SWP by year 2000.

The Department will also continue construction of the reverse-osmosis desalting plant in the San Joaquin Valley, which would contribute to the goal of reclaiming, by year 2000, 490 000 dam^3 (400,000 acre-feet) of saline agricultural drainage water and ground water annually. This project is being funded by the Energy and Resources Fund through the Resources Agency. (See "Waste Water Reclamation and Desalination" on page 32).

The Department will also continue to pursue water law reform and local ground-water management plans in an effort to prevent overdrafting of ground-water basins.

Under the Resources Investment Program, the Department will continue to distribute water-conservation devices to California households. To date, the Department has delivered the devices to 3.3 million California Homes.

The first programs were conducted in San Diego and five smaller communities during the 1977 drought; last year, the Department distributed the devices in Santa Barbara and Ventura counties and in the Humboldt Bay area. This year, the devices will be distributed in Fresno and Los Angeles, where the Department is sharing the distribution

Pictured above is a water displacement device from DWR's water conservation kit. This device can easily be installed in the home.

costs with the City of Los Angeles Department of Water and Power; in Orange County; and in Santa Clara County, where the Department is sharing the program costs with the County and the city of San Jose.

In all of those water-conservation programs, the Department's costs have been borne by the Energy Resources Fund, which is administered by the California Legislature.

Dedications

John E. Skinner Fish Protective Facility. On June 3, 1981, the California Water Commission and the Department of Water Resources unveiled a plaque posthumously honoring John E. Skinner by naming the fish protective facility at DWR's Delta complex for the Department of Fish and Game representative.

Mr. Skinner was water project coordinator for the Department of Fish and Game (DFG) prior to his untimely death in December 1978, when fire destroyed his family home. He worked closely for nine years with the staffs of the Department of Water Resources and the State Water Resources Control Board (SWRCB), and was a regular representative of DFG before the California Water Commission and the SWRCB.

Mr. Skinner, a native of Michigan, was a graduate of Michigan State University. He worked for DFG for 25 years. He began as a junior aquatic specialist in inland fisheries, moving into the specialties of the Sacramento-San Joaquin Delta fisheries. For five years he was a research supervisor for fish facilities in the Delta. Much of his knowledge went into the design of the John E. Skinner Fish Protective Facility.

Mr. Skinner, a former president of the California-Nevada Section of the American Fisheries Society, was affiliated with the Pacific Fishery Biologists and the western section of the Wildlife Society.

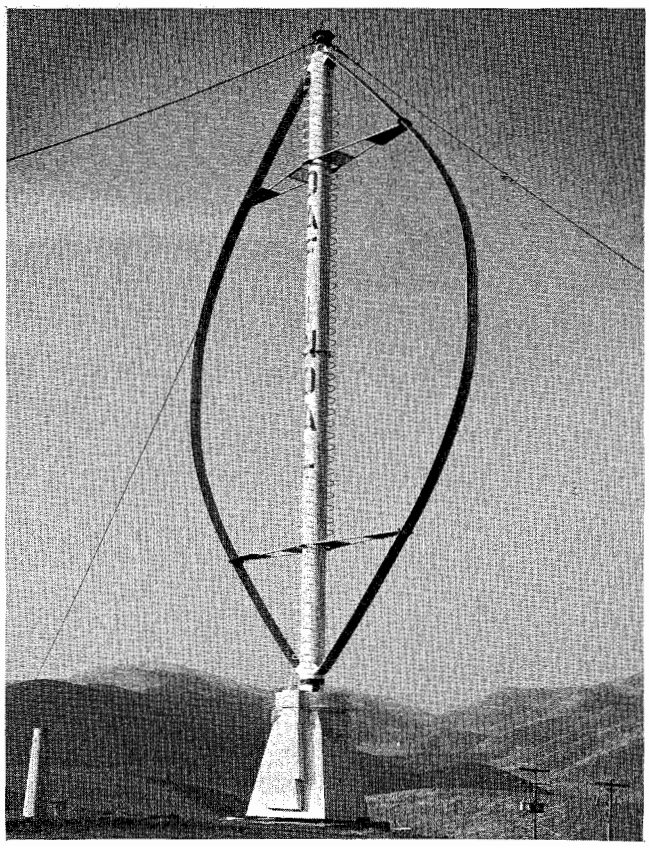
Department of Fish and Game employee, Harold (Pete) Chadwick, Project Manager, Bay Delta Fisheries, speaks at the commemoration ceremony for naming the John E. Skinner Delta Fish Protective Facility.

Romero Wind Energy Facility. The Department dedicated its demonstration wind turbine in Merced County on March 27, 1981. The turbine, manufactured by the Canadian firm, DAF Indal, Ltd., generates 50 kilowatts. Although it has a life expectancy of 20 years, its initial role will be to provide, over the next few years, operating experience concerning cost and reliability.

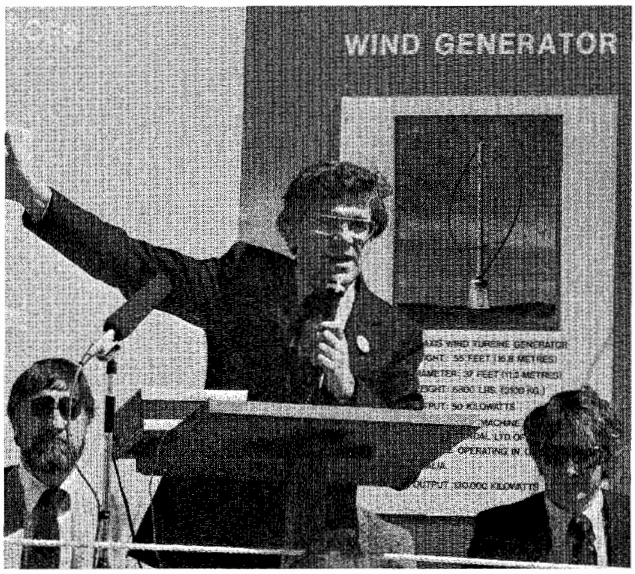
The Romero Wind Energy Facility, on a knoll near the Romero Overlook at San Luis Reservoir, could be the forerunner of a "wind farm" to help DWR meet its goal of securing 70 percent of the energy needed for the State Water Project from renewable resources and from geothermal plants.

The 55-foot-high blades turn at a constant 80 revolutions per minute in winds of 13 to 40 miles an hour, and automatically stop when winds are higher or lower.

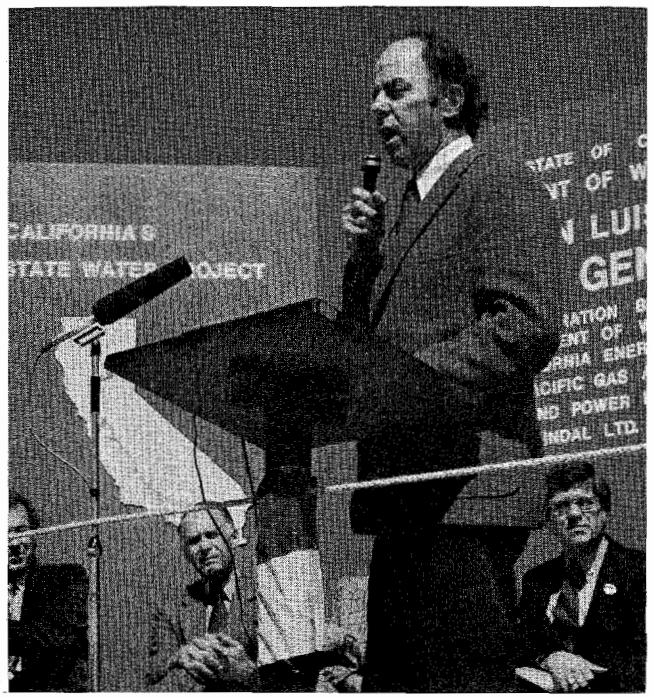
The demonstration project was partially funded by the California Energy Commission, the site is owned by the U. S. Bureau of Reclamation, and the energy is integrated into the PGandE system, with credit to the SWP.



The DAF Indal wind turbine as it stands at the Romero Overlook on the San Luis Reservoir.



Director Ronald B. Robie raises a hand to the wind as he addresses the audience at the Romero Overlook dedication.



Huey Johnson, Secretary for Resources, speaking to the audience at San Luis Reservoir as DWR dedicates its first wind turbine on March 27, 1981.

Unveiling the plaque naming the Harvey O. Banks Pumping Plant in honor of the first director of the Department of Water Resources. Present (left to right) are Roy Dodson, California Water Commissioner; former Governor Edmund G. (Pat) Brown; Water Commission Chairperson, Scott E. Franklin; DWR Director Ronald B. Robie; Harvey O. Banks; Water Commission Vice-chairperson Thomas Beard; Water Commissioner James Shekoyan; Commissioner Alexandra Fairless; Commissioner Merrill Goodall.

Harvey O. Banks Delta Pumping Plant. In May 1981, the California Water Commission, exercising its authority to name facilities of the State Water Project, renamed the Delta Pumping Plant in honor of the first director of the Department of Water Resources, and on June 3, former Governor Edmund G. "Pat" Brown unveiled a plaque naming it the Harvey O. Banks Delta Pumping Plant. Several members of Banks' staff when he headed the Department joined him in the ceremony, almost 25 years from the day he was named Director, on July 5, 1956.

Still active as a consulting engineer, Banks received his Bachelor of Science degree magna cum laude from Syracuse University in 1930 and his Master's degree in hydraulic and sanitary engineering from Stanford University.

He worked for the Southern California office of the Division of Water Resources from 1938 through July 1946, except for three and one-half years of military service. He returned to State service in July 1950, was promoted to Assistant State Engineer in 1953, to Acting State Engineer upon the retirement of A. D. Edmonston in November 1955, and to State Engineer on January 1, 1956.

As the first Department of Water Resources Director, Banks directed formulation of the California Water Plan; he initiated the financing, design, and early construction of the State Water Project.

His honors include the Syracuse University George Arents Pioneer Medal Citation for excellence in civil engineering; the American Society of Civil Engineers' Royce J. Tipton Award for contribution to irrigation; and the Federal Land Banks' 50th Anniversary Medal awarded for outstanding contribution to American agriculture.

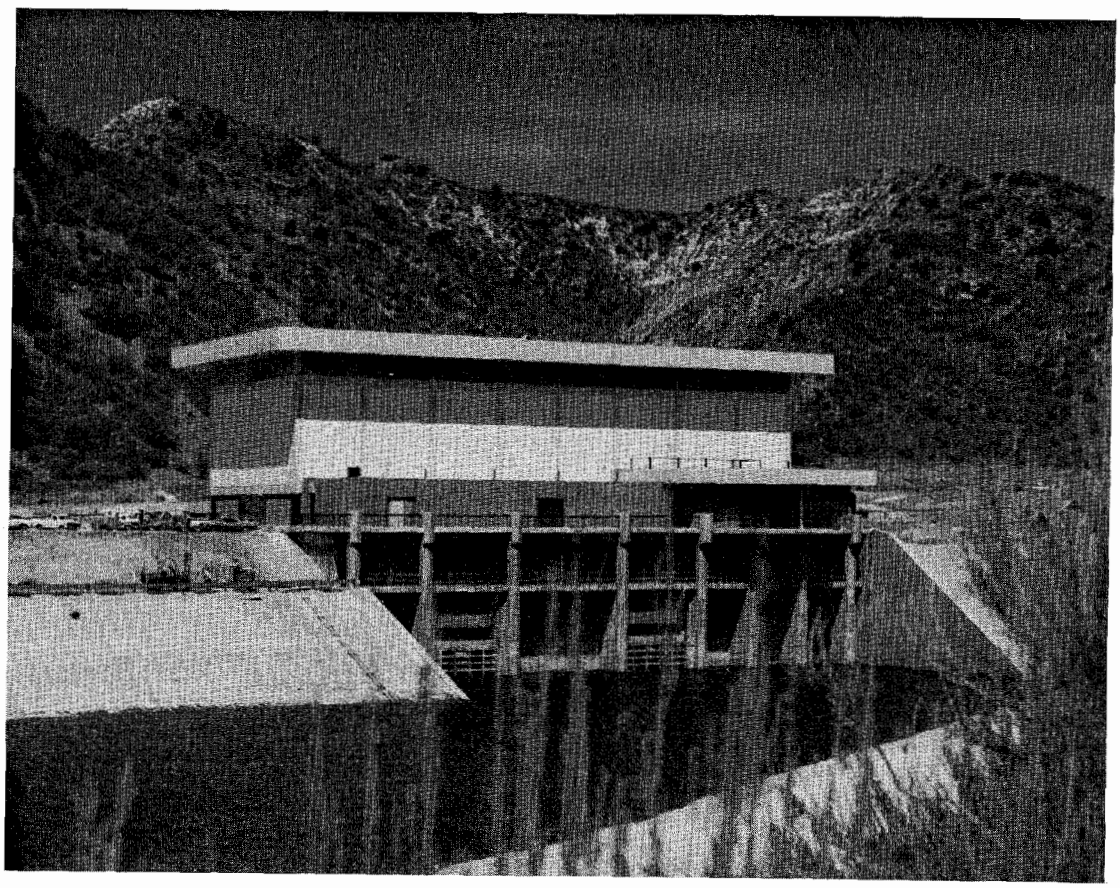
William E. Warne Powerplant. A short time earlier, in April 1981, the California Water Commission had named the power plant under construction at Pyramid Lake as the William E. Warne Powerplant. An official dedication ceremony will be scheduled when the plant becomes operational in 1982.

Warne was second Director of the Department of Water Resources, serving from 1961 through 1966. His administration was known for its construction activities, building the massive project "on time and within plan".

Following a long federal career, Warne came to California at the request of former Governor Edmund G. "Pat " Brown. He first became Director of the Department of Agriculture; later, he served as Director of the Departments of Fish and Game and Water Resources. During his tenure as Director of the Department of Water Resources, he was named the first administrator of the California Resources Agency during its organizational period.

His federal service included 12 years with the Bureau of Reclamation, four of them as Assistant Commissioner, four years as Assistant Secretary of the Interior for Water and Power, and eight years in various U. S. Federal capacities in Iran, Brazil, and Korea.

Warne, who received his BA in Journalism at the University of California, was a correspondent with the Associated Press before joining the Bureau of Reclamation.



Photograph of the William E. Warne Powerplant. On April 1, 1981, the Pyramid Powerplant was renamed in honor of the second Director of the Department of Water Resources (1961-1966).

Bottle Rock Powerplant Groundbreaking

On May 6 the Department broke ground for Bottle Rock Powerplant in Lake County. The ceremony was attended by 80 people, representing the Resources Agency, the Department, Lake County, local residents and supporters of geothermal energy, and friends and representatives of private firms that will supply the steam and prepare the site.

Bottle Rock Powerplant, in The Geysers area of Lake County, will be capable of producing 370 million kilowatthours a year, enough energy to serve a city the size of Santa Rosa. Lake County granted a permit in February 1980 for the steam supplier to drill the steam field. The California Energy Commission approved the Department's application for certification for the plant in October 1980.

Bottle Rock groundbreaking. From left, Deputy Director Robert W. James; President MCR Geothermal, Richard Maullin; Resources Agency Secretary Huey D. Johnson; DWR Director, Ronald B. Robie; Lake County Board of Supervisors Chairperson Walt Wilcox; and Mrs. Wilcox.

Resources Agency Secretary Huey D. Johnson, DWR Director Ronald B. Robie, and Chairperson of the Lake County Board of Supervisors Walt Wilcox, break ground for the Bottle Rock Powerplant.

Administrative Actions

Utility Management Reorganization. Through March 31, 1983, Project energy needs in excess of recovery generation at San Luis, Devil Canyon, and Castaic power plants will continue to be obtained, under fixed purchase terms negotiated in 1966, from Canadian Entitlement and "Supplier's" power. (The "Suppliers" include Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas and Electric Company, and the Department of Water and Power of the City of Los Angeles.)

Canadian Power Entitlements will terminate on April 1, 1983. Also, the Suppliers' contracts to supply power will end on that date. This had been expected for several years and prompted the Department to begin a "Long-Range Energy Program" in the early 1970s (see page 15).

When current SWP power arrangements terminate, the Department cannot simply substitute new sources for the old on April 1, 1983, and operate in a "business-as-usual" manner. The Project will no longer be under the Suppliers Contract, with a dependable energy supply at prices prevailing in the mid-1960's. Therefore, on April 1, 1983, the Department must be ready to operate as a full-fledged electric utility to provide cost-effective water service. For example, as an electric utility, the Department must be able to:

1. Balance project power loads with project power supplies on a near real-time basis -- about every 3 seconds, instead of every 30 minutes, as is sufficient under the Suppliers Contract.

2. Purchase, sell, and exchange power competitively on the open market -- specifically precluded under the Suppliers Contract. The marketplace is not static -- for instance, energy purchase prices under the Edison Contract change hourly; decision "windows" regarding possible spot market transactions are limited to about 15 minutes.

3. Maintain appropriate power reserve margins to avoid disrupting the systems of interconnected utilities in the event of project contingencies -- otherwise, transmission service may be denied the Project and pumping plants would be effectively severed from power sources.

The Project will have unique advantages as an electric utility as compared with other utilities -- primarily regarding the extent it can control the timing of power loads through its so-called "storage battery" capability, but also because its reserve margins tend to improve rather than deteriorate in times of drought (base load generation does not substantially decline). However, to capitalize fully on these unique advantages, the Department must be able to quickly and thoroughly analyze a wide range of water and power supply possibilities to minimize overall costs -- and at the same time, assure that fundamental water service objectives will be met. Capitalization of the unique advantages of the Project, through strategically timed power sales and brokeraging, would reflect in reduced operating costs and water charges. Utility management needs for future operations may be generally summarized as:

1. Increased analytical capability, in terms of both scope and reduced processing time.

2. Increased coordination and control capability, both operationally and organizationally.

Increased operational control and analytical capabilities can be achieved only through the tools of high speed electronic computer models.

The Division of Operations and Maintenance (O&M) is well underway on a program to upgrade operations control system capability. On May 11, 1981, a contract was awarded UNIVAC to replace the obsolete Model 418 control computer with a modern Model 1100/60 duplex system (approximately $1.5 million). Installation of hardware and additional communication links and development of power management and automated generation control software must be on line for the dispatchers to adequately control the real-time operation of project facilities and power sources on April 1, 1983.

At the other end of the analytical spectrum, the Division of Planning, under the Future SWP Water Supply Program, has been revamping and augmenting its system of computer models for projecting long-range water availability and firm water yields, and for developing guidelines to translate theoretical yields into real-world operations.

Between these two extremes of long-range water planning and real-time dispatching and control are a variety of analytical needs -- such as (1) long-range power load and supply forecasts for Bulletin 132 analyses, (2) submittals to the California Energy Commissions' report and (3) the daily scheduling, by hour, of individual pump and generator units and check-gates as an operational guide to dispatchers. Responsibilities for satisfying these needs are dispersed organizationally within the Department.

DIVISION OF OPERATIONS AND MAINTENANCE ORGANIZATION CHART

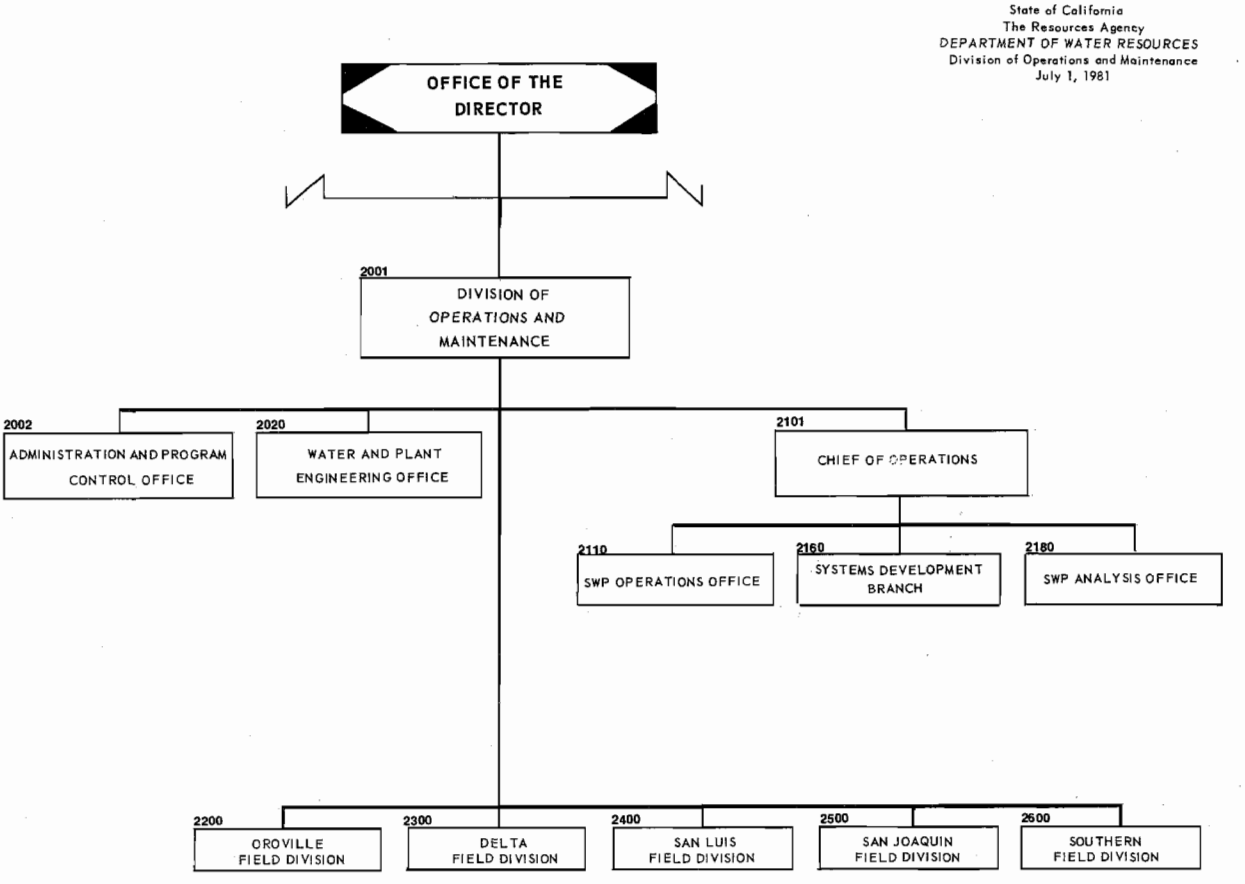


EXHIBIT 9

Effective July 1, 1981, a Departmental reorganization consolidated in the Division of O&M several functions to strengthen utility management and to assure coordination with associated functions located elsewhere in the Department.

Basically, the reorganization will consolidate the day-to-day water and power utility-management functions of various suborganizations of the O&M, the State Water Project Analysis Office, and a new branch termed the Systems Development Branch in O&M, all under a Chief of Operations, the equivalent of a deputy division chief, as shown on the following chart. Specific objectives of such a consolidation include:

1. Elimination of duplication of certain work activities by separate organizations and suborganizations -- such as the reporting of actual operations, preparation of operational plans, administration of power contracts, and the projection and accounting of variable power costs.

2. Strengthening of the SWP's water and power contracts and project operations control and dispatching.

3. Improved accessibility of the services and tools of the system modeling function to both real-time control and dispatching as well as to interrelated forecasts and operational planning.

4. Establishment of a responsibility for these interrelated functions as a point of coordination with those from outside of the Department as well as with other Department organizations -- such as the Energy Division regarding specific power criteria and needs, and the Division of Planning regarding long-range water supply and firm water yields.

The new Systems Development Branch will be responsible for developing computer models of the SWP water and power system for post-1983 operations. These computer models are needed as tools for planning and scheduling optimum project operations to meet the ever-changing conditions after April 1, 1983.

Employee Relations. During 1980-81, a bilateral collective bargaining process for state employees was established under the State Employer-Employee Relations Act (California Government Code Division 4, Chapter 10.3 commencing with section 3412). During May and June 1981, state employees participated for the first time in representative elections to choose exclusive collective bargaining representatives. The Department employs approximately 2,700 people; approximately 2,200 were included in 10 of the 20 statewide bargaining units adopted by the Public Employment Relations Board for collective bargaining purposes. During fiscal year 1982, it is expected that labor- management negotiations by exclusive representative labor organizations will result in Memoranda of Understanding on salary, wages, and other terms and conditions of employment that must subsequently be approved by the State Legislature if expenditure of funds is required.

To facilitate the negotiations the Department of Personnel Administration was established effective May 1, 1981. This new department consolidates responsibilities for salary, wages, and other terms and conditions of employment, which were formerly under the authority of several different departments. Eight statewide steering committees have been established by DPA to assist in the negotiation for each bargaining unit. The Department of Water Resources is a member of two of these eight committees, namely, "Engineering" and "Technicians," which are responsible for negotiating for Units 12 and 14. The following is a list of the bargaining units involving DWR employees and the exclusive representative for the unit.

UNIT	TITLE	EXCLUSIVE REPRESENTATIVE
1	Administrative, Financial and Staff Services	CSEA*
2	Attorney and Hearing Officer	Undecided as of July 9, 1981
3	Education and Library	CSEA
4	Office and Allied	CSEA
9	Professional Engineer	PECG**
10	Professional Scientific	CSEA
11	Engineering and Scientific Technician	CSEA
12	Craft and Maintenance	CSEA
14	Printing Trades	CSEA
15	Custodial and Services	CSEA

* California State Employees Association
** Professional Engineers in California Government

Civil Maintenance Apprenticeship Program. After several years of effort, the Department accomplished a long-sought goal of approving an apprenticeship program for civil maintenance employees. The three-year apprenticeship program was established on February 25, 1981 by mutual agreement between DWR and the Department of Industrial Relations, Division of Apprenticeship Standards.

Anticipating approval of the program, Director Ron Robie appointed an eight-member Civil Maintenance Apprenticeship Committee on May 14, 1980 to develop, implement, and administer the apprenticeship program in accordance with the approved standards. The committee consists of four management representatives and four trades representatives.

This apprenticeship program enables the Department to develop a continuous supply of journeyworkers who possess the broad range of maintenance construction, trades, and equipment operation skills that are needed to accomplish the difficult work on civil facilities of the State Water Project and the Sacramento River Flood Control Project.

An initial group of eight employees were "grandfathered" into the apprentice program on July 1, 1981. Sixteen more appointments are expected after January 1982, when the first examination for Civil Maintenance Apprentice is given. When fully operational in 1982, this program will have 15-25 apprentices in training at any time and produce an average of 7-8 journeyworkers each year. This program will provide a significant vehicle for enhancing affirmative action hires.

CHAPTER II

PROJECT CONSTRUCTION, MANAGEMENT, OPERATIONS, AND LITIGATION, JANUARY 1, 1980 - JUNE 30, 1981

Chapter II summarizes SWP construction, management, and litigation from July 1980 through June 1981. SWP operations are summarized from January 1980 through June 1981, and water deliveries are summarized for calendar year 1980.

A. PROJECT CONSTRUCTION

This section discusses the design of SWP facilities, acquisition of land, and activities by the SWP construction divisions. Also included is a brief review of the safety of Department-owned dams. The SWP construction divisions are shown in Figure 4.

Design Activity

Between July 1980 and June 1981, the Department's Design and Construction Office continued design work on Cottonwood Powerplant, the second barrel of Pastoria Siphon, hydroelectric facilities at William E. Warne (formerly Pyramid) Powerplant, Suisun Marsh facilities, various geothermal power-generating facilities, several small hydroelectric projects, and modifications to certain existing SWP facilities.

Other Design and Construction Office activities included:

- Participation in hydraulic-model investigations by the University of California in support of the fish facility studies for the Peripheral Canal.
- Design of access roads and facilities for recreation areas at certain borrow pits along Interstate 5. (The design work has now been completed.)
- Participation in the preparation of an environmental impact report for the North Bay Aqueduct.
- Continuation of the evaluation of Pyramid Dam piezometers; a final report is due in July 1982.
- Continuation of the preliminary design, exploration, and cost estimating of two conservation facilities: Los Vaqueros Reservoir and Thomes-Newville Unit.
- Completion of an engineering feasibility report for Thomes-Newville and Glenn reservoirs.
- Participation in reconnaissance-level design and cost estimates of local water supply projects.
- Establishment of a test program for densifying foundation sand at Thermalito Afterbay.

Design activities in each SWP construction division are summarized in the following tabulation:

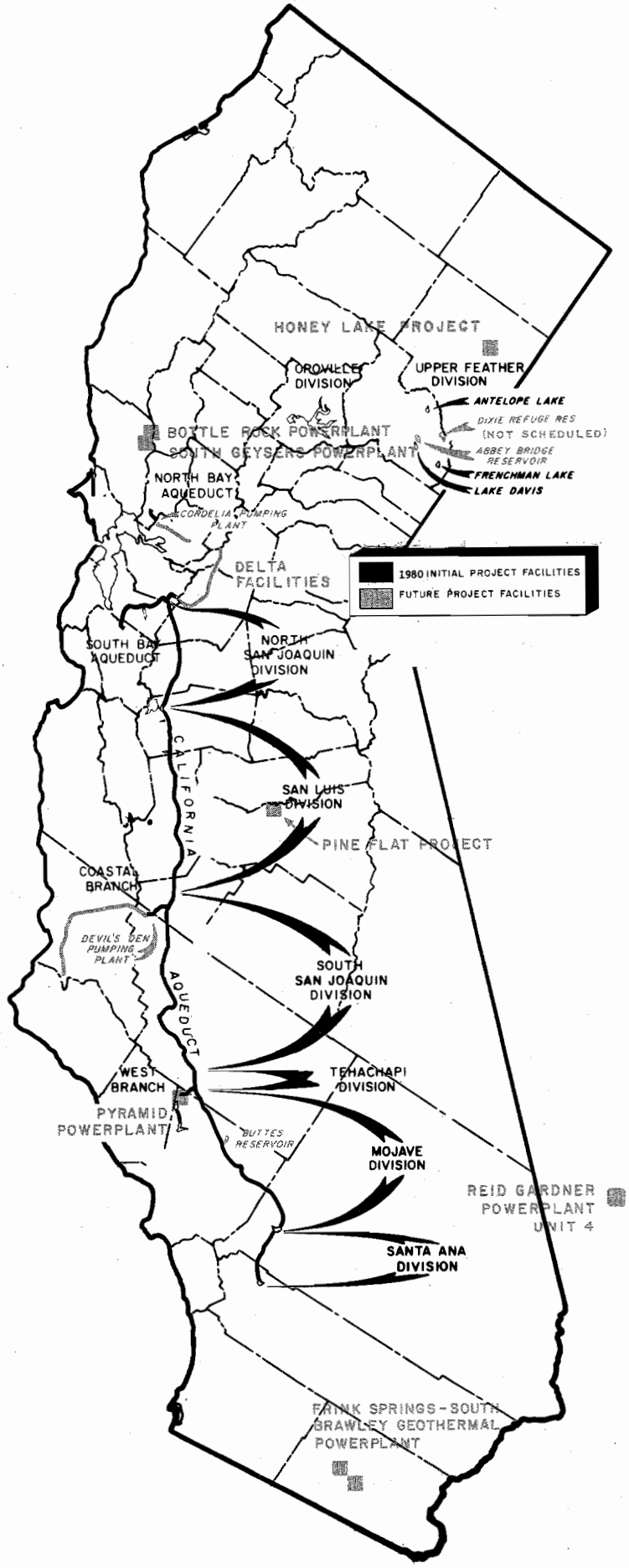
STATE WATER PROJECT DESIGN ACTIVITIES IN PROGRESS

DURING PERIOD
JULY 1980-JUNE 1981

Division or Facility	Activity	Begin Design	Complete Design
Upper Feather Division	Beckwourth O&M Center Solar Heating System	January 1978	June 1980
Oroville Division	Thermalito Diversion Dam Powerplant	March 1981	October 1982
South Bay Aqueduct	Emergency Repair of Pumps No. 6 for South Bay Pumping Plant	May 1981	June 1981
	South Bay Pumping Plant 2 Spare Pumps	June 1980	January 1981
Suisun Marsh Facilities	Ditches:		
	Potrero Hills Ditch	January 1980	November 1981
	Goodyear-Cordellia Ditch	June 1981	January 1983
	Dredging:		
	Dredging Luco Slough	June 1980	August 1982
	Dredging Hill Slough	June 1980	August 1982
	Dredging Boyton Slough	August 1982	January 1983
	Fish Facilities:		
	Roaring River Fish Screens, 1st stage	January 1980	August 1980
	Roaring River Fish Screens, 2nd stage	June 1980	August 1981
	Grizzly Island System:		
	Grizzly Island Distribution System, 1st stage	December 1980	July 1981
	Miscellaneous:		
	Morrow Island Distribution	December 1980	February 1981
	Delta Gathering Equipment for 6 Delta Water Quality Sta.	July 1980	June 1981
	Montezuma Slough Control Structure	July 1980	December 1982
	Roaring River Levee Repair, Phase I	January 1980	July 1981
North San Joaquin Division	John E. Skinner Delta Fish Protective Fac.	January 1980	June 1980
	P&S for Pumps, Harvey O. Banks, Delta Pumping Plant	July 1980	June 1981
San Luis Division	Removal of Asbestos Laden Sediments	December 1980	April 1981
	Romero Overlook Wind Energy Project	October 1979	November 1980
	Modifications to Improve Pump Efficiency, San Luis P/G Plant	August 1980	July 1981
Tehachapi Division	A.D. Edmonston Pumping Plant:		
	Completion Contract	January 1980	July 1981
	F&I Motors	January 1980	January 1981
	Pastoria Siphon, 2nd Barrel	January 1980	February 1981
Mojave Division	Cottonwood Powerplant:		
	F&I Turbine	January 1979	April 1980
	F&I Generators	June 1981	August 1981
	Completion Contract	January 1980	June 1982
	Site Development & Initial Contract	July 1976	August 1981
	Mojave Siphon Powerplant Tunnel	March 1981	March 1982
Energy Supply Facilities	Bottle Rock Powerplant:		
	Initial Site Development	December 1978	February 1981
	Construction Contract	December 1978	July 1981
	Road Reconstruction, Phase I	March 1981	May 1981
	Road Reconstruction, Phase II	May 1981	June 1981
	F&I H_2S Abatement System	January 1979	September 1981
	F&I Turbine-Generator	September 1979	June 1980
	P&S for Transmission Lines	January 1980	May 1982
	South Geysers Powerplant:		
	F&I Turbine-Generator	July 1980	January 1982
	F&I Cooling Tower	January 1981	May 1983
	F&I H_2S Abatement System	July 1980	January 1983
	Power Plant Contract	June 1980	March 1982
	Site Development	January 1980	January 1982

EXHIBIT 10

Figure 4: STATE WATER PROJECT CONSTRUCTION DIVISIONS



Land Acquisition

The Department's current program includes land and right of way actions for the following projects:

- Bottle Rock Powerplant Project.
- South Geysers Powerplant Project.
- Fifty or more parcels of property required for flood control in the Mojave Damage Project.
- Entry permits and permanent acquisitions for Phase II of the North Bay Aqueduct.
- Recreation development associated with project facilities at Orestimba Creek, Gorman Creek, and Grizzly Creek.
- Transfer of mitigation lands in Southern California required by an agreement between the Department and the United States Forest Service. Only one parcel remains to be acquired and transferred.
- Suisun Marsh lands necessary to accommodate the construction of facilities to reduce salt water intrusion in critical areas.
- Borrow Ponds 9 through 13 on the Peripheral Canal Alignment have been opened for fishing and hunting. Pond 6 has been leased for water skiing.
- Entry permits and legal action if necessary to allow DWR staff to perform mapping, geologic exploration, and environmental studies for the Future Water Supply program on approximately 300 properties.

From July 1980 through June 1981 the Department spent approximately $1.2 million for land acquisition in excess of credits for sales of surplus property and returns of condemnation deposits. This brings the total net expenditure

CALIFORNIA STATE WATER PROJECT

WATER FACILITIES

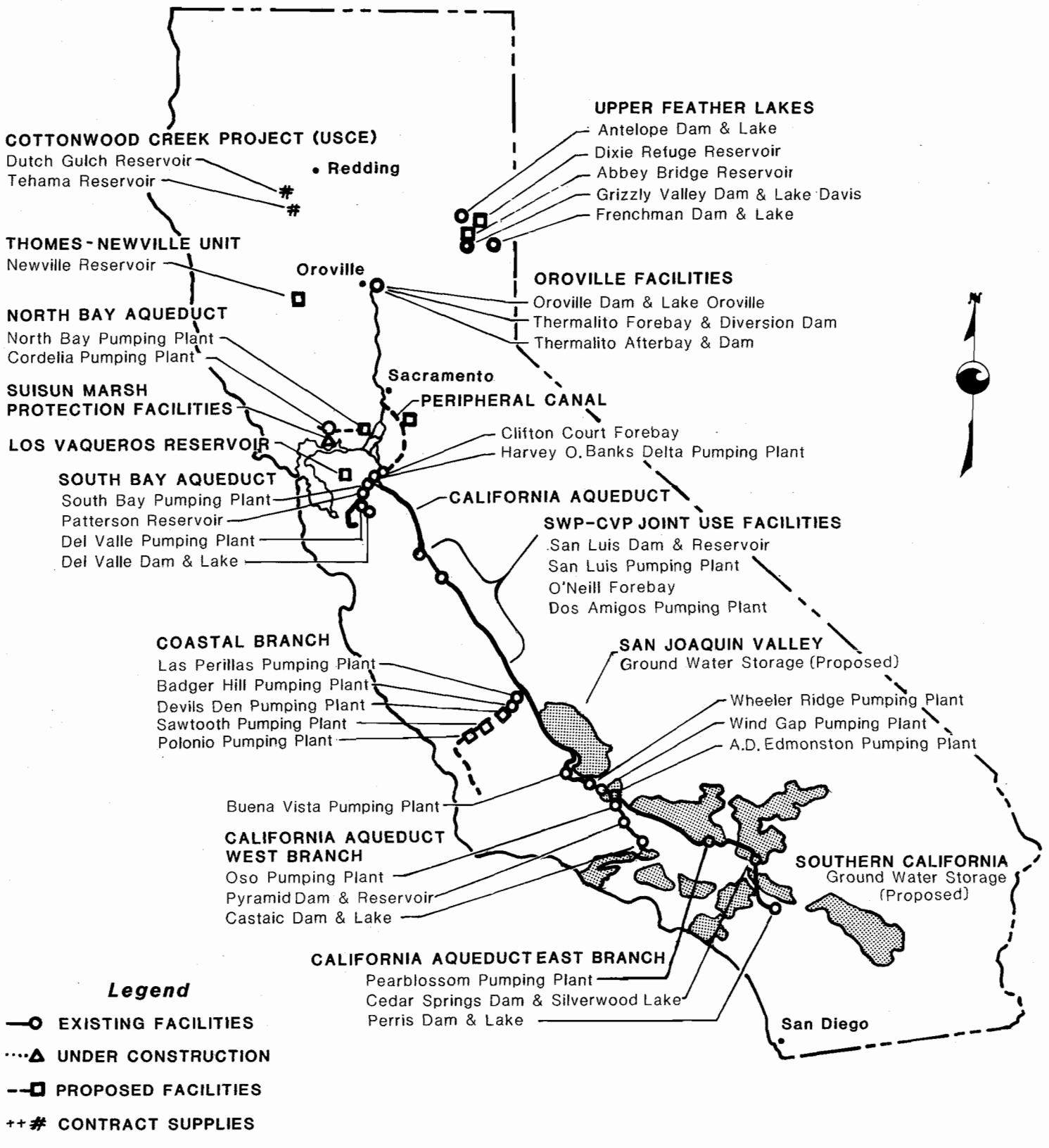
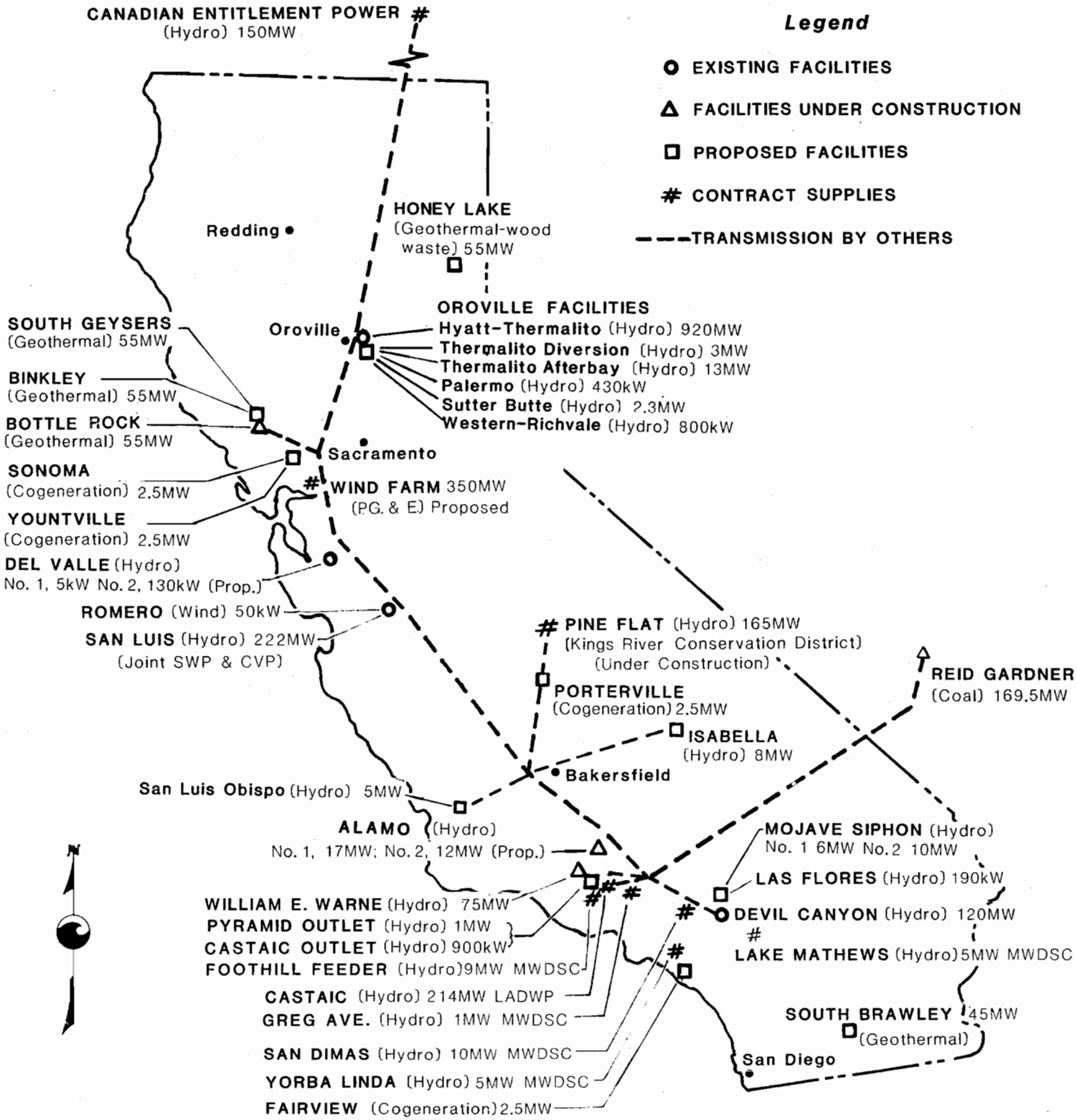


EXHIBIT 11

CALIFORNIA STATE WATER PROJECT
POWER FACILITIES



Note:

Power exchange and transmission service supplied by Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric Companies and the Los Angeles Department of Water and Power.

EXHIBIT 12

through June 1981 to $114.5 million, approximately 60 percent of the $192.2 million estimated total cost of the current program. A total of 237 hectares (586 acres), comprising 72 parcels of land, was acquired from July 1980 through June 1981. One parcel of excess land, 4.85 hectares (12 acres), was sold, bringing the cumulative total of such excess lands sold through June 1981 to 828 parcels, 4 522 hectares (11,175 acres).

Thirty-two leases, consisting of new and existing leases through June 1981 were monitored; revenues received totalled $65,000. On the basis of a mitigation agreement between the Department of Water Resources, Department of Fish and Game, and The Metropolitan Water District of Southern California, underlying property rights to 105 parcels of land in Southern California, and transfer of those rights to the Department of Fish and Game, are being analyzed.

One relocation agreement costing about $100,000 was approved, and land-exchange agreements concerning 23 installations were processed. In addition, 20 encroachment permits were issued, for which the Department received $5,800 in fees.

The Feather River Enhancement Project is now proceeding through eminent domain.

The following tabulation shows the number of land parcels required under the current land acqusition program, together with the number of parcels acquired through June 1981, for each SWP facility or construction division:

ACQUISITION OF LAND PARCELS

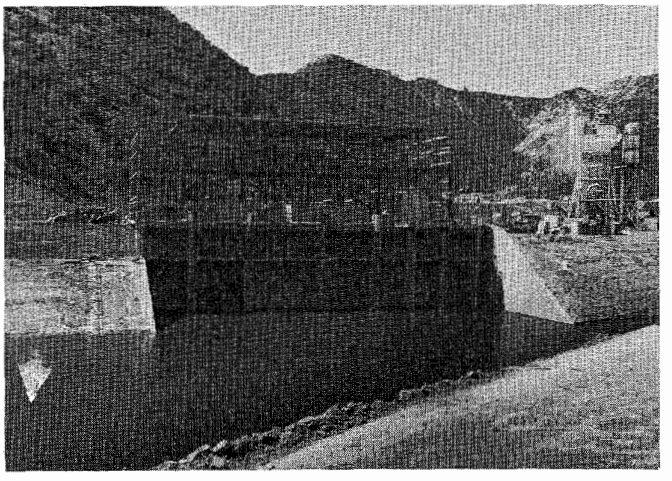
Facility or Construction Division	Parcels Acquired July 1, 1980 Thru June 1981	Total Parcels Acquired	Total Parcels Required
Feather River Facilities			
Upper Feather Division	0	22	43
Oroville Division	2	968	983
Delta Facilities	1	39	160
Emergency Drought Facilities	0	3	3
Suisun Marsh Facilities	0	27	82
North Bay Aqueduct	0	34	130
South Bay Aqueduct	0	206	206
Future Water Facilities	1	1	3
California Aqueduct:			
North San Joaquin Division	0	209	221
San Luis Division	0	22	22
South San Joaquin Division	0	576	579
Tehachapi Division	0	2	2
Mojave Division	37	1,675	1,777
Santa Ana Division	8	690	690
West Branch	7	335	349
Coastal Branch (Phase I)	0	48	48
Coastal Aqueduct	0	0	200
Asbestos Site	0	0	9
Energy Supply Facilities	16	16	151
Total	**72**	**4,873**	**5,658**

EXHIBIT 13

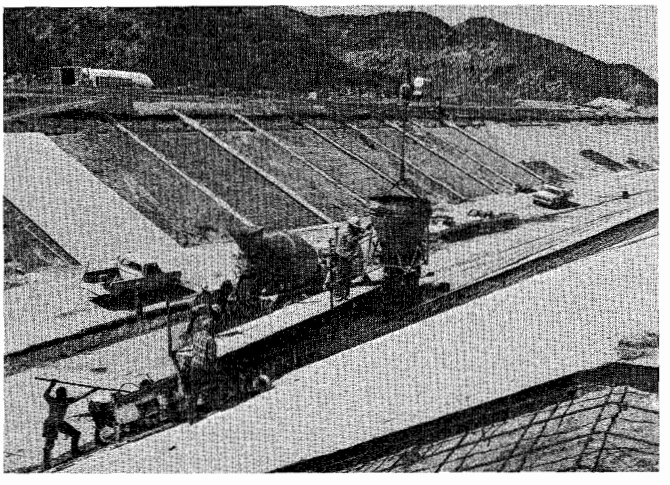
Construction Progress

At the beginning of 1980, construction work under 25 contracts was in progress. Between July 1, 1980 and June 30, 1981, work called for in 40 new contracts was begun. Most of the construction of the Suisun Marsh Initial Facilities has been completed. Construction activity on the West Branch of the California Aqueduct (William E. Warne Powerplant and associated facilities) increased during the latter part of 1980. Construction of Bottle Rock Powerplant (geothermal) was begun in May 1981.

SWP construction progress is shown in the following compilation. As shown in the compilation, some contracts have been completed. Estimated completion dates are given for those still in progress.



Steel Superstructure construction and the outlet structure for the William E. Warne Powerplant



Placing concrete lining for the Upper Flood Channel side slopes at the William E. Warne Powerplant

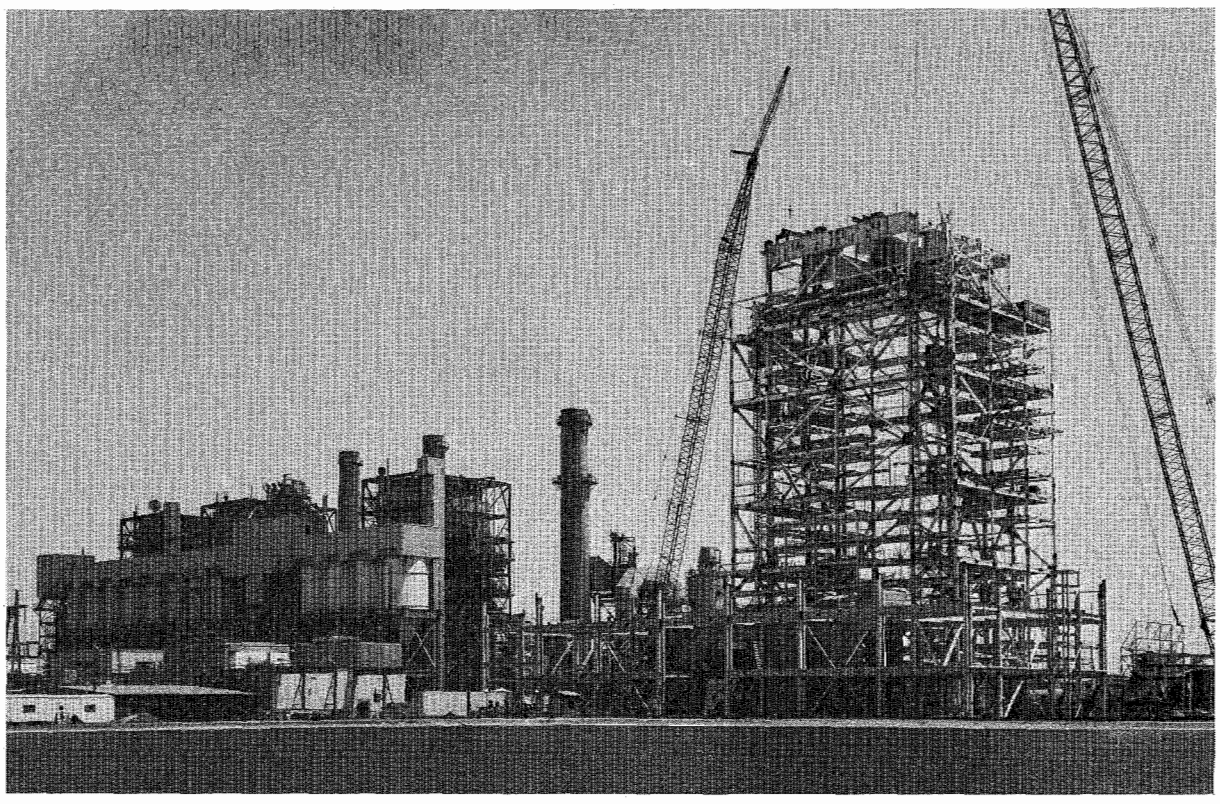
STATE WATER PROJECT CONSTRUCTION ACTIVITIES IN PROGRESS

DURING THE PERIOD
JULY 1980 - JUNE 1981

Division or Facility	Activity	Start Date	Planned Completion Date
Upper Feather	Installation of solar heating system at Beckwourth O&M Subcenter	July 1980	November 1980*
Oroville Division	Turbine-guide repair at Hyatt Powerplant	April 1981	July 1981*
South Bay Aqueduct	Emergency repairs to motor at South Bay Pumping Plant	May 1981	June 1981*
	Del Valle small hydropower recovery demonstration project	August 1980	September 1980*
Suisun Marsh Facilities	Roaring River Levee Repairs	March 1981	April 1981*
	Modification of Goodyear Slough Outlet Structure	January 1981	April 1981*
	Installation of first stage of Roaring River fish screen	July 1980	October 1980*
	Completion of Roaring River Slough	May 1980	Octo er 1980*
	Morrow Island distribution system	April 1980	October 1980*
Delta Facilities	Installation of 1,067-cfs pump-impeller at Harvey O, Banks Delta Pumping Plant	February 1981	January 1983
	Installation of louver assemblies at John E. Skinner Delta Fish Protection Facilities (Phase I)	December 1980	December 1981
	Construction of Phase II of John E. Skinner Delta Fish Protection Facilities		
	Installation of water-quality and meteorological data acquisition system in the Delta	January 1981	April 1981*
North San Joaquin Division	Emergency repairs to lining of California Aqueduct	May 1981	July 1981*
	Installation of cathodic protection equipment at check structures on the Aqueduct	August 1980	April 1981*
San Luis Division	Modification of San Luis O&M Center and Romero Visitor Center	May 1981	January 1982
	Installation of security fence at Pacheco Pass Meteorology Tower	February 1981	February 1981*
South San Joaquin Division	Repair of pump impeller at Wind Gap Pumping Plant	June 1981	July 1981*
	Installation of cathodic protection equipment at check structures on the Aqueduct	April 1980	December 1980*
	Installation of switchyard units at A.D. Edmonston Pumping Plant	June 1981	April 1983
	Construction of metal storage building at A.D. Edmonston Pumping Plant	May 1981	September 1981
	Installation of Pump motors at A.D. Edmonston Pumping Plant	June 1981	July 1984
	Installation of isolated phase bus equipment at A.D. Edmonston Pumping Plant	November 1980	October 1982
	Repairs to discharge line adit at A.D. Edmonston Pumping Plant	April 1980	July 1980*
	Installation of fasteners for east-wing pumps at A.D. Edmonston Pumping Plant	July 1979	October 1980*
West Branch	Slope stabilization work at Castaic Spillway	September 1980	December 1980*
	Installation of Peace Valley Pipeline	April 1978	September 1981
	Completion of William E. Warne Powerplant	December 1980	October 1983
	Work in progress at William E. Warne Powerplant:		
	Installation of switchgear and service substation	July 1980	October 1981
	Installation of generators	June 1979	October 1981
	Installation of turbine shutoff plug valves	August 1978	December 1981
	Construction of initial structures and site	November 1978	August 1981
Mojave Division	Construction of West Culvert (Mile 318.9-320.0)	July 1980	October 1980*
	Installation of Kaplan Turbine for Cottonwood Powerplant	October 1980	November 1984
	Repairs to low water crossing	April 1981	May 1981
Off-Aqueduct Energy Facilities	Development of initital stie at Bottlerock Powerplant	May 1981	November 1981
	Erosion control work at South Geysers Power Plant site	October 1980	December 1980
	Construction at Reid Gardner Powerplant, Unit No. 4	April 1980	April 1983

* Work completed

EXHIBIT 14



Reid Gardner Powerplant (Nevada) showing existing units and the construction of the boiler building structural steel frame.

Safety of Department-Owned Dams

In 1975, the Department, as required by Water Code Section 6056, initiated a revised program for review of the safety of Department-owned dams. Under this program, a consulting board is convened to conduct independent safety reviews of each dam every five years. The Department participates in the safety review process by providing technical engineering support to the various consulting boards.

The Department's Independent Safety Review Board for Antelope, Grizzly Valley, and Frenchman Dams convened during the week of September 15-19, 1980. These were the last of the Department-owned dams to undergo their first evaluation under the safety review program. The board members were Mr. Horace Al Johnson, Consulting Civil Engineer; Mr. Reginald A. Barron, Consultant-Earth Dams and Foundations; and Mr. William I. Gardner, Consulting Geologist. The board completed its safety evaluation report in November 1980. The report declares the dams to be safe, but recommended the following additional work or studies for each, which are expected to be completed by January 1983.

Antelope Dam

Recommendation. Erosion of the rock at the end of the spillway appears to have increased during this report period due to spilling during the spring of 1980. Consideration should be given to stabilizing this condition.

Action. At present the situation does not endanger the spillway or dam; however, the condition will be observed closely, particularly after each spill. If the erosion continues, the rock joints will be either filled with concrete or the area gunited to prevent further erosion.

Recommendation. The dam and spillway have performed satisfactorily since construction. However, the safety factor for stability must be checked, using the high phreatic level as measured in the downstream pervious zone.

Action. Static slope stability analyses were performed in 1980, using a phreatic surface as defined by observation well measurements made in March 1980. These represent the highest water levels recorded since first reservoir filling. Because the methods and material properties were identical to those used during design, it was concluded that the static safety factor has decreased from the 1.6 calculated during design to the 1.5 calculated in 1980. These findings were presented to the Safety Board in September 1980. The Board concurred in the need for additional studies.

The Design office will perform static and dynamic analyses on the dam as recommended in the Safety Board's "Report on Safety Evaluation of Antelope, Frenchman, and Grizzly Valley Dam" dated November 1980.

Estimated Completion Date--January 1983

Frenchman Dam

Recommendations.

1. Investigate the observation wells to determine if they are functioning correctly.

2. Investigate Piezometers 7 and 8 to determine if they are functioning correctly.

3. Investigate the outlet conduit stress meter system to determine if the system is deteriorating.

Action. Detailed testing procedures were developed by O&M for implementation in summer of 1981.

Estimated Completion Date--November 1981

Grizzly Valley Dam

Recommendation. Investigate the left toe drain to determine if it is functioning.

Action. The Board agreed and O&M will install an observation well this spring.

Estimated Completion Date--July 1, 1981

B. PROJECT MANAGEMENT

Water Rights Management

Delta Water Quality Monitoring and Reporting

One of the conditions provided in water rights Decision 1485 (D-1485) of the SWRCB (August 1978), as a condition of appropriation permits issued to the Department and the U. S. Bureau of Reclamation (USBR) for SWP and CVP export of water, was a Delta Water-quality monitoring program. This compliance monitoring and the associated special studies have enabled the Department to gain a better understanding of the effects of SWP operation on Delta ecology.

In 1980, the Department sampled an average of 32 parameters at each of 28 sites throughout the Delta estuary on a bi-weekly basis. On alternate weeks, continuous water-quality profiles of the main channels were recorded with automated instrumentation aboard the Department's laboratory work boat, M. V. San Carlos. Special studies included a series of sampling runs in the shallow shoal areas of San Pablo Bay.

In the fall of 1980 the first signifi-

cant algal bloom since the drought of 1976-77 occurred in the central Delta. A supplemental study was quickly launched to determine if this unexpected growth was resulting from SWP operations. The Department plans to report on this study in early 1982.

D-1485 requires water-quality studies of significant water quality changes in the Delta and studies of the freshwater outflow needs of the San Francisco Bay ecosystem. The objective is to separate the effects of Delta outflow from other major changes in the Bay, such as waste discharges and reduction of marshes by filling. The Department is cooperating with the Department of Fish and Game, the lead agency for these studies. Other ecological studies are being conducted through efforts of an interagency group; the participants include USBR, U. S. Fish and Wildlife Service, the SWRCB, and the San Francisco Bay Conservation and Development Commission.

Water quality information; Delta water conditions are stored in the Department's Water Data Information System. The data for 1980 was published in three volumes and transmitted to the SWRCB. Copies of the 1975 through 1979 data tabulations are still available to interested parties. The Department is cooperating with the SWRCB in an analysis of existing State and Federal data systems to adopt an electronic data processing system common to all State agencies. The data base being developed from these efforts is also serving as an important reference for other agencies involved in Delta study and evaluation programs.

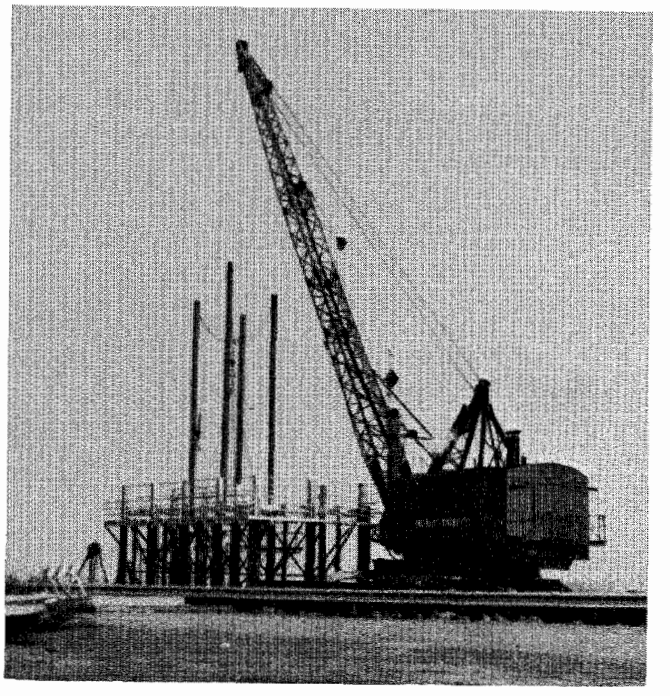
Water Entitlement Negotiations

Feather River. In 1980 there were no negotiations of entitlement agreements with appropriators or with riparian water users in the Feather River area.

Suisun Resources Conservation District (SRCD). In 1978, the Department, SRCD, and the Department of Fish and Game negotiated an agreement setting forth the responsibility and commitments of each agency for the Suisun Marsh Initial Facilities. These facilities were designed to protect those areas of the marsh most affected by salinity intrusion, including wetlands directly adjacent to Suisun, Grizzly, and Honker Bays. The Initial Facilities consist of dredging and improvements on Roaring River Slough, Goodyear Slough, and adjacent channels.

The 1980 construction of the Initial Facilities, independently undertaken by DWR and begun in 1979 were:

- Additions to the Roaring River Slough Unit, which began operation in October 1979.
- An experimental fish screen at Roaring River Slough.
- The Goodyear Slough Outfall Channel and outfall structure.

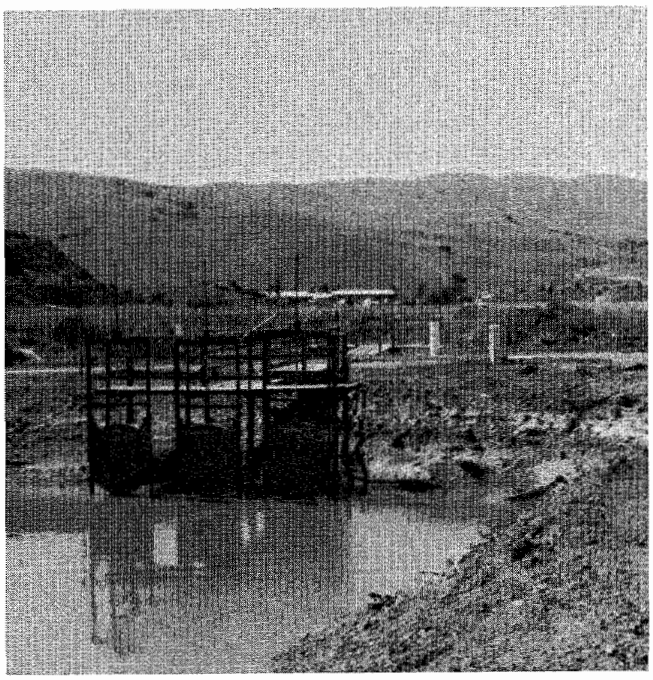


Barge crane placing module in the construction of the First Stage-Roaring River Fish Screen.

° The Morrow Island Distribution System.

Future operation of both the SWP and the CVP will adversely affect water quality in the Marsh. The storing of upstream runoff in project reservoirs, combined with pumping of Delta water to Project aqueducts, alters the pattern of fresh water outflow from the Delta. This results in earlier salt water intrusion during some parts of the year, which, in turn, can adversely affect the marsh ecological balance. Consequently, the Department believes both the SWP and CVP should share the cost of facilities necessary for mitigation of the salinity intrusion.

The Suisun Marsh Initial Facilities are being constructed with SWP funds. HR 13250, introduced by Congressman Leggett in 1978 to support U. S. Bureau of Reclamation (USBR) participation in Suisun Marsh protection, was not approved before the Congress adjourned. HR 4084, by Congressman Vic Fazio to authorize Federal participation in the Initial Facilities of up to $2.5 million, passed the House of Representatives on December 10, 1979, passed the Senate on October 1, 1980, and was signed by President Carter on December 3, 1980. It is now PL 96-495.



New flood gate for Morrow Island Distribution System.

The $2.5 million authorized by PL 96-495 was 50 percent of the estimated cost of the Initial Facilities. Since that law was written, the cost of these facilities has inceased, due to unexpected work, escalation, and inflation, to about $10.6 million. While the Department will continue to supply funds to complete the facilities, it will look for increased Federal participation. Using the 50-50 State-Federal cost sharing basis of the law, this would require an additional $2.8 million.

A draft plan of protection for Suisun Marsh, including an environmental impact report, was sent to the SWRCB as required by D-1485 on October 1, 1979. The report was compiled by the Department from information prepared by the USBR, the Fish and Game, and DWR, all as members of the Suisun Marsh Technical Committee of the Interagency Ecological Study Program.

The proposed plan of protection is based on supplemental Delta outflows, provided by the CVP and SWP, to give adequate water quality at the eastern end of Montezuma Slough, where the Overall Facilities will distribute the water throughout the Marsh. The report began the environmental review process with a public hearing in the fall of 1980. A final EIR incorporating review comments is scheduled for completion in 1981.

In May, 1980, a draft agreement for the Suisun Marsh Overall Facilities was submitted to the SRCD, the Department of Fish and Game, and the USBR for review. Negotiations are expected to be completed and the agreement signed in 1981. The facilities are planned to be operational by 1984.

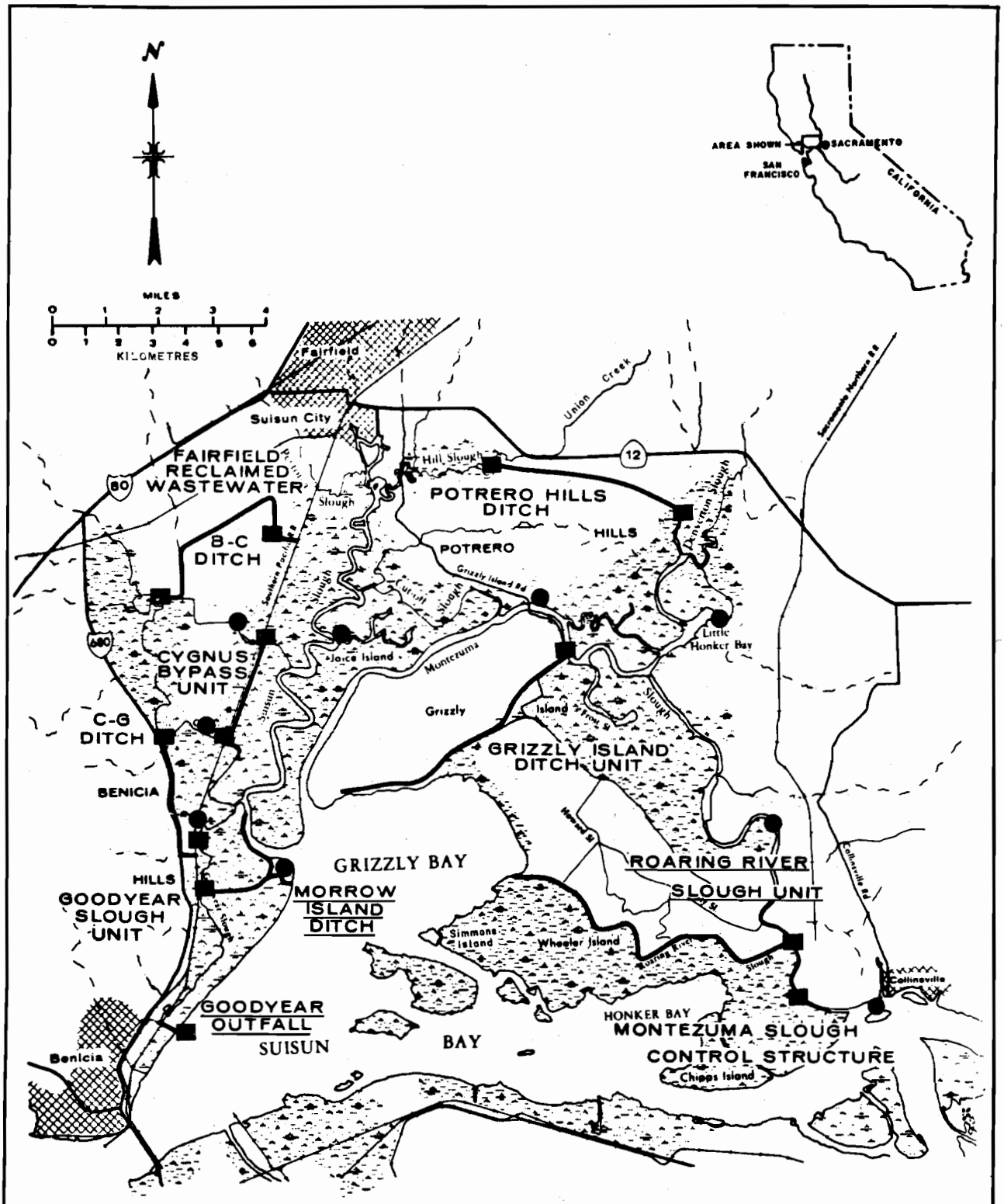


EXHIBIT 15

SUISUN MARSH

PHYSICAL FACILITIES

A key provision of PL 96-495, authorizing Federal participation in the Marsh facilities, calls for retroactive adjustments of the included 50-50 State-Federal cost sharing if final studies indicate that there are differing shares of responsibility for the costs of the Overall Facilities.

The Overall Facilities, together with the Delta outflow, will extend water-quality protection throughout the Marsh as ordered by the SWRCB in D-1485. Besides the Initial Facilities, the Overall Facilities consist of two in-channel control structures that can act as tidal pumps or closures, and several new or enlarged channels that will distribute water throughout the Marsh:

- Montezuma Slough Control Structure to pump water by tidal action from the Sacramento River near Collinsville through Montezuma Slough. The structure must operate when water quality in the Marsh requires improvement (about 25 percent of the time).
- Potrero Hills Ditch to pump water by tidal action from Luco Slough on the east to Hill Slough on the west to provide quality control in the west Marsh.
- Cygnus Ditch to transport water from Chadbourne Slough south to Cordelia Slough, to serve adjacent managed wetlands that will not otherwise have adequate quality water.
- Boynton-Cordelia Ditch to move water from Boynton Slough and from the Fairfield Regional Sewage Treatment Plant to the upper reaches of Cordelia Slough to provide circulation and better quality water in Cordelia Slough.
- Cordelia-Goodyear Ditch from Cordelia Slough to Goodyear Slough south of Pierce Harbor to pump better quality water by tidal action to Goodyear Slough.
- Goodyear Slough Control Structure in Goodyear Slough south of Pierce Harbor to control Goodyear Slough level and quality.
- Grizzly Island Distribution System to distribute better quality water from Montezuma Slough to lands on the lower part of Grizzly Island.

Western Delta Municipal Water Users. Periodic discussions with municipal and industrial interests near Antioch and Pittsburg have resulted in two contracts for replacement of municipal water supplies. (See page 20, Bulletin 132-67.) The first, signed in April 21, 1967, is with the Contra Costa County Water District for its municipal water diversion at Mallard Slough near Pittsburg; the second, signed April 11, 1968, covers use by the city of Antioch. Each contract provides that the SWP compensate each entity for the additional costs of purchasing a substitute water supply from the Contra Costa Canal to replace offshore supplies lost because of SWP operation. Both agencies had above- average water supplies during the 1980 water year as defined in the contract. During the year, the Contra Costa Water District accumulated a surplus of 19 days and the city of Antioch a surplus of 32 days. Including the credits accumulated in previous years, the District and the City at the end of 1980 have total credits of 19 and 173 days, respectively. These credits for above- average offshore water supplies are available to offset below-average days in future years.

Contra Costa Canal Intake Relocation. Negotiations with the Contra Costa County Water District for a contract to relocate the Contra Costa Canal Intake began in 1979. Agencies represented in the negotiations included the Department, the USBR, and the East Contra Costa County Irrigation District.

The Canal currently takes water from Old River near Rock Slough, where it is sub-

ject to salinity intrusion and local drainage of very poor quality. Relocating the Contra Costa Canal Intake to Clifton Court Forebay will help meet the SWRCB's criteria, and will help protect the District's water supply from the effects of Delta salinity intrusion. The proposed relocation will cross East Bay Municipal Utility District's Mokelumne Aqueduct and East Contra Costa Irrigation District's intake channel. The possibility of providing service to these districts is included in the relocation studies.

By November 1980, the engineering staffs had completed all feasible work and asked for specific direction from the negotiating committee. The negotiating committee was unable to provide the necessary direction due to many factors, including the uncertain future of SB 200. In light of this, these negotiations have been temporarily suspended pending the results of the referendum on SB 200.

Western Delta Industrial Water Users. Near Antioch and Pittsburg, several industries use offshore water for both processing and cooling. Each year, when the offshore water quality is below the industries' requirements for process water, they use the Contra Costa Canal as a substitute supply. In the past, industries have not agreed to participate in a contract similar to that signed several years ago by the municipal interests for several reasons, including: (1) the industries believe the SWP should provide compensation for the entire loss of offshore water regardless of who is responsible; and (2) industries want the SWP to guarantee the quality and quantity of the water from the Contra Costa Canal when it is used as a substitute supply.

On August 28, 1980, the Department resumed negotiation with Louisiana Pacific-Fibreboard and Crown Zellerbach corporations. A draft of a new proposed contract has been submitted to both corporations. The major terms of this proposed contract are:

1. DWR agrees to compensate each corporation for the loss of offshore water due to the operation of the SWP and the CVP.

2. DWR will guarantee the quality and quantity of a substitute water supply of suitable quality from the Contra Costa Canal after construction of the Peripheral Canal unit and relocation of the Contra Costa Canal Intake.

3. Each corporation will pay for benefits received due to operation of the SWP and CVP.

The reaction of the corporations to the proposed contract has been favorable, but many details remain unresolved.

Delta Agricultural Water Users. The Department has long proposed contracts with the agricultural agencies that would require the SWP to meet water-quality standards necessary for reasonable beneficial uses throughout each agency's respective area, with relaxation of such standards during dry and critical years, when water supplies are limited. In return, the agencies would make annual payments for SWP services in excess of any Project mitigation obligations.

Beginning in 1974, six agencies representing agricultural water interests in the Delta succeeded to the overall interest of the Delta Water Agency, which ceased to exist December 31, 1973. These are the North, the Central, and the South Delta Water agencies, the Contra Costa County Water Agency, and the East Contra Costa and Byron-Bethany Irrigation Districts, shown in the following exhibit. The status of negotiations with each agency is discussed in the following paragraphs.

° North Delta Water Agency (NDWA). Negotiations with NDWA were completed in January 1980, when the Director and NDWA agreed on a contract assuring landowners

of water of adequate quantity and quality (see Bulletin 132-80). The contract, which culminated almost 25 years of effort, was ratified by a vote of NDWA landowners on January 20, 1981. About 82 percent of the votes cast favored approval of the contract, the terms of which had been essentially agreed upon by the NDWA Board and DWR almost a year earlier. The contract was finally executed on January 28, 1981.

The contract specifies qualities to be provided within the NDWA and includes provisions for emergency conditions. The NDWA will pay $170,000 annually for the net benefits they receive. This amount can be escalated, within limits, once every 5 years in the future. Both parties have agreed to persuade the USBR to participate in the contract.

Concurrent with the signing of the contract, DWR dismissed its legal action against NDWA, which sought to obtain payment for water illegally used during July and August 1977. After ratification of the contract, NDWA filed a validation suit in the Superior Court of Sacramento County. On May 14, 1981, a judgment was entered approving the validity of the contract.

° East Contra Costa Irrigation District (ECCID). The first success in the negotiations with the Delta agricultural water users came on January 7, 1981, when DWR and ECCID signed a contract assuring ECCID of water of suitable quality and quantity for its needs. Like the NDWA contract, this agreement reflects both the water rights of ECCID and the benefits brought to ECCID by the project operations. The contract defines the criteria to be met, with emergency exclusions, and requires payment by the District of $11,000 annually for benefits received. Escalation of this amount is possible, within limits, at 5-year intervals.

The contract makes no mention of the possible involvement of ECCID in a relocation of the Contra Costa Canal Intake. This will be considered when the relocation becomes better defined.

A contract was signed on January 28, 1981 between DWR and North Delta Water Agency. The contract specifies water quality standards to be provided within the NDWA and includes provisions for emergency conditions. Seated left to right are: Mrs. Betty Luther, NDWA; Ronald B. Robie, Director DWR; W. R. Darsie, Chairperson, NDWA; Gus Olson, Jr., Vice-Chairperson, NDWA; Anne Schneider, Counsel, NDWA. Standing, left to right, are: Don Kienlen, Engineer, NDWA; George Deatherage, Engineer, DWR Russell G. Graham, Jr., Sec/Treas., NDWA; Edward G. Bryan, Director, NDWA; Russell Kletzing, Attorney, DWR; David Anderson, Attorney, DWR; Henry N. Kuechler III, Director, NDWA; Robert James, Deputy Director, DWR; George Basye, Counsel, NDWA; G. L. Renoud, Manager NDWA.

At the time of the contract signing, DWR also dismissed its legal action against ECCID for water used during July and August of 1977. In early 1981, the Legislature passed AB 1650 to provide for validation of contracts with irrigation districts. The bill permits irrigation districts to validate contracts with other public agencies using the same procedure as that used by the North Delta Water Agency and the Department.

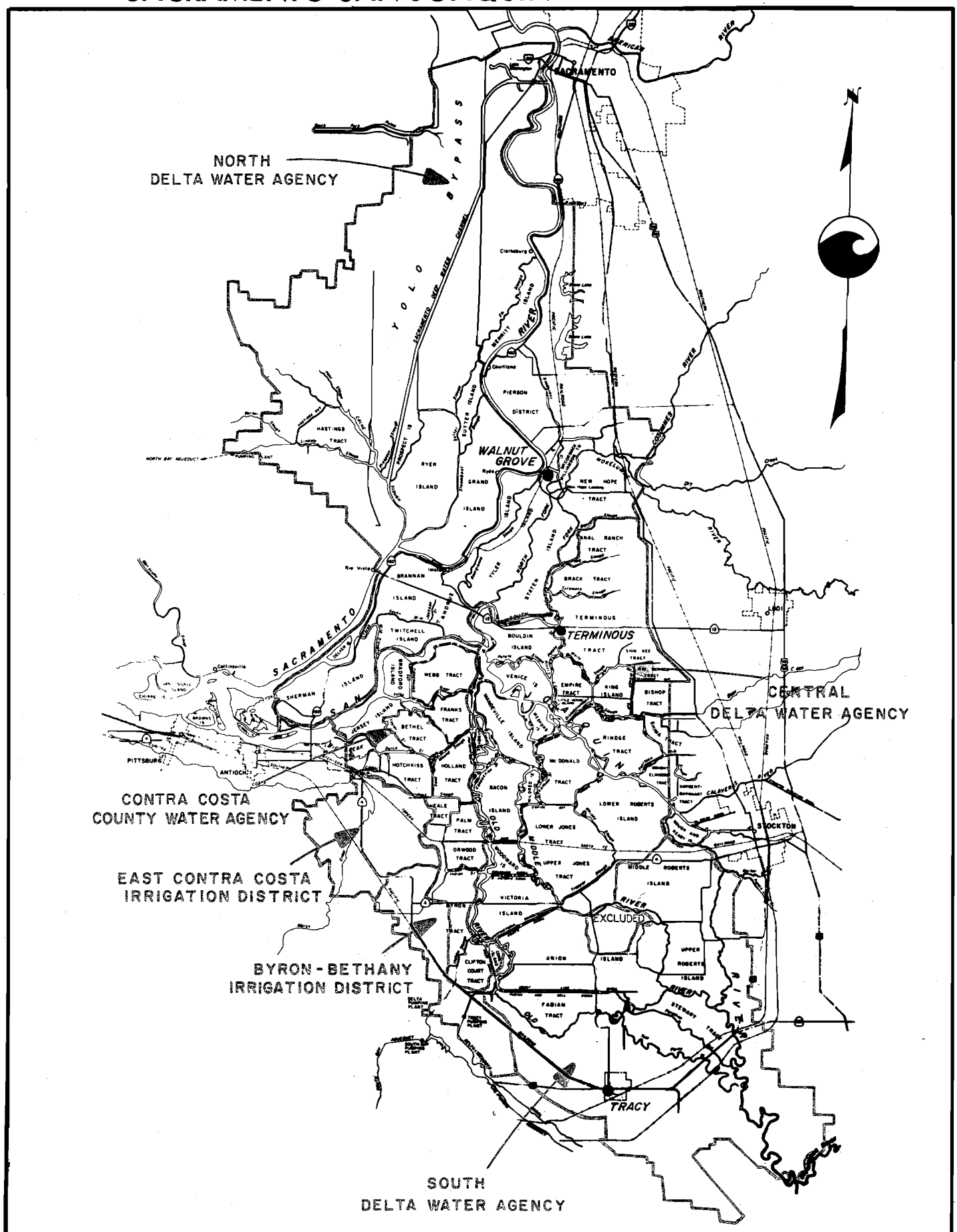
° South Delta Water Agency (SDWA). Negotiations with the SDWA were essentially suspended in the spring of 1979 after SDWA rejected DWR's September 1978 proposal. The suspension was made to allow completion of the joint SDWA-USBR study on the impact of the CVP on San Joaquin River flows into the South Delta. The joint study was completed and a joint report was released in June of 1980. In December of 1980, SDWA and USBR each published a second report, indicating the quality required within the SDWA; the works required to achieve this quality; and the allocation of costs to various parties.

There is a great difference in the views of SDWA and USBR, as stated in these later reports. Both agencies feel that negotiations can be reconvened on the basis of the data in the June joint report. Both SDWA and USBR have suggested reopening three-party negotiations. The Department's participation in the 1979-80 negotiations was minimal, since SWP effect in the South Delta is limited to water-level fluctuations caused by export pumping at Clifton Court.

On February 6, 1981, the State Water Resources Control Board (SWRCB) held a hearing to determine if it should become involved in the South Delta negotiations. (In D-1485, the SWRCB specifically deferred setting of agricultural standards in the southern Delta, pending resolution of the DWR-SDWA-USBR negotiations.) At the hearing, almost all those who appeared requested deferral of SWRCB action to allow negotiations to proceed. The SWRCB agreed to hold the hearing record open for 60 days to allow filing of a definite schedule of negotiations to be established by the parties.

A contract was signed between DWR and East Contra Costa Irrigation District in Brentwood on January 7, 1981. The contract guarantees water of suitable quality and quantity for ECCID needs. Seated left to right are: Frank Maggiore, Director, ECCID; Gene Stonebarger, Director, ECCID; Ronald Robie, Director, DWR; Russell DeMartini, President, ECCID; Don Christensen, Vice-President, ECCID; Ted Sciortino, Director, ECCID. Standing left to right: Don Kienlen, Engineer, ECCID; Ross Rogers, Manager, ECCID; John Payne, Engineer, DWR; Margaret Davis, Sec/Treas., ECCID; George Basye, Attorney, ECCID; Robert James, Deputy Director, DWR; George Deatherage, Engineer, DWR.

SACRAMENTO-SAN JOAQUIN DELTA AGENCIES



° Central Delta Water Agency, Contra Costa County Water Agency, and Byron-Bethany Irrigation District. No negotiations with these agencies are in progress at present. However, the attorney-general has submitted a draft agreement to Byron-Bethany Irrigation District.

Pyramid and Castaic Lakes Water Rights Applications

The Department has applied to the State Water Resources Control Board (SWRCB) for rights to collect excess winter flows from local watersheds and store them in Pyramid and Castaic lakes. The applications call for annual diversions of up to 67 800 dam^3 (55,000 acre-feet) in Pyramid Lake and up to 104 800 dam^3 (85,000 acre-feet) in Castaic Lake. Department estimates indicate that excess flows occur about one year out of six in Piru Creek and about two years out of five in the Castaic Creek watershed.

The stored flows would be used for fishery enhancement and for SWP deliveries. During water years 1978-79 and 1979-80, the Department stored excess flows from the two watersheds under temporary permits. At present, the Department is negotiating for permanent diversion rights with the Department of Fish and Game, local agencies, and the SWRCB.

Water Contracts Management

In 1980, 31 water agencies had long-term contracts with the State for annual water supplies from the State Water Project. On February 11, 1981, two of the agencies, Tulare Lake Basin Water Storage District and Hacienda Water District, executed a consolidation agreement effective as of January 1, 1981.4/ Included in the consolidation agreement were certain stipulated covenants limiting the use of the lands that were formerly part of the old Hacienda Ranch. These lands are now owned by Tulare Lake Drainage District. The stipulations are:

° The lands shall be used primarily for drainage disposal and storage of excess floodwater flows, and shall not be used for crops. There shall be no irrigation or use of water from wells on these lands.

° Tulare Lake Drainage District, on acquisition of such lands, for the benefit of the lands, will hold such lands in trust for their dedicated use.

° These covenants shall run with the designated lands and the agreement shall be co-existent with the duration of the right of Tulare Lake Basin Water Storage District to use the water formerly supplied to Hacienda Water District. These covenants will be included in any deeds of these lands to Tulare Lake Drainage District.

° The State of California is a third party beneficiary to this covenant.

During 1980, all of Hacienda Water District's project water was delivered within the Tulare Lake Basin Water Storage District as provided by the terms of "Agreement Among the State of California Department of Water Resources, Hacienda Water District, Tulare Lake Basin Water Storage District and Tulare Lake Representatives for Interim Delivery of Hacienda Water District State Water Supply," dated February 16, 1979. Figure 5 lists the 30 water agencies, along with other information concerning each agency and its service area as it existed in 1980. Note that the total of cumulative deliveries, Column 2 of Figure 5, includes both Project and nonproject water deliveries from SWP facilities. (Annual water entitlement deliveries through

4/ Therefore, as of January 1, 1981, the number of SWP contractors was reduced to 30.

1980 are shown for each agency in Table B-5B of Appendix B).

An unscheduled extra-surplus water program was initiated at the start of 1980 with the execution of an amendment to Article 21 of the basic water supply contract, defining and providing for the delivery of extra-surplus water and the execution of extra-surplus water contracts for 1980. Extra-surplus water is defined as water available in the Delta in excess of that needed for SWP purposes, scheduled SWP water deliveries, and water to meet Delta requirements established by the SWRCB. It can be delivered only when aqueduct capacity and pumping energy exceed all other SWP needs.

Priorities established for the use of extra-surplus water provide that such water will be furnished (1) for groundwater replenishment or for agricultural use in lieu of ground water pumping, and (2) for pre-irrigation to increase soil moisture prior to planting. Deliveries of extra-surplus water are scheduled weekly in accordance with procedures set forth in the annual extra-surplus water contracts. Eight contractors signed extra-surplus water contracts for 1980. Five took delivery of 89 376 dam^3 (72,457 acre-feet) as it was declared available during the first three months of 1980.

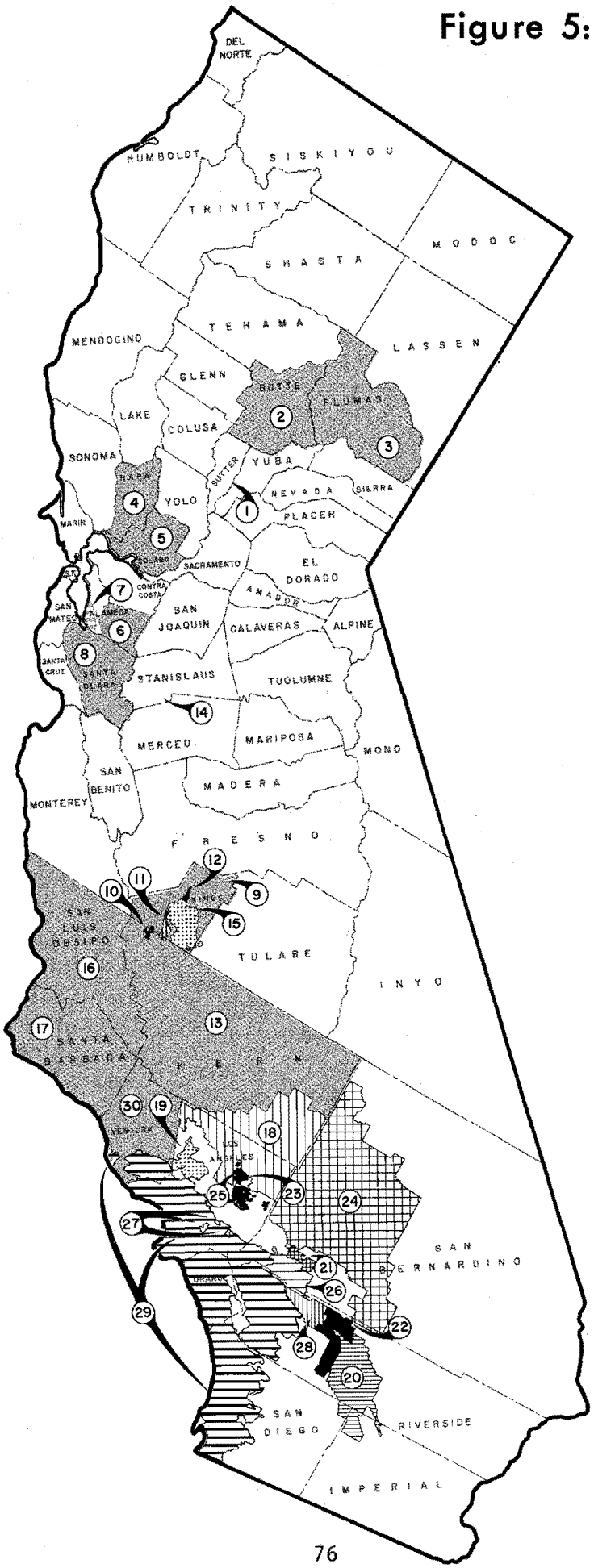
SWP 1980 water supplies were sufficient to meet all water contractor delivery requests for 1980. Water deliveries for 1980 were first approved on December 19, 1979, based on both the 1980 rule curve criteria and the December 1, 1979 water-supply forecasts for the 1979-80 water year. This initial approval was for delivery of the full 1980 Table A entitlements, all carryover entitlement amounts requested, and 123 350 dam^3 (100,000 acre-feet) of surplus water. As monthly forecasts of the year's water conditions improved, the amount of surplus water approved for delivery also increased monthly until on March 10, all requests for surplus-water deliveries were approved.

Project water deliveries during 1980 totaled 2.39 million dam^3 (1.94 million acre-feet), the lowest since the 1976-77 drought. Actual (through 1980) and projected annual deliveries of both Project and nonproject water to contractors are summarized in Table 2.

Column 2 of Figure 5 shows that seven contractors have yet to receive water from SWP facilities. An eighth contractor, Napa County Flood Control and Water Conservation District, has received only nonproject water, which was pumped and delivered through SWP facilities. The water contract of one of the eight contractors, Palmdale Water District, calls for deliveries of SWP water beginning in 1972. However, the District has elected not to take water deliveries at this time. Contracts of the other seven specify initial deliveries to be made after 1980.

Several contractors have obtained far less water than the amount contracted for, mainly because their current needs are less than those projected at the time their contracts were signed in the early and mid-1960s. Differences between contracted amounts (annual entitlements) and actual deliveries through 1980 may be determined by comparing the annual entitlement values shown in Table B-4 to the actual delivery amounts shown in Table B-5B. In 1980, thirteen contractors took less SWP water than their contracted 1980 entitlement amounts. Overall cumulative State deliveries of all types of water since 1962, including deliveries of SWP surplus water to the 30 contractors, exceed the cumulative total of all annual contract entitlements through 1980.

Figure 5: LONG-TERM



WATER SUPPLY CONTRACTING AGENCIES

Location No.	Contracting Agency	Total Cumulative Deliveries through Dec. 31, 1980 (acre-feet) [a]	Maximum Annual Entitlement (acre-feet) [a]	Total Payments through Dec. 31, 1980 (dollars)	Gross Area as of July 1, 1980 (acres) [b]	Assessed Valuation 1980-1981 (dollars)	Estimated Population (July 1, 1980)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	UPPER FEATHER AREA						
1	City of Yuba City	0	9,600	0	3,290	84,400,000	18,800
2	County of Butte	3,192	27,500	262,237	1,066,000	683,251,000	143,200
3	Plumas County Flood Control and Water Conservation District	3,958	2,700	251,976	1,644,000 [c]	191,900,000 [c]	16,500 [c]
	Subtotal	7,150	39,800	514,213	2,713,290	959,551,000	178,500
	NORTH BAY AREA						
4	Napa County Flood Control and Water Conservation District	63,839	25,000	3,340,353	512,000	590,827,719	96,800
5	Solano County Flood Control and Water Conservation District	0	42,000	329,239	575,000	1,287,000,000	230,200
	Subtotal	63,839	67,000	3,669,592	1,087,000	1,877,827,719	327,000
	SOUTH BAY AREA						
6	Alameda County Flood Control and Water Conservation Dist., Zone 7	209,415	46,000	10,333,265	272,000	626,000,000	109,000
7	Alameda County Water District	299,679	42,000	12,263,372	63,000	1,064,000,000	195,000
8	Santa Clara Valley Water District	1,272,609	100,000	46,920,611	849,000	7,774,000,000	1,283,000
	Subtotal	1,781,703	188,000	69,517,248	1,184,000	9,464,000,000	1,587,000
	SAN JOAQUIN VALLEY AREA						
9	County of Kings	20,100	4,000	376,498	893,000 [d]	345,216,400 [d]	73,800 [d]
10	Devil's Den Water District	180,843	12,700	3,896,322	8,500	1,258,700	50
11	Dudley Ridge Water District	672,040	57,700	8,183,481	29,900	3,539,600	50
12	Empire West Side Irrigation District	46,461	3,000	605,880	7,500	744,600	50
13	Kern County Water Agency	7,542,964	1,153,400	141,142,118	5,057,200 [f]	4,765,059,100 [f]	403,100 [f]
14	Oak Flat Water District	74,209	5,700	700,802	4,000	275,000	50
15	Tulare Lake Basin Water Storage District [e]	1,404,476	118,500	16,272,317	204,500	24,578,300	100
	Subtotal	9,941,093	1,355,000	171,177,418	6,204,600	5,140,671,700	477,200
	CENTRAL COASTAL AREA						
16	San Luis Obispo County Flood Control and Water Conservation District	0	25,000	2,582,165	2,131,300	1,137,265,578	155,900
17	Santa Barbara County Flood Control and Water Conservation District	0	57,700	6,047,963	1,756,900	2,017,803,962	297,300
	Subtotal	0	82,700	8,630,128	3,888,200	3,155,069,540	453,200
	SOUTHERN CALIFORNIA AREA						
18	Antelope Valley-East Kern Water Agency	247,573	138,400	35,227,876	1,524,900	750,656,032	97,700
19	Castaic Lake Water Agency	1,217	41,500	13,661,318	125,000	483,312,631	72,600
20	Coachella Valley Water District	57,831	23,100	8,744,068	637,500	909,990,876	88,900
21	Crestline-Lake Arrowhead Water Agency	8,124	5,800	2,434,779	55,100	139,716,815	11,300
22	Desert Water Agency	89,300	38,100	14,219,543	208,900	572,632,166	50,500
23	Littlerock Creek Irrigation District	3,283	2,300	621,867	43,300	10,076,635	1,600
24	Mojave Water Agency	8,733	50,800	15,903,450	3,160,400	715,556,585	93,100
25	Palmdale Water District	0	17,300	4,225,779	73,800	96,817,009	26,200
26	San Bernardino Valley Municipal Water District	105,500	102,600	49,479,900	209,600	1,271,938,783	333,500
27	San Gabriel Valley Municipal Water District	30,275	28,800	13,061,681	16,300	683,379,460	157,800
28	San Gorgonio Pass Water Agency	0	17,300	7,204,673	140,600	133,198,425	32,900
29	The Metropolitan Water District of Southern California	3,443,695	2,011,500	808,612,312	3,270,900	69,390,300,019	11,609,000
30	Ventura County Flood Control District	0	20,000	5,686,873	1,179,500 [g]	3,397,786,044 [g]	533,700 [g]
	Subtotal	3,995,531	2,497,500	979,084,119	10,645,800	78,555,361,480	13,108,800
	TOTAL STATE WATER PROJECT	15,789,316	4,230,000	1,232,592,718	25,722,890 [h]	99,152,481,439 [h]	16,131,700 [h]
	NET TOTALS, STATE WATER PROJECT SERVICE AREA				25,155,003 [i]	96,744,878,369 [i]	15,782,780 [i]
	TOTAL, STATE OF CALIFORNIA				100,314,000	144,739,000,000	23,545,000
	PERCENT, STATE WATER PROJECT OF TOTAL				25.1	66.8	67.0

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Metric conversion is acres times 0.040469 equals hectares.
c) Total for Plumas County Flood Control and Water Conservation District, including Last Chance Creek Water District.
d) Total for County of Kings, including Dudley Ridge Water District, Empire West Side Irrigation District, Hacienda Water District, most of Tulare Lake Basin Water Storage District, and about 40% of Devil's Den Water District.
e) Hacienda Water District merged with Tulare Lake Basin Water Storage District effective January 1, 1981.
f) Total Kern County Water Agency, including about 60% of Devil's Den Water District, and about 50% of Antelope Valley-East Kern Water Agency.
g) Total for Ventura County Flood Control District, including portion of Antelope Valley-East Kern Water Agency, The Metropolitan Water District of Southern California, and Castaic Lake Water Agency.
h) Includes duplicate values. Some areas which are within two or more agencies are included in each agency's total.
i) Excludes duplicate values where agencies have overlapping boundaries.

TABLE 2: ANNUAL

(in acre-

Calendar Year	Annual Entitlements Under Long-term Water Supply Contracts						
	Feather River Area	North Bay Area	South Bay Area	San Joaquin Valley Area	Central Coastal Area	Southern California Area	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1962	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0
1967	0	0	11,538	0	0	0	11,538
1968	550	0	109,900	81,050	0	0	191,500
1969	620	0	98,700	168,075	0	0	267,395
1970	700	0	114,200	207,700	0	0	322,600
1971	890	0	116,200	258,500	0	0	375,590
1972	970	0	118,300	420,766	0	201,723	741,759
1973	1,100	0	120,400	392,352	0	472,400	986,252
1974	1,230	0	122,400	470,350	0	588,220	1,182,200
1975	1,610	0	124,500	556,509	0	704,250	1,386,869
1976	1,990	0	126,500	555,117	0	824,780	1,508,387
1977	2,420	0	128,600	594,100	0	942,201	1,667,321
1978	1,850	0	130,700	647,262	0	1,060,722	1,840,534
1979	2,130	0	132,700	715,385	0	1,177,873	2,028,088
1980	1,810	500	134,800	770,800	2,200	1,304,914	2,215,024
Subtotal, 1962-1980	17,870	500	1,589,438	5,837,966	2,200	7,277,083	14,725,057
1981	1,940	650	137,000	828,500	3,300	1,425,865	2,397,255
1982	1,970	800	139,200	889,200	6,600	1,546,806	2,584,576
1983	2,000	950	141,400	955,500	9,900	1,668,557	2,778,307
1984	3,630	29,600	143,600	1,017,900	14,900	1,790,398	3,000,028
1985	3,760	32,750	145,800	1,079,100	24,800	1,912,549	3,198,759
5 years, 1981-1985	13,300	64,750	707,000	4,770,200	59,500	8,344,175	13,958,925
10 years, 1986-1995	216,720	587,500	1,650,200	13,032,300	688,000	23,869,646	40,044,366
10 years, 1996-2005	386,460	670,000	1,878,000	13,550,000	827,000	24,975,000	42,286,460
10 years, 2006-2015	393,170	670,000	1,880,000	13,550,000	827,000	24,975,000	42,295,170
10 years, 2016-2025	398,000	670,000	1,880,000	13,550,000	827,000	24,975,000	42,300,000
10 years, 2026-2035	398,000	670,000	1,880,000	13,550,000	827,000	24,975,000	42,300,000

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.

b) Includes 1,515,313 acre-feet of 1980 entitlement water; 14,258 acre-feet of deferred deliveries pursuant to Articles 12(d), and 45(e) of contracts; and 178 acre-feet of carryover from 1979.

c) Includes 1,821,705 acre-feet of 1981 entitlement water and 25,552 acre-feet of deferred deliveries pursuant to Articles 12(d) and 45(e) of contracts.

d) Values include deliveries to short-term contractors (Mustang Water District, 1970-71; Tracy Golf and Country Club, 1974, 1979 and 1980; Green Valley Water District 1974-75, 1978, 1979, and 1980; and Granite Construction Company, 1980).

e) Includes Emergency Relief Water, Repayment Water, Kern River Intertie Water, Exchange Water, Regulated Delivery of Local Supply and Conveyance of Federal CVP Water.

WATER REQUIREMENTS

feet)[a]

Estimated Annual Water Demands								
Deliveries to Contracting Agencies								
Entitlement Water	Surplus Water [d]	Other Water[e]	Total	Initial Fill	Operational Losses and Storage Changes	Recreation Water	Total	Calendar Year
(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	
0	0	18,289	18,289	9	272	0	18,570	1962
0	0	22,456	22,456	71	185	0	22,712	1963
0	0	32,507	32,507	171	152	0	32,830	1964
0	0	44,105	44,105	93	729	0	44,927	1965
0	0	67,928	67,928	0	1,746	0	69,674	1966
11,538	0	53,605	65,143	8,328	4,212	0	77,683	1967
171,709	121,534	14,777	308,020	498,926	117,906	0	924,852	1968
193,020	72,397	18,829	284,246	510,614	72,196	0	867,056	1969
233,993	133,024	38,080	405,097	23,947	2,435	0	431,479	1970
357,340	296,019	44,119	697,478	7,853	5,812	8	711,151	1971
611,801	423,964	66,638	1,102,403	100,274	53,062	6,489	1,262,228	1972
694,388	296,416	42,511	1,033,315	204,638	53,798	1,155	1,292,906	1973
874,077	417,676	46,224	1,337,977	237,554	10,657	2,118	1,588,306	1974
1,223,990	622,902	63,793	1,910,685	103,352	-94,606	3,377	1,922,808	1975
1,373,002	580,110	115,217	2,068,329	61,122	-681,025	1,745	1,450,171	1976
574,155	0	389,065	963,220	0	-131,151	1,111	833,180	1977
1,452,699	16,914	121,225	1,590,838	64,443	717,370	1,177	2,373,828	1978
1,659,896	648,389	187,630	2,495,915	12,302	-83,401	1,398	2,426,214	1979
1,529,749[b]	404,557	46,459	1,980,765	0	-30,453	2,131	1,952,443	1980
10,961,357	4,033,902	1,433,457	16,428,716	1,833,697	19,896	20,709	18,303,018	19 years, 1962-1980
1,847,257[c]	655,717	271,269	2,774,243	0	127,145	10,188	2,911,576	1981
2,051,332	801,609	163,758	3,016,699	0	-182,224	15,852	2,850,327	1982
2,192,807	753,238	164,372	3,110,417	0	545,244	17,462	3,673,123	1983
2,344,653	723,577	131,832	3,200,062	0	-4,606	18,942	3,214,398	1984
2,464,220	681,999	124,632	3,270,851	0	-128,088	19,282	3,162,045	1985
10,900,269	3,616,140	855,863	15,372,272	0	357,471	81,726	15,811,469	5 years, 1981-1985
29,678,924	-	-	29,678,924	0	1,621,403	227,078	31,527,405	10 years, 1986-1995
32,488,365	-	-	32,488,365	0	1,570,489	244,300	34,303,154	10 years, 1996-2005
37,077,420	-	-	37,077,420	0	1,255,964	244,300	38,577,684	10 years, 2006-2015
40,676,630	-	-	40,676,630	0	1,311,643	244,300	42,232,573	10 years, 2016-2025
41,953,200	-	-	41,953,200	0	1,464,597	244,300	43,662,097	10 years, 2026-2035

TABLE 3: SUMMARY OF 1980 ENTITLEMENT AND SURPLUS WATER SERVICE TO LONG-TERM CONTRACTORS

(acre-feet)[a]

Long-Term Contractor	Entitlement And Surplus Water Service							Future Entitlement Credits			
	Entitlement Water Deliveries				Surplus Water	Extra Surplus Water	Total Deliveries	Future Entitlement Delivery Credit as of 1-1-81			Future Entitlement Reduction Credit Article 7 or 45[c]
	1980 Entitlement	Article 12(d)	Other	Total				Article 7 or 45	Articles 12(d) and 14(b) [b]	Total	
(1)	(2)	(3)	(4)	(5)=(2)+(3)+(4)	(6)	(7)	(8)=(5)+(6)+(7)	(9)	(10)	(11)	(12)
UPPER FEATHER RIVER											
Butte County	267	0	-	267	-	-	267	-	0	0	-
Plumas County	295	0	-	295	-	-	295	-	0	0	-
SOUTH BAY AREA											
Alameda County FC&WCD, Zone 7	16,790	0	0	16,790	-	-	16,790	53,741	2,438	56,179	0
Alameda County WD	11,034	0	0	11,034	0	-	11,034	96,609	2,220	98,829	0
Santa Clara Valley WD	88,000	0	0	88,000	11,427	2,851	102,278	0	0	0	0
SAN JOAQUIN VALLEY AREA											
County of Kings	2,200	0	-	2,200	-	-	2,200	-	0	0	-
Devil's Den WD	12,700	1,182	-	13,882	3,913	2,179	19,974	-	0	0	-
Dudley Ridge WD	41,000	0	-	41,000	35,818	3,261	80,079	0	0	0	-
Empire West Side ID	716	0	178[d]	894	0	0	894	2,284[e]	1,800	4,084	-
Hacienda WD[f]	5,200	0	1,000[g]	6,200	0	0	6,200	0	0	0	-
Kern County WA	634,500	0	0	634,500	281,084[h]	49,349	964,933	-	0	0	-
Oak Flat WD	5,700	0	0	5,700	718	0	6,418	0	0	0	2,466
Tulare Lake Basin WSD	66,500	0	2,744[g]	69,244	0	14,817	84,061	7,438	0	7,438	74,852
SOUTHERN CALIFORNIA AREA											
Antelope Valley - East Kern WA	63,075	9,332	-	72,407	-	-	72,407	-	22,040	22,040	-
Castaic Lake WA	1,210	0	-	1,210	-	-	1,210	-	500	500	-
Coachella Valley WD	10,884	0	-	10,884	-	-	10,884	-	0	0	-
Crestline - Lake Arrowhead WA	1,239	0	-	1,239	-	-	1,239	-	151	151	-
Desert WA	17,000	0	-	17,000	-	-	17,000	-	0	0	-
Littlerock Creek ID	191	0	-	191	-	-	191	-	438	438	-
Mojave WA	4,000[i]	0	-	4,000	-	-	4,000	-	20	20	-
San Bernardino Valley MWD	0	0	-	0	-	-	0	-	4,269	4,269	-
San Gabriel Valley MWD	1,085	0	-	1,085	-	-	1,085	-	1,000	1,000	-
The Metropolitan Water District of S.C.	531,727	0	-	531,727	-	-	531,727	-	102,239	102,239	-
TOTAL	1,515,313	10,514	3,922	1,529,749	332,960	72,457	1,935,166	160,072	137,115	297,187	77,318

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) The only 14(b) water is a delivery credit of 4,787 acre-feet to Antelope Valley-East Kern W.A.
c) Refer to Chapter II, Future Entitlement Credits.
d) This 1979 undelivered entitlement water was stored in and delivered from San Luis Reservoir.
e) At the end of 1980 this water was being held in storage for later delivery under an agreement dated October 1, 1979.
f) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.
g) Delivered pursuant to Article 45(e).
h) Includes 3,200 acre-feet of Emergency Relief Water. Refer to Chapter II, Emergency Relief Water.
i) This water was recovered from Project Water stored during 1978 in a ground water basin underlying the Agency.

Water Deliveries in 1980

During the year, 30 agencies were provided water service by the SWP. This included 25 long-term water contractors and 6 noncontractors. (See footnote on page 74.) Table 3 shows the deliveries for the year. Monthly deliveries to each of the 30 agencies are shown in Table 4 and summarized as follows:

- 1 869 139 dam^3 (1,515,313 acre-feet) of 1980 entitlement water to 23 long-term contractors.
- 409 645 dam^3 (332,100 acre-feet) of surplus water to five long-term contractors and three noncontractors.
- 89 376 dam^3 (72,457 acre-feet) of extra surplus water to five long-term contractors.
- 12 969 dam^3 (10,514 acre-feet) of Article 12(d) entitlement makeup water available to two long-term contractors because of reduced water deliveries during the 1977 drought.
- 4 618 dam^3 (3,744 acre-feet) of entitlement water to two long-term contractors under the wet weather provisions of their individual contracts.
- 220 dam^3 (178 acre-feet) of 1979 entitlement water was carried over by one long-term contractor in San Luis Reservoir for delivery in 1980.
- 3 897 dam^3 (3,159 acre-feet) of preconsolidation repayment water to Belridge Oil Company.
- 3 947 dam^3 (3,200 acre-feet) of emergency relief water to one long-term contractor.
- 49 463 dam^3 (40,100 acre-feet) of local water to three long-term contractors and two noncontractors.

Entitlement Water Deliveries (Tables 3&4). Each fall the State obtains from each contractor an estimate of its future requirements for SWP water. Estimates for entitlement water received in the fall of 1979 from 23 contractors totaled 2 319 456 dam^3 (1,880,386 acre-feet) including a nominal amount of entitlement makeup water. A substantial amount of surplus water was also requested.

Actual entitlement water delivered in 1980 totaled only 1 869 139 dam^3 (1,515,313 acre-feet). Tables 3 and 4 show water deliveries during 1980 by type and contractor. This year's substantial difference between the amounts of entitlement water initially approved and those actually delivered resulted from the large amounts of runoff water available, especially in the San Joaquin Valley, where spring runoff exceeded 150 percent of normal. The extent of the availability of runoff water in 1980 is emphasized in that 15 contractors took 450 318 dam^3 (365,073 acre-feet) less entitlement water than they had been initially scheduled to receive.

The following compilation summarizes entitlement and surplus water delivered to the Kern County Water Agency's members since 1968 and shows the general trend of water deliveries in the San Joaquin Valley.

The 1980 annual entitlements of two contractors, Dudley Ridge Water District and Oak Flat Water District, were increased. Dudley Ridge Water District had asked that its Table A annual entitlements be increased from 45 269 dam^3 (36,700 acre-feet) to

ENTITLEMENT AND SURPLUS WATER DELIVERIES

(in acre

Line No.		1968	1969	1970	1971	1972	1973
	Belridge Water Storage District						
1.	Entitlement	19,517	40,696	45,529	53,003	55,655	65,952
2.	Surplus	5,259	20,220	24,000	10,770	16,703	8,651
3.	Agency Total	24,776	60,916	69,529	63,773	72,358	74,603
	Berrenda Mesa Water District						
4.	Entitlement	13,692	26,749	31,160	49,238	60,933	63,799
5.	Surplus	57,965	25,345	40,750	49,243	46,917	31,029
6.	Agency Total	71,657	52,094	71,910	98,481	107,850	94,828
	Buena Vista Water Storage District						
7.	Entitlement	0	0	0	2,700	14,241	5,548
8.	Surplus	0	0	10,284	11,938	37,271	0
9.	Agency Total	0	0	10,284	14,638	51,512	5,548
	Buttonwillow Irrigation District						
10.	Entitlement	0	0	0	0	0	2,595
11.	Surplus	0	0	0	0	0	0
12.	Agency Total	0	0	0	0	0	2,595
	Cawelo Water District						
13.	Entitlement	0	0	0	0	0	0
14.	Surplus	0	0	0	0	0	0
15.	Agency Total	0	0	0	0	0	0
	Henry Miller Water District						
16.	Entitlement	0	0	0	0	0	0
17.	Surplus	0	0	0	0	0	0
18.	Agency Total	0	0	0	0	0	0
	Kern Delta Water District						
19.	Entitlement	0	0	0	1,200	0	3,940
20.	Surplus	0	0	0	1,372	0	0
21.	Agency Total	0	0	0	2,572	0	3,940
	Lost Hills Water District						
22.	Entitlement	13,391	28,255	39,008	43,366	50,804	68,433
23.	Surplus	17,560	0	9,856	3,984	22,536	20,199
24.	Agency Total	30,951	28,255	48,864	47,350	73,340	88,632
	Pond Posa Irrigation Distict						
25.	Entitlement	0	0	0	0	0	0
26.	Surplus	0	0	0	0	0	0
27.	Agency Total	0	0	0	0	0	0
	Rosedale-Rio Bravo Water Storage District						
28.	Entitlement	0	0	700	2,500	0	0
29.	Surplus	0	0	3,186	650	0	0
30.	Agency Total	0	0	3,886	3,150	0	0
	Semitropic Water Storage District						
31.	Entitlement	0	0	0	0	0	0
32.	Surplus	0	0	0	0	0	0
33.	Agency Total	0	0	0	0	0	0
	Improvement District No. 4						
34.	Entitlement	0	0	0	6,386	20,000	9,912
35.	Surplus	0	0	0	0	0	0
36.	Agency Total	0	0	0	6,386	20,000	9,912
	West Kern Water District						
37.	Entitlement	0	0	0	3,121	6,300	3,514
38.	Surplus	0	0	0	0	0	0
39.	Agency Total	0	0	0	3,121	6,300	3,514
	Wheeler Ridge Maricopa Water Storage District						
40.	Entitlement	0	0	3	28,786	62,767	86,782
41.	Surplus	0	0	0	72,726	86,736	87,697
42.	Agency Total	0	0	3	101,512	149,503	174,479
	Tehachapi-Cummings Water District (M&I)						
43.	Entitlement	0	0	0	0	0	0
44.	Surplus	0	0	0	0	0	0
45.	Agency Total	0	0	0	0	0	0
	Tehachapi-Cummings Water District (AG)						
46.	Entitlement	0	0	0	0	0	25
47.	Surplus	0	0	0	0	0	0
48.	Agency Total	0	0	0	0	0	25
	Tejon-Castaic Water District						
49.	Entitlement	0	0	0	0	0	0
50.	Surplus	0	0	0	0	0	0
51.	Agency Total	0	0	0	0	0	0
	Other (Special Contracts)						
52.	Entitlement	0	0	0	0	0	0
53.	Surplus	0	0	158	19,168	9,918	47,167
54.	Other Total	0	0	158	19,168	9,918	47,167
	Kern County Water Agency						
55.	Total Entitlement	46,600	95,700	116,400	190,300	270,700	310,500
56.	Total Surplus	80,784	45,565	88,234	169,851	220,081	194,743
57.	GRAND TOTAL	127,384	141,265	204,634	360,151	490,781	505,243

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Includes 219,358 acre-feet of Exchange Water, 22,172 acre-feet of Purchased Water, and 2,900 acre-feet of Carryover Water.
c) Includes 109,464 acre-feet of Article 12(d) Make-up Water and 30,583 acre-feet of Carryover Water.
d) Includes 155,146 acre-feet of Article 12(d) Make-up Water and 7,000 acre-feet of Article 14(b) Make-up Water.
e) Includes 20,000 acre-feet of 1977 Emergency Relief Water delivered to Lost Hills Water District.
f) Includes 49,349 acre-feet of Extra Surplus Water and 3,200 acre-feet of 1977 Emergency Relief Water delivered to Lost Hills Water District.

EXHIBIT 16

FOR KERN COUNTY WATER AGENCY AND MEMBER UNITS

feet) [a]

1974	1975	1976	1977	1978	1979	1980	Line No.
92,992	98,197	99,403	98,212	101,251	118,150	128,932	1.
26,591	31,503	18,277	0	0	16,194	4,680	2.
119,583	129,700	117,680	98,212	101,251	134,344	133,612	3.
64,300	72,465	78,224	87,804	90,016	108,827	103,255	4.
38,843	53,910	48,484	0	0	20,940	32,607	5.
103,143	126,375	126,708	87,804	90,016	129,767	135,862	6.
7,300	8,168	5,798	4,051	861	14,456	376	7.
13,575	24,296	19,339	0	0	36,725	8,137	8.
20,875	32,464	25,137	4,051	861	51,181	8,513	9.
7,100	17,305	15,233	15,697	63,471	48,583	45,625	10.
27,800	61,125	47,238	0	2,581	41,415	54,016	11.
34,900	78,430	62,471	15,697	66,052	89,998	99,641	12.
0	0	8,791	5,736	6,754	23,774	8,765	13.
0	0	26,357	0	0	10,398	11,235	14.
0	0	35,148	5,736	6,754	34,172	20,000	15.
0	8,070	9,482	8,241	16,732	23,259	15,458	16.
0	25,585	31,290	0	0	32,957	19,762	17.
0	33,655	40,772	8,241	16,732	56,216	35,220	18.
3,300	3,900	4,900	5,889	15,407	16,021	3,662	19.
11,700	12,400	12,700	0	0	16,061	1,782	20.
15,000	16,300	17,600	5,889	15,407	32,082	5,444	21.
75,422	89,999	89,338	87,619	96,908	103,095	114,180	22.
12,082	41,810	33,852	0	1,783	38,475	11,854	23.
87,504	131,809	123,190	87,619	98,691	141,570	126,034	24.
5,400	0	0	11,759	42,840	36,806	32,479	25.
15,626	0	0	0	1,392	37,965	37,448	26.
21,026	0	0	11,759	44,232	74,771	69,927	27.
0	0	5,766	0	21,767	18,026	12,779	28.
0	0	33,816	0	0	46,933	17,983	29.
0	0	39,582	0	21,767	64,959	30,762	30.
0	0	0	0	0	0	200	31.
0	0	0	0	0	6,371	100	32.
0	0	0	0	0	6,371	300	33.
23,484	30,528	37,300	23,695	39,153	45,400	35,574	34.
0	0	0	0	2,867	48,524	3,104	35.
23,484	30,528	37,300	23,695	42,020	93,924	38,678	36.
0	0	0	0	2,572	14,300	5,062	37.
0	0	0	0	0	3,512	0	38.
0	0	0	0	2,572	17,812	5,062	39.
64,162	71,615	75,752	80,710	166,316	168,742	117,164	40.
131,056	151,028	153,154	0	0	61,529	110,940	41.
195,218	222,643	228,906	80,710	166,316	230,271	228,104	42.
3,000	3,200	3,500	3,420	2,622	2,813	2,700	43.
0	0	0	0	0	0	0	44.
3,000	3,200	3,500	3,420	2,622	2,813	2,700	45.
540	849	245	4	204	582	136	46.
1,452	2,650	1,010	0	0	235	205	47.
1,992	3,499	1,255	4	204	817	341	48.
0	0	0	0	0	0	0	49.
0	0	0	0	0	0	0	50.
0	0	0	0	0	0	0	51.
0	6,524	5,518	0	473	3,212	8,153	52.
20,708	6,513	16,633	0	0	126,013	16,580	53.
20,708	13,037	22,151	0	473	129,225	24,733	54.
347,000	410,820	439,250	432,837 [b]	667,347 [c]	746,046 [d]	634,500 [f]	55.
299,433	410,820	442,150	0	8,623	544,247 [e]	330,433 [f]	56.
646,433	821,640	881,400	432,837	675,970	1,290,293	964,933	57.

TABLE 4: WATER

(in acre

Line No.	Contracting Agency and Type of Service	Month					
		Jan.	Feb.	Mar.	Apr.	May	June
	FEATHER RIVER SERVICE AREA						
	County of Butte						
1.	Entitlement Water	60	60	86	38	0	0
	Last Chance Creek Water District						
2.	Regulated Delivery of Local Supply	0	0	0	290	1,204	1,566
	Plumas County Flood Control and Water Conservation District						
3.	Entitlement Water	4	23	1	1	29	45
	Thermalito Irrigation District						
4.	Regulated Delivery of Local Supply	0	0	0	48	172	177
5.	AREA TOTAL	64	83	87	377	1,405	1,788
	NORTH BAY SERVICE AREA						
	Napa County Flood Control and Water Conservation District						
6.	Regulated Delivery of Local Supply	476	403	423	651	943	854
7.	Solano County Flood Control and Water Conservation District	0	0	0	0	0	0
8.	AREA TOTAL	476	403	423	651	943	854
	SOUTH BAY SERVICE AREA						
	Alameda County Flood Control and Water Conservation District, Zone 7						
9.	Entitlement Water	51	35	146	731	1,571	2,531
10.	Regulated Delivery of Local Supply	1,076	1,005	829	1,190	232	0
11.	Agency Total	1,127	1,040	975	1,921	1,803	2,531
	Alameda County Water District						
12.	Entitlement Water	0	0	0	383	821	1,389
13.	Regulated Delivery of Local Supply	768	767	617	425	440	2,849
14.	Agency Total	768	767	617	808	1,261	4,238
	Santa Clara Valley Water District						
15.	Entitlement Water	4,500	4,500	4,851	7,720	10,674	10,279
16.	Surplus Water	0	0	0	0	0	0
17.	Extra Surplus Water	1,655	1,196	0	0	0	0
18.	Agency Total	6,155	5,696	4,851	7,720	10,674	10,279
19.	AREA TOTAL	8,050	7,503	6,443	10,449	13,738	17,048
	SAN JOAQUIN VALLEY SERVICE AREA						
	Belridge Oil Company						
20.	Repayment Water	243	320	393	413	0	0
	County of Kings						
21.	Entitlement Water	220	220	106	123	11	220
	Devil's Den Water District						
22.	Entitlement Water	350	825	1,550	1,000	385	1,800
23.	Surplus Water	0	1,103	198	351	50	0
24.	Extra Surplus Water	1,761	418	0	0	0	0
25.	Article 12(d) Make-up Water	0	72	150	150	150	136
26.	Agency Total	2,111	2,418	1,898	1,501	585	1,936
	Dudley Ridge Water District						
27.	Entitlement Water	1,170	1,570	1,859	2,320	6,676	7,380
28.	Surplus Water	0	0	1,843	3,989	1,028	2,452
29.	Extra Surplus Water	922	2,339	0	0	0	0
30.	Agency Total	2,092	3,909	3,702	6,309	7,704	9,832
	Empire West Side Irrigation District						
31.	Entitlement Water	0	0	0	0	0	126
32.	Carryover Water	80	98	0	0	0	0
33.	Agency Total	80	98	0	0	0	126
	Green Valley Water District						
34.	Surplus Water	0	0	0	0	0	210
	Hacienda Water District [b]						
35.	Entitlement Water	200	200	147	253	400	10
36.	Article 45(e) Wet Weather Water	0	0	0	0	0	0
37.	Agency Total	200	200	147	253	400	10
	Kern County Water Agency						
38.	Entitlement Water	8,541	15,249	21,972	32,720	57,164	108,639
39.	Surplus Water	3,104	12,700	15,297	36,917	4,993	27,333
40.	Extra Surplus Water	22,226	13,277	13,846	0	0	0
41.	1977 Emergency Relief Water [c]	125	525	925	625	125	125
42.	Agency Total	33,996	41,751	52,040	70,262	62,282	136,097

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.
c) Water acquired in 1977 for emergency relief purposes and later sold when drought ended.

DELIVERIES IN 1980

feet)[a]

Month							1980 Contract Entitlement	1980 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Thru		Line No.
July	Aug.	Sept.	Oct.	Nov.	Dec.	Total			1979	1980	
3	0	0	0	0	20	267	1,100	833	7,275	8,108	1.
2,711	3,453	1,638	582	232	124	11,800	-	-	-	-	2.
74	61	41	14	1	1	295	710	415	2,197	2,612	3.
194	220	209	147	119	41	1,327	-	-	-	-	4.
2,982	3,734	1,888	743	352	186	13,689	1,810	1,248	9,472	10,720	5.
682	389	481	205	650	550	6,707	-	-	-	-	6.
0	0	0	0	0	0	0	500	500	-	500	7.
682	389	481	205	650	550	6,707	500	500	-	500	8.
2,632	2,399	1,938	2,001	1,466	1,289	16,790	22,000	5,210	62,586	67,796	9.
0	0	0	0	0	0	4,332	-	-	-	-	10.
2,632	2,399	1,938	2,001	1,466	1,289	21,122	-	-	-	-	11.
1,944	2,029	732	900	846	1,990	11,034	24,800	13,766	131,121	144,887	12.
2,609	2,202	699	1,209	2,486	863	15,934	-	-	-	-	13.
4,553	4,231	1,431	2,109	3,332	2,853	26,968	-	-	-	-	14.
10,536	10,597	9,555	7,803	3,500	3,485	88,000	88,000	0	38,776	38,776	15.
0	0	749	2,800	4,677	3,201	11,427	-	-	-	-	16.
0	0	0	0	0	0	2,851	-	-	-	-	17.
10,536	10,597	10,304	10,603	8,177	6,686	102,278	-	-	-	-	18.
17,721	17,227	13,673	14,713	12,975	10,828	150,368	134,800	18,976	232,483	251,459	19.
0	0	0	505	629	656	3,159	-	-	-	-	20.
220	220	220	220	200	220	2,200	2,200	-	-	-	21.
2,240	2,300	859	0	139	1,252	12,700	12,700	0	1,187	5	22.
770	1,076	365	0	0	0	3,913	-	-	-	-	23.
0	0	0	0	0	0	2,179	-	-	-	-	24.
260	200	64	0	0	0	1,182	-	-	-	-	25.
3,270	3,576	1,288	0	139	1,252	19,974	-	-	-	-	26.
7,380	7,380	1,698	1,563	1,504	500	41,000	41,000	0	0	0	27.
7,655	6,205	3,310	2,512	1,466	5,358	35,818	-	-	-	-	28.
0	0	0	0	0	0	3,261	-	-	-	-	29.
15,035	13,585	5,008	4,075	2,970	5,858	80,079	-	-	-	-	30.
0	41	0	0	0	549	716	3,000	2,284	3,069	5,175	31.
0	0	0	0	0	0	178	-	-	-	-	32.
0	41	0	0	0	549	894	-	-	-	-	33.
573	618	394	0	0	0	1,795	-	-	-	-	34.
930	930	70	200	930	930	5,200	5,200	0	1,000	0	35.
0	0	0	0	0	1,000	1,000	-	-	-	-	36.
930	930	70	200	930	1,930	6,200	-	-	-	-	37.
120,134	116,894	59,186	39,930	34,190	19,881	634,500	634,500	0	0	0	38.
49,051	69,751	0	0	10,342	48,396	277,884	-	-	-	-	39.
0	0	0	0	0	0	49,349	-	-	-	-	40.
125	125	125	125	125	125	3,200	-	-	-	-	41.
169,310	186,770	59,311	40,055	44,657	68,402	964,933	-	-	-	-	42.

TABLE 4: WATER

(in acre

Line No.	Contracting Agency and Type of Service	Month					
		Jan.	Feb.	Mar.	Apr.	May	June
	Oak Flat Water District						
43.	Entitlement Water	0	0	245	1,055	1,025	763
44.	Surplus Water	0	0	0	16	184	0
45.	Agency Total	0	0	245	1,071	1,209	763
	Tracy Golf and Country Club						
46.	Surplus Water	0	0	32	32	50	73
	Tulare Lake Basin Water Storage District						
47.	Entitlement Water	1,500	500	0	130	312	674
48.	Extra Surplus Water	14,257	560	0	0	0	0
49.	Article 45(e) Wet Weather Water	0	0	0	0	0	0
50.	Agency Total	15,757	1,060	0	130	312	674
	Granite Construction						
51.	Surplus Water	0	0	0	0	0	0
52.	AREA TOTAL	54,699	49,976	58,563	80,094	72,553	149,941
	CENTRAL COASTAL SERVICE AREA						
53.	San Luis Obispo County Flood Control and Water Conservation District	0	0	0	0	0	0
54.	Santa Barbara County Flood Control and Water Conservation District	0	0	0	0	0	0
55.	AREA TOTAL	0	0	0	0	0	0
	SOUTHERN CALIFORNIA SERVICE AREA						
	Antelope Valley-East Kern Water Agency						
56.	Entitlement Water	433	720	991	6,111	7,548	9,625
57.	Article 12(d) Make-up Water	0	0	0	1,099	0	937
58.	Agency Total	433	720	991	7,210	7,548	10,562
	Castaic Lake Water Agency						
59.	Entitlement Water	0	0	31	0	8	107
	Coachella Valley Water District						
60.	Entitlement Water	907	907	907	907	907	907
	Crestline-Lake Arrowhead Water Agency						
61.	Entitlement Water	81	73	70	85	83	99
	Desert Water Agency						
62.	Entitlement Water	1,417	1,417	1,417	1,417	1,417	1,417
	Littlerock Creek Irrigation District						
63.	Entitlement Water	0	0	0	0	0	85
	Mojave Water Agency						
64.	Entitlement Water (b	0	0	0	0	4,000	0
65.	Palmdale Water District	0	0	0	0	0	0
66.	San Bernardino Valley Municipal Water District	0	0	0	0	0	0
	San Gabriel Valley Municipal Water District						
67.	Entitlement Water	1,064	0	0	0	0	0
68.	San Gorgonio Pass Water Agency	0	0	0	0	0	0
	The Metropolitan Water District of Southern California						
69.	Entitlement Water	27,963	21,543	35,643	39,216	28,084	52,343
70.	Ventura County Flood Control District	0	0	0	0	0	0
71.	AREA TOTAL	31,865	24,660	39,059	48,835	42,047	65,520
	ALL AGENCIES						
72.	Entitlement Water	48,461	47,842	70,022	94,210	121,115	198,439
73.	Surplus Water	3,104	13,803	17,370	41,305	6,305	30,068
74.	Extra Surplus Water	40,821	17,790	13,846	0	0	0
75.	Article 12(d) Make-up Water	0	72	150	1,249	150	1,073
76.	Article 45(e) Wet Weather Water	0	0	0	0	0	0
77.	Carryover Water	80	98	0	0	0	0
78.	Repayment Water	243	320	393	413	0	0
79.	1977 Emergency Relief Water	125	525	925	625	125	125
80.	Subtotal	92,834	80,450	102,706	137,802	127,695	229,705
81.	Regulated Delivery of Local Supply	2,320	2,175	1,869	2,604	2,991	5,446
82.	TOTAL WATER	95,154	82,625	104,575	140,406	130,686	235,151

a) Metric Conversion is acre-feet times 1.2335 equals cubic dekametres.
b) This entitlement water was put in storage by the State in a ground water basin underlying the Agency in 1978 and pumped from that basin for use by the Agency in 1980.

DELIVERIES IN 1980

feet)[a]

Spread 2 of 2

Month							1980 Contract Entitlement	1980 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Thru		Line No.
July	Aug.	Sept.	Oct.	Nov.	Dec.	Total			1979	1980	
1,025	957	289	290	51	0	5,700	5,700	0	0	0	43.
152	0	0	0	181	185	718	-	-	-	-	44.
1,177	957	289	290	232	185	6,418	-	-	-	-	45.
69	19	93	30	19	8	425	-	-	-	-	46.
3,758	7,650	9,891	10,964	11,927	19,194	66,500	66,500	0	10,182	7,438	47.
0	0	0	0	0	0	14,817	-	-	-	-	48.
0	0	0	0	0	2,744	2,744	-	-	-	-	49.
3,758	7,650	9,891	10,964	11,927	21,938	84,061	-	-	-	-	50.
16	56	17	14	8	9	120	-	-	-	-	51.
194,358	214,422	76,581	56,353	61,711	101,007	1,170,258	770,800	2,284	15,438	12,618	52.
0	0	0	0	0	0	0	1,000	1,000	-	1,000	53.
0	0	0	0	0	0	0	1,200	1,200	-	1,200	54.
0	0	0	0	0	0	0	2,200	2,200	-	2,200	55.
10,876	10,582	8,549	4,953	1,824	863	63,075	69,200	6,125	170,986	167,779	56.
2,177	2,297	1,683	852	287	0	9,332	-	-	-	-	57.
13,053	12,879	10,232	5,805	2,111	863	72,407	-	-	-	-	58.
177	162	121	118	264	222	1,210	17,700	16,490	67,729	84,219	59.
907	907	907	907	907	907	10,884	10,884	0	12,779	12,779	60.
143	158	134	132	98	83	1,239	2,900	1,661	5,821	7,482	61.
1,417	1,417	1,417	1,417	1,417	1,413	17,000	17,000	0	19,700	19,700	62.
0	0	0	62	44	0	191	1,150	959	2,289	3,248	63.
0	0	0	0	0	0	4,000	27,200	23,200	128,851	152,051	64.
0	0	0	0	0	0	0	11,180	11,180	49,120	60,300	65.
0	0	0	0	0	0	0	65,500	65,500	265,827	331,327	66.
0	0	0	0	0	21	1,085	17,400	16,315	68,932	85,247	67.
0	0	0	0	0	0	0	6,800	6,800	-	6,800	68.
58,872	63,874	67,898	60,122	42,236	33,933	531,727	1,057,000	525,273	1,504,500	2,029,773	69.
0	0	0	0	0	0	0	1,000	1,000	-	1,000	70.
74,569	79,397	80,709	68,563	47,077	37,442	639,743	1,304,914	674,503	2,296,534	2,961,705	71.
223,268	228,558	163,505	131,596	101,544	86,753	1,515,313	2,215,024	699,711	2,553,927	3,239,202	72.
58,286	77,725	4,928	5,356	16,693	57,157	332,100	-	-	-	-	73.
0	0	0	0	0	0	72,457	-	-	-	-	74.
2,437	2,497	1,747	852	287	0	10,514	-	-	-	-	75.
0	0	0	0	0	3,744	3,744	-	-	-	-	76.
0	0	0	0	0	0	178	-	-	-	-	77.
0	0	0	505	629	656	3,159	-	-	-	-	78.
125	125	125	125	125	125	3,200	-	-	-	-	79.
284,116	308,905	170,305	138,434	119,278	148,435	1,940,665	-	-	-	-	80.
6,196	6,264	3,027	2,143	3,487	1,578	40,100	-	-	-	-	81.
290,312	315,169	173,332	140,577	122,765	150,013	1,980,765	2,215,024	699,711	2,553,927	3,239,202	82.

50 574 dam^3 (41,000) acre-feet), in December 7, 1979, to firm up its water supply. Oak Flat District, by a similar request of December 4, 1979, increased its Table A annual entitlements from 5 181 dam^3 (4,200 acre-feet) to 7 031 dam^3 (5,700 acre-feet), which was also for the purpose of firming its 1980 water supply.

Makeup Water Deliveries (Tables 3&4). Long-term contractors are afforded relief through Articles 12(d) and 14(b) of the water supply contract when the State is unable to deliver the requested entitlements in any year. When the State is unable to deliver any portion of the agency's annual "Table A" entitlement water as a result of causes beyond its control, Article 12(d), or if entitlement water deliveries are curtailed for maintenance purposes, Article 14(b), the contractor may elect to receive the undelivered entitlement water at other times during the year, or in succeeding years, to the extent that the water and delivery capability are available.

In 1977, as a result of the drought, quantities of initially scheduled water were reduced. Through these reductions, 21 long-term contractors gained a credit for future delivery totaling 563 791 dam^3 (457,066 acre-feet). These credits acquired under Article 12(d) have been reduced over the years, so that now only ten contactors have remaining rights. By the end of 1980, the total makeup water for future delivery totaled 169 131 dam^3 (137,115 acre-feet) consisting of 163 227 dam^3 (132,328 acre-feet) of Article 12(d) water, the remainder being Article 14(b) water.

Deliveries Under Wet Weather Provisions (Tables 3&4). At the beginning of 1980, four contractors had acquired credits totaling 200 805 dam^3 (162,793 acre-feet) for future delivery of entitlement water under the wet-weather provisions of their contracts; these water agencies can acquire credits to future deliveries if above-normal supplies of local water are available within their service areas during the year. In 1980, Hacienda Water District took delivery of all water due under this provision.

In 1979, Devil's Den Water District and Empire West Side Irrigation District requested, but were denied, permission to carry over unused entitlement water because of wet local conditions, because both contractors are now receiving their maximum annual entitlement. Under the "wet weather" provisions, delivery of water carried over from a wet year, plus the annual entitlement for that year, cannot exceed the maximum annual entitlement. However, special agreements were developed for both Districts, providing that entitlements that could not be used could be stored in project reservoirs for up to three years, subject to spill if the reservoirs fill, with the contractor paying a use-of-facilities charge for such storage. In 1980, Devil's Den Water District took delivery of its remaining makeup entitlement (see Table 3).

Because of the above normal local water supply, the Empire West Side Irrigation District requested that its undelivered 1980 entitlement water be stored in project facilities. A total of 2 817 dam^3 (2,284 acre-feet) of undelivered 1980 entitlement water was stored for future use. This stored water is in addition to a balance of 2 220 dam^3 (1,800 acre-feet) of makeup entitlement water (Article 12(d) water) remaining to be delivered in future years.

With the above-normal local water supply in 1980, the Empire West Side Irrigation District was unable to take delivery of all of its 1 555 dam^3 (1,261 acre-feet) of stored 1979 entitlement water prior to the time the capacities of SWP facilities were required for other purposes. Accordingly, the District will receive a monetary credit, as provided in the October 1, 1979 storage agreement, for 1 336 dam^3 (1,083 acre-feet) less 27 dam^3 (22 acre-feet) for operational losses.

Future Entitlement Credits (Table 3). Oak Flat Water District and Tulare Lake Basin Water Storage District are the only two contractors with entitlement reduction credit due to the wet weather. Current reduction credits date back to 1972 and 1973. At that time they were allowed to increase their entitlement up to their maximum annual entitlement when their local water supply was deficient due to climatic conditions. The two contractors may reduce their annual entitlement by using the credits in any year when either agency is unable to accept all its annual entitlement because of above-average local water supply caused by climatic conditions.

Repayment Water Deliveries (Tables 2&4). In 1964, the State entered into two contracts to obtain water to preconsolidate land within the right-of-way alignment of the California Aqueduct to be paid back after the aqueduct began service. These contracts will terminate December 31, 1984. The contracts, which have changed hands over the years, are currently held by the Belridge Oil Company and the J. G. Boswell Company. In 1980, 3 897 dam^3 (3,159 acre-feet) were delivered to Belridge Oil Company, leaving a balance of 61 333 dam^3 (49,723 acre-feet) yet to be delivered. J. G. Boswell Company received no water in 1980, leaving its balance at 104 718 dam^3 (84,895 acre-feet).

An extension of both contracts (Belridge and Boswell) was discussed during the year. A draft agreement amendment with Boswell was considered but was denied, because the Department believes that the water should be delivered by 1984, when it is more likely to be available. Although extending the contract to 1995 would reduce the rate of annual water deliveries, the increased cost of pumping energy would be an additional expense to the contractors.

Emergency Relief Water Deliveries (Tables 2,3&4). At the end of 1977, the State had 117 400 dam^3 (95,176 acre-feet) of emergency relief water in storage. This water was being retained for emergency relief in 1978. When it became apparent that the 1976-77 drought was over, the stored water was sold (see pages 88 and 89 of Bulletin 132-79). Two noncontractors (Green Valley Water District and Tracy Golf and Country Club) purchased and have received the remainder. Kern County Water Agency purchased 116 598 dam^3 (94,526 acre-feet) of the stored water for delivery before December 31, 1983. Through 1980, the Kern County Water Agency had taken 28 617 dam^3 (23,200 acre-feet).

1978 Exchange Water Deliveries (Table 2). During 1978, the State acquired 37 005 dam^3 (30,000 acre-feet) of SWP water from The Metropolitan Water District through an exchange agreement. Under the agreement, Metropolitan pumped additional Colorado River water for its use in lieu of taking delivery of the SWP water in January of that year. The exchange water was intended for use in meeting 1978 emergency needs in case the 1976-77 drought continued. Arrangements had been made to obtain up to 246 200 dam^3 (200,000 acre-feet) for such purposes. The radical change in weather conditions in California beginning in early January 1978 ended the need to acquire further exchange water as it became apparent that the drought had ended.

Under an agreement between the State, Metropolitan, and Kern County Water Agency, and another agreement between the State, Metropolitan, and Dudley Ridge Water District, Kern purchased 30 838 dam^3 (25,000 acre-feet) and Dudley purchased 6 168 dam^3 (5,000 acre-feet) of the exchange water. The agreements provided that Kern and Dudley Ridge must use the water prior to March 31, 1983. As of December 31, 1980, neither contractor had taken delivery of its 1978 emergency relief water.

Ground Water Demonstration Deliveries (Tables 3&4). The State and Mojave Water Agency entered into a contract in

1978 establishing a ground-water demonstration project involving the storage of 27 754 dam^3 (22,500 acre-feet) of SWP water in a ground-water basin within Mojave's boundaries (see pages 89 and 90 of Bulletin 132-79). A total of 27 754 dam^3 (22,500 acre-feet) was considered available for extraction from the basin for future use by the agency. As of December 31, 1980, 9 868 dam^3 (8,000 acre-feet) of entitlement water had been withdrawn from the basin for Mojave's use.

In accordance with the guidelines for funding costs under the ground-water demonstration program, the agency paid Transportation Charges for this project water as though it had been delivered through SWP facilities from the Delta, with the payment credited to SWP conservation costs.

A second ground-water demonstration project was established in 1978 under agreements between the State and the San Bernardino Valley Municipal Water District (see page 90 of Bulletin 132-79). Total water stored as of January 1, 1981 under the project was 16 560 dam^3 (13,425 acre-feet). All State costs and District incremental costs incurred in connection with the storage of this water, including the power costs incurred by the State in transporting the water from the Delta to Reach 26A and the Delta Water Charge on each acre-foot stored, have been assigned as SWP conservation costs. During 1980, San Bernardino Valley Municipal Water District negotiated a Letter of Agreement with City of San Bernardino for recapture of water from the recharge area.

Surplus Water Deliveries (Tables 2,3&4). In September 1979, eight contractors submitted estimates that they could use a total of 1 111 268 dam^3 (900,906 acre-feet) of surplus water during 1980. The Rule Curve criteria for 1980 allowed the delivery of 123 350 dam^3 (100,000 acre-feet) of surplus water to be included with the initial schedules of 1980 water deliveries approved in December 1979. Regular monthly meetings between contractors and Department representatives were held from December 1979 through March 1980 to review the latest forecasts of water supply conditions and update SWP water delivery capability as described by the Rule Curve Criteria for 1980. At the March meeting, the Department announced that all surplus water requests could be satisfied. Approved schedules calling for surplus water deliveries totaling 1 112 500 dam^3 (901,915 acre-feet) were issued about April 1, 1980, including three noncontractors: Granite Construction Company; Green Valley Water District; and Tracy Golf and Country Club. By the end of 1980 409 645 dam^3 (332,100 acre-feet) of surplus water was actually delivered.

Each noncontractor receiving surplus water in 1980 entered into a one-year agreement with the Department, which specifies that the water received cannot be used to develop a permanent economy. During 1980, noncontractor payments for surplus water were: Granite Construction, $2,664; Green Valley Water District, $65,518; and Tracy Golf and Country Club, $9,435.

Extra-Surplus Water (Tables 2,3&4). In previous years, extra-surplus water had been delivered on an as-available basis before it was known if surplus water requests could be met. This year's extra-surplus water deliveries were initiated at the start of 1980 and continued until the end of March. At that time, sufficient surplus became available to satisfy all contractor requests for surplus water during 1980. Extra-surplus water is water in excess of that required to meet Delta water quality requirements and all SWP needs, and that can be delivered to contractors when delivery capability is available. The water must be used primarily for ground water replenishment or for agricultural use in lieu of ground-water pumping. If availability exceeds the amount required for these purposes, it can also be delivered for pre-irrigation. Extra-surplus water is scheduled separately, in accordance with extra-surplus water contracts, and

cannot be substituted for scheduled entitlement or surplus water deliveries. At first, extra-surplus water was scheduled for one week only; later, to improve the contractor's management of the water, the schedule was extended to two weeks.

The extra-surplus water program was developed as a result of contractor requests. By 1980, nine qualified contractors, who had expressed an interest in extra-surplus water, received and signed an amendment to Article 21 of the basic water supply contract. Eight of these contractors signed contracts to receive extra-surplus water in 1980. Five of these contractors took delivery of 89 376 dam ^{3} (72,457 acre-feet) of extra-surplus water in 1980.

Local Water Deliveries (Table 4). Project facilities are used to deliver nonproject water to both contractors and noncontractors. During 1980, three contractors and two noncontractors received a total delivery of 49 463 dam^3 (40,100 acre-feet).

Wheeling of Federal Water

During 1980 there were basically three arrangements for wheeling Federal Central Valley Project (CVP) water through SWP facilities. In each arrangement, the U. S. Bureau of Reclamation (USBR) provided the electric power required for wheeling the federal water through SWP facilities.

Cross Valley Canal. Contracts with nine agencies provide for wheeling federal CVP water through SWP facilities to Kern County Water Agency's Cross Valley Canal; another contract between the State and the USBR provides the water, as well as the electrical energy, needed for wheeling. The contracts provide that up to 155 214 dam^3 (125,832 acre-feet) per year may be wheeled. The State's charges for the wheeling service under the nine contracts are for use of SWP facilities to transport water from the Delta to the Cross Valley Canal. In the contracts, it was assumed that in the San Luis Division, where aqueduct capacity is shared by both the SWP and the CVP, federal rather than State capacity would be used, and the agencies are not charged for transportation of water through federal reaches. In reevaluation of this assumption, the Department's position now is to charge for wheeling through State capacity in the joint-use facilities. Federal use of State facilities upstream of O'Neill Forebay precludes State use of State capacity in the San Luis Division and thus requires compensation. Charges associated with all future wheeling contracts will use this concept in determining acceptable charges for wheeling service.

During 1980, only 332 dam^3 (269 acre-feet) of federal CVP water was wheeled through Reach 12 to complete the 1979 contractual amount for the Kern County Water Agency's Cross Valley Canal.

CVP Surplus and D-1485 Water. A letter agreement, dated January 15, 1980, between the USBR and the Department provided for the wheeling of a minimum of 123 350 dam^3 (100,000 acre-feet) of federal water to federal customers, during January, February, and March 1980 through the California Aqueduct and SWP portion of the San Luis Joint Facilities and related facilities. This contract was entered into to provide surplus CVP water to the Westlands Water District and others for which CVP did not have delivery capacity, because the Delta-Mendota Canal was out of service for maintenance between November 10, 1979 and February 1, 1980. However, the wet conditions in the San Joaquin Valley during early 1980 so reduced water demands that only 70 310 dam^3 (57,000 acre-feet) of the water was actually wheeled.

As part of the above contract, the annual letter agreement whereby the CVP and SWP operate as if a draft entitled "Supplemental Agreement Between the United States of America and the State of California for Coordinated Operations of the Central Valley

Project and the State Water Project", dated May 13, 1971, was signed. A total of 238 793 dam^3 (193,590 acre-feet) of federal water was wheeled in 1980 to replace capacity foregone in May and June by CVP export reduction conforming with SWRCB D-1485. SWRCB D-1485 curtails exports by both the CVP and SWP from the Delta during May, June, and July to protect the striped bass fishery in the Sacramento River.

Other Service. In April 1981, the Department executed an interim agreement with the USBR to wheel CVP water through facilities to the Kings County and Pleasant Valley Water Districts and possibly others who would enter into temporary contracts with the USBR. As part of this same contract, USBR agreed to provide its share of water to meet Delta water quality requirements and curtail its Delta exports in accordance with the SWRCB's D-1485, provided the SWP would furnish export capacity from the Delta to replace the May and June curtailment of federal pumping from the Delta for the SWRCB's D-1485 "restriction water".

A provision of SB 200 requires a permanent contract between SWP and CVP for wheeling CVP water through SWP facilities. However, this requirement will not apply unless SB 200 is approved by the electorate in June 1982.

Future Project Water Delivery Plans

In September 1980, SWP contractors submitted their estimated monthly Project water delivery requirements for the six-year period 1981 through 1986. Their estimates included delivery of entitlement, surplus, makeup (Article 12(d) and Article 45), emergency relief, local and ground water demonstration water.

Entitlement Water. Estimated entitlements plus makeup water needs submitted in 1980, as well as estimates submitted in the five previous years, are shown in the following tabulation.

WATER CONTRACTORS TOTAL REQUESTS FOR ENTITLEMENT WATER 1975 THRU 1980

Year Estimate Submitted	Delivery Amount in Acre-Feet (a(b(c by Year					
	1981	1982	1983	1984	1985	1986
1980(d	1,886,795	2,096,962	2,245,197	2,405,844	2,561,970	2,709,710
1979(d	2,040,068	2,186,196	2,279,942	2,461,223	2,617,594	
1978(d	2,164,013	2,300,401	2,408,652	2,495,503		
1977(e	2,374,135	2,574,831	2,371,140	2,482,275		
1976(e	2,168,335	2,273,925	2,376,990			
1975(e	2,027,770	2,131,960				

a) Metric Conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Includes project entitlement water recaptured from ground water storage pursuant to Mojave demonstration project agreement.
c) For the years 1981 through 1984 amounts include nonproject water pumped through interim facilities to Napa County Flood Control and Water Conservation District.
d) Submitted requests covered the following six years.
e) Submitted request covered the following seven years.

EXHIBIT 17

The 1980 estimate continues to reflect a lower requirement for SWP water than those previously submitted. Except for 1981, which is still influenced by the above-normal local water supply that has been available in the San Joaquin Valley and Southern California since 1978, the annual growth of the estimates has remained fairly constant. What has lowered this and the previous year's estimates is that the base on which they were made keeps decreasing. This base is each contractor's historical deliveries, which show actual growth and any actual water saving realized from any current conservation programs or from those initiated during the 1976-77 drought.

In August 1980, the Department sent a letter to each contractor requesting (1) estimates of monthly SWP water requirements during 1981 through 1986 and (2) annual requirements for 1987 through 1990. For those contractors whose maximum annual entitlement would occur after 1990, estimates were requested for every fifth year from 1990 through the year maximum entitlements would be used on a regular basis. Also, as in the 1979 request, contractors were asked to provide estimates of how much they expect to reduce their future SWP water requirements through conservation and reclamation. The responses to this request, however, did not fully support the assumption that expected conservation and reclamation reductions would be accomplished voluntarily.

In accordance with the Governor's Executive Order B-68-80 (see Chapter I, page 14), the Department has begun development of a Water Management Plan for the SWP. In preparing the management plan, the Department is contacting each water service contractor to discuss procedures and goals. The Department wants to make the plan as mutually acceptable as possible. Therefore, allocation of the water-conservation and waste-water-reclamation goals among the contractors will be deferred, pending development of the Water Management Plan. In Bulletin 132-82 (next year), the Department will still indicate that staging of future water storage facilities is based on Project-wide water-conservation and reclamation goals shown in Table 18 of the Department's Bulletin 76 ("Delta Water Facilities", July 1978), but there will be no allocation of the new goals among the contractors. (Bulletin 132-81 is based on the individual goals unadjusted from last year.)

For the fourth consecutive year, water deliveries for 1981 were scheduled on the basis of the Department's Rule Curve criteria. On the basis of December 1, 1980 water-supply conditions, the Department determined that all requested entitlement and makeup water, as well as a limited quantity of other water, could be safely scheduled for delivery. In mid-December 1980, approved schedules calling for delivery of entitlement and makeup water in the then current requested amounts were issued. These initial schedules called for delivery of 2 117 605 dam^3 (1,716,745 acre-feet) of 1981 entitlement water and 31 518 dam^3 (25,552 acre-feet) of makeup water.

Surplus Water. Of the 1 041 049 dam^3 (843,980 acre-feet) of surplus water, including repayment of construction water, requested in September 1980, almost 164 056 dam^3 (133,000 acre-feet) was allocated in the initially approved schedules. Nine contractors signed 1981 surplus water contracts. Regular monthly updates of water supply conditions allowed increases until April, when surplus water contractors were allocated a total of 809 176 dam^3 (656,000 acre-feet) -- 78 percent of that requested -- based on April 1 forecasts of water supply and the Rule Curve criteria for 1981. Subsequent forecasts of water supply did not indicate sufficient improvements to warrant any further allocation of surplus water. One contractor, Littlerock Creek Irrigation District, received a surplus-water allocation pursuant to its request; however, delivery was never approved because the

District had not scheduled its full annual "Table A" entitlement water for 1981.

Extra-Surplus Water. The unscheduled extra-surplus water program established in 1980 was continued in 1981. Unscheduled water is available when Delta water supplies and aqueduct delivery capability exceed that necessary to meet scheduled water deliveries and other SWP requirements (see page 75).

Scheduling of extra-surplus water reached a peak of 5 616 cubic metres (2,000 cubic feet) per second in 1981. Six contractors took delivery of 225 874 dam^3 (183,116 acre-feet) of extra-surplus water through April 1981.

Miscellaneous Project Water Deliveries. Schedules issued in December, 1980, included deliveries for ground water demonstration, emergency relief, recreation, and preconsolidation repayment water. Those deliveries accounted for 168 973 dam^3 (136,987 acre-feet) of the deliveries scheduled in 1981.

Contract Amendments

Each of the 30 long-term supply contracts has been amended, some as many as seventeen times. A list of the amendments for each contractor, and the general subject of each, are shown in Figure 6. Not included are some revisions to annual Table A entitlement for several contractors by unnumbered amendments or notices of Table A revisions. Contract amendments forwarded for signature prior to 1977 that have yet to be signed by the contractors include:

- An amendment to the contract with Solano County Flood Control and Water Conservation District concerning calculation of the Delta Water Charge.
- An amendment to contracts with the City of Yuba City and Solano County Flood Control and Water Conservation District, which deletes the surcharge, surcharge credit, and power credit provisions. All other contracts reflect the amendment.
- An amendment to realign and clarify the surplus water provisions. The amendment has been signed by 24 contractors. Those that have not signed it are City of Yuba City, County of Butte, Mojave Water Agency, Napa County Flood Control and Water Conservation District, San Bernardino Valley Municipal Water District, and San Gorgonio Pass Water Agency.

As of June 30, 1981, amendments signed since Bulletin 132-80 report are as follows:

- Napa County Flood Control and Water Conservation District signed amendments that (1) would delay the year of initial water delivery from 1980 to 1984, and (2) provide that when the State enters into or amends any contract under which another contractor receives a benefit by having paid the Delta Water Charge for more project water than the contractor actually received during that year, the State will, upon request, amend Napa County's contract to give the County the same benefit. Also included was a provision to prorate, in the year of initial delivery, the annual entitlement from the date of initial delivery to the end of the year.
- County of Butte signed an amendment in June, 1980, reducing its annual entitlement water for the years 1980 through 1990.
- Dudley Ridge Water District, through a Notice of Revision to Table A, increased its 1979, 1980, 1981 Table A annual entitlement water amounts.
- Oak Flat Water District amended its Table A annual entitlement water amounts to increase the 1980 value.
- The City of Yuba City executed an amendment to its contract that concerned the calculation of the Project

Figure 6: WATER SUPPLY CONTRACT AMENDMENTS AS OF April 1, 1981

Contracting Agency	Minimum Project Yield Increased	Supplemental Conservation Facilities Costs Delayed			Project Interest Rate Modified	Surcharge and Surcharge Credit Provisions						"Wet Weather" Provisions Added	"A & R" Surplus Water Provisions		Turnout Construction by Agency	Peaking Service		Annual Entitlements Revised	Excess Capacity Purchased	Article 28 Revised	Project Repayment Period and Term of Contract Revised	Special Conditions
		1970	1971	1972 till construction		Added	Revised	Moratorium Declared Thru 1969	Moratorium Declared 1970	Moratorium Declared 1971	Deleted		Added	Revised		Increased	Decreased					
FEATHER RIVER AREA																						
City of Yuba City	1	2	2	2	2		1							1				1,4		NA	3	
County of Butte	1	3	3	3	3		1	2		4	5			1				6,8		NA	7	
Plumas County Flood Control and Water Conservation District	1	3	5	6	3		1	2	4	7	8			10						9	11	
NORTH BAY AREA																						
Napa County Flood Control and Water Conservation District	1	3	4	5	3		1				6			1				8,9			7	1,2
Solano County Flood Control and Water Conservation District	1	2	3P	3P	2		1							1,5		1		6			6	6
SOUTH BAY AREA																						
Alameda County Flood Control and Water Conservation District, Zone 7	2	6	8	9	6	2		5	7	10	11	1		2,12	3			1,4			13	1
Alameda County Water District	1	4	5	7	4	1		3		8	9	S		1,11,12	2					10	13	1,6
Santa Clara Valley Water District	2	6	8	10	6	2		5	7	11	12	1		1,2,14,15	3			1,4		13	16	1,9
SAN JOAQUIN VALLEY AREA																						
County of Kings		2	3	4	2			1		5	6	S	S	8						7	9	
Devil's Den Water District	1	5	7	8	S			4	6	9	10			1,12,13				1,3		11	14	2
Dudley Ridge Water District	1	6	8	9	6			5	7	10	11			1,13,14				1,2 3,4		12	15	
Empire West Side Irrigation District	1	4	6	7	4			3	5	8	9	S		1,11,12				2		10	13	
Hacienda Water District 1/	1	4	6	7	4			3	5	8	9	S		1,11,13				2		10	12	7
Kern County Water Agency	1	4	6	8	4			3	5	9	10			1,12,14				1,2		11	15	7,13
Oak Flat Water District		3	5	6	3			2	4	7	9	S	S	12,11	1			8		10	13	
Tulare Lake Basin Water Storage District	2	5	6	7	5			4		8	10	S		2,13,14				1,3,9 12		11	15	16
CENTRAL COASTAL AREA																						
San Luis Obispo County Flood Control and Water Conservation District	2	3	4	5	3	1	2				6			1 2,8						7	9	
Santa Barbara County Flood Control and Water Conservation District	2	3	4	5	3	1	2				6			1 2,7				2			8	
SOUTHERN CALIFORNIA AREA																						
Antelope Valley-East Kern Water Agency	1	5	6	7	5	1					8			1 10		3	2	1	4	9	12	2,3,4
Castaic Lake Water Agency	2	4	5	6	4	1	2				7			1 2,10		2		2,3 9		8	11	
Coachella Valley County Water District	2	3	4	5	3	1	2				6			1 2,8				2		7	9	
Crestline-Lake Arrowhead Water Agency	2	5	6	7	5	1	2				8			1 2,11	4	3		2,10		9	12	
Desert Water Agency	2	3	4	5	3	1	2				6			1 2,8				2		7	9	
Littlerock Creek Irrigation District	2	3	4	5	3	1	2				6			1 2,7				2			8	
Mojave Water Agency	2	4	5	6	4	1	2				7			1 2			3	2,10		8	9	3
Palmdale Water District	2	3	4	5	3	1	2				6			1 2,8				2		7	9	
San Bernardino Valley Municipal Water District	2	4	5	6	4	1	2				7			1 2				1,2 3,9		8	10	
San Gabriel Valley Municipal Water District	2	4	5	6	4	1	2				7			1 2,10		2		2,9	3	8	11	
San Gorgonio Pass Water Agency	2	4	5	6	4	1	2				7			1 2		2					8	2,3
The Metropolitan Water District of Southern California	1	9	10	11	9	1					13			1 16				1,3 8V,15	2,6 7	14	17	(a
Ventura County Flood Control District	1	2	3	4	2		1				5			1,7						6	8	

P = Pending
S = Special provisions of basic contract.

V = Amendment voided by subsequent actions.
a) Amendment Numbers 2, 3, 4, 5, 7, 8V, 12.

1/ Hacienda Water District was consolidated into Tulare Lake Basin Water Storage District effective January 1, 1981.

interest rate and the Delta Water Charge. All contracts have now been amended to include the change in interest-rate calculation.

- Article 21 was amended by 10 contractors. This was done to provide the means to define and deliver extra-surplus water when it is available. Six contractors signed 1981 extra-surplus water contracts.

Recently developed amendments that have not been signed as of June 30, 1981 include:

- An amendment to the Kern County Water Agency contract, which would reclassify 6 178 dam^3 (5,000 acre-feet) of the Agency's agricultural entitlement water to municipal and industrial entitlement water in all future years.
- An amendment to the Santa Barbara County Flood Control and Water Conservation District contract, which would reduce the District's maximum annual entitlement 15 066 dam^3 (12,214 acre-feet). This amendment was signed on August 31, 1981, however (see photograph below).

Director Ronald B. Robie signing the amendment to the Santa Barbara County Flood Control & Water Conservation contract. With him are Deputy Director Charles Shoemaker (standing), Lawrence Swenson, Chief, SWP Analysis Office (left), and Deputy Director Robert James.

Contract Issues

A number of contract issues have been identified and discussed with contractor representatives at several meetings held in early 1981. Here is a summary of those issues:

1. Repayment of "Off Aqueduct" Power Plant Costs. The contractors dispute the Department's position that the water supply contracts provide for recovery of capital costs of those facilities under the Transportation capital cost component.

2. Retroactive Cost Adjustments. Municipal and industrial contractors prefer to spread all cost adjustments of water charges resulting from recalculation of the Project interest rate over the remainder of the repayment period.

3. Extra Service Charge. Contractors want the right, without charge, to (a) request greater entitlement service, and (b) use to a greater extent any facility in which they have purchased basic capacity rights, provided such use does not result in an increased cost to themselves or to any other contractor.

4. Transfer of Entitlements. Contractors want the ability to transfer entitlements among themselves without any adjustment in cost.

5. Wet Year Provisions. Kern County Water Agency requests the "carryover provisions", which are a part of the contracts of the three South Bay Agencies and several other San Joaquin Valley contractors.

6. Delinquency Penalty. The Department has proposed a revision to Article 32(b) of the water contracts to provide for an interest penalty on late payments, to be computed at the State's Surplus Money Investment-Fund interest rate, rather than the present rate of one-half percent per month.

7. Interest on Tideland Oil Funds. The

Department has suggested that the Surplus Money Investment-Fund rate be applied in the calculation of the Project interest rate to future California Water Fund monies used for funding SWP construction.

8. Authority to Include Other Types of Projects as Additional Conservation Facilities. The Department wants the water contracts amended to provide for inclusion of ground water storage and reclamation projects as additional conservation facilities, as defined in SB 200 and Bulletin 76, "Delta Water Facilities," July 1978.

9. Delta Water Charge Credit for Annual Entitlement Reductions. Some contractors have requested reductions in "Table A" annual entitlements. The Department has proposed a reduction procedure that would not reduce SWP's cash flow. Other contractors object to any reduction because it would increase future Delta Water Rates.

10. Revised Sharing of Deficiencies. Agricultural contractors have suggested equal sharing of deficiencies.

11. Replacement Reserves. Some contractors prefer the option to manage their own replacement reserve accounts.

12. Interest During Construction. The present Project interest-rate provisions (calculation of the Project interest rate) do not include that portion of a bond issue used for payment of interest during construction. The Department has proposed an amendment to include interest on these funds.

13. Project Purpose Cost Allocation - Dos Amigos to Termini. The Metropolitan Water District of Southern California (MWD) objects to the present cost allocation because it is not the sole beneficiary of all the benefits attributable to Lake Perris and Castaic Lake.

14. Accurate Scheduling. The Department proposed, as part of the entitlement credit amendment covering "Table A" reductions, a procedure that would have limited the timing of the credit relative to a contractor's success in minimizing deviations from projected deliveries. Contractors are objecting to the range of scheduling accuracy as being too restrictive. The Department proposes limiting the timing of the credit relative to a contractor's success in minimizing deviations from SWP deliveries.

15. Project Interest Rate Calculation. MWD has proposed that the method for calculating the Project interest rate be maintained for the initial SWP facilities, but that each additional conservation facility have its own Project interest rate.

16. Use of Southern California Reservoirs to Provide Project Yield. MWD suggests that if Southern California reservoirs provide future yield to the SWP, an allocation be made for conservation, with the costs included in the Delta Water Charge.

17. Use of Southern California Reservoirs to Reduce Project Power Costs. MWD suggests that the benefits of reduced power costs revert to the contractors who are paying for the reservoirs.

18. Reservoir Inventory. MWD wants the Department to modify the procedures for allocating Transportation variable OMP&R costs associated with fluctuations in reservoir storage.

Negotations of Water Charge Settlements

The task force, consisting of representatives of the State Water Contractors Audit Committee, MWD, and the Department's Water Service Contract Cost Negotiation Committee, did not meet during 1980.

Protests of Water Contractor Charges

The water supply contracts require water contractors to give the State notices of contest-of-accuracy of statements of

charges 10 days prior to the date payments of the stated amounts are due. The great majority of all contractors' charges since 1962 have remained open to challenge because of the blanket extensions of time granted at one time or another by the Department. Such a policy was contrary to all principles of management and fiscal responsibility. In 1976, the Department adopted a policy to resolve contested charges within two years of the end of the fiscal year, the maximum time permitted for adjustments to general fund expenditures.

Since this policy was adopted, two specific dates have been provided for contractors to file notices of contest and to pursue all remedies available to them on statements of charges submitted prior to that date. For 1981, these dates were established as:

- June 20, 1981: A contractor must file a notice of contest with the State by this date and to pursue all remedies available to them on the statements of charges submitted prior to that date for all costs incurred during the 1978-79 fiscal year.

- December 21, 1981: A contractor has until this date to file notices of contest with the State and pursue other available remedies on statements of charges submitted prior to that date insofar as the charges fall in the following categories:

  1. All costs incurred after June 30, 1979.

  2. All costs insofar as they are affected by the procedures for allocation to project purposes.

  3. All costs insofar as they are affected by procedures for allocating transportation variable charges for fluctuations in reservoir storage.

Also, the policy requires that the water contractor's audit reports be submitted to the Department by December 1 of the calendar year following the year of audit. This means that the audit report for 1980 is due by December 1, 1981 in order to complete the review by the cutoff date of June 20, 1982. This time frame is well within established procedures for such audits.

In 1980, adjustments were approved for planning and general capital costs for the fiscal years 1976-77 and 1977-78. These adjustments were based on the agreement reached by representatives of the Department, the State Water Contractor's Audit Committee, and The Metropolitan Water District of Southern California. The planning and general capital costs of programs included in the charges to the water contractors for the respective fiscal years 1976-77 and 1977-78 were reduced by the amounts determined to be in Category 2B as shown in the following compilation. However, the actual net reduction of charges to the contractors shall be from the Delta Water Charge, using the following procedure:

> The total capital costs of programs, including Category 2B costs, will be distributed to aqueduct reaches and project features in accordance with normal accounting procedures of the Department. The portion of such total program costs allocated to reimbursable purposes will be repaid by contractors under the appropriate component of the Delta Water Charge or Transportation Charge. However, an amount equal to the portion of such reimbursable costs that are derived from Category 2B costs will be applied as a credit to conservation capital costs for the respective calendar year used in determining the Delta Water Charge.

Additional adjustments will be made with respect to capital costs for Fiscal Years 1976-77 and 1977-78 for any bookkeeping errors which may be discovered.

This capital cost adjustment was ap-

SUMMARY OF PROGRAMS PROTESTED BY STATE WATER CONTRACTORS FOR FISCAL YEARS 1976/77 AND 1977/78
(In Dollars)

Program Title	Total Program Costs	Non-Project Funded	Project Funded Costs	Project Funded Cost Category[a] 1	2a	2b
Recreation Planning & Implementation	$ 622,563	$ 88,821	$ 533,742	$ 533,742	$	$
Bay-Delta Environment Protection Study	2,158,416	193,808	1,964,608	1,633,569	150,842	180,197
Delta Facilities - -Planning & Evaluation	1,346,254	-0-	1,346,254	1,149,871	166,649	29,734
-Alternative Study	855,185	-0-	855,185	855,185		
Peripheral Canal Ground Water & Agricultural Monitoring Study	190,797	-0-	190,797	190,797		
State Water Project Future Supply	3,259,349	225,800	2,033,549	3,033,549		
Weather Modification	99,553	95,319	4,234	-0-		4,234
Reclamation of Water Supplies	1,596,427	1,168,453	427,974	326,093[b]		101,881
Middle Fork Eel River Studies	149,744	-0-	149,744	149,744		
Beckwourth Feather River Facility	-0-	-0-	-0-			
Power Planning	7,350,112	366,059	6,984,053	6,984,053		
TOTAL	**$17,628,400**	**$2,138,260**	**$15,490,140**	**$14,856,603**	**$317,491**	**$316,046**

a) Category 1 – Programs which are necessary for the project and primarily benefit the project, and which therefore are chargeable to the water service contractors.
2a – Programs with statewide benefits, project portion chargeable to water service contractors.
2b – Programs with statewide benefits, statewide portion not chargeable to water service contractors.

b) Water Reclamation and Desalting plant costs distributed 100 percent to San Joaquin drain reach which is not charged to water service contractors.

EXHIBIT 18

proved with the mutual understanding that the adjustment (1) does not set a precedent for future capital cost adjustments, (2) will not be used as a basis for setting any future protested programs or costs, and (3) is not necessarily an acceptance of the programs by the contractors and will not affect the contractor's right to protest the programs and their future costs.

Project Purpose Cost Allocation - California Aqueduct

The Department of Finance, in October 1979, issued a staff report on the project purpose cost allocation methods used by the Department of Water Resources to allocate SWP costs under the Davis-Dolwig Act. If implemented, the Department of Finance recommendations would reduce the magnitude of SWP costs allocated to recreation and fish and wildlife enhancement.

The Department of Water Resources has reviewed the Department of Finance report and, on March 20, 1981, responded by memorandum that the recommendations are not in conformance with SWP water supply contracts and the intent of the Davis-Dolwig Act.

The project purpose cost allocation for the California Aqueduct, Dos Amigos Pumping Plant to the terminal facilities, was reported to the Legislature in Appendix D to Bulletin 132-80. The bill (AB 927) requesting approval of

recreation and enhancement costs based on this allocation was passed by the Legislature and became Chapter 941, Statutes of 1980.

The Department is currently reviewing the cost and benefit components supporting the cost allocation for the California Aqueduct. The allocation reported in Appendix D to Bulletin 132-80 may be revised once this review is complete.

Appendix D to Bulletin 132-81 was submitted to the Legislature in June 1981 and reported additional capital costs allocated to recreation and enhancement of $9,297,527, with interest. This brings the total capital costs of recreation and enhancement reported to the Legislature to $184,679,553 through December 31, 1980, with interest. However, no new or revised cost allocations were reported in Bulletin 132-81 (Appendix D), and the Department is not requesting legislative approval of the additional capital costs at this time.

Power Contracts Management

Periodic updates on the status of power contract management and energy matters are included in the bimonthly meetings of the Water Service Contractor's Council, the Director's monthly report to the California Water Commission, and the quarterly meetings of the Energy Committee, which consists of technical representatives of the water contractors and the Department of Water Resources (see Bulletin 132-77, page 72).

This section reports significant activities from June 30 1980 through July 1, 1981, and summarizes SWP major power contractors.

Emergency Service to Pacific Gas and Electric Company and Southern California Edison Company

On September 29, 1980, the Department provided emergency assistance to Pacific Gas and Electric Company (PG&E) and Southern California Edison Company (SCE) by reducing SWP pumping load and increasing power generation. The emergency period lasted about 2-1/2 hours. PG&E paid $82,733, and SCE paid $22,057 for the service.

On October 2, 3, and 7, 1980, the Department provided additional capacity to PG&E by generation at the San Luis Pumping-Generating Plant. Water used for generation was pumped back into San Luis Reservoir during off-peak hours, using energy supplied by PG&E. The Department received $68,645 from PG&E for this service.

Use of DWR Pacific Northwest Intertie Capacity

The Department is entitled to use 300 MW of EHV transmission line from the Oregon-California border to the Tesla and Los Banos substations. During July and August, 1980, the Department made 150 megawatts (MW) of EHV line capacity available to PG&E, for which the company paid $83,750 for use of the transmission line.

Adjustment of Suppliers' Firm Capacity Order for 1983

Based on projections of water requirements furnished by the water contractors in the fall of 1977, the Department ordered 325 MW of firm capacity for January, February, and March of 1983 from the Suppliers.5/ The total capacity consisted of 200 MW for entitlement water deliveries and 125 MW for surplus water deliveries. The Suppliers' contract provided for a revision on two years notice. In November 1980, the capacity commitment was reduced by 10 percent to 292.5 MW as a result of water contractor's projections received in the fall of 1980. The capacity available for entitlement water deliv-

5/ Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas and Electric Co., and the Department of Water and Power of the City of Los Angeles.

eries was reduced to 167.5 MW, while 125 MW was retained for surplus water deliveries.

Los Angeles Department of Water and Power (LADWP) Litigation

Bulletin 132-80 reported that LADWP had attempted to modify the Suppliers Contract by charging a higher rate for energy than that fixed by the contract. DWR rejected LADWP's bill for additional compensation. Litigation involving DWR and LADWP, as well as the other Suppliers -- Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric companies -- has not been completed. (See also "Electrical Power Cases" on page 134 ff.)

Sale or Exchange of Additional Capacity from Hyatt and Thermalito Powerplants

On August 8, 1980, 300 MW of capacity determined to be in excess of future SWP need, were offered for exchange or sale to all California utilities. The Department received several bid offers from interested utilities. After evaluating the offers received, the Department decided to reject the offers because of their low value and to negotiate bilaterally with the interested utilities.

The negotiations resulted in two proposals, one from SCE and the other from PG&E. The Department hired R. W. Beck and Associates to assist in evaluating the proposals. On the basis of Beck's recommendations and internal evaluation, the Department decided to accept the principles contained in SCE's proposal and to limit the exchange to 225 MW.

Under the proposed arrangement, SCE would: a) waive 75 percent of the transmission service charges provided for in the "Power Contract" and the "Firm Transmissions Service Agreement" (both were executed in October 1979 and were mentioned in Bulletin 132-80); b) return annually 412.5 million kWh plus an additional amount based on the difference in incremental fuel cost of oil-fired energy generated during on-peak and off-peak periods in SCE's system; c) provide up to 600 MW capacity during off-peak periods and 225 MW capacity during defined partial-peak periods; d) pay annually the actual cost for the transmission of the energy associated with SCE's 225 MW capacity to Midway Substation, up to $900,000; and e) allow the Department to schedule energy obtained under the Power Contract under capacity obtained under this arrangement. In turn, the Department would: a) make available to SCE up to 225 MW capacity from Hyatt-Thermalito during on-peak periods (defined as from 11 a.m. to 7 p.m. on Mondays through Fridays); b) make available annually, 412.5 million kWh of energy; and c) provide the transmission from Hyatt-Thermalito powerplants to Midway Substation.

Summary of Major Power Contracts

By the end of June 1981, 18 major electric power contracts had been executed for the SWP. Some of those contracts will terminate on March 31, 1983. The service provisions under certain contracts will become effective after that date. A brief summary of the 18 contracts is shown in the following schedule:

SUMMARY OF MAJOR ELECTRIC POWER CONTRACTS FOR THE CALIFORNIA STATE WATER PROJECT

Contract Title (short-form)	Signed:	With:	Providing:	To:
1. West Branch Cooperative Development	September 2, 1966	Los Angeles Department of Water and Power	Joint Development of Castaic Powerplant on the California Aqueduct	January 1, 2042
2. Suppliers	November 18, 1966	Pacific Gas and Electric Co., Southern California Edison Co., Los Angeles Department of Water and Power, San Diego Gas & Electric Co.	Purchase of all capacity and energy required for SWP not available from other sources and transmission service for all power used by SWP plants	Cancelled effective April 1, 1983
3. Extra High Voltage Intertie	August 1, 1967	Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas and Electric Co.	Transmission from the Oregon border to specific points in California, sale of Canadian Entitlement Power not needed by SWP, and purchase of off-peak energy to the extent of purchased transmission capacity	January 1, 2005
4. Boneville Power Administration	September 5, 1967	Bonneville Power Administration	Purchase of surplus BPA energy at Oregon-California border	August 30, 1986
5,6,7. Canadian Entitlement Power Contracts (3)	October 30, 1967	City of Seattle, City of Tacoma, Puget Sound Power and Light Co.	Purchase of specified amounts of power (now 150 MW) with associated energy	April 1, 1983
8. Oroville-Thermalito Power Sale	November 29, 1967	Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas & Electric Co.	Sale of entire output of Hyatt Thermalito Powerplants for a firm annual payment to support Oroville Revenue Bonds	Cancelled effective April 1, 1983
9. Fourth Supplemental Resolution, Oroville Revenue Bonds	September 28, 1977	Department of Water Resources' Resolution	Replacement of Power Sale Contract, effective April 1, 1983	Last repayment Bonds or November 29, 2017, whichever later
10. MWD Hydro	January 9, 1978	The Metropolitan Water District of Southern California	Effective April 1, 1983 provides for purchase of output from five small hydro developments totaling 29.5 MW in capacity	At least to April 1, 2008
11. San Diego Gas & Electric EHV Settlement	May 25, 1978	San Diego Gas & Electric Company	Establishes extent of San Diego Gas & Electric's obligation to supply off-peak energy during the remaining term of the EHV contract.	January 1, 2005
12. Reid Gardner Unit 4 Participation	July 11, 1979	Nevada Power Company	Joint ownership of an additional unit at an existing coal-fired plant near Las Vegas	April 1, 2013-based on 30 yrs. from estimated operating date of Reid Gardner Unit 4
13. Power Contract	October 11, 1979	Southern California Edison Co.	Commencing April 1, 1983 provides: (a) Transmission service in Edison's service area (b) Rights to purchase up to 300 MW firm capacity and/or spinning reserves (c) Rights to purchase off-peak energy (d) Exchange of off-peak energy for 485 MW of DWR's on-peak capacity	January 1, 2005
14. Firm Transmission Service	October 11, 1979	Southern California Edison Co.	Provides for service between Nevada and Edison's service area	April 1, 2013 - based on 30 yrs. from estimated operating date of Reid Garnder Unit 4
15. Edison-DWR 1979	October 11, 1979	Southern California Edison Co.	Establishes rate for Edison's off-peak energy under the EHV contract after January 1, 1983	January 1, 2005
16. Pine Flat	November 6, 1979	Kings River Conservation	Purchase of output from a proposed power plant to be located at Pine Flat Dam	April 1, 2033 - based on 50 yrs. from estimated operating date
17. Pacific Gas and Electric Firm Services Agreement	January 18, 1980	Pacific Gas and Electric Co.	Emergency electric system assistance to Pacific Gas and Electric	April 1, 1983
18. Southern California Edison Agreement for Emergency Services	July 21, 1980	Southern California Edison Co.	Emergency Service between the parties	December 31, 2004

EXHIBIT 19

C. PROJECT OPERATIONS

Water Operations in 1980

This section summarizes SWP water operations during calendar year 1980, including (1) water conditions, (2) water deliveries, and (3) other 1980 activities.

Water Conditions

Statewide precipitation during the 1979-80 water year (October 1, 1979 through September 30, 1980) was about 130 percent of normal, compared with 90 percent of normal for the 1978-79 water year. The 1979-80 precipitation pattern ranged from 110 percent of normal in the North Coastal area to over 175 percent of normal in the South Coastal area.

Streamflow in California for the 1979-80 water year averaged 172 percent of the 50-year normal. In the Feather River Basin, runoff was 123 percent of the 50-year average.

The Delta outflow index during calendar year 1980 ranged from 54 cubic metres per second (1,919 cubic feet per second) on October 19, 1980, to 3 217 cubic metres per second (113,608 cubic feet per second) on February 23, 1980. All water-quality standards of the Water Resources Control Board D-1485 were satisfied. The 1979-80 water year was classified "wet", using State Water Resources Control Board D-1485 criteria. This classification is indexed to the sum of unimpaired runoff computed for the Sacramento River near Red Bluff, Feather River into Lake Oroville, Yuba River at Smartville, and American River into Folsom Reservoir. The index was computed to be 27 423 000 dam^3 (22,232,000 acre-feet) for the 1979-80 water year.

Figure 7 presents a pictorial summary of the operations of SWP reservoirs during 1980. The figure also presents information on total SWP and CVP deliveries to Project service areas during 1980, and areas of the SWP's five field divisions, which are responsible for operations and maintenance activities.

At the end of 1980, reservoir storage in the four Southern California SWP reservoirs totaled 648 600 dam^3 (525,821 acre-feet). This total, although about 13 percent less than the 1979 year-end amount, assured that even if 1981 was as dry as a 1923-24 type water year, entitlement water requests could be met, although with a 25-percent deficiency in agricultural entitlement water.

Electrical energy used by project pumping was about 9 percent below that used in 1979. Abundant local water, record carryover storage, together with flood water diverted from the Kern River and relatively low water deliveries, all contributed to reduced pumping requirements.

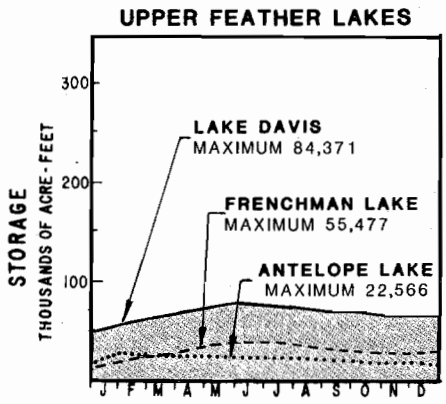
Details of water supply conditions during the 1979-80 water year are available in Department of Water Resources' Bulletin 120-80, "Water Conditions in California, Basic Data Supplement", July 1980.

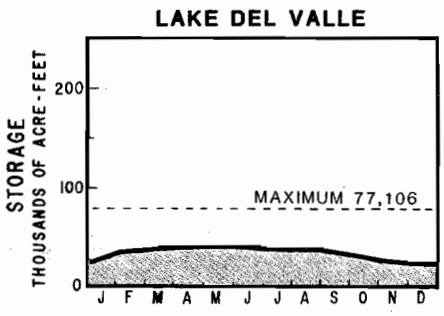
Water Deliveries

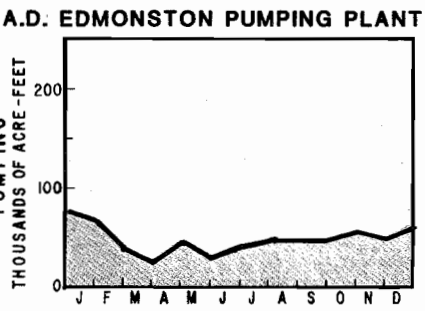
In 1980, the Department again used the "Rule Curve", developed in 1977, to forecast water supplies available to the SWP and to schedule water deliveries to contractors. The 1976-77 drought, coupled with increasing needs for water by SWP contractors, emphasized the need for a timely procedure by which SWP operational criteria could be analyzed and water delivery schedules approved.

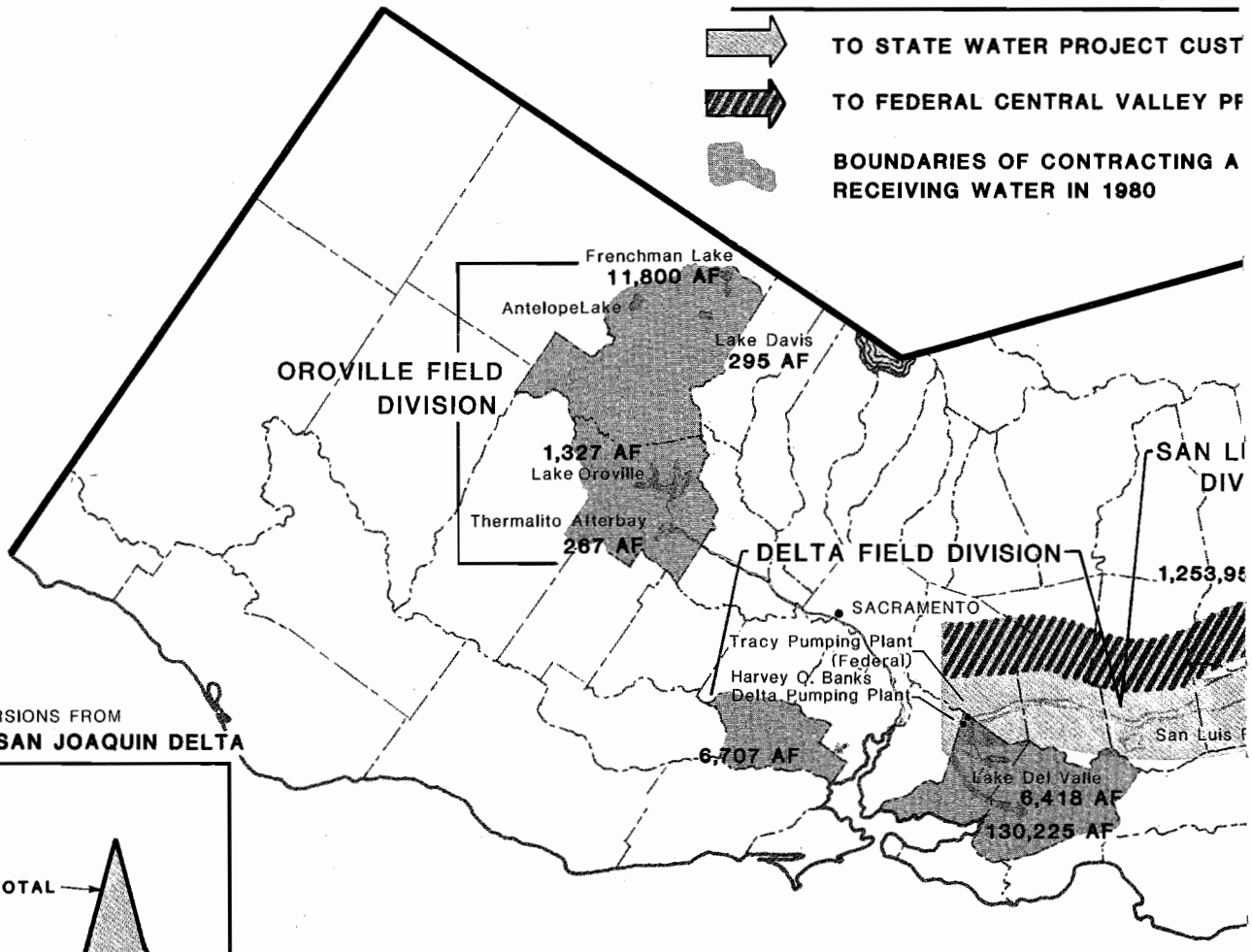
The "Rule Curve" determines the quantity of water available for SWP deliveries after sufficient water is reserved to meet Delta water-quality requirements and year-end storage requirements for entitlement deliveries during the following year. In 1980, the forecast of the Four Basin Index could not be ap-

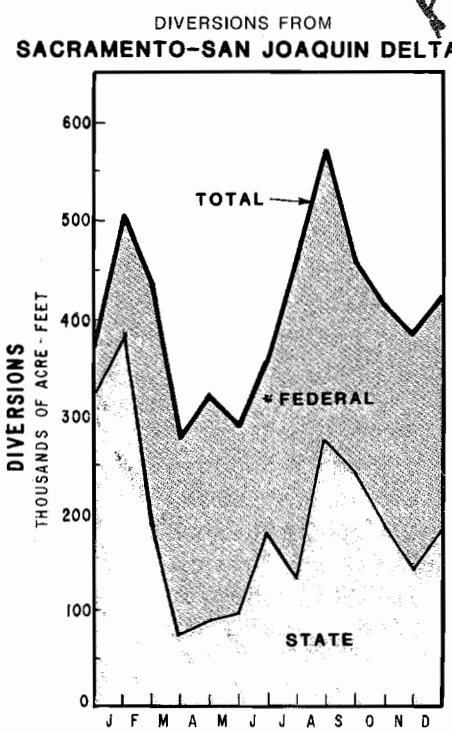
Figure 7. SUMMARY OF PROJECT

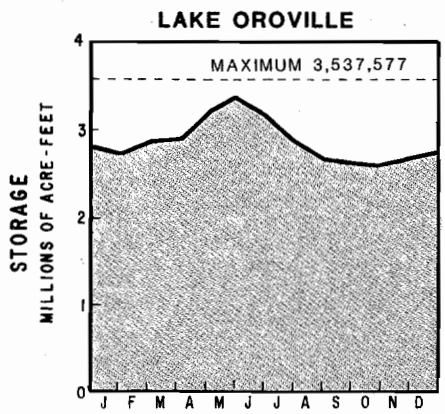


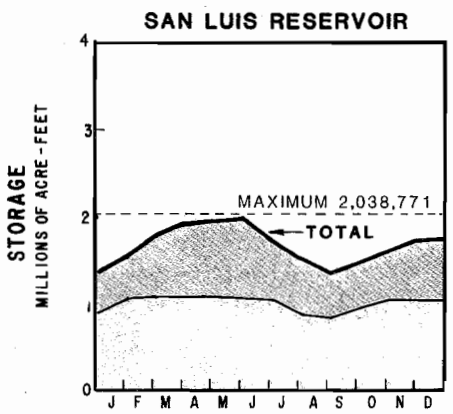






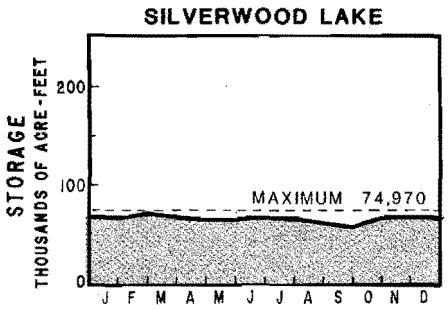


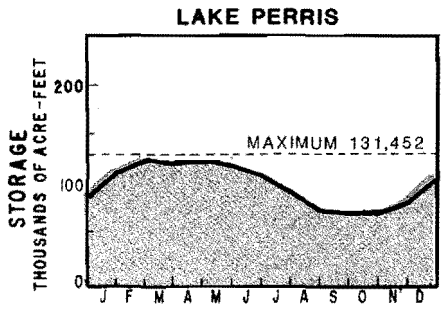




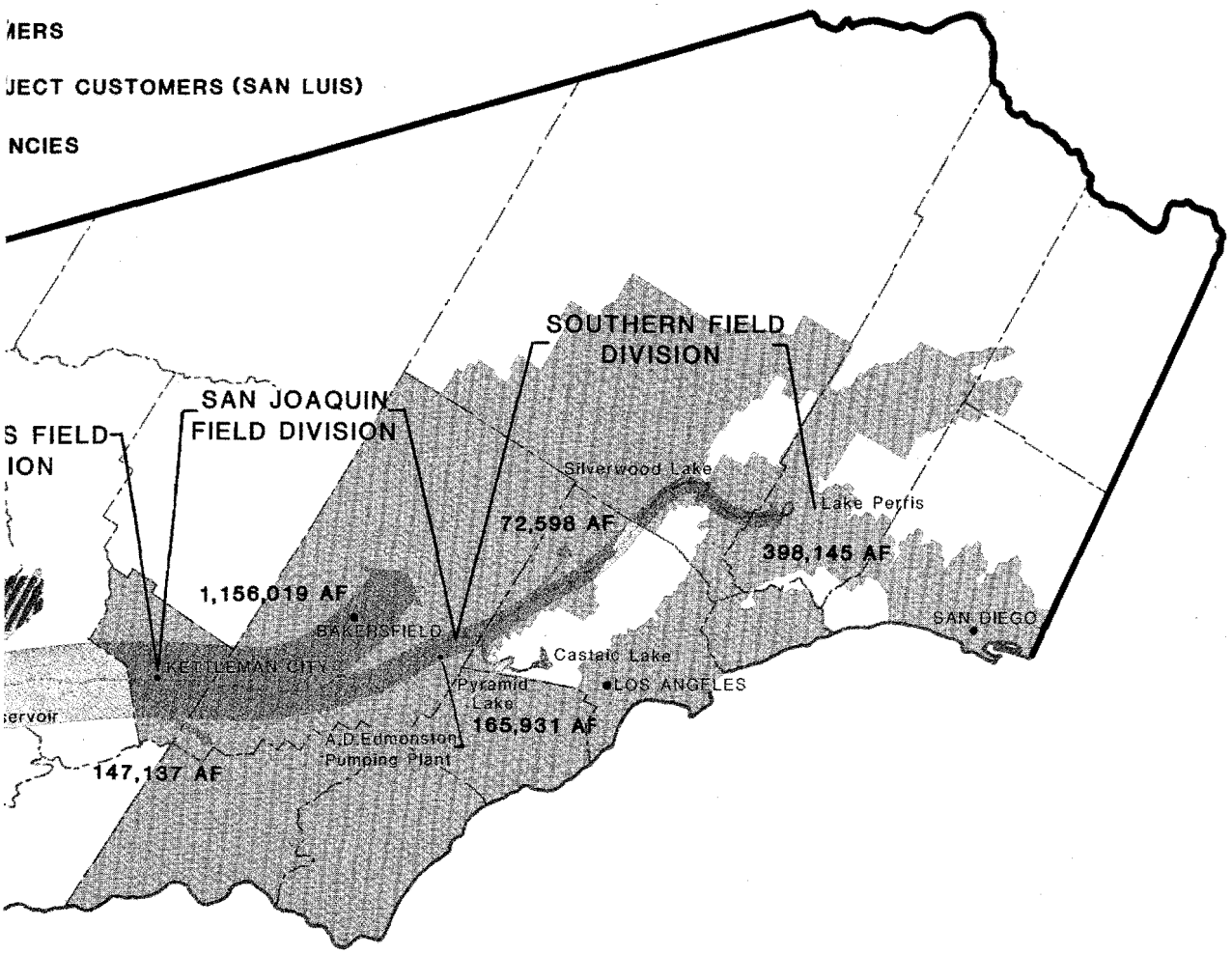
* Includes Diversions for Delta Mendota Canal and Contra Costa Canal

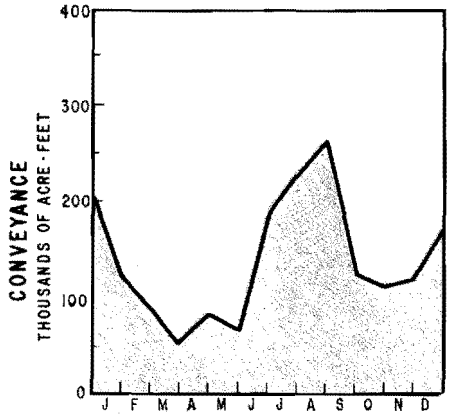
WATER OPERATIONS, 1980

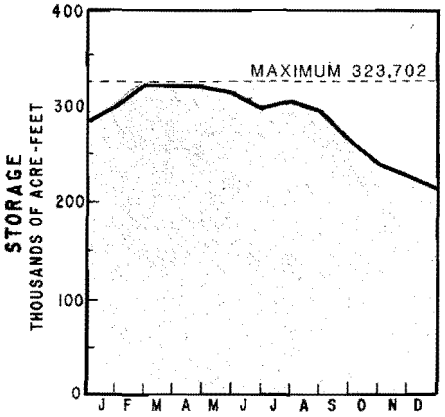


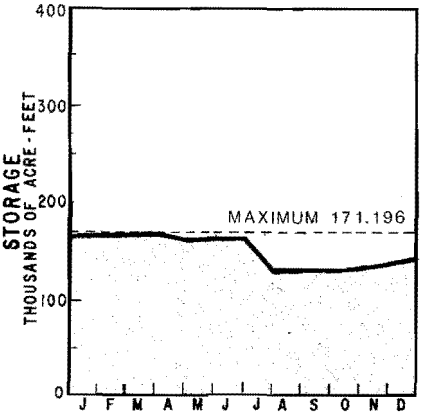


PROJECT FACILITIES









plied directly to the Rule Curve to determine SWP delivery capability, because unusually heavy runoff in January and February distorted the index. Therefore, SWP delivery capability was developed by an operation study.

The normal water delivery scheduling procedure is as follows: In December using the Rule Curve with an estimate of year-end Project storage and a conservative projection of runoff, the Department approves an initial schedule. Actual reservoir storage and runoff conditions are reviewed early in each of the next several months, and the estimates of SWP water availability are revised. If the revised estimates indicate that the available supply will be greater than that previously estimated, scheduled deliveries are increased, if needed, up to the requested amounts.

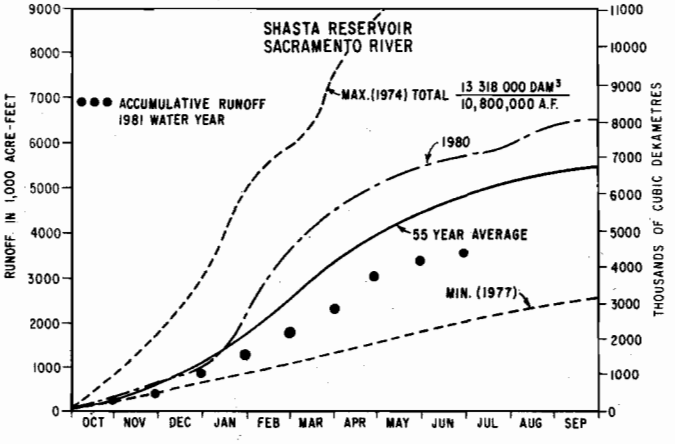
In 1980, the SWP was able to supply all contractor requests, delivering a total of 2 446 087 dam^3 (1,983,046 acre-feet), excluding deliveries to satisfy prior water rights and those to federal customers. This was an 18 percent decrease from water deliveries during 1979, mainly due to the availability of local water. In addition to State Water Contractor's entitlement water, deliveries included surplus, wet weather, makeup, carryover, emergency relief, repayment of preconsolidation water, regulated delivery of local runoff, recreation and wildlife mitigation water, and water for ground-water-recharge demonstration.

Water delivered to Federal customers in the joint facilities (San Luis) service area in 1980, including wildlife mitigation water, amounted to 1 546 894 dam^3 (1,253,956 acre-feet), up 2 percent over 1979. No federal water was wheeled through SWP facilities for delivery to the Cross Valley Canal service area in 1980.

The various water types, amounts of water, and contracting agencies receiving water service in 1980 are detailed in Table 3.

The curves shown below give cumulative natural runoff to Shasta and Oroville Reservoirs for the three years (1980; maximum 1974; and minimum 1977), and a multiyear average for the basins. Also shown is the accumulative natural runoff through June 1981 for comparison.

ACCUMULATIVE NATURAL RUNOFF TO SELECTED RESERVOIRS



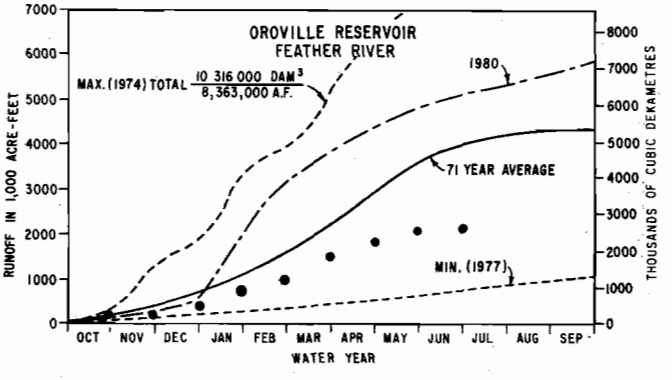


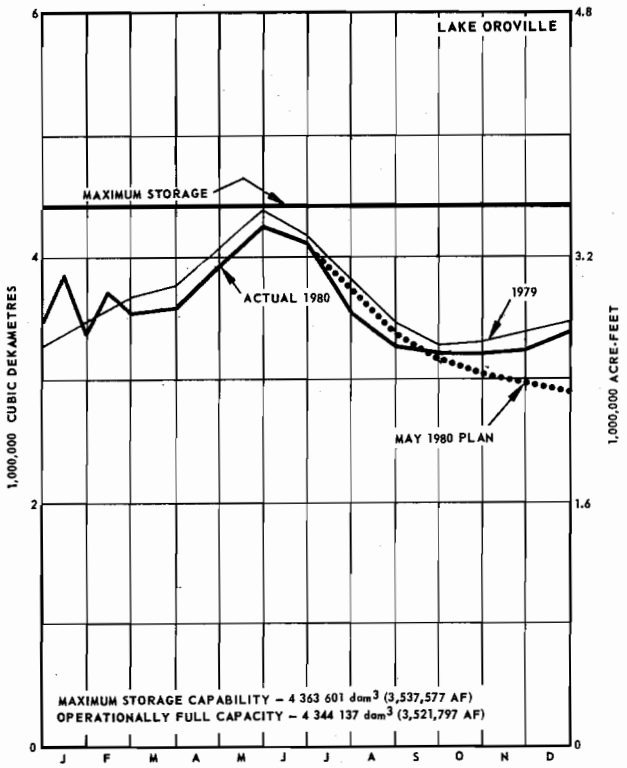
EXHIBIT 20

Precipitation, as a percentage of normal during water year 1979-80, is shown on the map of California on the following page (a water year begins October 1 and extends through September 30 of the following year). The 1979-80 water year was well above normal on the basis of statewide precipitation and streamflow amounts.

In the following graphs, end-of-the-month storage in Lake Oroville and San Luis Reservoir are compared to 1979 end-of-month storages and storages projected in the May update of the Plan of Operations for 1980, dated June 16, 1980.

MONTHLY RESERVOIR STORAGE DURING 1980
FOR LAKE OROVILLE AND SAN LUIS RESERVOIR

January 1,1980-December 31,1980



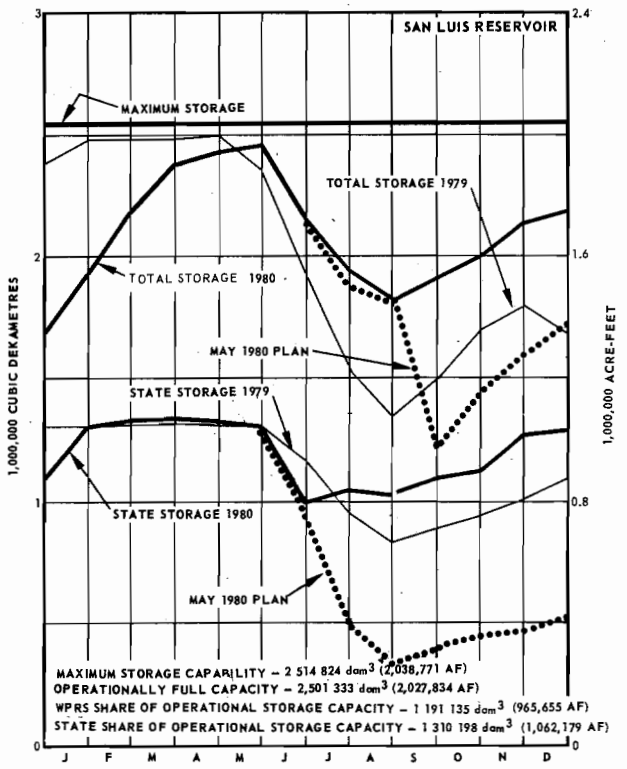


EXHIBIT 21

STATEWIDE PRECIPITATION 1979-80 WATER YEAR

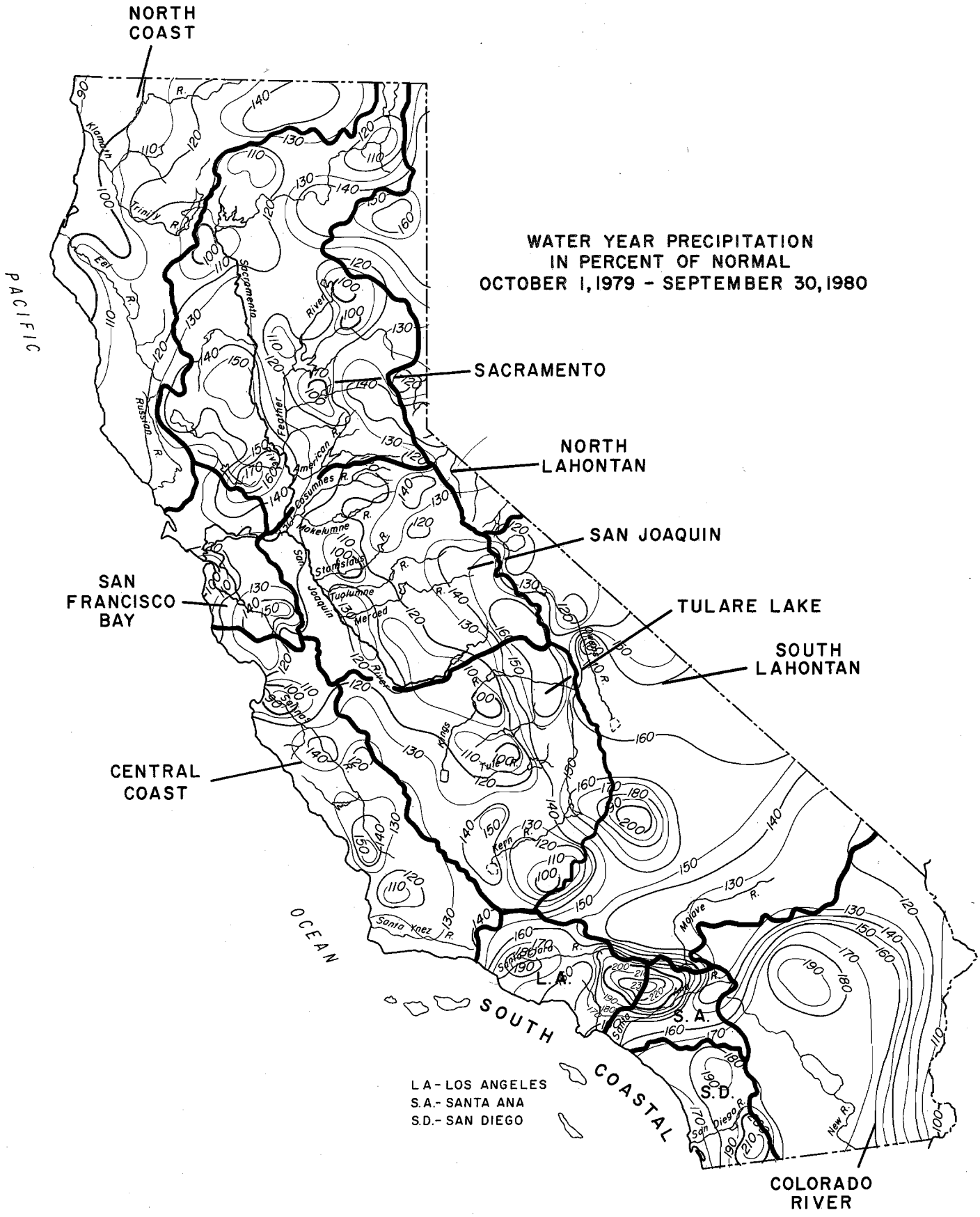


EXHIBIT 22

A comparison of actual year-end storage of Project water in major SWP reservoirs to those projected in the May Plan of Operations is shown in the following table. The total actual storage in major reservoirs at the end of 1980 was the fourth largest since operation began in 1969.

COMPARISON OF ACTUAL STORAGE WITH PLAN OF OPERATIONS in 1 000 cubic dekametres (1,000 acre-feet)

Reservoir	Plan of Operations	Actual Storage on Dec. 31, 1980	Difference
Oroville	2 967 (2,405)	3 371 (2,732)	404 (327)
Del Valle	31 (25)	31 (25)	0 (0)
San Luis (State share)	1 116 (905)	1 280 (1,038)	164 (133)
Pyramid	207 (168)	175 (142)	−32 (−26)
Castaic	231 (187)	265 (215)	34 (28)
Silverwood	85 (69)	85 (69)	0 (0)
Perris	122 (99)	123 (100)	1 (1)
Totals	**4 759** **(3,858)**	**5 330** **(4,321)**	**571** **(463)**

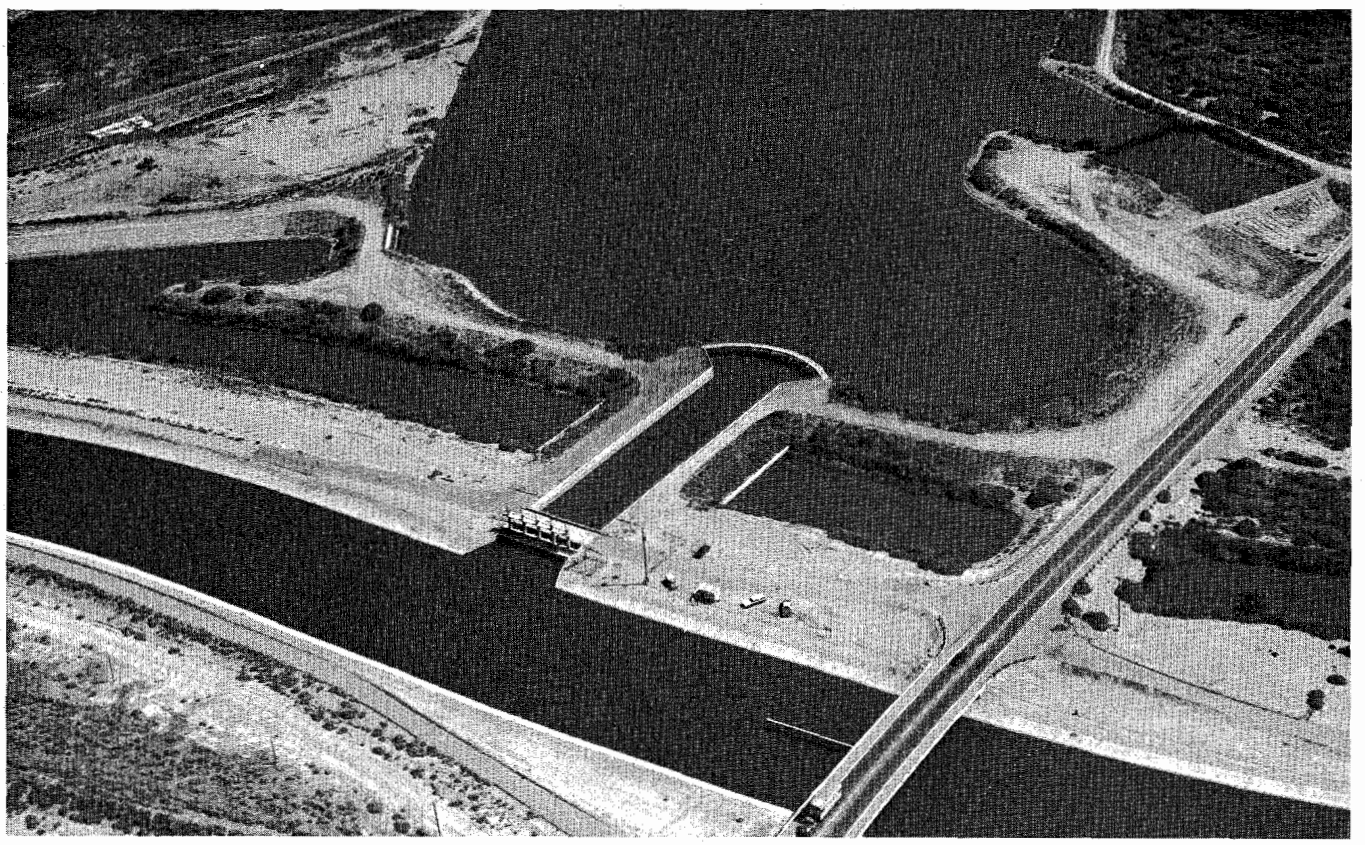
EXHIBIT 23

During the year the Department prepares weekly reports (which include information similar to the chart above) on the status of Project operations through its monitoring of Project water supplies, reservoir storage quantities and water deliveries. The Department closely controls SWP operations to meet the approved Rule Curve Criteria. These procedures are to assure water contractors that supplies will be available for the following year's water deliveries.

Other Activities

Kern River Intertie Operation. For the second time since its completion, the Kern River Intertie near Tupman was opened March 8, 1980, to accept snowmelt flood waters into the California Aqueduct. The Intertie gates remained opened through June 9, 1980, a total of 94 days. The gates were reopened July 1 for 17 days. Although the total water diverted during 1980 was considerably less than the 219 478 cubic dam^3 (178,000 acre-feet) diverted in 1978, the period of operation, 111 days, did set a record. Most of the water taken into the California Aqueduct from the Kern River South was moved south in the San Joaquin Valley, with some going into the East Branch in Southern California.

This operation was mainly to relieve Lake Isabella, enabling it to contain runoff and prevent possible flooding of areas in the San Joaquin Valley. However, it also helped conserve SWP water by reducing both SWP pumping from the Delta and the energy that would have



Kern River Floodwater entering California Aqueduct through the Kern River Intertie near Tupman.

been needed to pump a like amount of water from the Delta. The following table shows this year's diversions from the Kern River Intertie by month.

Kern River Intertie
1980 Diversions

Period	Diversion Cubic Dekametres	Acre-Feet
March 7-31	35 258	28,584
April	55 447	44,951
May 1	45 548	36,926
June 1-9	9 967	8,080
July 1-17	25 009	20,275
TOTAL	**171 229**	**138,816**

EXHIBIT 24

Wheeling of Federal Water. SWRCB D-1485 limits Delta exports by the CVP and SWP at the Tracy and Harvey O. Banks Delta Pumping Plants during May and June; SWP exports are also limited during July. During May and June, the average monthly pumping rate for the SWP and the CVP is limited to 85 m^3/s (3,000 cfs) each; during July, SWP and CVP are limited to 130 m^3/s (4,600 cfs) each. This limitation is to help protect young striped bass, which can be drawn through the fish protective facilities when they are very small. The CVP makes up this loss by increased diversions through SWP facilities later in the year. In 1980, at the request of the USBR and the concurrence of the Department of Fish and Game, the wheeling of this Federal water was initiated May 28, 1980. The Department of Fish and Game and the SWRCB agreed that it would be more beneficial if the following guidelines were observed.

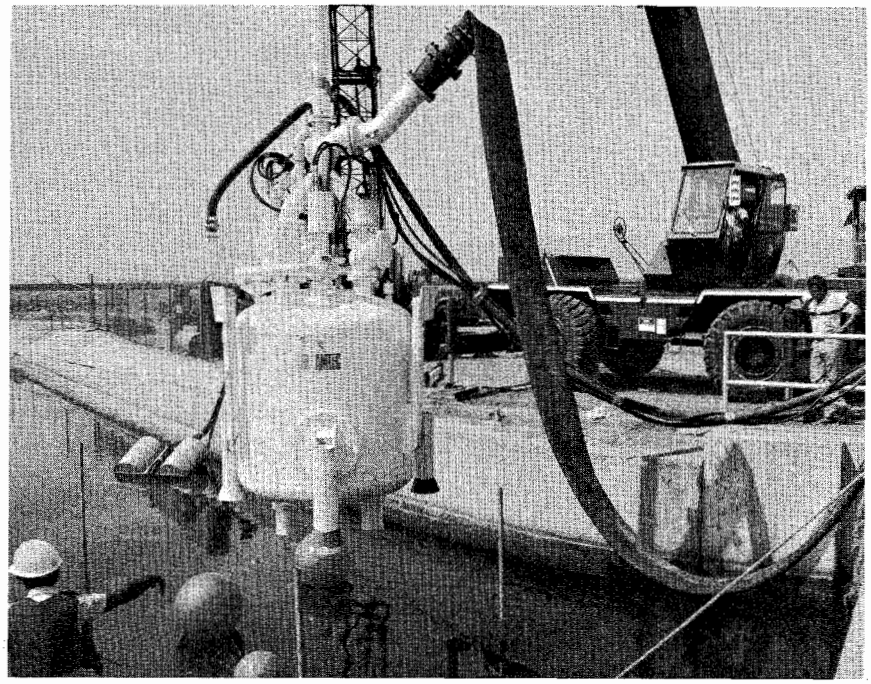
1. The daily total pumping at the Delta Pumping Plant is not to exceed the maximum average monthly rate, 85 m^3/s (3,000 cfs) in May and June and 130 m^3/s (4,600 cfs) in July, when Federal water is being wheeled.

2. Federal water could be wheeled when a positive flow in the lower San Joaquin River exists (downstream net flow at Antioch).

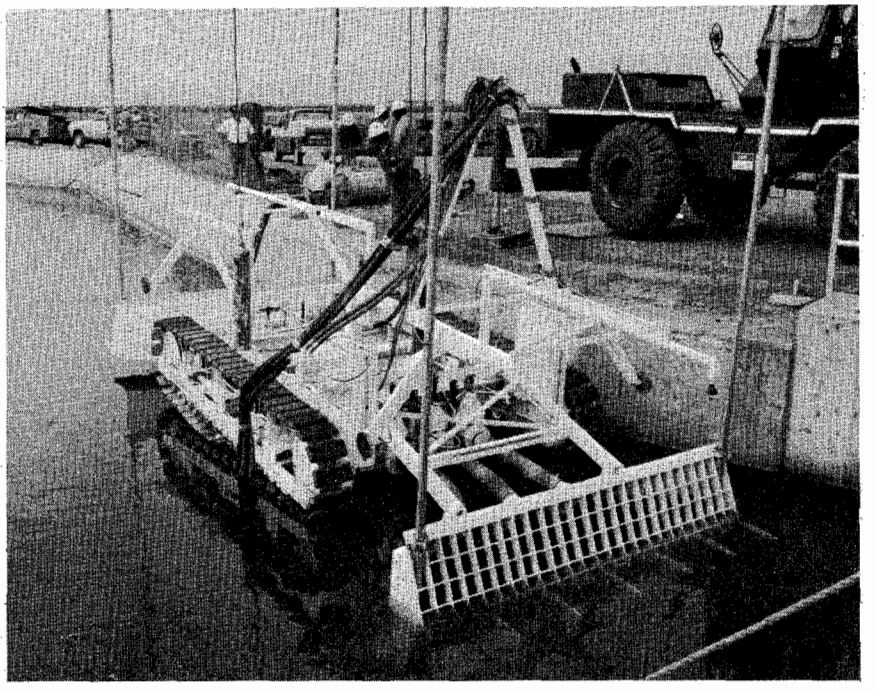
Besides the beneficial effect on the fishery, this operation had other major advantages. First, the wheeling of Federal water could be done while there was uncontrolled flow available in the Delta and SWP delivery demands were still low. And second, it provided a reduction in on-peak load for the CVP later during the summer high power-use period.

California Aqueduct Asbestos Removal. Discovery of a high concentration of asbestos fibers in the California Aqueduct by The Metropolitan Water District has caused concern that these fibers -- although the effects of their ingestion are not known - may contribute to a potential health hazard. The Department has determined that the majority of the asbestos fibers are carried into the aqueduct, near Huron, with sediment from periodic flood flows in Arroyo Pasajero and its upper watersheds near Coalinga. Lesser amounts of asbestos are also pumped into the aqueduct from the Delta. Test data indicate that removal of the sediment could reduce the aqueduct water asbestos concentration as much as 100,000 to 100 millions of fibers per litre. The Department will remove and dispose of an estimated 750,000 cubic yards of asbestos-laden sediment in the Aqueduct from Check 19 (km 250) south to A. D. Edmonston Pumping Plant (km 472).

Efficient sediment removal required the design of a unique dredge expressly for this project. The dredge had to be operable under bridges, overchutes, through checks and other limited clearance areas, and be capable of operating without creating excessive turbidity in the Aqueduct, thus avoiding as much resuspension of the asbestos fibers as possible. Another criterion for selection of the dredge was the high production of solids that could be achieved; i.e., the higher the production of solids, the less water pumped and the less dredge-slurry storage area required.



Dredge pump being lowered onto submersible tractor to dredge asbestos laden silt from California Aqueduct.



Submersible tractor for dredging asbestos laden silt from the California Aqueduct between Coalinga area and Edmonston Pumping Plant.

The machinery, as designed, consists of a hydraulically powered underwater tractor, which carries a positive displacement pump operated by compressed air. The dredge assembly operates completely submerged in the Aqueduct and is guided along the canal by sonar. A support truck follows the dredge, transporting an air compressor, diesel engines, and electronic control equipment. Up to 1 828 metres (6,000 feet) of flexible PVC discharge pipe connects the underwater pump to the dredge slurry containment area.

Containment areas are located along the aqueduct right of way, mainly on the east side, for the full length of the dredging project. Low earth dikes are used to contain the dredge slurry against the existing canal embankment. The containment areas will be seeded with native plants to provide erosion protection and to ensure preservation of wildlife habitat. Every effort is being made to minimize the impact of construction on rare and/or endangered wildlife and plants located within the right of way. No construction will take place on sites of significant archeological importance.

The Department estimates that some 24 months will be required for dredging the entire 140 miles of the aqueduct affected by the above-normal asbestos concentrations. Additional dredging would be required should flood flows from the Arroyo Pasajero enter the aqueduct. The USBR is currently working on a long-range solution to this problem. In the meantime, while a final solution is being worked out, DWR plans to use the aqueduct to store flood waters only if the aqueduct is threatened by flooding. Should flooding occur, the additional dredging will be needed.

Pest Management Plans. The 1981 Pest Management Plans of the Division of Operations and Maintenance (O&M) and the Division of Flood Management have undergone substantial review and revision by the Director's Pest Management Committee. Flood Management, O&M, Division of Planning, and the John Muir Institute

have all been actively involved in the process.

Significant progress has been made over the last year towards the Department's goal to reduce the use of pesticides in the maintenance of levees and the State Water Projct system. This year's plan reflects a conscientious effort towards implementation of integrated pest management.

In May, 1981, the Director approved the 1981 pest management plans with the following stipulations:

1. The use of strychnine and anticoagulants for control of ground squirrels shall be eliminated. If careful monitoring reveals a future need for these chemicals, a recommendation backed by field data should be submitted to the Committee so that the restriction can be reconsidered.

2. Stocks of amitrole, cacodylic acid, and MSMA shall be disposed of in a safe manner by July 1, 1981, and further use of these chemicals shall be discontinued.

3. The Division of Flood Management shall document their levee burning and dragging programs, including descriptions of scheduling, costs, and benefits.

4. Use of pre-emergent herbicides shall be suspended and careful monitoring shall be substituted so that if pre-emergents need to be used in the future, a factual case can be made for their use.

5. The Divisions of O&M and Flood Management shall place more emphasis on monitoring (and conversely less time on specific treatments), documenting changes, and establishing clear definitions of injury levels for all targeted pests. The Division of Planning will develop a specific pest management plan for a 30 levee-mile test section and will monitor the results.

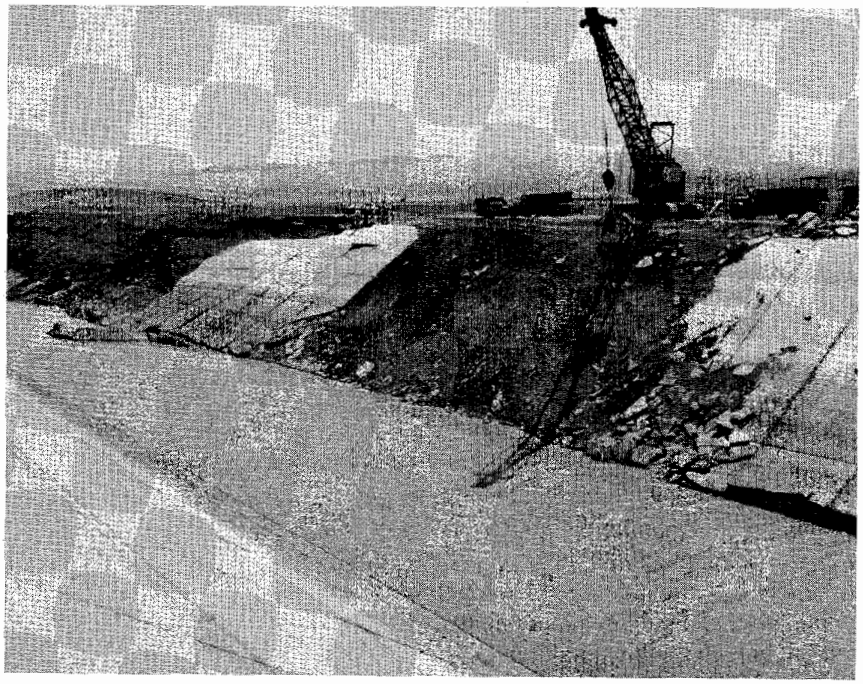
PCB Removal Program. In October 1977, a program was initiated by O&M to reduce the risk of a spill that might contaminate Project facilities and waterways. The program involved building "dikes" or providing secondary containers around the subject transformers. This program also identified and replaced 19 transformers that had the highest risk of failure.

Presently, the Department plans to remove PCB-filled equipment from service by June, 1982. This includes two types of equipment: transformers and surge capacitors. This action will eliminate all PCB-filled equipment covered by the current Federal Environmental Protection Agency rulings.

An outline of the Department's plan, together with related costs, is listed below.

- Transformers. The Department had 72 transformers containing 1,988 gallons of liquid PCB's in operation prior to 1980. On September 18, 1980, the Director authorized their replacement during Fiscal Years 1980-81 and 1981-82. The 1980-81 budget was augmented to procure the transformers for the Hyatt, Thermalito, Delta, San Luis, and Dos Amigos plants, and Wind Gap O&M Center. The 1981-82 budget contains funds for the replacement of the rest of the transformers. The total cost of this effort is estimated at $150,000 and is expected to be accomplished by June 1982.

- Surge Capacitors. The Department has 289 surge capacitors in service containing less than a half-gallon each and a total of approximately 114 gallons of PCB. The replacement equipment can be installed by plant maintenance electricians. The total cost of this effort is estimated to be $300,000, in the 1981-82 budget, to complete the replacement by June 1982.



Damaged California Aqueduct lining is removed while Reach 2 is drawn down for repair.

California Aqueduct Reach 2 Outage: May 18-July 14, 1981. On May 18, 1981, some of the lining on the west side slipped into the California Aqueduct at Km 16 (Mile 10) south of Bethany Reservoir. Inspection of the damaged lining indicated that immediate repair was necessary. A study of available water supply and current operational limits and restrictions indicated the SWP could meet current deliveries south of the slip from SWP reservoirs below the Delta. Therefore, specifications were prepared and advertised, and on June 2, a contract was awarded to Claude C. Wood Co. of Lodi, California.

During the repair, South Bay Aqueduct demands were met from the Delta. South of the outage, demands were met from SWP reservoir storage, except for 55 223 dam^3 (44,770 acre-feet) of SWP water pumped at the USBR Tracy Pumping Plant between May 22 and June 30. An emergency diversion permit had been obtained from the SWRCB on May 22 for a temporary change in diversion through July 22 to use CVP capacity offered by the USBR.

During the outage to repair the California Aqueduct lining, downstream releases from the Oroville complex were reduced commensurate with reduced SWP export from the Delta. By coincidence, the outage did occur at an opportune time. During May and June, D-1485 limits export to an average of 85 cubic metres (3,000 cubic feet) per second, and a ten-day shutdown of the Harvey O. Banks Delta Pumping Plant had been scheduled during June.

Sacramento-San Joaquin Delta. Water Right Decision 1485 sets water quality standards, export limitations, and outflow requirements for the Sacramento-San Joaquin Delta. This information appears in Appendix E to Bulletin 132; it is published separately under the title

TABLE 5: WATER QUALITY MEASUREMENTS AT SELECTED STATIONS IN 1980

Station	Monthly Samples	Concentrations (in parts per million unless otherwise noted)					
		Total Dissolved Solids	Total Hardness	Chlorides	Sulfates	(a Sodium (%)	Boron
Thermalito Afterbay, Outlet to Feather River	Minimum	46	30	0	0	15	0.0
	Average	55	32	1	2	17	0.0
	Maximum	64	36	2	3	20	0.1
Sacramento-San Joaquin Delta, Delta Pumping Plant	Minimum	133	59	22	20	42	0.1
	Average	162	68	30	25	45	0.2
	Maximum	185	75	37	28	47	0.3
South Bay Aqueduct, Santa Clara Terminal Facility	Minimum	143	62	24	22	43	0.1
	Average	183	77	33	28	44	0.1
	Maximum	240	89	40	36	45	0.2
California Aqueduct: Entrance to O'Neill Forebay	Minimum	132	59	23	18	42	0.1
	Average	160	69	30	24	44	0.2
	Maximum	188	77	39	29	47	0.3
Outlet from O'Neill Forebay	Minimum	152	66	26	22	46	0.1
	Average	191	79	40	33	48	0.2
	Maximum	235	92	55	39	50	0.2
Near Kettleman City	Minimum	170	68	35	11	48	0.1
	Average	203	81	43	26	49	0.2
	Maximum	250	97	57	45	50	0.4
Coastal Branch near Devil's Den	Minimum	182	73	31	27	47	0.1
	Average	209	81	44	37	49	0.2
	Maximum	248	92	62	41	51	0.3
Near Buena Vista Pumping Plant	Minimum	104	44	9	9	39	0.1
	Average	193	75	40	28	46	0.2
	Maximum	245	92	58	41	49	0.3
At Tehachapi Afterbay	Minimum	90	49	2	17	36	0.1
	Average	171	75	33	31	45	0.2
	Maximum	222	90	53	39	49	0.3
At Pearblossom Pumping Plant	Minimum	72	38	4	7	38	0.1
	Average	183	73	30	34	45	0.2
	Maximum	324	132	48	137	48	0.3
Silverwood Lake, Outlet to San Bernardino Tunnel	Minimum	107	49	15	16	39	0.0
	Average	169	70	33	27	47	0.1
	Maximum	235	97	63	36	50	0.2
Lake Perris, Outlet from Santa Ana Pipeline	Minimum	220	75	56	34	53	0.1
	Average	243	84	65	37	55	0.2
	Maximum	267	92	74	42	57	0.2
Pyramid Lake, Entrance to Angeles Tunnel	Minimum	282	142	39	84	34	0.3
	Average	334	165	43	108	37	0.4
	Maximum	410	182	55	123	43	0.4
Castaic Lake, Outlet Tower	Minimum	323	193	44	120	32	0.3
	Average	384	204	47	131	33	0.3
	Maximum	460	214	49	140	36	0.3
Monthly Average Quality Objectives		440	180	110	110	50	0.6

a) *Amount of sodium in solution expressed as a percentage of the total sodium, calcium, magnesium and potassium in solution.*

"Water Operations in the Sacramento-San Joaquin Delta." All of the requirements of Decision 1435 were met in 1980, and many were exceeded by a large margin. For example, the standards require that chloride concentrations be less than 150 mg/l at the Contra Costa Canal Intake for 240 days; this limit was met for all 366 days of the (leap) year. The agricultural standards require that electrical conductivity (EC) not exceed 0.45 mS/cm from April 1 to August 15 at Emmaton, Jersey Point, Terminous, and San Andreas Landing. The highest EC observed during the period was 0.3 mS/cm at Jersey Point.

Several levee failures occurred within the Delta during 1980. During the winter storms, the levees of Holland, Prospect, and Deadhorse Islands, and Webb Tract failed, but the failures did not affect Delta salinities and it was not necessary to modify SWP operations. On September 26, Lower Jones Tract flooded and increased salinities in the western Delta. Pumping at Tracy Pumping Plant was immediately curtailed, and the gates at Clifton Court were closed. Normal operations resumed on the 29th. The levee break was repaired in October but on October 23, a railroad embankment gave way, and the water trapped in Lower Jones Tract flooded part of Upper Jones Tract. In fear that the resulting sudden drawdown of the "lake" on Lower Jones would cause the outer levee to fail again, the gates at Clifton Court were closed and pumping was reduced at Tracy Pumping Plant for four days to prevent any salinity increase in the western Delta.

Benefits of SWP Operations. The SWP provides numerous benefits to the people of California through its operations. These benefits include water supply, recreation, and energy production. The following chart summarizes the SWP benefits through 1980:

STATE WATER PROJECT BENEFITS THROUGH 1980

Year	Water Delivered (acre-feet) (a							Recreation Supported (Recreation days) (c	Electrical Energy Generated (Megawatt-hours) (d
	Entitlement Water			Other Deliveries					
	Municipal and Industrial Use	Agricultural Use	Total	Surplus		Other Water (b	Total Delivery		
				Agr.	M&I				
1962						18,289	18,289	30,000	
1963						22,456	22,456	105,000	
1964						32,507	32,507	331,600	
1965						44,105	44,105	499,800	
1966						67,928	67,928	482,700	
1967	5,747	5,791	11,538			53,605	65,143	455,200	
1968	46,472	125,237	171,709	111,534	10,000	14,777	308,020	931,300	628,000
1969	34,434	158,586	193,020	72,397	0	18,829	284,246	1,554,800	2,614,000
1970	47,996	185,997	233,993	133,024	0	38,080	405,097	1,804,800	2,679,000
1971	85,286	272,054	357,340	293,619	2,400	44,119	697,478	2,085,900	3,302,000
1972	181,066	430,735	611,801	401,759	22,205	66,638	1,102,403	1,971,200	1,922,000
1973	293,824	400,564	694,388	293,255	3,161	42,511	1,033,315	2,502,000	3,298,000
1974	418,521	455,556	874,077	412,923	4,753	46,224	1,337,977	4,073,600	4,672,000
1975	641,621	582,369	1,223,990	601,859	21,043	63,793	1,910,685	4,189,300	3,159,000
1976	818,588	554,414	1,373,002	547,622	32,488	115,217	2,068,329	4,239,600	2,131,000
1977	280,919	293,236	574,155	0	0	389,065	963,220	3,951,900	958,000
1978	742,385	710,314	1,452,699	13,348	3,566	121,225	1,590,838	5,773,700	2,882,000
1979	690,659	969,237	1,659,896	582,308	66,081	187,630	2,495,915	5,298,700	2,485,000
1980	730,545	799,204	1,529,749	384,835	19,722	46,459	1,980,765	5,701,900	2,988,000
Total (e	5,018,063	5,943,294	10,961,357	3,848,483	185,419	1,433,457	16,428,716	45,983,000	33,781,000

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Includes Emergency Relief Water, Kern River Intertie Water, Exchange Water, Repayment Water, Regulated Delivery of Local Supply, and Conveyance of Federal CVP Water.
c) A recreation day is the visit of one person to a recreation area for any part of one day.
d) Includes State's share of generation from Hyatt-Thermalito, San Luis, Castaic and Devil Canyon Powerplants.
e) In addition, dams of the State Water Project have prevented millions of dollar's worth of flood damage.

EXHIBIT 25

Power Operations

During 1980 the power requirements of SWP pumping plants were supplied by (1) generation by SWP recovery generating plants, (2) purchases of Canadian Entitlement Power, and (3) purchases from California electric utilities (called the "Suppliers".) As shown in Table 6, the total energy from all sources was 3,353.92 million kilowatthours (kWh).

SWP Recovery Plants

During 1980, SWP recovery plants (San Luis Pumping-Generating Plant and Devil Canyon Generating Plant) contributed 555 million kWh. Energy is generated at San Luis Reservoir when water is released from the reservoir for delivery downstream. The San Luis plant can also be operated in a daily or weekly pumped-storage generating mode. The Devil Canyon plant, in San Bernardino County, recovers part of the energy used to deliver water to Silverwood Lake.

Castaic Pumping-Generating Plant

Castaic Pumping-Generating Plant is owned and operated by the City of Los Angeles Department of Water and Power (LADWP). Under terms of the contract with LADWP, the SWP receives energy in proportion to the quantities of SWP water scheduled for delivery through the Castaic plant. During 1980, the SWP received 500 million kWh from LADWP.

During the fall of 1980, the water surface in Pyramid Lake was lowered to permit construction of the William E. Warne Powerplant. Therefore, Castaic Powerplant was out of service during August, September, and October.

Canadian Entitlement Power

The SWP obtains Canadian Entitlement Power (CEP) from three electric utilities in the Pacific Northwest at a maximum rate of 150 megawatts. During 1980, the SWP received 569 million kWh of CEP energy. SWP contracts for Canadian Entitlement Power will expire on March 31, 1983. (See "Utility Management Reorganization", in Chapter I, page 52).

California Suppliers' Energy

During 1980, the SWP received most of its power from four California utilities (called the "Suppliers"): Pacific Gas and Electric Company, Southern California Edison Company, San Diego Gas and Electric Company, and the City of Los Angeles Department of Water and Power. The total 1980 Suppliers' Energy obtained by the SWP during the year was 2,166 million kWh. Most of this was off-peak power; that is, it was delivered when the Suppliers' electrical loads were at minimum levels.

The SWP also sells energy from Edward Hyatt and Thermalito powerplants, at Lake Oroville, to three of the Suppliers: Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric companies. After allowing for station service and pump-back energy, net 1980 Hyatt-Thermalito generation was 2,237 million kWh. On April 1, 1983, Hyatt-Thermalito generation will be available for SWP pumping plants.

Transmission Service

The Department is working toward completion of an agreement with PG&E to provide for the interconnection of SWP pumping plants and power resources within the PG&E service area. This will be the final link in providing necessary SWP transmission service. On April 18, 1980, PG&E and the Department signed the principles of agreement for interconnection and transmission. Final contract language is now being developed.

The Department continues to maintain the right to 300 MW of import line capacity on the Pacific Northwest extra-high-voltage intertie, under a contract that will terminate in year 2005.

TABLE 6: MONTHLY POWER

(in millions of

Operations	MONTH						
	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.
ENERGY GENERATED BY EDWARD-HYATT AND THERMALITO POWERPLANTS (a							
Gross Generation	394.20	328.11	336.13	102.39	166.77	272.26	245.10
Power Plant Use and Pumpback Requirements	13.20	2.54	3.34	13.39	29.31	.92	5.67
Delivered to California Power Pool Companies	381.00	325.57	332.79	89.00	137.46	271.34	239.43
ENERGY USED BY PROJECT PUMPING PLANTS							
Interim (Cordelia)	.25	.22	.23	.36	.53	.48	.36
South Bay	5.72	3.33	2.15	7.44	11.82	14.29	14.92
Del Valle	.02	.01	.01	.01	.01	.01	.01
Tracy (State Share)	0	0	1.02	0	0	0	0
Delta	80.98	29.12	21.10	25.96	26.76	52.61	24.65
San Luis (State Share)	30.45	7.43	1.05	1.13	.07	.15	.17
Dos Amigos (State Share)	16.96	10.96	8.74	9.53	10.12	24.88	30.97
Las Perillas	.37	.40	.48	1.30	1.38	1.74	2.06
Badger Hill	.90	.98	1.23	3.60	3.84	4.77	5.52
Buena Vista	17.38	12.26	9.95	14.79	10.46	18.85	23.95
Wheeler Ridge	18.73	11.14	7.80	14.75	9.77	14.97	18.30
Wind Gap	41.54	24.05	16.25	30.36	20.09	29.38	36.12
A. D. Edmonston	145.34	83.19	54.61	105.62	68.35	92.92	108.96
Oso (West Branch)	4.28	1.77	.43	1.67	.41	.30	.25
Pearblossom	32.88	20.96	14.95	23.19	15.69	20.31	22.77
Devil Canyon S. S.	0	0	.05	0	.07	0	0
Total	395.80	205.82	140.05	239.71	179.37	275.66	289.01
SOURCES OF ENERGY FOR PROJECT							
San Luis Pumping-Generating Plant (State Share)	0	0	0	0	0	9.79	37.81
Castaic Generating Plant (State Share)	16.66	6.91	1.92	4.80	0	1.68	28.92
Devil Canyon Generating Plant	59.37	32.58	27.74	42.26	28.61	34.86	39.25
Canadian Entitlement Power	50.05	46.68	49.81	45.74	47.53	46.13	47.80
Bonneville Power Administration	0	0	0	0	0	0	0
California "Suppliers"	269.72	122.01	58.21	146.92	103.23	183.20	136.02
Total	395.80	208.18	137.68	239.72	179.37	275.66	289.80

a) Sold under terms of the Oroville-Thermalito Power Sale Contract, November 29, 1967.

OPERATIONS IN 1980

kilowatthours)

MONTH						Operations
Aug.	Sep.	Oct.	Nov.	Dec.	Total	
						ENERGY GENERATED BY EDWARD-HYATT AND THERMALITO POWERPLANTS(a
203.61	94.79	100.57	58.90	66.57	2,369.40	Gross Generation
4.29	6.63	34.14	5.95	12.35	131.73	Power Plant Use and Pumpback Requirements
199.32	88.16	66.43	52.95	54.22	2,237.67	Delivered to California Power Pool Companies
						ENERGY USED BY PROJECT PUMPING PLANTS
.19	.23	.11	.31	.25	3.52	Interim (Cordelia)
15.09	7.93	7.58	10.96	9.33	110.56	South Bay
.01	.01	.01	.02	.02	.15	Del Valle
0	0	0	0	0	1.02	Tracy (State Share)
81.72	70.65	54.71	43.86	54.03	566.15	Delta
.17	36.31	23.37	3.22	4.01	107.53	San Luis (State Share)
34.91	17.13	14.57	15.91	21.71	216.39	Dos Amigos (State Share)
1.94	.62	.43	.36	.61	11.69	Las Perillas
5.20	1.53	1.12	.96	1.61	31.26	Badger Hill
23.75	15.50	15.48	13.78	18.33	194.48	Buena Vista
18.10	15.37	16.81	15.34	19.12	180.20	Wheeler Ridge
36.50	32.38	35.85	32.18	40.23	374.93	Wind Gap
108.15	106.53	124.95	111.09	140.03	1,249.74	A. D. Edmonston
.25	.30	.23	1.90	4.41	16.20	Oso (West Branch)
22.70	24.79	32.63	28.01	31.10	289.98	Pearblossom
0	0	0	0	0	.12	Devil Canyon S.S.
348.68	329.28	327.85	277.90	344.79	3,353.92	Total
						SOURCES OF ENERGY FOR PROJECT
4.99	1.55	0	0	0	54.14	San Luis Pumping-Generating Plant (State Share)
0	0	0	2.18	.53	63.60	Castaic Generating Plant (State Share)
41.77	48.92	45.37	46.18	53.73	500.64	Devil Canyon Generating Plant
48.11	46.24	47.50	46.00	47.55	569.14	Canadian Entitlement Power
0	0	0	0	0	0	Bonneville Power Administration
253.02	232.57	234.98	183.54	242.98	2,166.40	California "Suppliers"
347.89	329.28	327.85	277.90	344.79	3,353.92	Total

Recreation and Fish and Wildlife Activities

About 5.7 million people used SWP facilities during 1980. This is an 8-percent increase over 1979. The use includes participants in camping, boating, swimming, fishing (lake or aqueduct), bicycling, and other recreational activities. Over 434,000 visitor-days of use occurred at SWP visitor centers. This is a 13-percent decrease from the 500,000 people who visited the facilities in 1979. Visitors include people entering visitor centers, stopping at overlooks, and participating in guided tours of project facilities. There was no new construction of visitor centers at SWP facilities during 1980.

Use of recreation facilities in recreation days during 1979 and 1980 is detailed in the following chart.

RECREATION USE AT STATE WATER PROJECT FACILITIES IN 1979 AND 1980

Facility	Recreation Use in Recreation Days	
	1980	1979
Oroville Field Division		
Frenchman Lake	187,700	135,900
Antelope Lake	223,100	273,500
Lake Davis	287,700	275,300
Lake Oroville Complex	810,900	640,700
TOTAL	**1,509,400**	**1,325,400**
Delta Field Division		
Lake Del Valle	328,400	310,100
Bethany Reservoir	39,000	47,300
Cottonwood Road F.A.S.*	800	400
Niels Hansen F.A.S.*	800	500
Orestimba F.A.S.*	1,100	1,200
California Aqueduct Walk-in fishing	21,200	18,300
California Aqueduct Bikeway	500	500
TOTAL	**391,800**	**378,300**
San Luis Field Division		
San Luis Reservoir O'Neill Forebay, and Los Banos Reservoir	715,200	737,100
Canyon Road F.A.S.*	1,000	1,100
Mervel Avenue, F.A.S.*	700	900
Fairfax F.A.S.*	1,000	1,300
Three Rocks F.A.S.*	600	600
Huron F.A.S.*	700	700
Avenal Cutoff F.A.S.*	800	1,000
San Luis Field Division (Cont'd)		
California Aqueduct Walk-in fishing	12,600	5,000
TOTAL	**732,600**	**747,700**
San Joaquin Field Division		
Lost Hills F.A.S.*	900	2,500
Buttonwillow F.A.S.*	800	2,400
Cadet Road F.A.S.*	300	700
Kettleman City F.A.S.*	700	1,400
California Aqueduct Walk-in fishing	16,100	24,700
TOTAL	**18,800**	**31,700**
Southern Field Division		
Castaic Lake	1,053,500	985,300
Silverwood Lake	570,200	485,300
Pyramid Lake	232,700	293,700
Lake Perris	1,186,000	1,044,300
77th Street, East F.A.S.*	300	100
Longview Road F.A.S.*	1,500	1,000
California Aqueduct Walk-in fishing	2,700	4,100
California Aqueduct Bikeway	2,400	1,800
TOTAL	**3,049,300**	**2,815,600**
GRAND TOTAL, SWP	**5,701,900**	**5,298,700**

* *Fishing Access Site*

EXHIBIT 26

California Aqueduct Bikeway

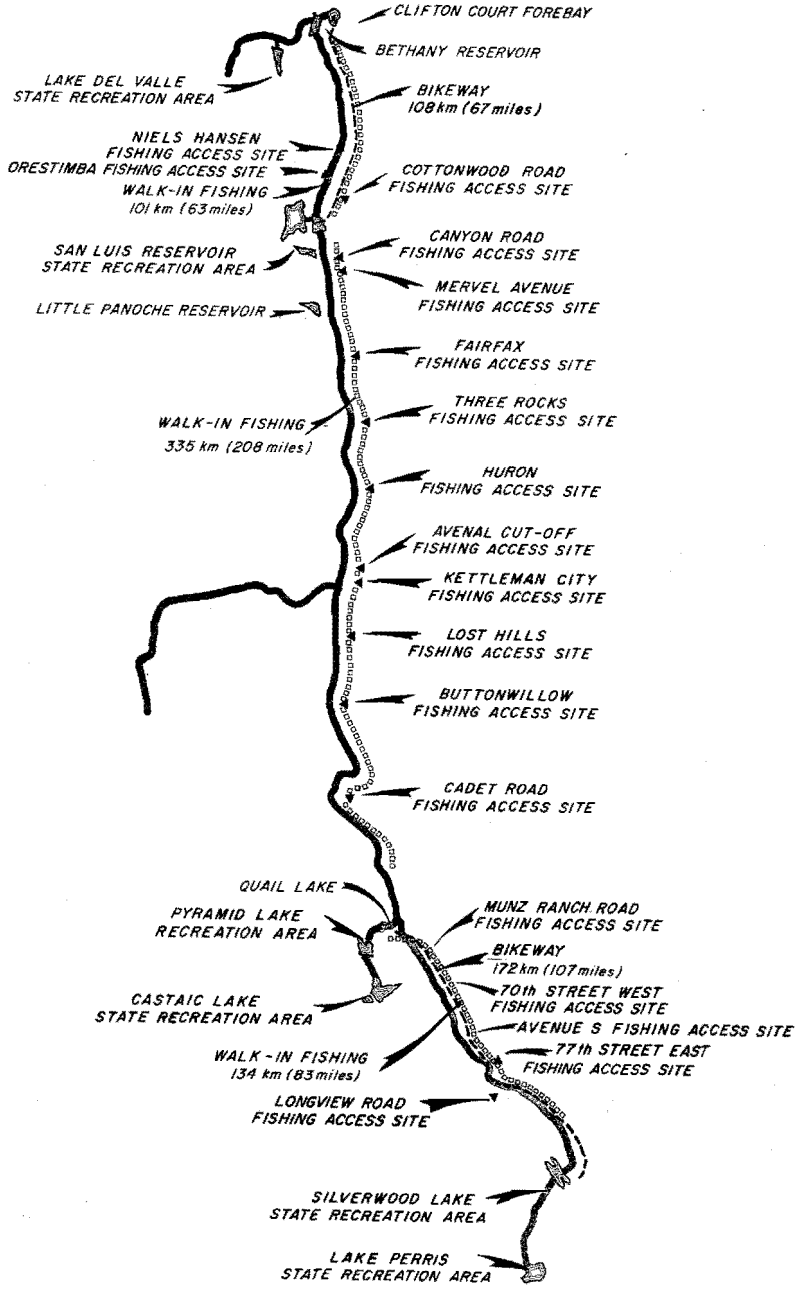
About 3,000 cyclists used the Aqueduct Bikeway in 1980: 500 along the Aqueduct from Bethany Reservoir to O'Neill Forebay, and 2,500 in the Antelope Valley area. The total use of the bikeway increased about 30 percent from 1979. The total length of bikeway now in operation is approximately 280 kilometres (174 miles), 108 kilometres (67 miles) in Northern California, and 172 kilometres (107 miles) in Southern California.

Fishing Access Site Program

Figure 8 shows the status of recreation developments on the California Aqueduct at the end of 1980.

There are now 18 fishing access sites along the Aqueduct. Three of these opened during 1980 in the Southern California area. Construction of these sites was completed in March 1980. They are Munz Ranch Road, 70th Street West, and Avenue S fishing access sites. Included in the construction were an access road and parking area, permanent-type sanitary facilities, a portable unit to provide drinking water, an access ramp for the handicapped, and a safety fence. The Department of Parks and Recreation is responsible for onshore facilities, the Department of Boating and Waterways for boating facilities, and the Wildlife Conservation Board for fishing access sites. There is also a total of 469 kilometres (291 miles) of walk-in fishing along the aqueduct.

Figure 8: AQUEDUCT RECREATION DEVELOPMENTS



DWR Field Divisions

The following are details of recreation and fish and wildlife activity within each field division.

Oroville Field Division. The Oroville Wildlife Area was used by visitors in the following ways.

Activity	Visitor Totals
Fishing	59,197
Hunting	4,811
Camping and picnic	11,190
Sightseeing	7,670
All other activities	26,703
Group activities	1,052
Total	110,623

In 1980, the Department of Fish and Game improved or constructed several projects in the Lake Oroville area: (1) one bridge with a steel gate was installed; (2) flood-damaged roads were repaired at six locations; (3) 6.4 kilometres (4 miles) of road surface were repaired and twenty-two road closure areas were constructed or repaired to control vehicle access; (4) the impact area of the public target shooting area was enclosed with 1 350 metres (4,430 feet) of fence; (5) 105 tree and shrub seedlings were planted, and 3.6 hectares (9 acres) were seeded to lana vetch; (6) fifteen small ponds were bulldozed out to act as mosquito-fish reservoirs and aid natural mosquito control; (7) twenty-four replacement wildlife nest boxes were constructed; (8) 61 metres (200 feet) of drain ditch were deepened and widened; (9) twenty-six ponds were planted with 2,025 channel catfish.

In 1980, the Feather River Fish Hatchery produced 5,504,490 king salmon and 424,112 steelhead.

At Lake Davis, two new facilities were completed in March, 1980; a two-lane boat ramp at Honker Cove, and a two-lane car-top boat access at Mallard Cove. Installation of another two-lane boat ramp was started in July, 1980 at Camp 5 and will be completed in 1981.

Delta Field Division. Public hunting at Clifton Court Forebay for waterfowl was permitted three days a week from October 18, 1980 through January 18, 1981. Hunters were issued 649 permits and harvested 1,417 birds for an average of 2.2 birds per hunter.

White Slough Wildlife Area is the name given by the Fish and Game Commission to the five southernmost Interstate 5 (I-5) borrow ponds and adjacent State-owned land in San Joaquin County. The area, opened to the public for fishing and hunting on September 30, 1980, has experienced the following use during the first three months:

Activity	Visitor Totals
Fishing	800
Hunting	450
Other Activities	150
Total	1,400

Facilities at the wildlife area include a paved access road and parking area, portable chemical toilets, a fishing platform and parking facilities for the handicapped, signs and trash receptacles. The ponds have been planted by the Department of Fish and Game with large mouth bass, sunfish, bluegill, and channel catfish. Although no boat ramp is provided, a moderately sloped shoreline allows launching of car-top boats or other flotation devices in the four southernmost ponds. Development of the borrow ponds has been funded by the Wildlife Conservation Board. DWR is responsible for monitoring and maintenance of the area, and warden service is provided by the Department of Fish and Game.

Water supplied to Alameda County Water District for ground water recharge has been deemed a sufficient flow in Alameda Creek to support a spring-summer catchable trout fishery and other water re-

lated uses. Alameda Creek was planted with 20,000 trout during 1980. Alameda Creek was selected as a "pilot stream" in the Department's Urban Stream Study Program, which was developed to enhance water conditions in local areas.

Orestimba Creek, in Stanislaus County, is the site of a proposed recreation and wildlife enhancement project. Under the Department's proposal, wildlife habitat along Orestimba Creek and public access facilities will be developed between the California Aqueduct and Delta-Mendota Canal. The Department has completed a draft environmental impact report on the project.

San Luis Field Division. At San Luis Reservoir, two additional lanes at the Basalt Area boat ramp were opened to public use in September, 1980.

San Joaquin Field Division. Continued use was made of the existing fishing access sites.

Southern Field Division. At Pyramid Lake, in late 1980, work was started on additional boat slip anchors at Emigrant Landing.

Both Pyramid and Silverwood Lakes continued to support trophy striped bass fisheries. Fish exceeding 11.3 kilograms (25 pounds) were taken during 1980.

At Lake Perris, construction was begun on 30 boat-in campsites and 150 boat-in picnic units in the Bernasconi Area. These units are scheduled for completion in 1981. A catch setting new state record for a spotted bass of 3.4 kilogram (7.5 pounds) was made during the year.

Castaic Lake continued to provide excellent largemouth bass and trout fishing throughout 1980.

FISH PLANTED
by
DEPARTMENT OF FISH AND GAME
STATE WATER PROJECT FACILITIES
DURING 1980

	SPECIES			
FACILITY	**Trout**	**Channel Catfish**	**Spotted Bass**	**Striped Bass**
Frenchman Lake	219,090			
Antelope Lake	183,360	6,050		
Lake Davis	456,470			
Lake Oroville	298,030	19,960	127	
Thermalito Afterbay				5,100
Lake Del Valle	64,651			
Los Banos Detention Reservoir		5,280		
Pyramid Lake	126,000	13,560		16,630
Castaic Lake	191,400	13,560		
Castaic Lagoon	31,990			
East Branch California Aqueduct		21,700		
Silverwood Lake	233,840	5,460		
Lake Perris	174,660	18,095		
Totals	**1,979,491**	**103,665**	**127**	**21,730**

EXHIBIT 27

Southern California Wildlife Preservation

The Department of Fish and Game has initiated action to implement the agreement of October 23, 1979, to mitigate damage to wildlife caused by construction and operation of the SWP in Southern California. Bulletin 132-80 reported (page 144) on the agreement to mitigate wildlife damage. To summarize here, it was agreed that 1 227 hectares (3,033 acres) of SWP lands at several designated locations and 1 038 hectares (2,565 acres) of Metropolitan Water District lands at Lake Mathews would be made available to the Department of Fish and Game for wildlife management. In addition, $7 million of SWP funds and $1 million of other specific funding entitlements were provided to the Department of Fish and Game for use in conducting mitigation programs.

Under this agreement, the Department of Fish and Game is giving initial emphasis to the acquisition and development of a wildlife management area in the San Jacinto Valley. Starting with the 263-hectare (650-acre) borrow area northeast of Lake Perris, one of the SWP land areas included in the October 23, 1979 agreement, the Department of Fish and Game has started to acquire a sizable area in the San Jacinto Valley for wildlife management. Assisted by the staff of the Wildlife Conservation Board, the Department of Fish and Game has acquired several large parcels and is actively negotiating for several others in the proposed wildlife area. The tentative boundary of the wildlife area is shown on the following map since the acquisition program is not yet complete. In addition, it is possible that some lands within the exterior boundary of the wildlife area will remain in private ownership.

The Department of Fish and Game is preparing a plan for development and use of the San Jacinto Wildlife Area. The plan, tentative at this date, takes advantage of the fact that the wildlife area will be located adjacent to the eastern boundary of the Lake Perris State Recreation Area. It will thus serve to augment the existing recreation facilities and opportunities of Lake Perris.

SWP facilities in Southern California have impacted a number of different vegetation and habitat types, affecting a great variety of wildlife. Because of the diversity of these impacts, a primary objective of the mitigation agreement was to replace habitats which would support diverse wildlife populations. Consistent with this objective, proposals for the area include the development of wetland areas, riparian and woodland zones, and a fishing and wildlife lake. The annual cultivation of wildlife crops will also be included in the management of the area in order to provide maximum wildlife benefits.

Public uses of the wildlife area are intended to include hunting, fishing, camping, hiking, nature study, photography and field trails. Facilities to accommodate these uses will consist of access roads and parking areas, trails, camp grounds, a wildlife viewing station, restrooms, domestic water and electricity, and a check station. Facilities to aid wildlife viewing by the handicapped will also be provided. Much of the wetlands habitat area will require construction of a low perimeter levee system. This system will be jointly used as a public access way for visitor use of the wetlands area.

The San Jacinto Wildlife Area will be fenced, and will include signs, interpretive displays, gates and vehicle barriers at appropriate locations.

Although the San Jacinto project has received initial high priority, the Department of Fish and Game is also considering wildlife management alternatives at other lands made available under the mitigation agreement. Plans for use of the lands adjoining Lake Mathews assigned to wildlife mitigation

WILDLIFE MITIGATION LAND AT SAN JACINTO BORROW SITE

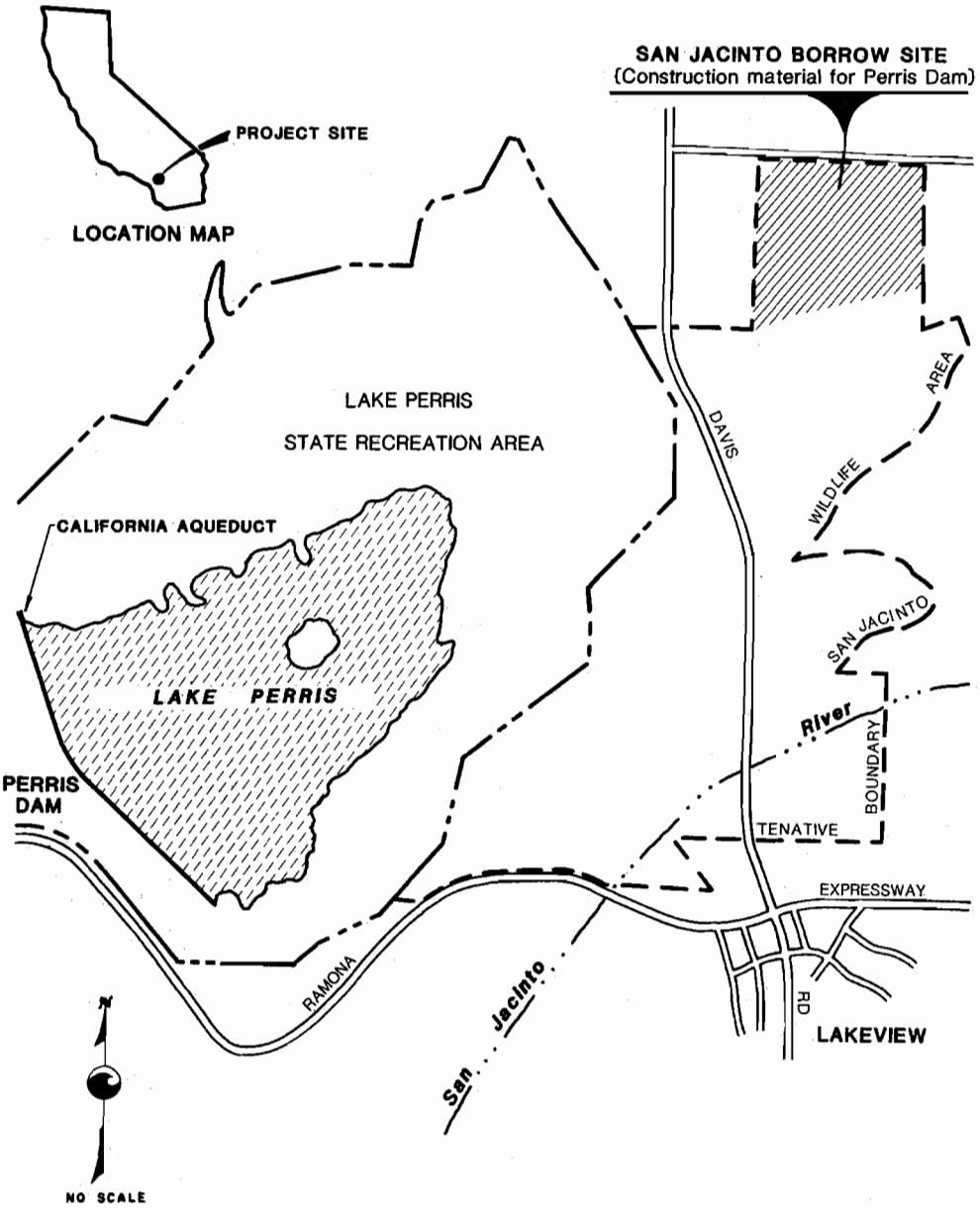


EXHIBIT 28

are being coordinated with MWD and with the Department of Parks and Recreation. The Department of Fish and Game has tentatively decided to designate the mitigation lands at Lake Mathews as an Ecological Reserve to facilitate management objectives.

The Department of Parks and Recreation is considering a possible public use area at Lake Mathews. Coordination of the several interests and possibilities there, is still underway. The Department of Fish and Game is also considering alternatives for management of the 626 hectares (1,534 acres) available to them for wildlife mitigation in the SWP West Branch area near Peace Valley and Gorman Creek.

The Department of Water Resources has signed an agreement with the U. S. Forest Service to mitigate SWP damage to Forest Service lands in Southern California. The agreement, dated November 1, 1979, provides that the Department will purchase and transfer to the Forest Service approximately 607 hectares (1,500 acres) of land to be used for wildlife mitigation. The Department will also provide funds to the Forest Service for development of wildlife habitat. To date, title to some 526 hectares (1,300 acres) has been transferred to the Forest Service.

D. LITIGATION

Control Over SWP Operation

Tulare Lake Basin Water Storage District v. State of California, filed October 19, 1976, Sacramento County Superior Court.

On May 22, 1981, Judge Sakuma issued his intended decision in this case. The decision was in the Department's favor on all counts. This undoubtedly is the most important decision regarding the project in the last 20 years. The judge held that DWR did not branch its water supply contracts in 1976-77, when it released stored water for salinity control in the Delta in compliance with the Basin Plans.

In his intended decision, he recited the contentions of both sides and discussed vested rights in the Delta, the relationship between the SWP and vested rights in the Delta, the relevant statutes (Delta Protection Act, Water Code Section 12200 et seq., the Watershed of Origin Act, Water Code Sections 11460-11463, the Burns-Porter Act, Water Code Section 12930 et seq., the Porter-Cologne Water Quality Act, Water Code Section 13000 et seq.), and the water supply contracts. He found that (1) in the management and operation of the SWP, the Department has broad powers and discretion to do all things that it believes to be in the public interest and that are necessary and expedient to accomplish the purposes of the SWP; (2) the Delta Protection Act requires the SWP to provide salinity control and an adequate water supply to the Delta; (3) the Porter-Cologne Water Quality Act is an exercise of the police power, and requires the Department to comply with water quality objectives contained in the Basin Plans; (4) contracts between the Department and the Delta water agencies are not a precondition to the delivery of water in excess of Delta vested rights if it is in the public interest to provide such water; and (5) the Department did not breach its obligations under the water supply contracts by releasing stored water to control salinity levels in the Delta because (a) the Department has broad discretion to operate and manage the SWP to protect the public interest; (b) the Porter-Cologne Act, as a proper exercise of the police power, does not impair the obligations of the water supply contracts, and (c) the Porter-Cologne Act specifically requires State agencies to comply with Basin Plan objectives.

The Court rejected the plaintiff's claims regarding the Department's alleged operation in compliance with then-stayed D-1379 by finding that the Department was authorized to operate voluntarily to the most recent and comprehensive standards, and that such operation did not violate any contractual obligations, including its obligation to make all reasonable efforts to perfect and protect water rights necessary to satisfy the water supply contract commitments.

Salyer Land Co. v. State of California, Department of Water Resources, filed May 9, 1977, Sacramento County Superior

Court No. 267012, $3.7 million.

The plaintiff company farms land in the service area of the Tulare Lake Basin Water Storage District, a State Water Project contractor. The plaintiff alleges that it is a third-party beneficiary of the water supply contract between the Department and the Tulare Lake Basin Water Storage District, and that the Department's actions in allowing water to flow out of the Delta in 1976 until the present violated the terms of that contract. The complaints specifically allege violations of the provisions that (1) require the Department to supply water in satisfaction of the contract commitments, and (2) require the Department to furnish surplus water. The complaint alleges also that the Department violated the stay order against State Water Resources Control Board Decision 1379 and wrongfully diverted water, which allegedly belonged to the plaintiff, into the Sacramento-San Joaquin Delta.

The plaintiff is pursuing this suit on its own behalf and as a class action, on behalf of all other similarly situated landowners. The plaintiff alleges damages in the amount of $3.7 million, which includes damage to crops and soil due to the consequent use of ground water with a high sodium content, costs of energy for pumping and cost of drilling additional wells. Additional damages, including attorneys' fees, will be added when they are known.

On January 9, 1978, the court sustained demurrers to the complaint, giving leave to amend on one of the causes of action.

On June 16, 1978, the trial court rejected the Department's demurrer to the plaintiff's amended complaint and the Department filed its answer to the complaint on August 21, 1978. The plaintiffs have since taken no action on this case. It appears they are awaiting the final results of the Tulare Lake case, which is very similar.

State of California, Department of Water Resources v. Contra Costa County Water Agency, et al., filed June 22, 1979, Sacramento County Superior Court No. 282495, $6,050,000.00.

This suit was filed by the Attorney General on behalf of the Department of Water Resources against the Contra Costa Water Agency, North Delta Water Agency, Central Delta Water Agency, South Delta Water Agency, Byron-Bethany Irrigation District, East Contra Costa Irrigation District, City of Vallejo, Union Properties and 10,000 DOES. The suit seeks a declaratory judgment that the defendants must contract with the Department and pay for State Water Project (SWP) water used in excess of that which is available in the absence of the SWP. The suit also seeks $6,050,000.00 to compensate the Department for water illegally used during June and August of 1977.

The Department's actions are based on common law claims (quasi-contract and conversion) and statutory obligations (Burns-Porter Act, Central Valley Project Act, Delta Protection Act and Watershed of Origin Statutes).

On March 12, 1980, the Sacramento County Superior Court Presiding Judge granted the motions for change of venue filed by Contra Costa County Water Agency and Union Properties Inc. and ordered the case transferred to San Francisco.

All defendants filed answers to the declaratory relief action. Union Properties filed a cross-complaint. Four defendants filed demurrers to the damage cause of action, three of which were sustained. The court rules that the State could not obtain damages from three agencies but ruled that the State could seek a declaration of the parties' rights and obligations, including whether the water agencies must contract with the State to pay for the benefits they receive from the State Water Project.

The Department's motion to sever and try separately the declaratory relief action and the actions in the cross-complaint was granted.

Three defendants were dropped from the suit since they have signed contracts to pay for State Water Project benefits. They are the City of Vallejo, North Delta Water Agency and East Contra Costa Irrigation District.

Proposition 13 - Project Financial Feasibility

Goodman v. County of Riverside, Riverside County Superior Court, No. 133871.

On November 15, 1979, Owen and Ann Goodman filed suit in Riverside County Superior Court seeking recovery of taxes collected by the County for the Desert Water Agency. (Mr. Goodman is also the counsel for the Lost Hills Water District in Kern County.) The Desert Water Agency does not receive water directly from the State Water Project, but exchanges its project entitlement with Metropolitan Water District (MWD) which provides for Desert to use Colorado River water.

Desert needs the tax revenues to meet its contract obligations to the State. The Goodmans contend that the taxes were collected in violation of Article XIII A of the California Constitution.

The Department through the Attorney General filed a complaint in intervention seeking to preserve the financial integrity of the Project. MWD, San Gorgonio Pass Water Agency, and five banks also intervened. At issue was an opinion, issued by the Attorney General's Office in 1978, concluding that taxes necessary for Burns-Porter Act bonds were not precluded by Article XIII A.

Trial was held on June 1 and 2, 1981. On July 20 the judge issued a memorandum of intended decision which determines that taxes levied by local agencies to provide funds for payments under State Water Contracts with the Department of Water Resources are taxes levied to pay interest and redemption charges on an indebtedness approved by the voters prior to July 1, 1978, and thus fall within the exception granted by Section 1(b) of Article XIII A. He further ruled that even if such taxes did not fall within the exception, then Article XIII A would unconstitutionally impair the obligations of the water supply contracts. Thus, the decision upholds the validity of necessary taxes levied to meet payment obligations of the water supply contracts. This, of course, is of utmost importance to the continued financial feasibility of the State Water Project.

Corps Permits for Delta Pumps

Sierra Club v. Morton,[6/] U. S. District Court of Appeals for the Ninth Circuit, No. 76-1464 (District Court Decision is found at 400 F. Supp. 610 (N.D.Cal 1975)).

This suit sought to enjoin Federal and State defendants, including the Director of the Department of Water Resources, from constructing or continuing construction or operation of the Delta Pumping Plant, the Peripheral Canal, and certain existing or proposed Federal Central Valley Project facilities because of an alleged failure to meet environmental requirements. The principal statutes involved are the National Environmental Quality Act of 1970, and the Rivers and Harbors Act of 1899.

On July 28, 1975, Judge Charles B. Renfrew issued a Memorandum of Opinion, stating that the Peripheral Canal would, and the Delta and Tracy Pumping Plants did, affect the "navigable capacity" of navigable waters in the Delta. He therefore ordered the State and Federal

6/ California v Sierra Club, in the U. S. Supreme Court (decision found at 101 S.Ct. 11775 (1981)).

defendants to obtain permits for these facilities from the U. S. Army Corps of Engineers.

On October 31, 1979, the Ninth Circuit Court of Appeals held that DWR must obtain a Corps permit for the Delta Pumping Plant, unless it is covered by a Corps' "nationwide permit" regulation. This question was remanded to the trial court. The Appeals Court also vacated the trial court's order requiring preparation of an EIS, which it believed was prematurely issued. As to the Federal Government's Tracy Pumping Plant, the court held that it was congressionally authorized, and thus, did not require a Corps' permit.

The State, the United States, the intervenors (four SWP contractors), and the Sierra Club filed petitions for certiorari which were granted. On April 28, 1981, the Supreme Court held that the Sierra Club did not have a right to bring such a lawsuit under the Rivers and Harbors Act of 1899.

Since then the Corps has determined that a permit is not necessary for the existing Delta Pumping Plant, and an agreement has been reached between the Corps and the Department of Water Resources that, if operation of the pumping plant with four additional pumps was restricted in certain ways, a permit would not be required for operations with the additional pumps.

Sacramento-San Joaquin Delta Water Cases

Eight cases have been brought to challenge the merits of State Water Resources Control Board Decision 1485 establishing conditions of water rights permits of the State Water Project and Federal Central Valley Project and the revised water quality control plan for the Delta and Suisun Marsh, and six cases have been brought to invalidate the Environmental Impact Report (EIR) on which Decision 1485 and the revised water quality control plan are based.

The Department is either a real party in interest or an intervenor in these cases. The Attorney General has authorized DWR to represent itself in these cases.

On August 7, 1979, in San Francisco, Judge Ira Brown ordered the cases coordinated. They were transferred for further action to Judge Morton Colvin. A trial conference order was issued on March 3, 1980, establishing liaison counsel, a discovery schedule, a procedure for certifying the record, and a schedule for further actions. Motions to exclude evidence proposed to be introduced by the United States, South Delta Water Agency, Crown-Zellerbach, Fibreboard and the Central Valley East Side Project Association have been granted, precluding these parties from introducing new information. The coordinated cases were then transferred to Judge Figone in San Francisco. Following is a list of the cases:

a. The Metropolitan Water District of Southern California, Kern County Water Agency and Tulare Lake Basin Water Storage District v. State Water Resources Control Board, filed October 6, 1978, Sacramento County Superior Court No. 276390.

b. Contra Costa County Water District, City of Antioch, City of Pittsburgh, City of Martinez, Oakley County Water District, City of Concord, City of Clayton and City of Pleasant Hill v. State Water Resources Control Board, filed October 6, 1978, Contra Costa County Superior Court No. 191277.

c. South Delta Water Agency, San Joaquin County Flood Control and Water Conservation District, Albert Muller and Alexander Hildebrand v. State Water Resources Control Board, filed October 11, 1978, Superior Court, City and County of San Francisco, No. 743341.

d. San Joaquin County Flood Control and Water Conservation District, Central Delta Water Agency, Delta Farms, Reclamation District No. 2030, Reclamation District No. 563 and Conrad Silva v. State Water Resources Control Board, filed October 11, 1978, Superior Court, City and County of San Francisco, No. 743342.

e. Central Valley East Side Project Assoc., Friant Water Users Assoc., County of Tulare, Westlands Water District, Central Valley Project Water Association and San Luis and Delta-Mendota Water Users Assoc. v. State Water Resources Control Board of the State of California, filed October 11, 1978, Sacramento County Superior Court No. 276337.

f. Contra Costa County Water Agency v. State Water Resources Control Board, filed October 13, 1978, Superior Court, City and County of San Francisco, No. 743385.

g. Central Valley East Side Project Assoc. v. State Water Resources Control Board, filed November 13, 1978, Sacramento County Superior Court No. 277506.

h. Contra Costa County Water Agency v. State Water Resources Control Board, filed November 13, 1978, Contra Costa County Superior Court No. 193298.

i. Crown Zellerbach Corp. v. State Water Resources Control Board, filed November 13, 1978, Contra Costa County Superior Court No. 193368.

j. Fibreboard Corp. v. State Water Resources Control Board, filed November 13, 1978, Contra Costa Superior Court No. 193313.

k. Kern County Water Agency v. State Water Resources Control Board, filed November 13, 1978, Sacramento County Superior Court No. 277555.

l. San Joaquin County Flood Control and Water Conservation District v. State Water Resources Control Board, filed November 11, 1978, Contra Costa County Superior Court No. 193377.

m. South Delta Water Agency v. State Water Resources Control Board, filed November 13, 1978, Contra Costa Superior Court, No. 193342.

n. United States v. State Water Resources Control Board, filed November 13, 1978, Sacramento County Superior Court No. 277544.

Seepage Suits, Sacramento and Feather Rivers

During 1975 and early 1976, several suits were filed against the State and the United States in both the State and Federal courts by more than 25 landowners adjacent to the Sacramento and Feather Rivers for damages alleged to have been caused by erosion and seepage in March and April of 1974, allegedly resulting from the coordinated operation of the Federal and State water projects. The plaintiffs allege damages in excess of $30 million.

One such case is H. L. Sanborn, et al. v. United States, CIV 5-76-154, a complaint in inverse condemnation, negligence, and trespass for approximately $20 million based on alleged erosion and seepage damages. It was filed in Federal District Court on March 22, 1976, by a group of landowners along the Sacramento River. Defendants are the United States and the State of California. Similar complaints against the State and the United States have also been filed in the Superior Courts of the counties where the affected land is situated.

The claim arises from damages allegedly caused by high flows in the Sacramento River in March and April, 1974, which plaintiffs contend caused erosion and seepage and raised the ground water

table. The 1973-74 winter was extremely wet, and flooding occurred along the Sacramento River due to intense storms in January and at the end of March. The levels were partially controlled by reducing releases from Shasta Dam and diversions from the Trinity project.

The complaint alleges that the Federal and State Governments, as joint venturers, in the CVP, kept the river levels high for an extended period, causing excess seepage that damaged their orchards and crops.

On September 19, 1977, United States District Court Judge McBride ruled on motions pending before him. The only basis plaintiffs have left to seek recovery against the United States is to show that they suffered damage that resulted from activity of the United States which was unrelated to operation of the CVP.

This ruling may prompt plaintiffs to more actively pursue the Superior Court actions that were filed against the State. The State was served in 1977, and has filed its answer and discovery is underway.

This case and four others have been combined for a hearing before a United States Court of Claims referee.

No further action on the claims against the State is expected until the plaintiffs have completed their pursuit of their claims against the United States in the Court of Claims.

Kern River Intertie

River West, Inc. v. State of California, et al., filed August 5, 1980, San Francisco Superior Court No. 769867, Injunctive Relief.

This case involves the Department's operation of the Kern River Intertie and local water rights. Plaintiffs allege, as to the Department, that water in excess of flood waters and water subject to appropriation under Division 2 of the Water Code, is being accepted into the Intertie contrary to the Intertie's purpose.

The Department has filed an answer. Other defendants moved for a change of venue, which was granted by the trial court. The new case number is Kern County Superior Court No. 174778. Discovery is in progress. A motion to appoint a judge from outside of Kern County has been noticed by the plaintiffs and is pending hearing.

Construction Claim

Pascal and Ludwig, Inc. (formerly Zurn Engineers) v. State, ex rel., Department of Water Resources, filed January 8, 1980, Los Angeles Superior Court No. C 309428, $1,129,903.00.

Pascal and Ludwig, Inc. (formerly Zurn Engineers), has refiled on its claims arising out of the construction of Grizzly Valley Dam. Plaintiff, who was contractor for the construction of the dam, contends the Department owes it approximately $1.4 million for work done because of changes in the work, forced acceleration, and added quantities of excavation and fill. In a suit filed in State court, the District Court of Appeal found in favor of the Department. The California and United States Supreme Courts denied a petition to hear the case.

Pascal and Ludwig, Inc., are now contending that Civil Code Section 1670 provides additional rights to resolve these claims.

The Department's Answer, filed on March 31, 1980, contests the retroactive application of Civil Code Section 1670, relies on law of case, re judicata, and other affirmative defenses. An At-Issue Memorandum was filed on September 23, 1980. A trial date has not been set.

Wild and Scenic River Cases

On July 18, 1980, when he signed SB 200, Governor Brown wrote to former United States Secretary of the Interior, Cecil D. Andrus, requesting that the approximately 6 400 kilometres (4,006 miles) of rivers in California Wild and Scenic Rivers System be added to the National Wild and Scenic Rivers System. He took this action under the authority of the National Wild and Scenic Rivers Act (16 U.S.C. 1271-1287), Section 2(a)(ii). This section of the National Act permits the Governor of any state to apply to the Secretary of the Interior for national designation of state-designated rivers. On January 19, 1981, Secretary Andrus acted on the California application by adding approximately 1,235 miles of rivers to the National System.

Several lawsuits were filed before Secretary Andrus acted, challenging the California application and attempting to prevent the Secretary's decision. The first, County of Del Norte v. Brown (No. 292019), was filed October 20, 1980, in Sacramento County Superior Court. This suit was brought by ten State water contractors and others to halt activities in support of Governor Brown's application by State personnel. The grounds included lack of compliance with the California Environmental Quality Act, lack of legislatively approved management plans, usurpation of local planning power, and violation of the public trust. On April 7, 1981, a final judgment was entered in this case. It favored the State by denying the plaintiffs' request for an injunction and holding that no provision of State or Federal law prohibited the Governor's application. It also held that whether the rivers were eligible for inclusion in the National Wild and Scenic Rivers System was a matter to be determined by the Secretary of the Interior. It gave the plaintiffs limited declaratory relief regarding the powers of the California Secretary for Resources to administer the rivers permanently in the State Wild and Scenic Rivers System.

Lawsuits were also filed in federal district court by California timber and water interests and Oregon timber interests seeking to prevent action by the Secretary of the Interior on California's application. These cases, County of Del Norte v. Andrus (N.D. Cal., No. C-80-3964 WAI, filed October 20, 1980); County of Del Norte v. Andrus (N.D. Cal., No. C-81-0035 SAW, filed January 6, 1981); County of Josephine v. Andrus (D. Ore., No. 81-34, filed January 14, 1981); and California Valley East Side Project Association v. Andrus (E.D. Cal., No. CV-F-81-015 EDP, filed January 14, 1981) were dismissed for lack of jurisdiction, without prejudice to eventual refiling, following a ruling by the Ninth Circuit Court of Appeals in two of the cases that the matters raised were not ready for judicial resolution because the Secretary of the Interior had not yet acted.

After Secretary Andrus' decision, three of the four previous federal lawsuits were refiled. County of Del Norte v. United States (N.D. Cal., No. C-81-0567 WAI, filed February 2, 1981) was brought by four Northern California counties (two of which have subsequently withdrawn from the litigation) and Northern California timber interests. It alleges that the Final Environmental Impact Statement on inclusion of the California rivers in the National Wild and Scenic Rivers System was prepared in violation of the National Environmental Policy Act and distributed in violation of regulations of the Council on Environmental Quality. It seeks a declaration that Secretary Andrus' action in including portions of the rivers in the National System was premature and void, and seeks to enjoin implementation of the decision. It also seeks a declaration that California's application violated federal law. The State's motion to intervene was granted on April 13, 1981. The intervention motion of four environmental groups, the Environmental Defense Fund, the Sierra Club, California Trout, and Save the American River Association, was also granted on June 16, 1981, and

plaintiffs' motion for summary judgment was heard on that date. No decision has yet been rendered.

County of Josephine v. Watt (D. Ore., No. 81-85, filed January 28, 1981) was brought by the Southern tier of Oregon Counties and timber interests seeking a declaration that Secretary Andrus' decision was illegal and seeking injunctive relief to prevent implementation of national designation. On July 29, 1981, toward the end of a 120-day stay sought by Secretary of the Interior Watt, Judge James M. Burns ordered this case transferred to Northern California federal district court, where it can be heard by Judge William A. Ingram before whom the two other federal Wild and Scenic River cases are pending. The State's motion to intervene in this case has not yet been granted.

On April 7, 1981, the Association of California Water Agencies (ACWA) and ten State Water contractors filed ACWA v. United States (N.D. Cal. No. C-81-1457 WAI), in Northern California federal district court. This suit alleges that inclusion of the rivers in the National System jeopardizes the plaintiffs' maximum annual entitlements from the State Water Project. It alleges that the State's application for national status for the rivers was defective, because no management plans had been prepared pursuant to State law. It also claims violations of the National Environmental Policy Act and of the rules promulgated by the Council on Environmental Quality. Like the other federal lawsuits, it seeks declaratory relief and an injunction against implementation of Secretary Andrus' decision. On June 16, Judge William A. Ingram granted the State's motion to intervene in this case. Oral argument on the plaintiffs' motion for summary judgment was also heard on June 16. No decision has yet been rendered.

Federal-State Water Rights Relationships

United States v. California (formerly USA v. State of California, United States District Court (Sacramento) CIV S-3014, filed October 1973) Ninth Circuit Court of Appeals.

This suit arose from conditions imposed by the State Water Resources Control Board in Decision 1422 on the U. S. Bureau of Reclamation's water rights for the New Melones Dam project. The Bureau sought a declaratory judgment that the State Board does not have the authority to place operational limitations on the project. The dispute centers on whether Section 8 of the Federal Reclamation Act of 1902 gave the states authority to place conditions on federal reclamation projects.

Several other cases involving the issue of the Board's jurisdiction over the federal Central Valley Project are being held in abeyance in the U. S. District Court of Sacramento pending the outcome of this case. They are: People ex rel. SWRCB v. Morton (the action by the State to compel CVP compliance with SWRCB water rights permits); Kern County Water Agency v. SWRCB and Central Valley East Side Project Association v. SWRCB (to set aside the Delta Water Rights Decision 1379); San Joaquin County Flood Control and Water Conservation District v. SWRCB (to set aside the Lower American River Water Rights Decision 1400).

The position of the United States was sustained in both the District Court and U. S. Court of Appeal. The U. S. Supreme Court accepted the State's petition to review the case and on July 3, 1978, the Supreme Court decided in favor of California. It held that the Bureau must comply with conditions in its water rights permits that are not inconsistent with congressional directives. The case was remanded for a determination as to whether the U. S. was estopped from attacking the Board's decision on their merits and, if not, whether any conditions in the New Melones permits are inconsistent with congressional directives.

The case was initially transferred to Judge Renfrew in San Francisco and in January 1980, to Judge Price in Fresno. On October 6, 1980, Judge Price denied the State's motion for summary judgment and judgment on the pleadings, ruling that Decision 1422 was not res judicata. On October 15, the Northern California Power Agency, for a second time, lost a motion to intervene but was given amicus curiae status.

On February 27, 1981, Judge Price held that the State may properly require the Federal Government to enter into water supply contracts before it may store water for irrigation, domestic, and industrial uses. He found nearly all of the State-imposed conditions not related to power to be binding on the Federal Government. He held, however, that the State-imposed limitations on storage for power generation are inconsistent with congressional objectives and are invalid. He emphasized that the State could have properly tied full storage for power generation to the execution of contracts, as it had for water supply storage. Instead, the Board conditioned full storage on some future possible need for energy for export of project water out of the Stanislaus basin. The Judge stated that this indefinite limitation obstructed Congress' intent that power generation be used to repay the cost of project construction and that it provide full service to customers in Stanislaus and Calaveras Counties.

Both the State and the United States have appealed the decision of the District Court to the United States Court of Appeal (Ninth Circuit); the State on April 10, 1981, and the United States on June 5, 1981, and opening briefs have been filed.

Electrical Power Cases

State of California, Department of Water Resources v. Los Angeles City Department of Water and Power, et al., filed September 26, 1978, Los Angeles County Superior Court No. C-255991, $1,400,000.00+.

This suit was filed by the Department to obtain monies owed to it by LADWP under the Cooperative Development Contract for hydroelectric facilities at Castaic. In July 1975, LADWP withheld approximately $69,000.00 from the "Peaking Capacity Foregone", payment owed to the Department. In subsequent years, LADWP has withheld larger amounts of monies from the "Peaking Capacity Foregone", payment. LADWP has asserted that the clause, which permits a reduction in the "Peaking Capacity Foregone" payment if there is a 45-day or more failure to schedule water through Angeles Tunnel, has been triggered in these instances.

To delay the statute of limitations on the first claim, the Department filed the complaint on September 26, 1978. Attempts at reaching settlement were thereafter made, but have been unsuccessful. On September 21, 1979, the complaint was amended to include all outstanding claims relating to the 45-day clause and then served upon LADWP. Both the original and amended complaints were thereafter served upon LADWP. LADWP has answered. The Department filed a motion for summary judgment, but the motion was denied. The case is still in the discovery phase.

Southern California Edison Company v. Los Angeles City Department of Water and Power, et al., filed October 18, 1979, Los Angeles County Superior Court No. C-301654, Injunctive Relief.

This suit was filed by Edison to compel LADWP to continue to meet its obligations to supply the Department of Water Resources (DWR) with power under the Suppliers Contract. The LADWP has claimed that, under the legal doctrine of commercial impracticability, it is entitled to be excused from this obligation. The LADWP gave notice to DWR that, unless DWR paid a higher price than that stated in the Suppliers Contract for such power, it would no longer provide DWR with service. After DWR refused to deviate from the terms of the Suppliers Contract, LADWP set October 21, 1979, as the date it would

terminate service. PGandE and San Diego Gas and Electric Company which, along with Edison and LADWP, are the suppliers under the Suppliers Contract, were also made parties to the lawsuit.

On October 18, 1979, Edison obtained a temporary restraining order (TRO) requiring LADWP to continue to supply power under the Suppliers Contract. On November 7, 1979, a preliminary injunction was issued, in place of the TRO, requiring LADWP to continue to supply power. The DWR filed its complaint in intervention on January 14, 1980. Answers to Edison's complaint and DWR's complaint in intervention have been filed. The case is still in the discovery stage.

Pacific Gas and Electric Company v. Los Angeles City Department of Water and Power, et al., filed October 12, 1979, San Francisco Superior Court No. 759086, Injunctive Relief.

This suit was filed by PGandE to compel LADWP to continue to meet its obligations to supply DWR with power under the Suppliers Contract or, in the alternative, to restrain DWR from taking more than eighty-five percent of the power it has scheduled under the Suppliers Contract. The LADWP has claimed that, under the legal doctrine of commercial impracticability, it is entitled to be excused from this obligation. The LADWP gave notice to DWR that, unless DWR paid a higher price than that stated in the Suppliers Contract for such power, it would no longer provide DWR with service. After DWR refused to deviate from the terms of the Suppliers Contract, LADWP set October 21., 1979, as the date it would terminate service. The Southern California Edison Company and San Diego Gas and Electric Company, which, along with PGandE and LADWP, are the suppliers under the Suppliers Contract, were also made parties to the lawsuit.

A hearing on PGandE's application for a temporary restraining order has been indefinitely postponed by PGandE pending the outcome of Southern California Edison Company v. LADWP, et al. (L.A. Sup.Ct. No. 301654, October 18, 1979).

CHAPTER III

FUTURE CONSTRUCTION COSTS, OPERATING COSTS AND PROJECT FINANCING

The water management plan recommended by the Department in Bulletin 76, "Delta Water Facilities", July 1978, was approved by the Legislature in 1980 with the passage of Senate Bill 200 (1980); however, a referendum on Senate Bill 200 (SB 200) has qualified for the ballot and will be voted on in June 1982.

SB 200 authorizes construction of the Peripheral Canal and related facilities in the Sacramento-San Joaquin Delta, requires agreements to ensure implementation of additional surface and ground water storage, and water conservation and reclamation programs, to meet water needs of the SWP through the year 2000. Construction of the Mid Valley Canal to reduce ground water overdraft in the east portion of San Joaquin Valley is authorized by SB 200, if the Canal is not constructed as part of the federal CVP. In addition, SB 200 authorizes unspecified transportation facilities for Alameda, Contra Costa, San Joaquin, San Francisco, and San Mateo counties. A more detailed description of SB 200 is included in Chapter I.

The financial analysis in this chapter includes the additional conservation facilities outlined in Bulletin 76 to the extent necessary to meet estimated water deliveries through year 2000. The analysis schedules adequate revenues to pay annual costs of operations and maintenance, and to meet all repayment obligations on funds used to finance project construction and other authorized costs. Prior to January 1, 1981, about $2.6 billion had been expended by the Department for SWP facilities, $2.5 billion for construction expenditures, and $0.1 billion for other capital requirements. These expenditures include the costs of planning, design, financing, relocations, land acquisition, and operations during the construction period of each facility.

Initial SWP facilities were completed in 1973, and construction continues in order to: complete staged construction of the aqueduct system, develop the remaining minimum SWP yield which will be used to satisfy future entitlement commitments, and construct sufficient SWP-owned power generating facilities to secure an economical and reliable power supply.

The Department's current assumptions indicate that capital requirements through the year 2000 for power and water facilities, the Davis-Grunsky Program, and special requirements for revenue bond financing will be about $7.9 billion at prices prevailing on January 1, 1981. Future escalation of costs will add another $3.7 billion for a total of $11.6 billion. This represents an increase of $1.5 billion from the $10.1 billion shown in Bulletin 132-80.

Changes in costs from those presented in last year's bulletin (except for an additional year of price increases that occurred during 1980) are discussed in the descriptions for individual line items later in this chapter.

The current financial analysis of the State Water Project is shown in Table 7 in two "spreads". Actual and projected capital expenditures and sources of financing are shown in Spread 1 and graphically in Figure 9. Actual and anticipated revenues and their application to pay SWP operating expenses and principal and interest on bonds, and to repay the California Water Fund, are shown in Spread 2 and graphically in Figure 10.

The estimated future costs of the facilities authorized by Senate Bill 200 are shown in Lines 4, 13, and 17 of Table 7. In addition to the construction cost of SB 200 facilities ($2.5 billion), these lines contain other capitalized costs.

Line 4 (Delta Facilities) includes approximately $35 million for the Delta Water Quality Program costs and general planning costs assigned to the Delta Facilities. Line 17 (Additional Conservation Facilities) includes (1) almost $80 million for "use charges" for non-SWP facilities required for the implementation of the ground water storage program, and (2) almost $190 million for the operating expenditures required for the initial filling of the ground water basins.

Excluded from the cost estimates for the financial analysis are the costs of the project-associated works which, although essential for realizing full project benefits, are financed and constructed by local and State agencies other than the Department. These works include onshore recreation developments at SWP facilities and local distribution facilities.

In addition to paying their allocated share of SWP costs, many long-term water contractors must finance the construction of the local distribution facilities needed to transport SWP water deliveries to local water users. It is currently estimated that the 30 long-term contractors will spend a total of $2.6 billion for such facilities. Total expenditures through 1980 are estimated at $1.1 billion. None of these costs are included in this analysis.

The Department's capital expenditures for the SWP also include requirements other than those for construction, such as:

- Disbursements under the Davis-Grunsky Program (see Line 24);
- Annual principal and interest payments for additional water conservation storage capacity (Cottonwood Creek Project) assumed to be constructed eventually by the federal government. The Department's water management plan stipulates that such additional storage will be required beginning in 1990 to satisfy SWP water delivery demands (see Line 25); and
- Special capital requirements under revenue bond financing (see Line 26).

The financial analysis is based on the assumption that when supplemental funding is needed for construction of future SWP facilities, the Department will sell sufficient revenue bonds to meet all needs for supplemental financing, as shown in Table 9A. (Supplemental financing refers to funds required in excess of (1) those on hand including proceeds remaining from issued revenue bonds; (2) those anticipated pursuant to current agreements and legislative enactments; and (3) authorized water bonds.) The analysis indicates a total need for supplemental financing of $4 billion, which includes $3 billion for construction expenditures and $1 billion for the special capital requirements of revenue bond financing. The analysis also assumes no change in the present statutory provisions regarding appropriation of State tideland oil and gas revenues with the exception of this year (1981). This year, the legislature appropriated $22.8 million, instead of $25 million, the amount authorized in the Public Resources Code.

Supplemental financing will be supplied by future sale of revenue bonds authorized by the Central Valley Project Act. Revenue to support the bonds will be provided by water contractor charges.

Future conditions undoubtedly will cause changes in the financial analysis. For this reason, basic assumptions are reviewed and the financial analysis is updated periodically. Notable contingencies that could change the financial analysis are:

- Deviation from the assumptions regarding SWP energy resources.

Figure 9: FINANCING OF CONSTRUCTION EXPENDITURES

For State Water Project Capital Requirements Thru 2000

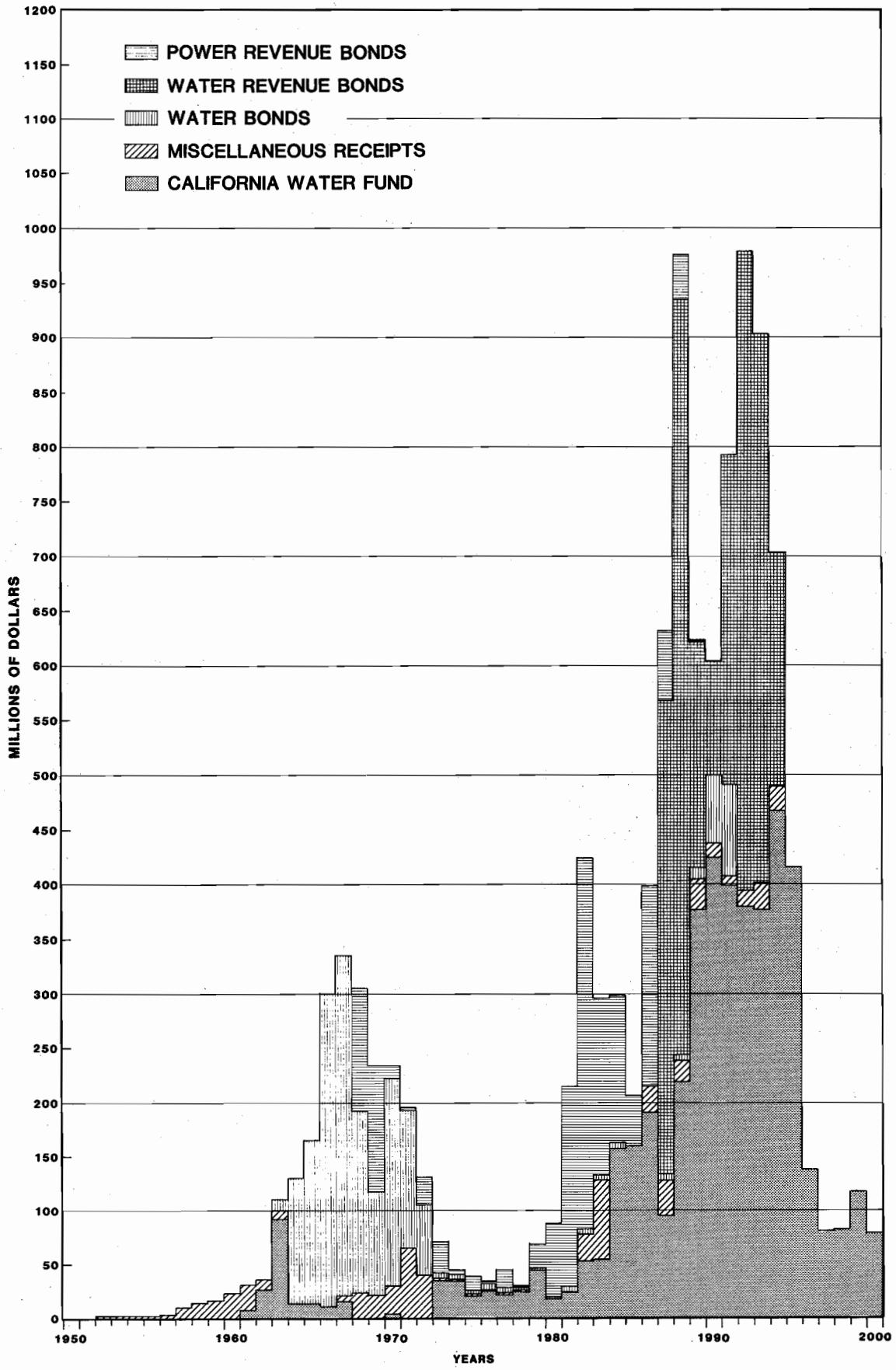


Figure 10: APPLICATION OF PROJECT OPERATING REVENUES

For State Water Project Capital Requirements Thru 2000

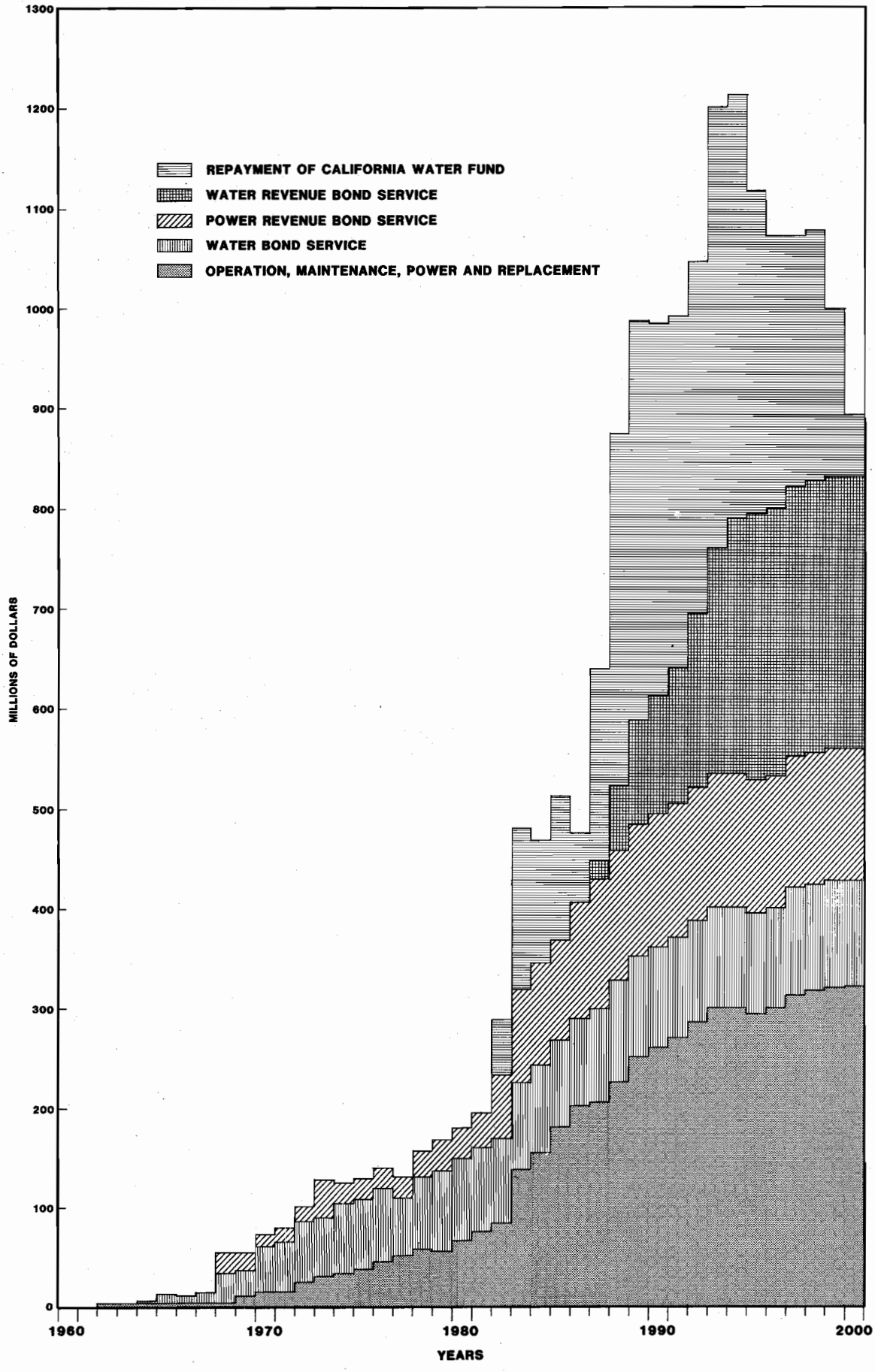


TABLE 7: PROJECT FINANCIAL

For State Water Project
(in thousands

LINE NO.	LINE ITEM	CALENDAR							
		1952-1980	1981	1982	1983	1984	1985	1986	1987
								CAPITAL	
	PROJECT CONSTRUCTION EXPENDITURES								
1.	Initial Project Facilities	2,180,176	0	0	0	0	0	0	0
2.	Abbey Bridge and Dixie Refuge Dams and Reservoirs	761	0	0	0	0	0	0	0
3.	Phase II North Bay Aqueduct	1,803	2,005	2,279	12,476	24,879	10,815	806	188
4.	Delta Facilities (including Suisun Marsh)	62,679	7,230	21,355	33,762	28,668	18,388	44,062	101,230
	California Aqueduct:								
5.	Final Four Units at Harvey O. Banks Delta Pumping Plant	886	70	389	992	2,859	6,450	11,899	9,222
6.	San Luis Canal Enlargement	959	2,500	5,000	2,264	800	820	5,700	10,400
7.	Final Three Units at A.D. Edmonston Pumping Plant	4,531	5,946	10,736	10,634	4,114	53	0	0
8.	Staged Units and Pipelines South of A.D. Edmonston	19,549	2,876	7,355	3,730	1,935	2,355	1,830	0
9.	Buttes Dam and Reservoir	56	0	0	0	0	81	1,445	2,871
10.	Final Three Units at Las Perillas and Badger Hill	769	122	0	0	0	0	0	0
11.	Peace Valley Pipeline and William E. Warne (Pyramid) Powerplant	70,067	29,716	13,679	2,588	32	0	0	0
12.	Phase II of the Coastal Branch	449	71	70	511	1,923	5,232	11,633	40,033
13.	Enlargement of California Aqueduct, Mojave Division	0	100	100	8,400	14,400	18,000	24,000	35,500
14.	General Costs	79,096	10,324	9,554	3,297	1,771	3,783	668	165
15.	SUBTOTAL, California Aqueduct	176,362	51,725	46,883	32,416	27,834	36,774	57,175	98,191
16.	Miscellaneous Project Costs	19,223	12,157	12,239	9,133	6,659	4,001	2,201	2,687
17.	Additional Conservation Facilities	8,486	0	0	10,820	11,424	19,200	45,762	112,247
18.	Small Hydroelectric Power Generating Facilities	6,089	8,805	29,559	27,904	24,626	13,157	11,005	5,880
19.	Power Generating Facilities	35,571	88,656	113,915	67,139	62,811	51,804	36,383	32,408
20.	San Joaquin Drainage Facilities	9,598	355	188	114	114	114	114	114
21.	SUBTOTAL, PROJECT CONSTRUCTION EXPENDITURES	2,500,748	170,933	226,418	193,764	187,015	154,253	197,508	352,945
22.	Cost Escalation Allowance	0	1,748	8,630	22,552	41,272	52,100	88,529	211,657
23.	TOTAL PROJECT CONSTRUCTION EXPENDITURES	2,500,748	172,681	235,048	216,316	228,287	206,353	286,037	564,602
	OTHER CAPITAL REQUIREMENTS								
24.	Davis-Grunsky Act Program	109,753	5,203	5,203	5,203	4,638	0	0	0
25.	Additional Conservation Facilities-Storage Payments	0	0	0	0	0	0	0	0
26.	Special Capital Requirements Under Revenue Bond Financing	60,650	36,588	185,436	74,417	65,505	0	111,254	67,270
27.	TOTAL OTHER CAPITAL REQUIREMENTS	170,403	41,791	190,639	79,620	70,143	0	111,254	67,270
28.	TOTAL CAPITAL REQUIREMENTS	2,671,151	212,009	425,687	295,936	298,430	206,353	397,291	631,872
								FINANCING OF	
29.	APPLICATION OF CALIFORNIA WATER FUND MONEYS	412,143	23,997	53,316	54,178	158,417	159,263	190,608	95,107
	APPLICATION OF PROCEEDS FROM SALE OF BONDS:								
30.	Oroville Revenue Bonds	244,995	0	0	0	0	0	0	0
31.	Devil Canyon-Castaic Revenue Bonds	120,565	18,600	0	0	0	0	0	0
32.	Pyramid Hydroelectric Power Revenue Bonds	42,460	38,070	15,270	0	0	0	0	0
33.	Reid Gardner Power Revenue Bond Anticipation Notes	0	128,602	21,398	0	0	0	0	0
34.	Supplemental Water Revenue Bonds	0	0	0	0	0	0	0	433,991
35.	Supplemental Power Revenue Bonds	0	0	305,319	162,500	135,375	47,090	183,621	63,335
36.	Water Bonds, Davis-Grunsky Program	109,753	5,203	5,203	5,203	4,638	0	0	0
37.	Water Bonds, Additional Conservation Facilities	8,486	0	0	0	0	0	0	5,851
38.	Water Bonds, Initial Project Facilities	1,443,758	0	0	0	0	0	0	0
39.	TOTAL, Application of Proceeds from Sale of Bonds	1,970,017	190,475	347,190	167,703	140,013	47,090	183,621	503,177
40.	APPLICATION OF MISCELLANEOUS RECEIPTS TO CONSTRUCTION	288,991	0	25,181	74,055	0	0	23,062	33,588
41.	TOTAL FINANCING OF CAPITAL REQUIREMENTS	2,671,151	212,009	425,687	295,936	298,430	206,353	397,291	631,872

a) Dashes indicate that the Department has not identified the facilities or the timing of construction after 2000.

ANALYSIS, DECEMBER 31, 1980

Capital Requirements Thru 2000
of dollars)

Spread 1 of 2

YEARS 1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	TOTAL 1952-2000	TOTAL 2001-2035	LINE NO.
EXPENDITURES															
0	0	0	0	0	0	0	0	0	0	0	0	0	2,180,176	0	1.
0	0	0	0	0	0	0	0	0	0	0	0	0	761	0	2.
60	18	4	0	0	0	0	0	0	0	0	0	0	55,333	0	3.
133,583	90,730	46,722	31,965	43,462	86,556	77,278	37,243	3,222	36	25	10	0	868,206	0	4.
2,483	0	0	0	0	0	0	0	0	0	0	0	0	35,250	0	5.
11,700	9,200	2,210	0	0	0	0	0	0	0	0	0	0	51,553	0	6.
0	0	0	0	0	0	0	0	0	0	0	0	0	36,014	0	7.
0	0	0	0	0	0	0	0	0	0	0	0	0	39,630	0	8.
8,761	10,784	1,645	28	16	6	4	4	0	0	0	0	0	25,701	0	9.
0	0	254	0	0	0	0	0	0	0	0	0	0	1,145	0	10.
0	0	0	0	0	0	0	0	0	0	0	0	0	116,082	0	11.
53,157	38,582	4,165	1,798	65	38	12	0	0	0	0	0	0	157,739	0	12.
42,100	15,000	3,400	0	0	0	0	0	0	0	0	0	0	161,000	0	13.
116	609	929	58	14	0	0	0	0	0	0	0	0	110,384	0	14.
118,317	74,175	12,603	1,884	95	44	16	4	0	0	0	0	0	734,498	0	15.
2,735	2,343	3,512	9,492	14,844	18,171	17,065	7,044	1,503	1,480	1,477	1,478	1,485	150,929	-[a]	16.
218,012	153,508	190,375	249,956	263,853	174,021	123,417	77,028	30,381	12,020	11,819	19,125	11,212	1,742,666	-	17.
30	0	0	0	0	0	0	0	0	0	0	0	0	127,055	-	18.
21,322	321	0	0	0	0	0	0	0	0	0	0	0	510,330	-	19.
114	114	57	0	0	0	0	0	0	0	0	0	0	10,996	-	20.
494,173	321,209	253,273	293,297	322,254	278,792	217,776	121,319	35,106	13,536	13,321	20,613	12,697	6,380,950	-	21.
374,396	267,649	272,270	390,566	503,962	486,417	392,123	233,165	41,641	6,791	7,538	36,044	5,453	3,444,503	-	22.
868,569	588,858	525,543	683,863	826,216	765,209	609,899	354,484	76,747	20,327	20,859	56,657	18,150	9,825,453	-	23.
0	0	0	0	0	0	0	0	0	0	0	0	0	130,000	0	24.
0	0	61,159	61,159	61,159	61,159	61,159	61,159	61,159	61,159	61,159	61,159	61,159	672,749	2,140,565	25.
107,317	32,064	15,973	47,075	90,637	78,010	32,922	0	0	0	0	0	0	1,005,118	-	26.
107,317	32,064	77,132	108,234	151,796	139,169	94,081	61,159	61,159	61,159	61,159	61,159	61,159	1,807,867	-	27.
975,886	620,922	602,675	792,097	978,012	904,378	703,980	415,643	137,906	81,486	82,018	117,816	79,309	11,633,320	-	28.
CAPITAL EXPENDITURES															
218,331	375,673	425,477	397,764	378,687	377,040	466,800	415,643	137,906	81,486	82,018	117,816	79,309	4,700,979	2,140,565	29.
0	0	0	0	0	0	0	0	0	0	0	0	0	244,995	0	30.
0	0	0	0	0	0	0	0	0	0	0	0	0	139,165	0	31.
0	0	0	0	0	0	0	0	0	0	0	0	0	95,800	0	32.
0	0	0	0	0	0	0	0	0	0	0	0	0	150,000	0	33.
692,354	205,975	103,946	301,826	584,425	502,938	214,980	0	0	0	0	0	0	3,040,435	-	34.
39,911	569	0	0	0	0	0	0	0	0	0	0	0	937,720	-	35.
0	0	0	0	0	0	0	0	0	0	0	0	0	130,000	0	36.
5,190	10,905	60,652	83,907	0	0	0	0	0	0	0	0	0	174,991	0	37.
0	0	0	0	0	0	0	0	0	0	0	0	0	1,443,758	0	38.
737,455	217,449	164,598	385,733	584,425	502,938	214,980	0	0	0	0	0	0	6,356,864	-	39.
20,100	27,800	12,600	8,600	14,900	24,400	22,200	0	0	0	0	0	0	575,477	0	40.
975,886	620,922	602,675	792,097	978,012	904,378	703,980	415,643	137,906	81,486	82,018	117,816	79,309	11,633,320	-	41.

TABLE 7: PROJECT FINANCIAL

For State Water Project

(in thousands

LINE NO.	LINE ITEM	CALENDAR 1952 1980	1981	1982	1983	1984	1985	1986	1987	1988
							MISCELLANEOUS RECEIPTS AND			
	MISCELLANEOUS RECEIPTS									
42.	Federal Payments for Project Capital Expenditures	76,981	64	0	0	0	0	0	0	0
43.	Appropriations for Capital Costs Allocated to Recreation	75,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
44.	Appropriations for Project Capital Expenditures	181,636	0	0	0	0	0	0	0	0
45.	City of Los Angeles Payments for Castaic Power Development	36,502	0	0	0	0	0	0	0	0
46.	Water Contractor Advances for Construction of Requested Works	71,944	49	129	85	24	42	0	0	0
47.	Investment Earnings on Unexpended Miscellaneous Receipts	98,602	10,100	8,300	4,800	2,400	3,100	2,900	15,100	22,800
48.	TOTAL MISCELLANEOUS RECEIPTS	540,665	15,213	13,429	9,885	7,424	8,142	7,900	20,100	27,800
	PROJECT OPERATING REVENUES									
49.	Payments under Oroville Power Sale Contract	190,187	16,150	16,150	36,088	22,858	23,051	23,051	23,051	23,051
50.	Payments under Devil Canyon-Castaic Contract	65,317	9,061	9,061	9,961	9,955	9,946	9,938	9,930	9,924
51.	Payments under Long Term Water Supply Contracts	1,097,148	175,262	186,736	373,957	373,776	427,297	418,682	574,515	809,914
52.	Federal Payments for Project Operating Costs	23,266	5,050	6,078	5,743	5,302	5,325	5,342	5,331	5,336
53.	Appropriations for Operating Costs Allocated to Recreation	16,657	2,109	2,401	3,814	4,161	3,563	3,879	3,866	4,039
54.	Payments under Davis-Grunsky Loan Repayment Contracts	3,654	1,072	1,218	1,694	1,879	1,902	1,962	1,984	1,960
55.	Miscellaneous Revenues	174,651	33,875	168,658	65,806	58,819	2,000	97,820	43,230	67,775
56.	TOTAL PROJECT OPERATING REVENUES	1,570,880	242,579	390,302	497,063	476,750	473,084	560,674	661,907	921,999
57.	TOTAL MISCELLANEOUS RECEIPTS & PROJECT OPERATING REVENUES	2,111,545	257,792	403,731	506,948	484,174	481,226	568,574	682,007	949,799
							APPLICATION OF MISCELLANEOUS RECEIPTS			
58.	CARRYOVER (+) AND APPLICATION (-) OF RECEIPTS AND REVENUES HELD TEMPORARILY IN RESERVE	106,433	42,529	-39,068	-64,170	7,424	-8,894	-15,162	-13,488	7,700
59.	PROJECT OPERATING COSTS	437,003	75,869	84,083	139,344	156,858	181,346	202,830	206,309	227,103
60.	DEPOSITS TO SPECIAL RESERVES *UNDER REVENUE BOND FINANCING*	69,860	18,506	128,327	14,777	3,699	-22,419	84,525	20,455	47,575
	PAYMENTS OF BOND SERVICE									
	Bonds Sold Through December 31, 1980									
61.	Interest Payments	1,112,338	94,443	93,383	92,249	90,989	89,615	88,174	86,656	85,050
62.	Principal Repayments	96,920	20,070	21,380	23,665	25,745	26,725	28,220	30,120	31,640
	ASSUMED FUTURE BOND SALES									
	Water Revenue and General Obligation Bonds									
63.	Interest Payments	0	0	574	1,147	1,147	1,147	1,147	26,668	81,616
64.	Principal Repayments	0	0	0	0	0	0	0	0	0
	Power Revenue Bonds									
65.	Interest Payments	0	6,375	34,377	63,521	70,814	70,592	81,296	91,673	90,992
66.	Principal Repayments	0	0	0	0	0	0	5,375	7,695	8,350
67.	TOTAL BOND INTEREST PAYMENTS	1,112,338	100,818	128,334	156,917	162,950	161,354	170,617	204,997	257,658
68.	TOTAL BOND PRINCIPAL REPAYMENTS	96,920	20,070	21,380	23,665	25,745	26,725	33,595	37,815	39,990
	REPAYMENT OF THE CALIFORNIA WATER FUND									
69.	Required for Construction	0	0	55,494	162,360	122,498	143,114	69,107	192,331	349,673
70.	Not Required for Construction	0	0	0	0	0	0	0	0	0
71.	APPLICATION OF MISCELLANEOUS RECEIPTS TO CONSTRUCTION	288,991	0	25,181	74,055	0	0	23,062	33,588	20,100
72.	SUBTOTAL, Repayment of Capital Financing	385,911	20,070	102,055	260,080	148,243	169,839	125,764	263,734	409,763
73.	RESERVATION FOR FUTURE CONSTRUCTION	0	0	0	0	0	0	0	0	0
74.	TOTAL APPLICATION OF MISCELLANEOUS RECEIPTS AND PROJECT OPERATING REVENUES	2,111,545	257,792	403,731	506,948	484,174	481,226	568,574	682,007	949,799

ANALYSIS, DECEMBER 31, 1980

Capital Requirements Thru 2000

of dollars)

Spread 2 of 2

YEARS												Total 1952-2000	Total 2001-2035	LINE NO.
1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000			
	EXPENDITURES													
0	0	0	0	0	0	0	0	0	0	0	0	77,045	0	42.
5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000	175,000	175,000	43.
0	0	0	0	0	0	0	0	0	0	0	0	181,636	0	44.
0	0	0	0	0	0	0	0	0	0	0	0	36,502	0	45.
0	0	0	0	0	0	0	0	0	0	0	0	72,273	0	46.
7,600	3,600	9,900	19,400	17,200	7,600	0	0	0	0	0	0	233,402	0	47.
12,600	8,600	14,900	24,400	22,200	12,600	5,000	5,000	5,000	5,000	5,000	5,000	775,858	175,000	48.
23,051	23,051	23,051	23,051	23,051	23,051	23,051	23,051	23,051	23,051	23,051	23,051	650,249	806,785	49.
9,912	9,906	9,895	9,893	9,870	9,857	9,847	9,834	9,820	9,803	9,798	9,813	261,341	222,183	50.
942,874	939,284	941,776	992,559	1,150,300	1,166,584	1,064,504	1,020,850	1,022,165	1,028,293	1,026,607	1,035,616	16,768,699	39,914,277	51.
5,365	5,382	5,387	5,392	5,394	5,412	5,427	5,451	5,690	5,735	5,765	5,815	132,988	215,668	52.
4,131	4,779	5,171	5,988	6,167	6,220	6,014	6,171	6,625	6,803	6,652	6,581	115,791	255,338	53.
2,012	1,977	1,970	1,895	1,898	1,903	1,901	1,904	1,901	1,905	1,903	1,906	40,400	34,193	54.
21,652	11,790	30,852	57,552	49,813	22,178	2,000	2,000	2,000	2,000	2,000	2,000	918,471	70,000	55.
1,008,997	996,169	1,018,102	1,096,330	1,246,493	1,235,205	1,112,744	1,069,261	1,071,252	1,077,590	1,075,776	1,084,782	18,887,939	41,518,444	56.
1,021,597	1,004,769	1,033,002	1,120,730	1,268,693	1,247,805	1,117,744	1,074,261	1,076,252	1,082,590	1,080,776	1,089,782	19,663,797	43,354,744	57.
	AND PROJECT OPERATING REVENUES													
-15,200	-4,000	6,300	9,500	-2,200	-9,600	-8,104	0	0	0	0	0	0	0	58.
252,273	261,425	270,938	286,788	300,584	300,805	294,608	300,638	314,471	317,510	321,744	323,205	5,255,734	17,201,982	59.
20,750	10,890	25,621	49,739	46,858	20,268	-1,910	-4,717	-3,898	-981	1,157	1,160	535,242	-535,242	60.
83,411	81,739	80,001	78,217	76,401	74,502	72,517	70,457	68,393	66,328	64,264	62,138	2,711,265	645,487	61.
33,275	34,805	36,075	37,320	39,295	41,230	42,735	44,370	44,480	44,995	46,380	48,170	797,615	1,252,345	62.
119,833	133,004	150,291	187,930	233,781	263,590	271,893	271,028	269,498	267,200	264,562	261,656	2,807,712	5,252,723	63.
0	0	0	2,855	6,390	7,920	9,090	11,300	24,790	29,280	32,780	35,570	159,975	3,060,460	64.
90,223	89,242	88,064	86,786	85,399	83,895	82,261	80,489	78,568	76,482	74,220	71,766	1,497,035	643,946	65.
9,755	13,300	14,425	15,655	16,985	18,425	19,995	21,690	23,535	25,535	27,710	30,060	258,490	829,230	66.
293,467	303,985	318,356	352,933	395,581	421,987	426,671	421,974	416,459	410,010	403,046	395,560	7,016,012	6,542,156	67.
43,030	48,105	50,500	55,830	62,670	67,575	71,820	77,360	92,805	99,810	106,870	113,800	1,216,080	5,142,035	68.
399,477	371,764	352,687	351,040	440,800	415,643	137,906	81,486	82,018	117,816	79,309	61,159	3,985,682	2,140,565	69.
0	0	0	0	0	8,927	183,649	192,520	169,397	133,425	9,229	18,150	715,297	0	70.
27,800	12,600	8,600	14,900	24,400	22,200	0	0	0	0	0	0	575,477	0	71.
470,307	432,469	411,787	421,770	527,870	514,345	393,375	351,366	344,220	351,051	195,408	193,109	6,492,536	7,282,600	72.
0	0	0	0	0	0	13,104	5,000	5,000	5,000	159,421	176,748	364,273	14,942,654	73.
1,021,597	1,004,769	1,033,002	1,120,730	1,268,693	1,247,805	1,117,744	1,074,261	1,076,252	1,082,590	1,080,776	1,089,782	19,663,797	43,354,744	74.

TABLE 8: PROJECT CAPITAL EXPENDITURES

For State Water Project Capital Requirements Through 2000 (d

(thousands of dollars)

FACILITIES AND CONSTRUCTION DIVISIONS	EXPENDITURES INCURRED THRU 1980	FUTURE EXPENDITURES	TOTAL	PRELIMINARY ALLOCATIONS AMONG PROJECT PURPOSES			
				Water Supply and Power Generation	Flood Control (a	Recreation and Fish and Wildlife Enhancement	Other (b
PROJECT CONSTRUCTION EXPENDITURES							
Upper Feather Division	14,860	382	15,242	1,297	0	13,945	0
Oroville Division	533,244	5,991	539,235	456,125	70,600	12,510	0
North Bay Aqueduct	5,770	64,740	70,510	70,510	0	0	0
Delta Facilities	62,679	1,647,653	1,710,332	1,342,494	0	218,775	149,063
South Bay Aqueduct	70,688	250	70,938	48,925	7,649	14,341	23
California Aqueduct:							
North San Joaquin Division	159,295	55,900	215,195	207,260	0	7,935	0
San Luis Division	178,136	77,454	255,590	242,153	0	13,228	209
South San Joaquin Division	267,278	1,546	268,824	253,573	0	15,251	0
Tehachapi Division	269,578	49,335	318,913	300,744	0	18,169	0
Mojave Division (c	223,236	328,516	551,752	537,544	0	14,208	0
Santa Ana Division	191,272	945	192,217	175,444	0	16,773	0
West Branch	444,264	68,227	512,491	480,094	0	31,826	571
Coastal Branch	16,248	252,041	268,289	268,184	0	0	105
SUBTOTAL, CALIFORNIA AQUEDUCT	1,749,307	833,964	2,583,271	2,464,996	0	117,390	885
Additional Conservation Facilities (a	0	6,770,490	6,770,490	6,605,452	0	165,038	0
Small Hydroelectric Power Generating Facilities	6,089	137,156	143,245	130,296	0	12,949	0
Off-Aqueduct Power Generating Facilities	35,571	575,394	610,965	610,965	0	0	0
San Joaquin Drainage Facilities	9,598	1,852	11,450	0	0	0	11,450
Planning and Preoperations (e	8,486	92,743	101,229	98,908	0	0	2,321
Unassigned	4,456	7,404	11,860	924	0	0	10,936
SUBTOTAL, PROJECT CONSTRUCTION EXPENDITURES	2,500,748	10,138,019	12,638,767	11,830,892	78,249	554,948	174,678
OTHER CAPITAL REQUIREMENTS							
Davis-Grunsky Act Program	109,753	20,247	130,000	0	0	0	130,000
TOTAL	2,610,501	10,158,266	12,768,767	11,830,892	78,249	554,948	304,678

a) *Reflects Department's allocation to this purpose, irrespective of federal payments.*
b) *Includes costs currently unassigned to purpose, planning costs of deleted features of project facilities, initial costs of inventoried items, joint costs assigned to the Federal Government, and cost assigned to the Davis-Grunsky Act Program.*
c) *Includes expenditures for East Branch enlargement.*
d) *Includes future storage payments for Cottonwood Creek Project through year 2035.*
e) *Includes planning and preoperation expenses allocated to conservation facilities.*

- Deviation of actual rates of future construction price inflation from those currently assumed for cost estimates.
- Rescheduling of currently planned construction for future facilities.
- Development of alternative sources of water not foreseen at this time.
- Extension of SWP facilities to serve Desert Water Agency, Coachella Valley County Water District, and San Gorgonio Pass Water Agency.
- Changes in contractors' entitlements due to changing needs.
- Increases or decreases in planned water conservation and reclamation.
- Inability of the Department to market sufficient revenue bonds.
- Changes in the statutory limits on bond interest rates and discounts.
- The outcome of certain lawsuits now pending before the courts (see Chapter II).

Project Construction Expenditures

Actual and projected construction expenditures for each division of the SWP are shown in Table 8, together with a preliminary allocation of such expenditures among SWP purposes. A generalized construction schedule for current and future contracts is shown in Figure 11.

Described in the following sections are the Department's current assumptions concerning the costs of each facility of the future construction program through year 2000, as shown in Table 7. As to any project not yet constructed, a decision to proceed will be made only after examination of all alternatives and completion of a final environmental impact report and other review processes.

Lines 1 through 21 show costs based on prices and salaries prevailing on December 31, 1980. The portion of cost attributed to escalation is shown in Line 22.

Line 1: Initial Project Facilities.

Facilities included in the initial construction program are those that were completed in 1973 (see Chapter II, Bulletin 132-74). Additional costs after 1973 and estimated costs of remaining work on the initial SWP facilities are included in Lines 14 and 16, "California Aqueduct, General Costs" and "Miscellaneous Project Costs".

Line 2: Abbey Bridge and Dixie Refuge Dams and Reservoirs.

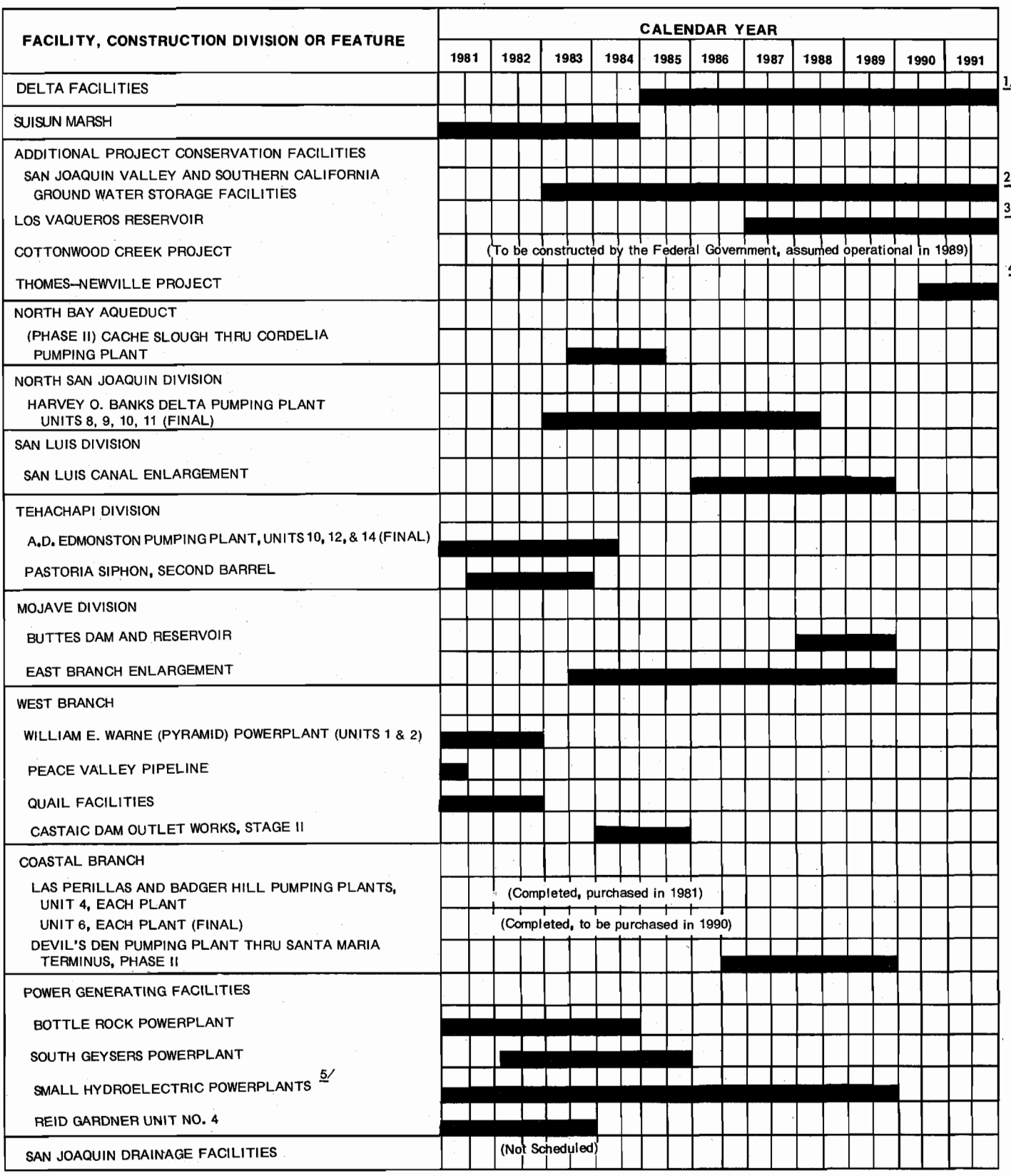
The Department continues to assume that Abbey Bridge and Dixie Refuge Dams and Reservoirs will be postponed indefinitely until there is local support and demonstrated need for these facilities.

Line 3: Phase II of the North Bay Aqueduct.

The North Bay Aqueduct consists of pipelines, pumping plants, and a small reservoir necessary to divert water from the Western Delta to Napa and Solano Counties for domestic and municipal use. The facilities begin in the Western Delta and extend approximately 45 kilometres (28 miles) to the terminus at Napa.

Phase I, completed in 1969 with deliveries commencing in 1968, consists of interim facilities that deliver water from the USBR terminal reservoir for the Solano Project to Cordelia Surge Tank, and a permanent pipeline from Cordelia Surge Tank to Napa Reservoir. Phase II will consist of facilities to deliver water from the Western Delta to Cordelia

Figure 11: GENERALIZED CONSTRUCTION SCHEDULE



1/ Assumed to extend thru 1995.

2/ Assumed to extend thru 2000.

3/ Assumed to extend thru 1993.

4/ Assumed to extend thru 1996.

5/ See Chapter II, Power Contract Management, for more detailed construction schedule of small hydroelectric projects.

Surge Tank and intermediate points. Phase II is assumed to be operational in 1985. This is due to a one-year delay in the EIR/EIS process. The Solano and Napa County Flood Control and Water Conservation Districts and the Department are continuing discussions regarding the construction of Phase II. (See Chapter I: "Future Construction of the North Bay Aqueduct".)

The estimated costs for Phase II of the North Bay Aqueduct differ from those shown in Bulletin 132-80, because they are based on an aqueduct alignment more representative of those in the draft EIR.

Line 4: Delta Facilities and Suisun Marsh Facilities.

Line 4 includes costs for general Delta facilities, Peripheral Canal, Western Delta overland facilities, and Suisun Marsh facilities.

Delta facilities are necessary to (1) correct and protect environmental conditions in the Delta, (2) facilitate water management, (3) convey water across the Sacramento-San Joaquin Delta to the aqueducts of the State Water Project and the Central Valley Project, and (4) protect the quality of local and export needs.

General Delta facility costs include water quality monitoring, planning, and studies performed to meet the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

The Department has recommended the Peripheral Canal as the Delta transfer facility. The expenditures shown assume that Stage 1 would be operational in 1990 and that Stages 2 and 3 would be operational in 1995. As previously stated, the Peripheral Canal is an authorized SB 200 (1980) facility, but is subject to the referendum to be voted on in June 1982. The schedule of operations for the Peripheral Canal is based on the assumption that a decision to proceed with the Peripheral Canal will be made by the end of 1982.

Western Delta overland facilities are also shown in Line 4 and are authorized by SB 200.

The Suisun Marsh facilities, also authorized by SB 200, are necessary to facilitate maintenance of brackish marsh lands in and on the north shores of Suisun, Honker, and Grizzly Bays, and are required under Condition 7(c) of SWRCB D-1485. The overall facilities will help mitigate the adverse effects of the SWP and CVP caused by reduced outflow. The initial facilities provide water from Montezuma and Cordelia Sloughs in lieu of bay water used by many of the managed wetlands in southerly portions of the marsh.

The Suisun Marsh facilities under construction are essentially as proposed by the four agencies involved in the San Francisco Bay and Sacramento-San Joaquin estuary ecological study program. The four agencies involved are the California Departments of Water Resources and Fish and Game, the U. S. Fish and Wildlife Service, and the U. S. Bureau of Reclamation.

Costs shown in this bulletin differ from last year's bulletin for the following reasons:

1) Costs for South Delta water quality improvement facilities and relocation of the Contra Costa Canal intake this year are included in Line 16 ("Miscellaneous Project Costs"), since it is assumed that costs of these facilities will be repaid by the beneficiaries of the facilities.

2) An increase in costs for the Suisun Marsh facilities reflects a best estimate at the time capital costs were developed for this bulletin. The Suisun Marsh overall facilities

are still in the planning stage and costs for this project could change significantly in the future.

Line 5: California Aqueduct, Final Four Units at Harvey O. Banks Delta Pumping Plant

Design for the final four units of the Harvey O. Banks Delta Pumping Plant began in 1974. The first two of the 30.2 cubic-metre-per-second (1,067-cubic-foot-per-second) units are scheduled to be operational in 1987 and the last two in 1988. The U. S. Corps of Engineers has agreed that a permit pursuant to Section 10 of the Rivers and Harbors Act will not be required for expansion of the pumping plant, provided that historical diversion rates are not exceeded.

Line 6: California Aqueduct, San Luis Canal Enlargement.

This enlargement is required to maintain and augment the present conveyance capacity between Dos Amigos Pumping Plant and Kettleman City. The capacity of the San Luis Canal will be increased by 28.3 cubic metres per second (1000 cfs), with a scheduled operational date of 1990. Damage caused during the floods of 1978 indicate that additional flood protection facilities are also necessary. Subsidence correction work will be performed by U. S. Bureau of Reclamation.

The costs included in Line 6 represent about $10.2 million (State share) between 1980 and 1983 for the subsidence work and about $41.4 million between 1983 and the operational date of 1990 for increased conveyance capacity.

Line 7: California Aqueduct, Final Three Units at A.D. Edmonston (Tehachapi) Pumping Plant.

The current schedule for these 8.9-cubic-metre-per-second (315-cubic-foot-per-second) units is for the first to be operational in 1983 and the two final units in 1984.

Line 8: California Aqueduct, Staged Units and Pipelines South of A.D. Edmonston (Tehachapi) Pumping Plant.

Additional capacity will be installed as needed to convey increasing SWP water deliveries through this portion of the aqueduct. Included is the second barrel of Pastoria Siphon (to be completed in 1983) and Castaic Dam Outlet Works, Second Stage (to be completed in 1986).

Line 9: California Aqueduct, Buttes Dam and Reservoir.

The assumptions are that this off-aqueduct reservoir will be operational by 1990; its purpose is to regulate SWP water deliveries to Antelope Valley-East Kern Water Agency. Under the Agency's water supply contract, construction of the facility by the State is conditioned on engineering and financial feasibility.

Line 10: California Aqueduct, Final Three Units at Las Perillas and Badger Hill Pumping Plants.

These 3.2-cubic-metre-per-second (112-cubic-foot-per-second) units were installed by the Berrenda Mesa Water District in 1971, at the District's expense, under special agreement with the Department. Units No. 5 and the second discharge line at Badger Hill were purchased, at depreciated value, in January 1977. The Department purchased Units No. 4 at a depreciated value in 1981, and plans to purchase Units No. 6 at a depreciated value in 1990 from Berrenda Mesa Water District. This differs from the assumption last year that the Department would replace Units No. 4 by January 1988 and purchase Units No. 6 at a depreciated value in 1987.

Line 11: California Aqueduct, Peace Valley Pipeline and William E. Warne (Pyramid) Powerplant.

The first stage of the pipeline and power plant complex are scheduled to be operational in 1982. A portion of these costs allocable to power generation ($75.0 million) is being financed by the Pyramid Hydroelectric Project Revenue Bonds issued in October 1979. The Pyramid Hydroelectric Project consists of the portion of facilities allocable to power generation and transmission of the first stage of William E. Warne Powerplant and Quail Lake, including Lower Quail Canal and the first stage of the Peace Valley Pipeline. William E. Warne Powerplant is designed for four 37.5 MW generating units and a total capacity of 150 MW. The first stage of the powerplant encompasses two of the four units and is capable of producing about 600 million kilowatthours annually when water deliveries reach design capacity.

Line 12: California Aqueduct, Phase II of the Coastal Branch.

Phase II construction of the Coastal Branch consists of Devil's Den, Polonio, and Sawtooth Pumping Plants; San Luis Obispo Powerplant and water conveyance facilities from the end of Coastal Branch, Phase I (site of Devil's Den Pumping Plant) through the above mentioned pumping plants to the Santa Maria Terminus. Phase II will provide water service to San Luis Obispo and Santa Barbara County Flood Control and Water Conservation Districts.

For purposes of this analysis, Phase II is assumed to be operational in 1990. The construction of this facility depends on the election of options available to the two contractors, and it appears the facility may not be built to the size assumed herein. (See Chapter I, "Future Construction of the Coastal Branch, California Aqueduct" for further discussion.)

Line 13: Enlargement of the California Aqueduct, Mojave Division.

One of the provisions of Senate Bill 200 (1980) is to enlarge the California Aqueduct between the Cottonwood Powerplant and Devil Canyon Powerplant Afterbay, exclusive of the San Bernardino Tunnel. This is to provide enough capacity to transport both increased amounts of entitlement water for The Metropolitan Water District of Southern California, for ground water storage in Southern California ground water basins, and for possible Colorado River banking programs. The analysis assumes the enlargement will be completed in 1990; however, the operation studies which determined projected energy requirements for this analysis do not reflect this potential enlargement.

Line 14: California Aqueduct, General Costs.

These expenditures cover such items as general design and construction costs, completion of operation and maintenance facilities, and other completion activities for the initial facilities of the California Aqueduct. Portions of these costs would be allocated to the aqueduct units described in the preceding paragraphs.

Line 15: Subtotal, California Aqueduct.

The total of Lines 5 through 14.

Line 16: Miscellaneous Project Costs.

These expenditures cover such items as the completion of monitor and control systems and other completion activities for SWP facilities other than the California Aqueduct.

Also included in Line 16 are the relocation of the Contra Costa Canal intake and the South Delta water quality improvement facilities. It is assumed that costs for these two facilities will be repaid by the beneficiaries of the facilities.

Line 17: Additional Conservation Facilities.

The increasing water delivery commitments are rapidly approaching the dependable water supply provided by Lake Oroville and San Luis Reservoir. As discussed in Chapter I, SB 200 has authorized the construction of specific conservation facilities to meet projected water needs to year 2000. Line 17 includes construction and capitalized costs for ground water storage operations, Los Vaqueros Reservoir, Thomes-Newville Reservoir, and future water supply planning costs. Firm yield from these facilities and the federal Cottonwood Creek Project (Line 25) would provide storage sufficient to meet projected demands of about 4.1 million dam^3 (3.3 million acre-feet) in the year 2000.

In order to provide the 5.22 million dam^3 (4.23 million acre-feet) of maximum annual entitlements under contract, additional conservation facilities must be constructed to develop the remaining 1 110 000 dam^3 (900,000 acre-feet) of firm yield. However, at the present time the Department has not determined the facilities or the timing of their construction to meet the demand after 2000.

Line 17 also reflects an increase in Los Vaqueros Reservoir costs from those in Bulletin 132-80, because of an increase in estimated storage capacity from 1 171 000 dam^3 (950,000 acre-feet) to 1 313 000 dam^3 (1,065,000 acre-feet), and an increase in estimated yield from 210 000 dam^3 (170,000 acre-feet) to 253 000 dam^3 (205,000 acre-feet).

Although Line 17 includes no increase in unescalated construction costs for the ground water program from those shown in Bulletin 132-80, the escalated construction costs this year are lower than those shown in 132-80, because the latter covered years 1982 through 1999, whereas the escalated costs shown in this bulletin cover 1983 through 1992.

Line 18: Small Hydroelectric Power Generating Facilities.

Expenditures included in Line 18 are for the costs of the small hydroelectric powerplants described in the "Long Range Energy Program" section in Chapter I.

Line 19: Power Generation Facilities

Power generating facilities' costs in Line 19 include the Reid Gardner coal-fired powerplant; Bottle Rock, South Geysers, Binkley, and South Brawley geothermal plants; and Pine Flat transmission line.

Line 20: San Joaquin Drainage Facilities.

Included are the costs of (1) securing commitments for repayment from local agencies, (2) assuring that local waste disposal plans are compatible with the recommended Plan of the Interagency Drainage Program, and (3) monitoring and reporting the quality and quantity of agricultural waste waters in the San Joaquin Valley.

Line 21: Subtotal: Project Construction Expenditures.

The total of Lines 1 through 20.

Line 22: Cost Escalation Allowance.

Estimates of future construction expenditures shown in Lines 1 through 20 are based on prices and salaries prevailing on December 31, 1980. The amounts in Line 22 are the estimated cost increases that could be expected to occur due to escalation. The following assumed percentages per annum were applied to allow

for escalation for the years 1981 through 2000: 7 percent for state salaries, 9 percent for construction prices, and 10 percent for land acquisition costs.

Line 23: Total Project Construction Expenditures.

The total of Lines 21 and 22.

Other Capital Requirements

Line 24: Davis-Grunsky Act Program.

This State financial assistance program for water developments constructed by local public agencies is associated with the SWP to the extent of $130 million in capital expenditures. Such expenditures include disbursements under approved loans and grants and the Department's administrative costs incurred while the respective developments are under construction. (Administrative costs following construction are funded by project revenues.)

As of December 31, 1980, the Department and the California Water Commission had approved more than $106.9 million in grants and loans for 90 local agencies located throughout the State as indicated on Figure 12.

Of the total approved applications, over $44.9 million (42 percent) were for loans and the remaining $62.0 million (58 percent) were for grants. The Department estimates that funds presently authorized for the program would be disbursed by 1984.

Line 25: Additional Conservation Facilities-Storage Payments.

In addition to the additional conservation facilities construction shown in Line 17, the Department assumes the State will purchase water storage rights in the future federal Cottonwood Creek Project. The storage rights would be purchased under a federal Water Supply Act of 1958 contract, in which annual payments of principal and interest would be made to the federal government. Line 25 is an estimate of the annual payments through year 2035. According to a new report by the U. S. Corps of Engineers, the estimated capital costs of the Cottonwood Creek Project are lower than those shown in Bulletin 132-80.

Line 26: Special Capital Requirements Under Revenue Bond Financing.

The authority under which revenue bonds are sold provide that proceeds may also fund interest and operation of the financed facilities through one year following completion of construction.

The analysis assumes that power facility revenue bond proceeds will pay bond interest during the construction period and for one year following construction completion, and operating costs for one year following construction completion. These proceeds are also included in Line 55 as a Miscellaneous Revenue. The revenue bonds for facilities other than power generating facilities (hereafter termed water revenue bonds) include proceeds for one year's bond interest and the first year's operating costs. Application of proceeds to these special requirements for actual and assumed revenue bond sales is as follows:

Application of Revenue Bond Proceeds	Oroville (actual)	Devil Canyon-Castaic (actual)	Pyramid (actual)	Supplemental Water (Assumed)	Supplemental Power (Assumed) 1/
	(in millions)				
Construction Expenditures	$218.0	$127.1	$ 74.0	$2,569.2	$ 651.1
Plus, Other capital requirements:					
Reimbursment of General Fund	$ 2.6	$ 0.0	$ 0.0	$ 0.0	0.0
Bond interest for one year following completion of construction	$ 19.9	$ 10.0	$ 19.2	$ 258.4	335.9
Operating costs for one year following completion of construction	$ 1.5	$ 0.7	$ 1.0	$ 30.4	50.4
Bond discount	$ 3.0	$ 1.4	$ 1.6	$ 182.4	50.3
SUBTOTAL	$ 27.0	$ 12.1	$ 21.8	$ 471.2	$ 436.6
TOTAL, Principal amount of bonds	$245.0	$139.2	$ 95.8	$3,040.4	1,087.7

1/ Includes Reid Gardner bond anticipation notes.

Line 27: Total Other Capital Requirements.

The total of Lines 24, 25 and 26.

Line 28: Total Capital Requirements.

The total of Lines 23 and 27.

Financing of Capital Expenditures

Three general types of financing have been used for the SWP:

° Burns-Porter financing, derived from the sale of California Water Resources Development Bonds (Water Bonds) and the State's tideland oil and gas revenues that are deposited in the California Water Fund as authorized by the Burns-Porter Act (California Water Code Sections 12930- 12944), approved by the electorate in November 1960.

° Revenue Bond Financing, derived from the sale of revenue bonds as authorized by the Central Valley Project Act (California Water Code Sections 11100-11925). The Department's authority to issue revenue bonds was confirmed by a decision of the Supreme Court of California in 1963 (Warne v. Harkness 60 Cal., 2d 579).

° Miscellaneous Receipts, derived from payments and appropriations (including tideland oil and gas revenues) as authorized by a variety of special contracts, cost-sharing agreements, and legislative actions concerning the State Water Project.

To date, Water Bonds have financed most of the construction costs of the Project. The Burns-Porter Act authorized an issue of $1.75 billion of general obligation bonds of the State, which are made self-supporting by revenues received under the water supply contracts. This authorization includes a reservation of $130 million specifically for the Davis-Grunsky Act Program. Proceeds from the sale of Water Bonds are deposited in the California Water Resources Development Bond Fund-Bond Proceeds Account, from which monies may be expended only for the construction of SWP facilities and for the Davis-Grunsky Act Program.

Monies deposited in the California Water Fund are appropriated for purposes of the Burns-Porter Act. Such deposits are derived from a portion of the State's tideland oil and gas revenues under a continuing authorization. In the past, the Legislature has acted both to decrease and increase the level of deposits to the Fund. Monies may be expended from the Fund only for the construction of SWP facilities.

About $480 million of revenue bonds had been sold by the Department as of December 31, 1980. (Note: On June 30, 1981 the Department sold $150,000,000 of revenue bond anticipation notes for the Reid Gardner Project.)

Future issues of revenue bonds are planned to supplement SWP financing. Proceeds from the sale of revenue bonds are deposited in the Central Valley Water Project Construction Fund, from which money is expended only for purposes specified in the resolution authorizing such sale. These purposes, in addition to construction, planning, and right of way costs, may include the payment of (1) bond interest during the construction period, and for one year following completion of construction and (2) operating costs for one year after completion of construction.

Miscellaneous receipts are deposited in the Central Valley Water Project Construction Fund and may be expended for (1) Water Bond interest and (2) construction of SWP facilities. Under the Department's financial management, miscellaneous receipts are first used to the extent needed for coverage of any Water Bond interest which exceeds available Burns-Porter Act second priority revenues.

The financing of capital expenditures is described in Lines 29 through 40:

Line 29: Application of California Water Fund Monies.

The Burns-Porter Act provides that any available money in the California Water Fund shall be used for construction in lieu of proceeds from the sale of Water Bonds. When the Act became effective in late 1960, approximately $97 million had been accumulated in the Fund. This balance and continuing annual appropriations to the Fund through June 28, 1968, financed a total of $176 million of project construction costs. On June 28, 1968, SB 261 became effective (California Statutes of 1968, Chapter 411), which transferred the remaining balance to the Central Valley Water Project Construction Fund and deferred accruals to the California Water Fund until July 1, 1972. Since the latter date, appropriations again have been deposited in the California Water Fund in annual amounts of $25 million. For 1981, the Legislature reduced the appropriation to $22,789,800.

However, the Department expects that appropriations to the Fund will continue hereafter in the full annual amounts

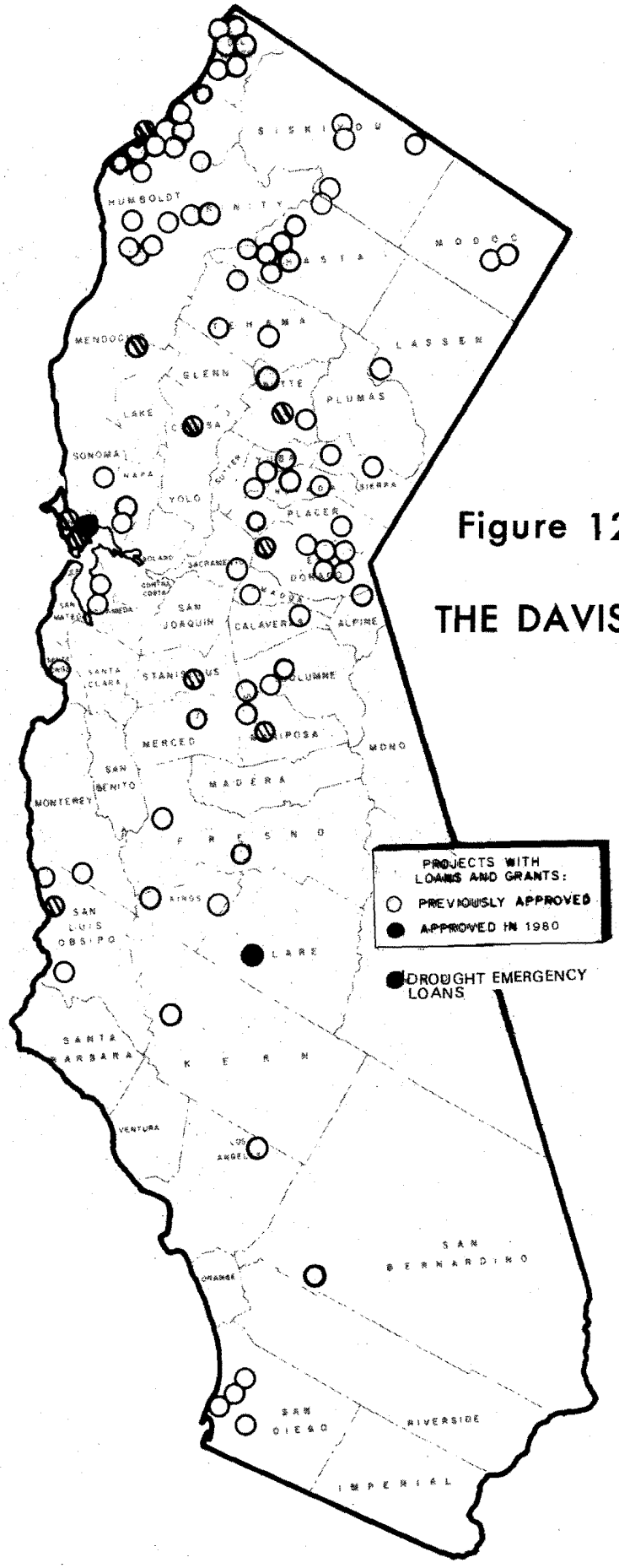


Figure 12: LOCAL PROJECTS UNDER THE DAVIS-GRUNSKY ACT PROGRAM

provided for by law. The Department also expects that repayments to the California Water Fund, to be derived from SWP revenues in excess of operating costs and Water Bond debt service, would be available for financing future capital expenditures (see Line 69) -- particularly, the long-range costs of additional conservation facilities and San Joaquin Drainage Facilities.

The financial analysis indicates that full annual appropriations of tideland revenues to the California Water Fund (and short-term interest earnings thereon, amounting to an estimated $1.0 million annually) would be required for financing construction expenditures through 1994. Commencing in 1982, annual repayments to the Fund (see Line 69, Spread 2), would supplement annual appropriations. After 1994, all future financing could be provided by such repayments.

Finally, it is emphasized that the projected use of the California Water Fund is based on current estimates and assumptions as to the timing and magnitude of future capital costs. Such costs could change significantly with future events, especially in regard to the nature and timing of additional conservation facilities required to develop the additional 1 110 000 cubic dekametres (900,000 acre-feet) of yield (see Line 17) and San Joaquin Drainage Facilities.

Line 30: Application of Proceeds From Sale of Oroville Revenue Bonds.

All proceeds from sale of Oroville Revenue Bonds in April 1968 (Series A) and in April 1969 (Series B) had been applied as of December 31, 1973.

Line 31: Application of Proceeds from Sale of Devil Canyon-Castaic Revenue Bonds.

Construction funds provided by the sale of Devil Canyon-Castaic Revenue Bonds, in August 1972, included (1) $98.9 million which reimbursed other project funds used to finance construction of the Devil Canyon and Castaic Facilities prior to the delivery of the bonds; and (2) $28.2 million which was reserved to complete construction of the Facilities. Shown in Line 31 is the projected use of the remaining reimbursement funds ($16.1 million) and the transfer to the trustee of $2.5 million which was not required for the completion of the Devil Canyon-Castaic Facilities. The bond resolution requires these unexpended bond proceeds be transferred to the state treasurer.

Line 32: Application of Proceeds From Sale of Pyramid Hydroelectric Project Revenue Bonds.

Revenue bonds were sold in October 1979 for the construction of the portion of the Pyramid Power Plant and related facilities allocated to power. The construction proceeds provided (1) $31.8 million which reimbursed other project funds used to finance construction of these facilities prior to delivery of the bonds; and (2) $42.2 million which was is reserved to complete construction of the Pyramid facilities. The remaining proceeds are used for other requirements as stated in Line 26. Line 32 shows the assumed expenditure of these bond proceeds.

Line 33: Application of Proceeds From Sale of Reid Gardner Power Revenue Bond Anticipation Notes

Since the latter part of 1980, the Department has been unable to sell revenue bonds because the prevailing bond market interest rates have been above the statutory limit. To obtain financing for the Department's share of the Reid Gardner Project, revenue bond anticipation notes for $150,000,000 were sold on June 30, 1981. These 3-year notes will be redeemed from long-term bonds sold to complete financing of the Reid Gardner Project. The bonds will be sold when bond market conditions allow the Department to sell revenue bonds.

Line 34: Application of Proceeds From Sale of Supplemental Water Revenue Bonds.

Future water revenue bond issues are assumed to provide about $3.0 billion for application to the construction expenditures and other special capital requirements under revenue bond financing. This is, in effect, the supplemental amount necessary to complete the State Water Project as now contemplated. Future developments could reduce or increase this amount. It should also be noted that the assumptions regarding staging of the additional conservation facilities and cost escalation can have a significant effect on the need for supplemental water revenue bonds.

Line 35: Application of Proceeds From Sale of Supplemental Power Revenue Bonds.

Future power revenue bond issues, along with the Reid Gardner notes, are assumed to provide $1.1 billion for construction of power generating facilities and other special capital requirements (interest during construction and one year of operating cost) under revenue bond financing.
Supplemental power revenue bonds were sold for Reid Gardner, Cottonwood, Bottle Rock, South Geysers, and Binkley power plants, and for the three hydroelectric generating power plants--Mojave Siphon, Thermalito Diversion, and Thermalito Afterbay. Other future generating facilities are adequately financed from other sources; therefore, no additional supplemental power bonds were necessary.

Line 36: Application of Proceeds From Sale of Water Bonds, Davis-Grunsky Act Program.

For simplification, the $130 million of capital expenditures authorized for the Davis-Grunsky Act Program under the Burns-Porter Act are shown to be funded solely by proceeds from the sale of Water Bonds. Actually, $28.0 million of the California Water Fund was used for the Program in lieu of bond proceeds prior to 1969. This simplification does not in any way affect the validity of the analysis.

Line 37: Application of Proceeds From Sale of Water Bonds, Additional Conservation Facilities.

The Burns-Porter Act provides that to the extent California Water Fund monies are expended, an equal amount of Water Bonds is reserved ("offset") for financing the construction of certain additional conservation facilities in certain watersheds.

In mid-1972, the maximum reservation of "offset" bonds was effectively limited to $176 million -- the total amount of California Water Fund monies which had been expended up to that time. By mid-1972, all remaining Water Bond proceeds from the Burns-Porter authorization had either been "offset" or reserved for the Davis-Grunsky Act Program.

Approximately $8.5 million of the "offset" bonds have been used to finance planning studies of the Eel River Development. In the analysis, the offset bonds are assumed for the construction of Thomes-Newville Reservoir.

Line 38: Application of Proceeds From Sale of Water Bonds, Initial Project Facilities.

Financing of initial facilities from water bonds was completed in mid-1972, and amounted to $1.444 billion -- i.e., the total of $1.75 billion Burns-Porter authorization less $130 million reserved for the Davis-Grunsky Program and $176 million "offset" for additional conservation facilities.

Line 39: Total Application of Proceeds From Sale of Bonds.

The total of Lines 30 through 38. See

Table 9 and 9A for a summary of actual and projected bond sales.

Line 40: Application of Miscellaneous Receipts to Construction.

This line matches Line 71 and illustrates the use of Miscellaneous Receipts for capital expenditures.

Line 41: Total Financing of Capital Requirements.

This line -- the total of Lines 29, 39 and 40 -- matches Line 28 and confirms that all estimated capital expenditures would be funded under the analysis.

Miscellaneous Receipts

Sources of Miscellaneous Receipts are described in the following paragraphs:

Line 42: Federal Payments for SWP Capital Expenditures.

The federal share of the State's capital expenditures includes payments for (1) "open-space" grants at certain project reservoirs, (2) costs of Lakes Oroville and Del Valle allocated to flood control under existing agreements, and under current expectations.

About $1.6 million in federal payments has been received for acquisition costs of project and recreation lands reserved for open space at Lakes Perris and Del Valle, Castaic and Silverwood Lakes. The final payment for "open space" was received in 1975.

Federal payments received through December 31, 1980 for project costs allocated to flood control totalled $75.4 million -- $70.0 million for Lake Oroville and $5.4 million for Lake Del Valle.

Since this analysis assumes no further federal-State sharing of joint facilities there are no further payments expected from the Federal Government.

Line 43: Appropriations for Capital Costs Allocated to Recreation and Fish and Wildlife Enhancement.

In accordance with Public Resources Code Section 6217, $5 million of the State's tideland oil and gas revenues is deposited annually in the Central Valley Water Project Construction Fund for repayment of (1) costs of constructing multipurpose SWP facilities that are allocated to recreation and fish and wildlife enhancement and (2) costs of acquiring land for recreation developments associated with SWP facilities. As indicated in Table 8, such costs are now estimated to total about $555 million for Project facilities to be constructed prior to the year 2000. This is an increase of $116 million from that shown in Table 8 of Bulletin 132-80. The $5 million annual appropriation would not be adequate to reimburse the SWP for these allocated costs by the year 2035 (end of project repayment period). Efforts will have to be made to reduce the costs of the future recreation program or provide additional funding to reimburse the SWP for costs allocated to recreation and fish and wildlife enhancement.

Release of the $5 million annual appropriations to the Department for expenditures is dependent on legislative approval for the costs reported annually by the Department. In 1981 the Department reported costs totalling over $184 million, including over $43 million of accrued interest (Appendix D, "Costs of Recreation and Fish and Wildlife Enhancement". Bulletin No. 132-81, April 1981). This was an increase of about $9 million over the previous report (see page 9, Appendix D, Bulletin No. 132-81). Most of this increase was due to costs incurred in 1980 and interest accrued during 1980 on recreation costs not yet reimbursed by the continuing annual appropriation.

Line 44: Appropriation for Project Capital Expenditures.

This line includes appropriations prior to the Burns-Porter Act and appropriations under SB 261 (1968).

Year to year appropriations by the Legislature financed all capital expenditures prior to the effective date of the Burns-Porter Act on November 8, 1960. Expenditures so financed substantially ended in 1963 and totalled about $11 million from the General Fund and $88 million from the Investment Fund (succeeded by the California Water Fund in 1959). While these special appropriations do not fit the general definition of "miscellaneous receipts" in that they were not deposited in the Central Valley Water Project Construction Fund, they are so classified herein for simplifying the presentation of the financial analysis.

By enactment of SB 261, June 29, 1968, the balance in the California Water Fund was transferred to the Central Valley Water Project Construction Fund, together with appropriations of tideland oil and gas revenues in the annual amounts of $11 million through June 30, 1970, and $25 million thereafter, until June 30, 1972, totalling $86.7 million.

Line 45: City of Los Angeles Payments for Castaic Power Development.

Under a 70-year contract executed September 2, 1966 (see page 12, Bulletin No. 132-67), the State constructed the Angeles Tunnel with a 30-foot diameter instead of with a 17-foot diameter as originally planned. In return, the City constructed, operates, and maintains a 1,250 megawatt Castaic Powerplant and will supply the State, without charge, power equivalent in value to that which the State would have produced in its originally planned 214-megawatt plant. The value of this equivalent power is accounted for in Line 59 as a credit to SWP operating costs in the same manner as other aqueduct power credits. In addition, the City has made certain payments, shown in Line 45, to ensure that the benefits of joint development are equally realized by both the State and the City. Neither the estimated capital expenditures for the Project nor the payments shown in Line 45 include amounts for the Castaic surge chamber -- which was constructed by the State but directly financed by the City.

Line 46: Water Contractor Advances for Construction of Requested Works.

Water supply contractors are required to finance, in advance, the construction costs of delivery structures (turnouts) and of any excess capacity the Department is requested to construct in SWP facilities. Advance payments for State construction requested by contractors are summarized on page 178 of Bulletin 132-80.

Excess capacity may be requested for the purpose of increasing the instantaneous rates of water delivery over the "peaking" rates normally provided for by the contracts.

Advance payments for requested excess capacity are determined by contract formula to assure more than enough funds to cover the additional construction costs. After construction of the excess capacity, differences between advance payments and additional costs are to be credited to the contractor's account. A complete determination of the additional construction costs and the credits for overpayments are reported in Table B-9 of this bulletin. The advance payments exceed the additional construction costs involved, with interest, by about $43.4 million as of December 31, 1980. Therefore, a credit of $43.4 million has been applied to the contractors' accounts.

Line 47: Investment Earnings on Unexpended Miscellaneous Receipts.

Unexpended SWP funds are invested through the Surplus Money Investment Fund in the State Treasury. Interest earnings during the last half of 1980 were at a rate of 10.26 percent per annum, and 11.49 percent per annum for the first half of 1981. For the financial analysis, the Department estimates that future interest earnings of the Fund will average 8.5 percent per annum.

This line also includes the interest earning on the Devil Canyon-Castaic Revenue Bond and Pyramid Revenue Bond proceeds used to reimburse prior Burns-Porter bond expenditures and unexpended Supplemental Bond proceeds.

Line 48: Total Miscellaneous Receipts.

The total of Lines 42 through 47.

Project Operating Revenues

Project operating revenues are deposited in two primary accounts: the Central Valley Water Project Revenue Fund, in which are placed all revenues pledged to revenue bonds, and the California Water Resources Development Bond Fund-Revenue Account, in which are placed all other SWP operating revenues, including interest earnings on any unexpended proceeds from the sale of Water Bonds.

Line 49: Payments Under Oroville-Thermalito Power Sales Contract.

Until April 1, 1983 all of the generation from Hyatt-Thermalito Powerplants will be sold under a Power Sale Contract dated November 29, 1967 to three electric utilities (Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company). Revenues under the Contract are pledged to the payment of annual operating expenses of Hyatt-Thermalito Powerplants (limited to $1.5 million annually) and annual debt service on Oroville Revenue Bonds. Firm revenues consist of $8,075,000 paid semiannually. Revenues are also received from energy adjustments accounts for cumulative theoretical generation in excess of 2.1 billion kilowatthours annually.

During 1980, a 616 million kilowatthour credit was made to the energy adjustment accounts bringing the cumulative positive balance on December 31, 1980 to 4.1 billion kilowatthours (equivalent to a credit as of that date of about $10.7 million).

On April 1, 1983, the State Power Contract will replace the existing Power Sale Contract and the generation will be available for use in the SWP. For purposes of SWP cost accounting and for determining water charge revenues and the application of revenues under the State Power Contract will remain the same as under the Power Sale Contract -- except that the firm semiannual payments will be increased to cover the actual operating expenses of Hyatt-Thermalito Powerplants in excess of $1.5 million annually. Thus, the amounts shown on Line 49 after March 31, 1983 include additional revenue for increased operating expenses and additional transmission and station service charges. Also, Line 49 includes an additional revenue of $12.4 million from the electric utilities in 1983 to clear an estimated positive balance in energy adjustment accounts. Thereafter, Line 49 includes estimated revenues for energy generation in excess of 2.1 billion kilowatthours annually equivalent to 300 million kilowatthours ($777,000) annually.

For the financial analysis, the Department assumes that revenues from the sale or other disposal of Hyatt Thermalito power will continue after termination of

the State Power Contract (November 29, 2017, or until all Oroville Revenue Bonds have been retired, whichever occurs later), in the same amounts as under the Contract.

Line 50: Water Contractor Payments Under Devil Canyon-Castaic Contract.

These payments by the six water contractors located below Devil Canyon and Castaic Facilities are equal to (1) the annual service on Devil Canyon-Castaic Revenue Bonds and (2) annual operating costs of the Facilities allocated to power generation (see page 2, Bulletin 132-73).

Line 51: Water Contractor Payments Under Long-Term Water Supply Contracts.

Water supply contracts provide for payments of two general charges: (1) a Delta Water Charge and (2) a Transportation Charge.

The Delta Water Charge is assessed for each acre-foot of water the contractors are entitled to receive. The Charge is computed to return to the State during the contract term all appropriate costs of SWP conservation facilities, together with interest thereon. SWP conservation facilities are defined as those facilities which conserve water, including Lake Oroville, Delta Facilities, additional conservation facilities and San Luis Reservoir, together with a portion of the California Aqueduct from the Delta to San Luis Reservoir. Current studies of operating ground water basins to provide for conservation of SWP water may result in an amendment of water supply contracts to include costs of such facilities as conservation facilities. Costs allocated to flood control, recreation, and fish and wildlife enhancement are not paid under the water supply contracts. Both charges for power costs and credits for power revenues are included in the determination of the Delta Water charge.

The Transportation Charge is computed to return to the State during the contract term the costs of the aqueducts necessary to deliver water to the respective contractors, including interest costs. Such costs exclude those allocated to flood control, recreation, and fish and wildlife enhancement. In addition, costs of the Devil Canyon and Castaic Facilities allocable to power are excluded from the Transportation Charge and are paid under the Devil Canyon-Castaic Contract.

Each year's costs of each aqueduct reach are allocated among contractors whose deliveries are or will be conveyed through that reach. For contractors with predominantly municipal and industrial water use, the allocated amounts of each year's construction expenditures are required to be repaid, together with interest, in not more than 50 equal annual installments. For contractors with predominantly agricultural water use, allocated construction costs are repaid by a uniform charge per acre-foot of water entitlement, computed to return those costs with interest to the State during the contract term.

Operating costs are paid currently under the Transportation Charge and therefore do not include any interest charges. Construction costs under the Transportation Charge and all construction and annual operating costs under the Delta Water Charge are to be repaid with interest at the Project Interest Rate.

The Project Interest Rate is defined in Article 1(r) of the Standard Provisions for Water Supply Contracts as the weighted average of the rates paid on securities issued and loans obtained to finance SWP facilities, excluding Oroville Revenue Bonds. Under original contract provisions, the basis for determining the Project Interest Rate was the weighted average of rates paid on Water Bond sales only. Under con-

tract amendments executed in 1969, after issuance of Oroville Revenue Bonds, the basis was expanded to include rates on all other securities sold and loans obtained thereafter for financing SWP facilities, including revenue bonds (see page 28, Bulletin No. 132-70). However, not all proceeds from the sale of revenue bonds are melded in the calculation of the Project Interest Rate -- only those proceeds applied to construction costs (the only application of general obligation bonds permitted by law) and those consumed by the bond discount (a component of the total interest cost of a revenue bond issue). Shown below is the percent of total proceeds from revenue bond issues which affect the actual and projected calculation of the Project Interest Rate:

Revenue Bond Proceeds	Devil Canyon Castaic (Actual)	Pyramid (Actual)	Supplemental Water (Assumed)	Supplemental Power (Assumed)[1/]
	in $ millions			
Applied to construction costs	$127.1	$ 74.0	$2,569.2	$ 651.1
Less portion of such proceeds derived from interest earnings prior to delivery of bonds	1.6	0	0.0	0.0
Plus bond discount and financing costs	1.4	1.6	182.4	50.3
Subtotal, proceeds included in calculating the project interest rate	$126.9	$ 75.6	$2,751.6	$ 701.4
Principal amount of bonds	139.2	95.8	3,040.4	1,087.7
Percent total principal amount included in calculating the Project Interest Rate	91%	79%	90.5%	64.5%

1/ Includes Reid Gardner bond anticipation notes.

Tables 9 and 9A present information basic to the calculation of the actual and projected Project Interest rates.

A detailed development of water charges for each contractor is presented in Appendix B, which is based on presently known conditions and supports the Department's determination of 1982 water charges -- billed July 1, 1981. However, there are the following significant differences between the projection of charges shown in Line 51 and the substantiation of 1982 charges shown in Appendix B:

- Future capital costs shown in Appendix B are based on prices prevailing on December 31, 1980. Those shown in the financial analysis include allowances for future price escalation.

- The Project Interest Rate basic to charges shown in Appendix B includes actual bond sales (4.606 percent). The Project Interest Rate basic to the charges shown in Line 51 also reflects the projected supplemental water revenue bond sales and power revenue bond sales. This is a change from the assumption in Bulletin 132-80 that the power revenue bonds would not be included in the projected Project Interest Rate for purposes of calculating contractor charges.

- Pre-1982 charges shown in Appendix B represent what charges should have been under presently known conditions. Pre-1982 charges shown in Line 51 are those actually paid under previously determined bills.

- Charges shown in Appendix B are unadjusted for past over or underpayments. Charges for 1982 and thereafter shown in Line 51 include adjustments for any apparent overpayments or underpayments of pre-1981 charges. Line 51 also includes credits due to pre-payments of the capital cost components which resulted under various contract amendments involving excess aqueduct capacity.

- The charges shown in Appendix B are those which would apply in the absence of the Devil Canyon-Castaic Contract. The charges shown in Line 51 exclude those under the Contract (see Line 50).

- The charges in Appendix B do not include a capital cost component for the repayment of the Enlargement of the California Aqueduct, Mojave Division. Line 51 includes an estimate of the repayment for the enlargement expenditure.

The payments shown in Line 51 also include revenue which would be pledged to support supplemental revenue bonds. The amount of revenue pledged is that portion which is identifiable with the facilities financed with revenue bonds. The analysis assumes, with regard to future revenue bonds, that there will be no revenue payment defaults.

Line 52: Federal Payments for Project Operating Costs.

Under the December 31, 1961, Agreement between the State and the United States, the Department operates and maintains the San Luis joint-use facilities. Under the January 12, 1972, Supplement to the Agreement, the United States pays 45 percent of the costs incurred by the Department for these activities (the percentage does not apply to power costs. The United States and the Department provide their own power to pump their respective amounts of water through the joint facilities). This percentage was reviewed in 1980, and will now be 44.47 percent, through December 31, 1985, subject to review again in 1985. The amounts shown in Line 52 are based on the assumption that the 44.47 percent federal share will continue.

Line 53: Appropriations for Operating Costs Allocated to Recreation.

Under the Davis-Dolwig Act, the Legislature declared its intent that, except

TABLE 9: ACTUAL BOND SALES AND PROJECT INTEREST RATES

Bond Sales	Date of Sale	Dollar-Years (a	Interest Cost(b	Percent Interest Cost(c	Project Interest Rate (%)(d
	(1)	(2)	(3)	(4)	(5)
Actual Issues					
$50,000,000 Bond Anticipation Notes	11/21/63	26,944	531	1.970	1.970
$100,000,000 Series "A" Water Bonds	2/18/64	3,402,000	119,750	3.520	3.508
$50,000,000 Series "B" Water Bonds	5/ 5/64	1,726,000	60,986	3.533	3.516
$100,000,000 Series "C" Water Bonds	10/ 7/64	3,452,000	123,764	3.585	3.544
$100,000,000 Series "D" Water Bonds	2/16/65	3,497,900	122,403	3.499	3.531
$100,000,000 Series "E" Water Bonds	11/23/65	3,497,900	130,029	3.717	3.573
$100,000,000 Series "F" Water Bonds	6/ 8/66	3,497,900	137,359	3.927	3.638
$100,000,000 Series "G" Water Bonds	11/22/66	3,497,900	143,788	4.111	3.711
$100,000,000 Series "H" Water Bonds	3/21/67	3,497,900	129,261	3.695	3.709
$100,000,000 Series "J" Water Bonds	7/18/67	3,497,900	143,199	4.094	3.754
$100,000,000 Series "K" Water Bonds	11/14/67	3,497,900	163,887	4.685	3.853
$150,000,000 Revenue Bonds, Oroville Division, Series "A"	4/ 3/68	5,228,700	270,289	5.197	-
$100,000,000 Series "L" Water Bonds	7/11/68	3,497,900	166,918	4.772	3.941
$100,000,000 Series "M" Water Bonds	10/22/68	3,497,900	169,989	4.860	4.021
$94,995,000 Revenue Bonds, Oroville Division, Series "B"	4/ 1/69	3,423,460	195,902	5.767	-
$46,761,000 Cumulative 1970 General Fund Borrowing; repaid 7/10/70	-	4,938	346	7.007	4.021
$200,000,000 Series "N" and "P" Bond Anticipation Notes	6/16/70	200,000	11,660	5.830	4.030
$100,000,000 Series "N" Water Bonds	2/ 2/71	3,447,900	190,292	5.519	4.148
$100,000,000 Series "Q" Bond Anticipation Notes	3/10/71	100,000	2,349	2.350	4.143
$100,000,000 Series "P" Water Bonds	4/21/71	3,397,900	193,377	5.691	4.255
$150,000,000 Series "Q" and "R" Water Bonds	11/ 9/71	5,171,850	265,734	5.138	4.342
$40,000,000 Series "S" Water Bonds	3/28/72	1,399,160	76,509	5.468	4.371
$139,165,000 Devil Canyon-Castaic Revenue Bonds(e	8/ 8/72	4,776,204	258,839	5.419	4.457
$10,000,000 Series "T" Water Bonds	3/20/73	185,265	9,491	5.122	4.459
$10,000,000 Series "U" Water Bonds	1/13/76	158,750	8,731	5.50	4.462
$10,000,000 Series "V" Water Bonds	11/15/77	158,750	7,573	4.769	4.462
$95,800,000 Pyramid Hydroelectric Revenue Bonds(f	10/23/79	2,364,917	180,496	7.632	4.584
$150,000,000 Reid-Gardner Project, Series A, Bond Anticipation Notes	6/30/81	347,906	29,572	8.500	4.606
TOTAL (Excluding Oroville CVP Revenue Bonds)		61,801,584	2,846,833		

a) A unit equivalent to one dollar of principal amount outstanding for one year, in thousands.
b) In thousands of dollars.
c) The total interest cost (without regard to premiums received) divided by the total dollar-years, expressed as a percent.
d) Determined by dividing cumulative interest costs by cumulative dollar-years, expressed as a percent. Excluding Central Valley Project Revenue Bonds, Oroville Division, which do not affect the calculation of the "project interest rate".
e) Bonds sold at a net interest cost of 5.446 percent. Net proceeds for financing construction costs plus bond discount amounting to $126,893,000 are used for purposes of the project interest rate.
f) Bonds sold at a net interest cost of 7.680 percent. Net proceeds for financing construction costs plus bond discount amounting to $75,586,000 are used for purposes of the project interest rate.

TABLE 9-A: PROJECTED BONDS SALES AND PROJECT INTEREST RATES

Bond Sales	Discounted Values (a	Date of Sale	Dollar-years (b	Interest Cost (c	Percent Interest Cost (d	Project Interest Rate (e (f
	(1)	(2)	(3)	(4)	(5)	(6)
$13,495,000 Series "W" Water Bond	12,117,000	4/82	213,280	18,129	8.5	
$300,000,000 Power Revenue Bond (Reid Gardner)(g	275,229,000	1/82	4,738,515	402,774	8.5	
$208,880,000 Power Revenue Bond (Bottle Rock-Cottonwood)	191,633,000	1/82	2,903,125	246,766	8.5	5.045
$176,845,000 Power Revenue Bond (South Geysers-Cottonwood)	145,674,000	4/83	2,440,564	207,448	8.5	5.162
$144,760,000 Power Revenue Bond (Mojave Siphon-Thermalito Diversion-Thermalito Afterbay)	111,781,000	1/84	2,660,297	226,125	8.5	5.281
$257,235,000 Power Revenue Bond (Binkley)	167,185,000	1/86	3,484,959	296,222	8.5	5.425
$434,005,000 Water Revenue Bond	258,783,000	1/87	11,881,934	1,009,964	8.5	
$166,505,000 Series "X" Water Bond (Offset)	99,281,000	1/87	2,631,605	223,686	8.5	5.906
$692,365,000 Water Revenue Bond	378,747,000	1/88	18,955,162	1,611,188	8.5	6.346
$206,860,000 Water Revenue Bond	103,816,000	1/89	5,663,291	481,380	8.5	6.450
$103,050,000 Water Revenue Bond	47,447,000	1/90	2,821,242	239,806	8.5	6.498
$303,710,000 Water Revenue Bond	128,290,000	1/91	8,314,794	706,757	8.5	6.628
$584,750,000 Water Revenue Bond	226,610,000	1/92	16,008,942	1,360,760	8.5	6.835
$503,290,000 Water Revenue Bond	178,937,000	1/93	13,778,778	1,171,196	8.5	6.980
$212,405,000 Water Revenue Bond	69,282,000	1/94	5,815,099	494,283	8.5	7.034

a) Amounts shown represent the discounted value of the bond from the year of sale to 1981 at the assumed escalation rate of 9 percent.
b) A unit equivalent to one dollar of principal amount outstanding for one year, in thousands.
c) In thousands of dollars.
d) The total interest cost (without regard to premiums received) divided by the total dollar-years, expressed as a percent.
e) Determined by dividing cumulative interest costs by cumulative dollar-years, expressed as a percent. Excluding Central Valley Project Revenue Bonds, Oroville Division, which do not affect the calculation of the "project interest rate".
f) Net proceeds for financing construction costs plus bond discount are used for purposes of the project interest rate.
g) Includes $150,000,000 to retire Reid Gardner bond anticipation notes.

for funds provided pursuant to AB 12 (1966), the Department's budget shall include appropriations from the General Fund of monies necessary for enhancement of fish and wildlife and for recreation in connection with State water projects. Annual operation, maintenance, power and replacement costs allocated to recreation and fish and wildlife enhancement are paid by annual General Fund appropriations.

Line 54: Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts.

As pointed out in the description of Line 24, $44.9 million in loan applications had been approved as of December 31, 1980. The amounts shown in Line 53 are based on the assumption that $14.6 million in future contracts would be approved -- bringing estimated total loans under the $130 million authorization (which excludes an initial loan of about $1.3 million) to $59.5 million (46 percent). All future loans are assumed to be repaid in 50 years at 2.5 percent interest, with an initial five-year deferment of principal repayment.

Line 55: Miscellaneous Revenues.

Miscellaneous revenues include annual payments by the City of Los Angeles for a share of the maintenance costs of the Angeles Tunnel, interest earnings on unexpended proceeds from sale of Water Bonds, and other short-term investment earnings on SWP revenues. Based on experience to date, an allowance of $2 million annually is included in Line 55 to approximate these revenues.

This line also includes bond proceeds that are special reserves under revenue bond financing, described in Line 26. These proceeds are not classified as revenues, but are shown in this line to simplify the financial presentation since they are used for operation and maintenance costs and revenue bond service.

Line 56: Total Project Operating Revenues.

The total of Lines 49 through 55.

Line 57: Total Miscellaneous Receipts and Project Operating Revenues.

The total of Lines 48 and 56.

Application of Revenues and Miscellaneous Receipts

Revenues pledged to revenue bonds, deposited in the Central Valley Water Project Revenue Fund, are disbursed in accordance with resolutions authorizing the issuance of such bonds. All other operating revenues, deposited in the California Water Resources Development Bond Fund-Revenue Account, are disbursed in accordance with the following priorities of use as specified in the Burns-Porter Act.

(1) Project operating costs.

(2) Water Bond Service.

(3) Repayment of expenditures from the California Water Fund.

(4) Deposits to a reserve for future construction of the State Water Resources Development System -- a system of facilities which may be added to under certain authorizations of the Legislature and designations by the Department as specified in the Burns-Porter Act, and which includes the State Water Project.

Line 58: Carryover (+) and Application (-) of Miscellaneous Receipts and Revenues Held Temporarily in Reserve.

The carryover of reserves from year to year has primarily accumulated in the Central Valley Water Project Construction Fund from appropriations for recre-

ation capital expenditures (Line 43) and interest earned from unexpended revenue bond reimbursement funds. These carryovers are assumed to be used for construction expenditures prior to the sale of supplemental water revenue bonds. Also included in this line is a carryover from year to year of funds in the California Water Resources Development Bond Fund Revenue Account through 1985 to insure that future annual service on water bonds will be met. After 1985 the carryover consists of interest earned during the latter half of the year and credited to the Project's accounts too late for use in the year that the interest was earned. Receipts accruing after 1994 -- not needed for either bond service or construction expenditures under this analysis -- are included in Line 73 as being available for financing future construction of the State Water Resources Development System.

Line 59: Project Operating Costs.

Historical and estimated project operating costs are presented in Table 10 by project facilities. Line 59 in the financial analysis is composed of operating costs that are assumed to occur under the assumptions of lower water demands due to waste water reclamation and water conservation. This line also includes the operating costs for the Federal share of joint facilities and operating costs allocated to recreation, which are offset by revenues shown in Lines 52 and 53, respectively. Allowances for future cost escalation are included for power costs through 1985 and operation and maintenance costs through 1983. Allowances for further future long-term price escalation are not included in these estimates since such operating costs do not substantially affect the overall results of the financial analysis. (For the most part, changes of operating costs cause direct offsetting changes of operating revenues.)

Power costs is the major item of annual operating expense for the SWP, and there have been significant changes in the assumptions regarding the future development of power sources and costs. Near the end of this chapter is a section titled "Power Costs" which explains the current assumptions regarding future power sources and their related costs.

Line 60: Deposits to Special Reserves Under Revenue Bond Financing.

In regard to Oroville Revenue Bonds, deposits include the following:

- Payments to the Department for energy and generating capability prior to April 1, 1969, under terms of interim letter agreements, and all other power revenues for one year following completion of construction.

- Payments to the Department from the energy adjustment account for net annual energy generation in excess of 2.1 billion kilowatthours.

- Federal flood control contributions in the amount of $1.65 million for allocated operations and maintenance costs.

- Annual amount of Oroville power sales revenue that is in excess over the operating cost and Oroville bond service payment.

In regard to Devil Canyon-Castaic Revenue Bonds, such deposits consist of about $9.2 million to provide a reserve approximating maximum annual bond service.

Deposits for the Pyramid Hydroelectric Project Revenue Bonds consisted of about $19.6 million to pay bond interest through July 1983 and $1.0 million for the first year of operating expense. The deduction of the annual bond service for the Pyramid bonds and first year's operating expense reduced the deposits in reserve through 1983.

This line also includes bond proceeds from supplemental water and power revenue bonds in the year of assumed sale to provide for interest during construc-

tion and the first year after completion of construction, a reserve approximating the maximum annual bond service, and an allowance for the first year of operating expense. These reserves were reduced in subsequent years as the reserved amounts were used for their respective purposes. When all revenue bonds are retired (2035) all deposits will have been used.

Lines 61-62: Payment of Service on Bonds Sold.

These two lines show the total interest and principal payments on bonds sold to date. Table 11 provides a summary of Water Bonds (Series A through V), Oroville Revenue Bonds, Devil Canyon-Castaic Revenue Bonds and Pyramid Hydroelectric Project Revenue Bonds. The last bonds sold were Pyramid Hydroelectric Revenue Bonds in October 1979.

Annual interest and principal payments on individual series are shown in the following bulletins.

Series A-R	Table 13, Bulletin 132-72
Series S	Table 10, Bulletin 132-73
Series T	Table 10, Bulletin 132-74
Series U	Table 11, Bulletin 132-76
Series V	Table 11, Bulletin 132-79
Oroville Series A and B	Table 12, Bulletin 132-72
Devil Canyon-Castaic	Table 10, Bulletin 132-73

The Oroville Revenue Bond service schedule shown in Table 11 is based on the initial bond maturity schedule. Since 1978, the trustee has been retiring bonds prior to the fixed maturity date as follows:

Year	Bonds Retired	Cost
1978	$4,045,000	$3,845,099
1979	9,730,000	8,933,093
1980	1,350,000	1,227,600

In effect, this will decrease the annual interest cost and the principal due in subsequent years. This action will increase the annual deposit to reserve (Line 60) which is held by the trustee and does not affect the basic validity of the financial analysis.

Line 61 also includes over $0.3 million in interest payments to the General Fund for the temporary loan of $46.8 million in 1970 -- repaid by proceeds from the sale of Series N Water Bonds.

Lines 63-64: Assumed Payments of Service on Future Bond Sales.

These lines show the projected annual service on future Supplemental Water Revenue Bonds and Water Bonds (Series W and X) under the assumptions of this analysis.

Assumptions concerning the service on future Supplemental Water Revenue Bonds are as follows:

- The net interest cost would average 8.5 percent.
- The service pattern would provide for no maturities during the first 4 years after issuance, with a final maturity 40 years after issuance.

Assumptions concerning the service on future Water Bonds are as follows:

- The net interest cost would average 8.5 percent.
- The service pattern would provide for no maturities during the first 9 years after issuance, with a final maturity for Series W and X Water Bonds 20 years after issuance.

Lines 65-66: Assumed Payments of Service on Future Power Revenue Bonds Sales.

These lines show the projected annual service for the supplemental power revenues bonds discussed in Line 35. Assumptions concerning the service on these future bonds are as follows:

TABLE 10: PROJECT

(in thousands

FEATURE	CALENDAR													
	1962-1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
BY PROJECT FACILITY														
Feather River Facilities	67,451	8,180	9,504	-4,832	-12,265	-13,087	-13,160	-16,094	-16,113	-15,981	-16,145	-16,007	-16,039	-15,984
North Bay Aqueduct	976	130	153	200	207	722	704	703	753	826	859	893	904	930
Delta Facilities	0	78	178	243	363	264	256	253	251	252	4,094	4,510	4,757	5,087
South Bay Aqueduct	22,023	2,381	2,856	4,640	5,216	5,293	5,411	5,347	5,580	6,006	5,922	6,215	6,211	6,423
CALIFORNIA AQUEDUCT:														
Main Line- Delta to A. D. Edmonston	199,562	36,644	40,700	79,648	89,288	99,752	117,061	114,188	130,219	137,404	138,667	143,557	142,889	149,018
Main Line-A. D. Edmonston to Perris	97,043	19,699	24,279	57,316	73,601	86,704	91,077	108,125	112,446	128,310	131,045	130,973	132,581	133,397
West Branch	22,945	5,472	2,238	-2,785	-4,737	-3,587	-3,768	-11,332	-11,179	-9,836	-10,318	-10,899	-9,241	-12,055
Coastal Branch	11,517	1,495	1,711	2,297	2,526	2,695	2,773	2,747	2,829	2,961	5,001	5,329	5,369	5,631
Additional Conservation Facilities	0	0	0	0	0	0	0	0	0	0	0	1,594	14,579	23,345
Water Quality Monitoring Program-Sacramento-San Joaquin Delta	14,668	1,708	2,351	2,504	2,546	2,453	2,339	2,235	2,180	2,194	2,163	4,636	4,641	4,655
Davis-Grunsky Act Program (continuing administrative costs)	818	79	113	113	113	137	137	137	137	137	137	137	137	137
Miscellaneous Project Costs	0	3	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL OPERATING COSTS	437,003	75,869	84,083	139,344	156,858	181,346	202,830	206,309	227,103	252,273	261,425	270,938	286,788	300,584
BY COMPOSITION:														
Salaries & Expenses of Hdqtrs. Personnel	166,340	18,163	19,090	19,318	19,005	18,891	18,722	18,599	18,538	18,538	18,661	20,183	24,348	30,388
Salaries & Expenses of Field Personnel	229,251	36,701	44,331	46,785	48,286	47,678	47,956	48,242	48,579	48,682	51,162	53,952	54,026	54,016
Pumping Power														
Used by Pumping Plants	119,717	21,603	25,658	116,849	152,662	183,383	204,880	217,331	237,112	266,201	273,001	275,798	287,980	293,732
Produced by Recovery Plants	-32,273	-4,243	-8,711	-47,551	-66,742	-72,594	-72,586	-81,413	-80,224	-83,635	-84,905	-83,081	-85,251	-83,343
Deposits to Replacement Reserves	14,215	4,139	4,192	4,581	4,668	4,792	4,985	5,216	5,249	5,361	5,530	5,405	6,152	6,110
Oroville-Thermalito Insurance Premiums	3,709	454	554	554	554	554	554	554	554	554	554	554	554	554
Less, Portion of Costs Incurred During Const.	63,956	948	1,031	1,192	1,575	1,358	1,681	2,220	2,705	3,428	2,578	1,873	1,021	873
TOTAL OPERATING COSTS	437,003	75,869	84,083	139,344	156,858	181,346	202,830	206,309	227,103	252,273	261,425	270,938	286,788	300,584
BY PROJECT PURPOSE:														
Water Supply & Power Generation	398,628	68,440	75,309	129,449	147,045	172,205	193,356	196,860	217,474	242,519	251,009	260,122	275,150	288,766
Recreation & Fish & Wildlife Enhancement	10,736	2,110	2,402	3,814	4,161	3,563	3,879	3,866	4,039	4,131	4,779	5,171	5,988	6,166
Flood Control	495	77	89	113	122	1	1	0	2	6	3	6	5	6
Miscellaneous Purposes:														
Federal Share, San Luis and Delta Facilities	25,151	5,050	6,078	5,743	5,302	5,325	5,342	5,331	5,336	5,365	5,382	5,387	5,393	5,394
Other (Davis-Grunsky, Drainage, City of Los Angeles)	1,993	192	205	225	228	252	252	252	252	252	252	252	252	252
TOTAL OPERATING COSTS	437,003	75,869	84,083	139,344	156,858	181,346	202,830	206,309	227,103	252,273	261,425	270,938	286,788	300,584

OPERATING COSTS

of dollars)

YEAR											
1994	1995	1996	1997	1998	1999	2000	2001-2010	2011-2020	2021-2030	2031-2035	TOTAL
-15,936	-15,881	-15,800	-15,812	-15,815	-15,831	-15,783	-157,316	-154,872	-154,219	-77,511	-725,348
957	975	988	1,016	1,024	1,050	1,066	12,046	15,011	17,372	8,797	69,262
5,082	4,989	4,529	4,486	4,486	4,502	4,546	46,366	51,190	54,812	27,747	233,321
6,573	6,569	6,537	6,654	6,554	6,590	6,565	69,992	83,802	92,274	46,655	428,289
145,108	146,455	147,383	148,473	146,748	151,142	153,146	1,740,595	2,283,412	2,625,113	1,314,457	10,620,629
132,178	134,542	133,663	135,569	138,018	138,891	141,697	1,677,918	2,394,925	2,893,256	1,460,924	10,708,177
-4,962	-13,608	-7,297	-12,327	-7,622	-13,578	-8,346	-168,612	-227,423	-249,497	-126,529	-898,883
5,851	5,974	6,069	6,360	6,367	6,634	6,806	75,749	91,139	100,907	50,613	417,350
21,160	19,782	19,752	35,244	32,940	37,541	31,145	317,854	340,866	360,379	181,245	1,437,426
4,657	4,657	4,676	4,670	4,672	4,665	2,225	22,192	22,215	22,215	11,107	159,224
137	137	137	137	137	137	137	1,370	1,370	1,370	685	8,223
0	17	1	1	1	1	1	6	6	6	3	46
300,805	294,068	300,638	314,471	317,510	321,744	323,205	3,638,160	4,901,641	5,763,988	2,898,193	22,457,716
29,799	28,783	28,758	36,781	34,784	38,913	32,824	363,916	371,120	371,120	185,560	1,951,142
54,031	54,041	53,721	54,251	54,294	54,324	51,922	525,424	533,072	524,472	250,518	3,069,717
298,115	290,541	308,636	305,438	313,591	311,177	324,108	3,674,691	5,020,871	6,010,882	3,077,952	22,611,909
-86,920	-84,814	-90,511	-89,018	-92,448	-90,083	-93,459	-1,034,857	-1,184,605	-1,256,863	-635,066	-5,625,196
6,168	6,130	6,448	6,533	6,804	6,924	7,328	104,120	155,643	108,837	16,459	511,989
554	554	554	554	554	554	554	5,540	5,540	5,540	2,770	34,079
942	627	6,968	68	69	65	72	674	0	0	0	95,924
300,805	294,608	300,638	314,471	317,510	321,744	323,205	3,638,160	4,901,641	5,763,988	2,898,193	22,457,716
288,915	282,909	288,757	301,897	304,713	309,068	310,549	3,504,744	4,758,230	5,623,705	2,834,805	21,724,624
6,220	6,014	6,171	6,625	6,803	6,652	6,581	64,930	73,119	78,180	39,111	365,211
6	6	7	7	7	7	8	138	287	171	72	1,642
5,412	5,427	5,451	5,690	5,735	5,765	5,815	65,828	67,485	59,412	22,945	350,544
252	252	252	252	252	252	252	2,520	2,520	2,520	1,260	15,695
300,805	294,608	300,638	314,471	317,510	321,744	323,205	3,638,160	4,901,641	5,763,988	2,898,193	22,457,716

- The net interest cost for the power revenues bonds would average 8.5 percent.

- The service pattern would provide for no maturities during the construction period of the facility being financed. Final maturity for the bonds would be 30 years after construction is complete.

Lines 67-68: Total Payments of Bond Service.

The total of interest payments shown on Lines 61, 63, and 65 and the total of principal payments shown on Lines 62, 64 and 66 respectively.

Lines 69-70: Repayment of the California Water Fund.

The Burns-Porter Act requires that, after operation and maintenance and bond service requirements have been satisfied, project revenues shall be transferred to the California Water Fund as reimbursement to the Fund for monies expended for construction of the State Water Resources Development System. For the financial analysis the repayment amounts through 1994 (Line 69), together with the $25 million of tidelands revenue allocated each year to the California Water Fund are utilized for financing capital expenditures (Line 29). For years 1995 through 1999 only a portion of the repayment amount will be required for further construction and the Tidelands revenue will no longer be needed.

Line 70 indicates repayment to the Fund of monies not required to be appropriated for further construction. The Fund would be substantially repaid by 1999. Continuing annual repayments shown thereafter in Line 69 represent repayment of the continuing appropriation from the fund for annual principal and interest payments to the federal government for the additional conservation storage costs shown in Line 25.

The totals of Line 69 and Line 70 equal the total of Line 29 and indicate that all California Water Fund appropriations are repaid as required by the Burns-Porter Act. Line 69 shows that repayment of the California Water Fund will increase substantially from the projections shown in Bulletin 132-80, because of (1) changes in construction expenditures and schedules, and (2) increases in contractor revenues (see Line 51).

Line 71: Application of Miscellaneous Receipts to Construction Expenditures.

This line matches Line 40. All projected annual accruals of miscellaneous receipts would be totally applied to Water Bond service and construction expenditures through 1994 under the financial analysis. After 1994 annual receipts would be reserved for financing future construction -- shown in Line 73.

Line 72: Subtotal, Repayment of Capital Financing.

This line is the subtotal of Lines 68, 69, 70 and 71. Under the assumptions of this analysis, Line 72 demonstrates the schedule by which the SWP would eventually repay, with SWP income, all funds required to finance capital expenditures as shown in Line 41.

Line 73: Reservation for Future Construction.

In accordance with the Burns-Porter Act, all SWP revenues in excess of SWP operating costs, Water Bond service, and California Water Fund repayment shall be deposited in a reserve account for financing future construction of the State Water Resources Development System. Also included in the amounts shown in Line 73 are those miscellaneous receipt (reimbursements of capital costs allocated to recreation and fish and wildlife enhancement) which accrue too late to be applied to construction expenditures under this analysis.

TABLE 11: ANNUAL SERVICE ON BONDS SOLD AS OF DECEMBER 31, 1980

(in thousands of dollars)

Calendar Year	Bonds Sold Through December 31, 1980									
	Series A through V Water Bonds		Oroville Revenue Bonds		Devil Canyon-Castaic Revenue Bonds		Pyramid Hydroelectric Project Revenue Bonds Sold 10/23/79		Total	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1964	0	3,333	0	0	0	0	0	0	0	3,333
1965	0	11,114	0	0	0	0	0	0	0	11,114
1966	0	16,742	0	0	0	0	0	0	0	16,742
1967	0	26,912	0	0	0	0	0	0	0	26,912
1968	0	37,760	0	3,876	0	0	0	0	0	41,636
1969	0	47,461	0	10,448	0	0	0	0	0	57,909
1970	0	53,291	0	13,145	0	0	0	0	0	66,436
1971	0	63,035	0	13,145	0	0	0	0	0	76,180
1972	0	69,148	1,260	13,112	0	0	0	0	1,260	82,260
1973	1,200	69,348	1,330	13,042	0	7,708	0	0	2,530	90,098
1974	3,000	69,533	1,400	12,969	0	7,708	0	0	4,400	90,210
1975	5,000	69,366	1,475	12,893	0	7,708	0	0	6,475	89,967
1976	7,000	69,408	1,555	12,811	0	7,708	0	0	8,555	89,927
1977	10,200	69,323	1,635	12,727	0	7,708	0	0	11,835	89,758
1978	12,700	69,312	1,725	12,637	0	7,708	0	0	14,425	89,657
1979	13,650	68,690	1,815	12,540	0	7,708	0	0	15,465	88,938
1980	16,050	67,968	1,915	12,441	0	7,708	0	7,900	17,965	96,017
1981	18,050	67,109	2,020	12,334	0	7,708	0	7,292	20,070	94,443
1982	19,250	66,162	2,130	12,221	0	7,708	0	7,292	21,380	93,383
1983	20,520	65,148	2,245	12,101	900	7,708	0	7,292	23,665	92,249
1984	21,785	64,068	2,365	11,982	955	7,647	640	7,292	25,745	90,989
1985	22,555	62,932	2,485	11,862	1,010	7,583	675	7,238	26,725	89,615
1986	23,830	61,742	2,605	11,737	1,070	7,515	715	7,180	28,220	88,174
1987	25,495	60,492	2,735	11,602	1,135	7,442	755	7,120	30,120	86,656
1988	26,770	59,165	2,870	11,464	1,205	7,366	795	7,055	31,640	85,050
1989	28,145	57,825	3,015	11,314	1,275	7,284	840	6,988	33,275	83,411
1990	29,385	56,473	3,175	11,152	1,355	7,198	890	6,916	34,805	81,739
1991	30,365	55,070	3,335	10,983	1,435	7,107	940	6,841	36,075	80,001
1992	31,295	53,640	3,510	10,806	1,520	7,010	995	6,761	37,320	78,217
1993	32,940	52,183	3,695	10,618	1,610	6,907	1,050	6,693	39,295	76,401
1994	34,525	50,660	3,885	10,421	1,705	6,799	1,115	6,622	41,230	74,502
1995	35,660	49,073	4,085	10,215	1,810	6,684	1,180	6,545	42,735	72,517
1996	36,900	47,436	4,300	9,996	1,920	6,561	1,250	6,464	44,370	70,457
1997	36,595	45,818	4,525	9,767	2,035	6,432	1,325	6,376	44,480	68,393
1998	36,675	44,226	4,760	9,524	2,155	6,295	1,405	6,283	44,995	66,328
1999	37,600	42,655	5,005	9,265	2,285	6,160	1,490	6,184	46,380	64,264
2000	38,890	41,033	5,280	8,987	2,420	6,040	1,580	6,078	48,170	62,138
2001	39,980	39,351	5,565	8,693	2,565	5,912	1,680	5,964	49,790	59,920
2002	41,120	37,620	5,865	8,384	2,720	5,773	1,785	5,842	51,490	57,619
2003	42,970	35,835	6,180	8,057	2,885	5,626	1,900	5,712	53,935	55,230
2004	45,160	33,957	6,520	7,714	3,055	5,470	2,020	5,573	56,755	52,714
2005	46,450	31,995	6,870	7,349	3,240	5,305	2,150	5,424	58,710	50,073
2006	47,740	29,971	7,245	6,968	3,435	5,130	2,290	5,268	60,710	47,337
2007	49,230	27,883	7,635	6,564	3,640	4,945	2,445	5,102	62,950	44,494
2008	51,220	25,727	8,050	6,138	3,860	4,749	2,605	4,925	65,735	41,539
2009	53,560	23,478	8,490	5,690	4,090	4,540	2,780	4,736	68,920	38,444
2010	55,250	21,134	8,950	5,216	4,335	4,319	2,960	4,534	71,495	35,203
2011	56,740	18,717	9,435	4,717	4,595	4,085	3,160	4,305	73,930	31,824
2012	58,530	16,216	9,945	4,192	4,875	3,837	3,370	4,060	76,720	28,305
2013	60,370	13,676	10,485	3,636	5,165	3,574	3,600	3,799	79,620	24,685
2014	57,900	11,244	11,055	3,051	5,475	3,303	3,840	3,520	78,270	21,118
2015	53,690	8,838	11,655	2,435	5,805	3,015	4,095	3,222	75,245	17,510
2016	46,130	6,626	12,290	1,782	6,150	2,710	4,370	2,905	68,940	14,023
2017	38,060	4,614	12,960	1,097	6,520	2,388	4,665	2,566	62,205	10,665
2018	25,350	2,980	13,665	371	6,910	2,045	4,975	2,204	50,900	7,600
2019	16,890	1,778	0	0	7,325	1,682	5,310	1,819	29,525	5,279
2020	17,320	934	0	0	7,765	1,298	5,665	1,407	30,750	3,639
2021	8,510	301	0	0	8,230	890	6,045	968	22,785	2,159
2022	1,800	48	0	0	8,725	458	6,450	500	16,975	1,006
TOTAL	1,570,000	2,377,577	244,995	466,191	139,165	283,872	95,800	228,767	2,049,960	3,356,407

TABLE 12: ANNUAL SERVICE ON ASSUMED FUTURE BOND SALES

(in thousands of dollars)

Calendar Year	Series W through X Water Bonds		Supplemental Water Revenue Bonds		Supplemental Power Revenue Bonds		Total Future Bond Sales	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1981	0	0	0	0	0	6,375	0	6,375
1982	0	574	0	0	0	34,377	0	34,951
1983	0	1,147	0	0	0	63,521	0	64,668
1984	0	1,147	0	0	0	70,814	0	71,961
1985	0	1,147	0	0	0	70,592	0	71,739
1986	0	1,147	0	0	5,375	81,296	5,375	82,443
1987	0	8,223	0	18,445	7,695	91,673	7,695	118,341
1988	0	15,300	0	66,316	8,350	90,992	8,350	172,608
1989	0	15,300	0	104,533	9,755	90,223	9,755	210,056
1990	0	15,300	0	117,704	13,300	89,242	13,300	222,246
1991	0	15,300	0	134,991	14,425	88,064	14,425	238,355
1992	790	15,267	2,065	172,663	15,655	86,786	18,510	274,716
1993	855	15,197	5,535	218,584	16,985	85,399	23,375	319,180
1994	930	15,121	6,990	248,469	18,425	83,895	26,345	347,485
1995	1,010	15,038	8,080	256,855	19,995	82,261	29,085	354,154
1996	1,095	14,949	10,205	256,079	21,690	80,489	32,990	351,517
1997	10,925	14,440	13,865	255,058	23,535	78,568	48,325	348,066
1998	11,850	13,472	17,430	253,728	25,535	76,482	54,815	343,682
1999	12,860	12,421	19,920	252,141	27,710	74,220	60,490	338,782
2000	13,955	11,281	21,615	250,375	30,060	71,766	65,630	333,422
2001	15,140	10,044	23,460	248,456	32,615	69,102	71,215	327,602
2002	16,435	8,702	25,455	246,378	35,395	66,210	77,285	321,290
2003	15,890	7,329	27,605	244,124	38,400	63,074	81,895	314,527
2004	17,240	5,921	29,955	241,677	41,665	59,672	88,860	307,270
2005	18,705	4,393	32,515	239,023	45,205	55,980	96,425	299,396
2006	20,295	2,735	35,275	236,143	49,050	51,974	104,620	290,852
2007	22,025	936	38,265	233,017	53,220	47,626	113,510	281,579
2008	0	0	41,520	229,626	57,745	42,911	99,265	272,537
2009	0	0	45,050	225,947	62,645	37,795	107,695	263,742
2010	0	0	48,880	221,954	67,975	32,243	116,855	254,197
2011	0	0	53,035	217,623	73,750	26,219	126,785	243,842
2012	0	0	57,540	212,923	79,975	19,686	137,515	232,609
2013	0	0	62,435	207,824	38,250	14,661	100,685	222,485
2014	0	0	67,740	202,294	24,540	11,991	92,280	214,285
2015	0	0	73,495	196,291	26,625	9,817	100,120	206,108
2016	0	0	79,740	189,777	28,945	7,456	108,685	197,233
2017	0	0	86,525	182,711	6,770	5,938	93,295	188,649
2018	0	0	93,875	175,045	7,345	5,338	101,220	180,383
2019	0	0	101,860	166,727	7,970	4,687	109,830	171,414
2020	0	0	110,520	157,701	8,645	3,981	119,165	161,682
2021	0	0	119,910	147,908	9,380	3,215	129,290	151,123
2022	0	0	130,105	137,283	10,180	2,383	140,285	139,666
2023	0	0	141,165	125,754	11,045	1,481	152,210	127,235
2024	0	0	153,160	113,245	11,895	506	165,055	113,751
2025	0	0	166,175	99,672	0	0	166,175	99,672
2026	0	0	180,305	84,946	0	0	180,305	84,946
2027	0	0	195,775	68,962	0	0	195,775	68,962
2028	0	0	173,265	53,277	0	0	173,265	53,277
2029	0	0	125,875	40,564	0	0	125,875	40,564
2030	0	0	118,085	30,195	0	0	118,085	30,195
2031	0	0	118,780	20,128	0	0	118,780	20,128
2032	0	0	101,795	10,753	0	0	101,795	10,753
2033	0	0	57,930	3,964	0	0	57,930	3,964
2034	0	0	17,660	751	0	0	17,660	751
2035	0	0	0	0	0	0	0	0
TOTAL	180,000	241,831	3,040,435	7,818,604	1,087,720	2,140,981	4,308,155	10,201,416

Within the constraints of timing, accruals to the reserve could be available for financing additional SWP costs after the year 2000, since additional facilities will need to be constructed to satisfy the contractual minimum yield of the Project.

Line 74: Total Application of Miscellaneous Receipts and Project Operating Revenues.

This summary of the application of revenues and receipts matches the total accruals of such money as shown in Line 57.

Power Costs

After April 1, 1983, the costs of electrical energy for pumping will constitute most of the SWP's annual operating expenses and a significant portion of the SWP's total annual costs. Currently, contractor payments for net power costs approximate 10 percent of the total charges for SWP water service, including the repayments of capital costs. However, commencing in 1983, such costs are expected to constitute more than 40 percent in certain years.

Through March 31, 1983, SWP pumping energy loads in excess of recovery generation (from San Luis, Devil Canyon, Castaic Powerplants and, commencing in 1982, William E. Warne Powerplant) will continue to be obtained under the Canadian Entitlement Power and Suppliers Contracts, under fixed purchase terms negotiated in 1966. Generation from Hyatt-Thermalito plants will continue to be sold under the Power Sale Contract (with fixed sale terms also negotiated in 1966). Both power purchases and sale contracts terminate on March 31, 1983.

As stated in the Power Cost Section of Bulletin 132-80, in March 1980, the Department prepared and distributed a long-range estimate of future power costs. The projection also appeared on page 104 of Bulletin 132-80. These estimated costs were the Department's best estimate at that time.

The Department has redetermined the future power cost for the project with the best information available in July and August 1981. The estimates indicate there are major revisions in costs for some of the planned resources. The following table shows the July 1981 estimate of each source's share of the total annual load and its respective cost in mills per kilowatthour for 1981 and every five years for 1985 through 2000. The mill rates include an allowance for future cost inflation. Also included is the composite cost for the SWP system as a whole. The composite cost is a weighted average of the resource costs. The weighting is determined by the resource's contribution to the total load required. For instance, in 1985, Hyatt-Thermalito contributes about 32 percent of the load at about 9.9 mills/kWh.

Also shown in the table are the projected energy costs in mills per kWh of Pacific Gas and Electric, Southern California Edison, and San Diego Gas and Electric for the same periods as shown for the SWP. These costs were published in a California Energy Commission staff report entitled "California Energy Prices 1980-2000" Appendix E, July, 1981. This comparison illustrates that energy costs for the SWP are still expected to be less than the major utility companies in California.

It should be noted, in addition, that the various resources listed in the table will serve different functions in future operations of the SWP. The output of the Department's retained share of Hyatt-Thermalito, recovery, and other power plants owned or controlled by the Department, can be scheduled to provide energy during on-peak and off-peak periods for meeting project loads. The wind resource will provide energy which can displace energy from other sources at the time of its generation. The costs listed for purchases are for energy that can be scheduled during

off-peak periods only.

In reviewing the projections of costs for the energy resources, it must be recognized that assumptions were made that may not be valid when the resources are actually brought into operation and furnishing energy to the Project. Some of these assumptions are:

- The resources that are assumed to be built by DWR were assumed to be financed with CVP revenue bonds at the legal limit (as of July 1, 1981) of 8.5 percent interest and sold at not less than 94 percent of par value. However, in the current bond market the Department is unable to sell bonds at these low rates. If legislation is enacted which will allow the Department to sell bonds at a higher rate, the cost of financing will be higher and the mill rate of these SWP owned resources will be higher.

- The cost of oil fired generation is a component in determining the cost of purchases and the steam rates for the geothermal plants. These cost projections assume that the cost of oil will escalate at about 10 percent per year, based on the oil market in the past few years. Projection of oil prices is very speculative in the current world market. Therefore, any mill rates which depend on oil prices should be regarded as subject to drastic changes.

Hyatt-Thermalito - The current 1985 estimated OMP&R costs have increased, causing the 1985 mill rate to be slightly higher than those projected in Bulletin 132-80. However, the escalation rate for the Bulletin 132-80 estimate was higher than the escalation rate for the new estimate. For the current estimate, different components are being escalated at different rates, e.g., the replacement charges and the Federal Energy Regulatory Commission (FERC) charges were not escalated. Hence, the total OMP&R costs by year 2000 are lower than estimated in Bulletin 132-80, accounting for the slightly lower rates in year 2000.

Project Hydro Plants - The Bulletin 132-80 estimates assumed that all project hydro plant generation would be valued at 25 mills/kWh. This value was established as a minimum level during Energy Committee meetings during 1977 (see Bulletin 132-78, page 86). However, the 25-mill rate is not sufficient to cover the actual cost of power production from the proposed future power plants; therefore, the generation was assumed to be valued at the estimated cost of production.

For planning purposes, the value of generation for the proposed plants at Thomes-Newville, Los Vaqueros, and San Luis Obispo Powerplant on the coastal branch has been assigned the same value as the Cottonwood Powerplant generation, since the cost data and cost allocation of these resources are still in the preliminary stages.

The value for Cottonwood Powerplant is presented as an equal annual value, since the amount of generation can vary widely depending on aqueduct operations, annual water supply exportable from the Delta, and contractor deliveries downstream.

The value for the other small hydro power plants is based on an average amount of generation each year and increases only due to escalation of operation and maintenance costs.

Pine Flat - The costs to the Department of this resource consist of a payment equal to the bond service, an energy payment to Kings River Conservation District (KCRD), a FERC payment, and operations and maintenance payments. The increase from Bulletin 132-80 projections was made because (1) the annual escalation rate for the energy payments was raised from 5 percent to 7 percent; and (2) the operation and maintenance cost estimate was increased. The FERC pay-

ESTIMATED ENERGY REQUIREMENTS AND COSTS[a]

Item	Calendar Year				
	1981	1985	1990	1995	2000
TOTAL ENERGY REQUIREMENT (millions of kWh)	5,013	7,280	9,001	9,587	10,259
ENERGY RESOURCES (millions of kWh)					
Hyatt-Thermalito	0	2,331	2,331	2,331	2,331
Project Recovery Plants					
San Luis	90	153	140	188	218
Devil Canyon	638	947	950	1,028	1,014
Castaic	286	388	687	642	715
William E. Warne	0	235	416	389	431
Proposed [b]	0	0	12	99	179
Project Small Hydro					
Cottonwood	0	95	104	113	114
Others	0	78	118	123	122
SCE Exchange	0	1,411	1,181	1,030	919
Pine Flat	0	423	423	423	423
MWD Hydro, Phase I	0	194	257	277	275
Reid Gardner	0	1,193	1,193	1,193	998
Bottle Rock	0	372	372	372	372
South Geysers	0	218	372	372	372
Binkley	0	0	372	372	372
Honey Lake	0	0	255	255	255
Isabella Lake	0	0	20	20	20
Wind	0	30	30	30	30
Purchases [c]	3,999	0	0	330	1,099
Potential Sales [c]	0	-788	-232	0	0
TOTAL RESOURCES	5,013	7,280	9,001	9,587	10,259
RESOURCES' PERCENTAGE					
Hyatt-Thermalito	0.000	32.019	25.897	24.314	22.722
Project Recovery Plants					
San Luis	1.795	2.102	1.555	1.961	2.125
Devil Canyon	12.727	13.008	10.554	10.723	9.884
Castaic	5.705	5.330	7.632	6.697	6.969
William E. Warne	0.000	3.228	4.622	4.058	4.201
Proposed	0.000	0.000	0.133	1.033	1.745
Project Small Hydro					
Cottonwood	0.000	1.305	1.155	1.179	1.111
Others	0.000	1.071	1.311	1.283	1.189
SCE Exchange	0.000	19.382	13.121	10.744	8.958
Pine Flat	0.000	5.810	4.699	4.412	4.123
MWD Hydro, Phase I	0.000	2.665	2.855	2.889	2.681
Reid Gardner	0.000	16.387	13.254	12.444	9.728
Bottle Rock	0.000	5.110	4.133	3.880	3.626
South Geysers	0.000	2.995	4.133	3.880	3.626
Binkley	0.000	0.000	4.133	3.880	3.626
Honey Lake	0.000	0.000	2.833	2.660	2.486
Isabella Lake	0.000	0.000	0.222	0.209	0.195
Wind	0.000	0.412	0.333	0.313	0.292
Purchases [c]	79.773	0.000	0.000	3.442	10.713
Potential Sales [c]	0.000	-10.823	-2.576	0.000	0.000
TOTAL RESOURCES	100.000	100.000	100.000	100.000	100.000
RESOURCES' COST/VALUE (mills/kWh) [d]					
Hyatt-Thermalito	0.0	9.9	10.4	11.1	12.2
Project Recovery Plants					
Existing	4.3	25.0	25.0	25.0	25.0
Proposed	0.0	0.0	57.0	57.0	57.0
Project Small Hydro					
Cottonwood	0.0	57.0	57.0	57.0	57.0
Others	0.0	90.0	92.0	95.0	99.0
SCE Exchange	0.0	0.0	0.0	0.0	0.0
Pine Flat	0.0	26.0	31.0	37.0	46.0
MWD Hydro, Phase I [e]	-	-	-	-	-
Reid Gardner	0.0	48.0	62.0	84.0	117.0
Bottle Rock	0.0	78.0	107.0	140.0	198.0
South Geysers	0.0	81.0	112.0	149.0	213.0
Binkley	0.0	0.0	124.0	157.0	215.0
Honey Lake	0.0	78.0	107.0	140.0	198.0
Isabella Lake	0.0	90.0	92.0	95.0	99.0
Wind	0.0	95.0	95.0	95.0	95.0
Purchases - Suppliers & CEP	4.2	-	-	-	-
Purchases So. Cal Edison (Oil)	-	86.0	138.0	221.0	352.0
Purchases So. Cal Edison (Coal)	-	22.0	33.0	51.0	78.0
Potential Sales [f]	0.0	20.0	31.0	0.0	0.0
COMPOSITE COST (mills/kWh)	4.2	25.4	38.3	50.8	77.9
TRANSMISSION COST (mills/kWh)	0.3	2.3	2.3	2.3	2.3
TOTAL SWP COMPOSITE COST (mills/kWh)	4.5	27.7	40.6	53.1	80.2
UTILITY COMPOSITE COSTS [g]					
Pacific Gas and Electric	56.7	83.1	124.5	178.3	328.2
Southern California Edison	68.3	102.9	160.5	250.7	365.4
San Diego Gas and Electric	83.0	131.8	229.4	372.5	475.6

a) A discussion of the assumptions for the individual resource costs is included in the discussion following this table.
b) Power facilities at Los Vaqueros, Thomes-Newville, and San Luis Obispo Power Plant on the Coastal Branch.
c) Amounts shown for purchases and sales represent a net amount for the years shown, i.e. total sales exceeded total purchases in 1985 and 1990 and total purchases exceeded total sales thereafter.
d) Includes allowance for future cost escalation.
e) DWR-MWD small hydro (Phase I) contract specifies that the price of this energy resource will be determined annually based upon the Department's least costly external alternative.
f) Sale shown for 1985 and 1990 is estimated fuel cost for Reid Gardner (implies reduction of generation or sale at cost of fuel).
g) Projected utility company costs as shown in California Energy Commission staff report "California Energy Prices 1980-2000", Appendix E, July 1981.

EXHIBIT 29

ment is based on the maximum allowable under the FERC license issued to KCRD. It is possible that a lesser fee could be charged if a FERC staff recommendation is adopted, which could reduce the annual cost by approximately 2.5 mills per kWh.

MWD Hydro - The Bulletin 132-80 estimate of these costs was based on the assumption that a hypothetical hydro project with development and operation costs similar to those for MWD hydro, and terms of payment for energy similar to the Pine Flat agreement, would be DWR's least-costly alternative to the MWD project. The estimate was prepared in this manner, as it was felt that DWR would be paying for capacity from MWD. The DWR - MWD small hydro contract specifies that the price of the energy source will be determined annually based upon the Department's least costly external alternative resource; thus no values have been shown for future years.

Reid Gardner - The costs shown for the Reid Gardner Unit No. 4 project represent the cost to the Department if Nevada Power Company (NPC) does not exercise its option to purchase peaking capacity and energy. If NPC does exercise this option, the contract provides that it would pay for peaking capacity and energy based on its costs of oil fired combustion turbines. Therefore, NPC would pay more than actually incurred by the Department to produce the power NPC would receive, thus decreasing the net cost per kilowatthours to the Department.

Bottle Rock - At the time of the March 1980 estimate, the chemical costs and associated manpower costs required to meet the air emission standards had not been finalized or approved. The inclusion of these costs has increased the 1985 estimate by about 14 mills/kWh. The cost of steam, as projected by PGandE, has increased by 6 mills/kWh. An increase of about 8 mills/kWh is due to increased bond service payments resulting from an increase in estimated construction costs and increased CVP bond interest rates assumed.

These rates are based on conditions the Department expects to occur and does not represent a worst case or best case scenario. For example, if the sulfur in the steam condensate waste product can be kept in solution prior to reinjection into the steam field, the construction costs of the facilities required to meet the air quality requirements can be reduced, which could decrease the mill rates by 4-5 mills/kWh.

The steam payment rate is based on the formula in the steam contracts for Bottle Rock and South Geysers Powerplants.

These steam payments are dependent upon the cost of oil, coal, nuclear fuel, and alternative generation resources in the PGandE system, and are very sensitive to assumptions regarding future fuel prices and the timing of additions to the PGandE system, such as Diablo Canyon Powerplant (nuclear). For this latest estimate the Department used a March, 1981 PGandE projection for the geothermal plant steam rates.

South Geysers - As with the Bottle Rock geothermal plant, the chemical costs and associated manpower costs had not been finalized or approved at the time of the march 1980 estimate. The inclusion of these costs has increased the 1985 estimate by about 17 mills/kWh. The cost of steam, as projected by PGandE, has increased by 7 mills per kWh. An increase of about 8 mills/kWh is due to increased bond service payments resulting from an increase in estimated construction costs and estimated increased CVP bond interest rates.

The total mill rate costs could vary due to the possible reduction in costs and variance of steam rates as explained above in the discussion of Bottle Rock Powerplant.

Binkley - This geothermal power plant

was not included in Bulletin 132-80. Cost estimates are very preliminary and are based on the assumption that Binkley Powerplant will incur the same costs as Bottle Rock Powerplant. The mill rate is higher because it would be constructed approximately four years later than Bottle Rock and would incur higher initial construction costs due to inflation.

The total mill rate costs could vary due to the possible reduction in costs and variance of steam rates as explained above in the discussion of Bottle Rock Powerplant.

Honey Lake - Pursuant to the Project Development Agreement between the Department and GeoProducts Corporation, the Department would pay for energy from the Honey Lake project based upon the relationship of costs for the Department's geothermal resource projects to costs of the Department's total resources. At this time, in light of multiple options, it is believed that for planning purposes, the costs of energy from Bottle Rock Powerplant are most representative of anticipated costs of energy from the Honey Lake project.

Isabella Lake - On June 9, 1981, the Federal Energy Regulatory Commission issued an order granting a preliminary permit to authorize feasibility studies on this project. No preliminary estimates were available at the time of this estimate. Therefore, it is assumed for planning purposes that average cost of energy from the the Department's small hydro projects is most representative of anticipated costs of energy from Isabella Lake project.

Wind - In the absence of firm agreements, this cost is the anticipated equal annual cost as put forth in tentative negotiations between the Department's and private wind developers.

Purchases - The March 1980 estimate assumed all purchases would be from Southern California Edison as provided in the DWR-Edison contract signed in October, 1979. The cost was based on purchasing energy generated from oil-fired turbines, and therefore, dependent upon the cost of oil.

The values shown in the preceding table show a range of possible purchase costs under the DWR-Edison contract. The values shown are for off-peak energy purchases only and do not include a cost consideration for capacity. The high end of the range is again based on oil-fired generation. The low end of the range is represented by the potential purchase of coal fired generation under the Edison contract, future contracts, or spot purchases after the Department begins operating similar to a utility.

Capital Requirements for Future SWP Power Plants - It is assumed that the construction costs of future SWP power plants would for the most part be financed by sale of Central Valley Project Revenue Bonds. This has historically been the case, except for the State's share of San Luis Pumping-Generating Plant, which was financed by Burns-Porter funds. However, possible exceptions to the above assumption would be the financing for future small hydro power plants and power plants associated with the Los Vaqueros and Glenn reservoirs. It is assumed for this analysis that such recovery plants would be financed by any available SWP funds, including Burns-Porter funds.

Previous estimates of power costs had assumed financing could be obtained at the then current interest rates prevailing in the bond market. The assumed interest rates had always been less than the legal interest rate limit (as of July 1, 1981) imposed by the CVP Act. This limit was 8-1/2 percent, and the bonds could not be sold at less than 94 percent of par value. However, the prevailing market rates since late 1980 have not allowed the Department to sell CVP revenue bonds. The current estimates of power costs assume that bonds would be sold at the upper limit of

8-1/2 percent, since the Department has no basis to assume it can obtain financing at the higher interest rate. Even if legislative action allowed the sale of bonds at a higher interest, the Department will endeavor to time its bond sales so that the least expensive financing can be obtained without interfering with timely construction of the power-generating facilities.

APPENDIX B

DATA AND COMPUTATIONS USED IN

DETERMINING WATER CHARGES FOR 1982

APPENDIX B - DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES FOR 1982

TABLE OF CONTENTS

	Page
Character of Water Charges	182
Composition of Water Charges	183
Bases for Allocating Reimbursable Costs Among Contractors	186
Proportionate Maximum Use of Facilities	187
Proportionate Annual Use of Facilities	187
Special Treatment of Certain Plant Costs	188
Water Conveyance	188
Bases for Reimbursable Costs	189
Capital Costs	190
Costs of Delivery Structures	191
Costs of Requested Excess Capacity	191
Annual Operating Costs	192
Minimum Operating Costs	192
Costs to be Returned to the State Through Payments Under the Transportation Charge and the Devil Canyon-Castaic Contract	193
Costs to be Returned Through Payments Under the Delta Water Charge and the Oroville Power Sale Contract	193
Project Water Charges	193
Transportation Charge	193
Allocated Capital Costs	193
Capital Cost Components	194
Minimum OMP&R Components	195
Variable OMP&R Components	195
Total Transportation Charges	196
Delta Water Rates per Acre-foot of Entitlement	196
Delta Water Charges	197
Total Delta Water Charges	197
Total Transportation and Delta Water Charges	197
Equivalent Total Water Charges	197
Equivalent Water Costs, by Reach	197
Surplus Water Service	197
Actual and Projected Deliveries	197
Surplus Water Costs	198
Surplus Water Charges	198

FIGURES

B-1	Relationships of Data Used to Substantiate Statements of Charges	184
B-2	Criteria for Amortization Schedules	194
B-3	Repayment Reaches and Descriptions	199

TABLES

		Page
B-1	Factors for Distributing Reach Capital Costs Among Contractors. .	200
B-2	Factors for Distributing Reach Minimum OMP&R Costs Among Contractors	202
B-3	Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant	204
B-4	Annual Entitlements to Project Water.	206
B-5A	Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor	210
B-5B	Annual Water Quantities Delivered to Each Contractor.	218
B-5C	Annual Requests From Each Contractor For Water Deliveries	222
B-6	Annual Water Quantities Conveyed Thru Each Pumping and Power Recovery Plant of Project Transportation Facilities	226
B-7	Reconciliation of Capital Costs Allocated to Water Supply and Power Generation.	234
B-8	Capital Costs of Requested Delivery Structures.	235
B-9	Capital Costs of Requested Excess Peaking Capacity.	236
B-10	Capital Costs of Each Aqueduct Reach to be Reimbursed Thru Capital Cost Component of Transportation Charge	238
B-11	Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed Thru Minimum OMP&R Component of Transportation Charge	246
B-12	Variable OMP&R Costs to be Reimbursed Thru Variable OMP&R Component of Transportation Charge.	254
B-13	Capital and Operating Costs of Project Conservation Facilities to be Reimbursed Thru Delta Water Charge.	258
B-14	Capital Costs of Transportation Facilities Allocated to Each Contractor.	260
B-15A	Capital Cost Component of Transportation Charge for Each Contractor.	264
B-15B	Capital Cost Component of Reid Gardner Unit No. 4 Charge for Each Contractor	268
B-16	Minimum OMP&R Component of Transportation Charge for Each Contractor.	272
B-17	Unit Variable OMP&R Component of Transportation Charge.	276
B-18	Variable OMP&R Component of Transportation Charge For Each Contractor.	280
B-19	Total Transportation Charge For Each Contractor	284
B-20A	Calculation of Delta Water Rates.	288
B-20B	Delta Water Rates by Facility	289
B-21	Total Delta Water Charge For Each Contractor.	290
B-22	Total Transportation and Delta Water Charge for Each Contractor .	294
B-23	Equivalent Unit Charge for Water Supply for Each Contractor . . .	298
B-24	Equivalent Unit Transportation Costs of Water Delivered From or Thru Each Aqueduct Reach	299
B-25	Annual Surplus Water Deliveries	300
B-26	Power Costs for Pumping Surplus Water	301
B-27	Power, Replacement and Administrative Charge for Surplus Water Deliveries.	302
B-28	Projected Annual Surplus Water Deliveries	303
B-29	Projected Power Costs for Pumping Surplus Water	304
B-30	Projected Unit Power Rates For Pumping Surplus Water.	305
B-31	Commitment For the Cost of Power For Pumping Surplus Water. . . .	306

APPENDIX B

DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES

Statements of charges to be furnished by the State on or before July 1 of each year are described in Article 29(e) of the "Standard Provisions for Water Supply Contract which provides that:

> "...All such statements shall be accompanied by the latest revised copies of the document amendatory to Article 22 and of Tables B, C, D, E, F, and G of this contract, together with such other data and computations used by the State in determining the amounts of the above charges as the State deems appropriate."

Compliance with Article 29(e) requires a comprehensive annual redetermination of all water supply aspects of the State Water Project for the entire project repayment period. This annual redetermination is specifically provided for in Article 22(f), concerning the Delta Water Rate per acre-foot of future entitlement, and in Article 28, with regard to the Annual Transportation Charges for the entire project repayment period.

This appendix documents the redetermination for water charges to be paid by contractors during calendar year 1982 and is based on aspects of the State Water project known July 1, 1981. The computational procedure and relationships among tabulations of this redetermination are outlined on Figure B-1. All B-tables shown on Figure B-1 are found at the end of this appendix.

This appendix also documents payments, pursuant to amended Article 21 of the Standard Provisions, for the sale and service of surplus project water to contractors.

Character of Water Charges

Most of the facilities of the State Water Project are necessary either for the conservation and development of a project water supply in and above the Sacramento-San Joaquin Delta or for the conveyance of such a supply to project service areas throughout the State. The Standard Provisions classify these facilities, respectively, as "project conservation facilities" and "project transportation facilities."

Project Conservation Facilities

- Frenchman Dam and Lake
- Grizzly Valley Dam and Lake Davis
- Oroville Dam and Lake Oroville
- Oroville Power Facilities
- Delta Facilities
- Additional Conservation Facilities
- A portion of the California Aqueduct (all of San Luis Dam, Reservoir, and Pumping-Generating Plant, and a portion of the works from the Delta through O'Neill Forebay)

Project Transportation Facilities

- Grizzly Valley Pipeline

- North Bay Aqueduct
- South Bay Aqueduct (including Del Valle Dam and Lake Del Valle)
- The remaining portion of the California Aqueduct (the remaining portion of the works between the Delta Facilities and Dos Amigos Pumping Plant and all works south, including Dos Amigos Pumping Plant and the project dams and lakes in Southern California)

The Standard Provisions provide for two basic annual charges for project water:

- The Delta Water Charge, which will be paid by all contractors and which will return all reimbursable costs of the project conservation facilities to the State.
- The Transportation Charge, in addition to the Delta Water Charge, which will be paid by those contractors served by the project transportation facilities and which will return all reimbursable costs of such facilities to the State.

The Delta Water Charge is essentially a unit commodity assessment on each acre-foot of project water the contractors are entitled to receive under their contracts. The unit charge is calculated so that, if applied to each acre-foot of all such entitlements for the remainder of the project repayment period, all outstanding reimbursable costs of the project conservation facilities will be returned to the State, with appropriate interest, by the end of the period. Reimbursable costs include those allocated to water supply and power generation. Outstanding reimbursable costs exclude (a) those returned to the State through actual payments of the Delta Water Charge and (b) all those returned and to be returned to the State through sales of power generated in connection with the project conservation facilities.

Article 22(g) of the Standard Provisions as amended, requires that the Delta Water Charge be adjusted, when costs are incurred, to reimburse the costs of those supplemental conservation facilities constructed in the future to supply "supplemental water" in addition to the "minimum project yield", 5,217,705 cubic dekametres (4,230,000 acre-feet) annually. Article 22(g) further provides that the redetermined charge will be paid by both contractors for "supplemental water" and by contractors supplied by the present "minimum project yield." Thus the Delta Water Charge is "open-ended."

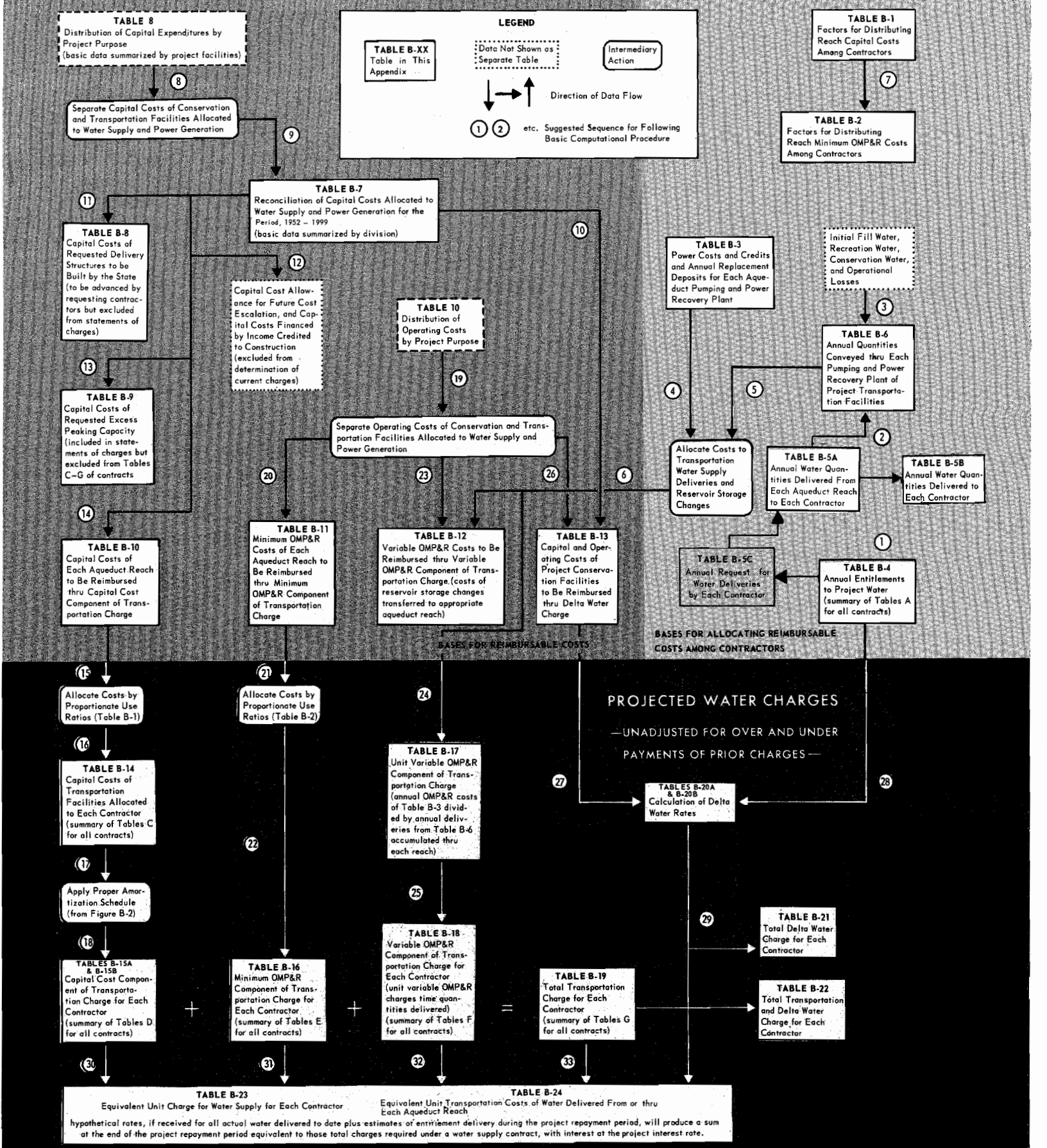
The Transportation Charge is essentially an assessment for that use of the project transportation facilities required to deliver water provided within the "minimum project yield" from points in and above the Sacramento-San Joaquin Delta to the vicinity of each contractor's turnout. Generally, the annual Charge represents each contractor's proportionate share of the reimbursable costs for constructing and operating the project transportation facilities. Certain variations are allowed in the method of amortizing each contractor's share of reimbursable capital costs. The contractor's share of reimbursable operating costs is repaid essentially in the year such costs are incurred by the State.

Composition of Water Charges

The Delta Water Charge and the Transportation Charge each consists of three components;

- A capital cost component, which will return to the State all reimbursable capital costs.

Figure B-1: RELATIONSHIPS OF DATA USED TO SUBSTANTIATE STATEMENTS OF CHARGES



- A minimum operation, maintenance, power, and replacement (OMP&R) component, which will return to the State all reimbursable operating costs that are incurred irrespective of water quantities actually delivered to the contractors.

- A variable OMP&R component, which will return to the State all reimbursable operating costs that are incurred in amounts that depend on, and vary with, water quantities actually delivered to the contractors. The variable OMP&R component of the Delta Water Rate is included with the minimum OMP&R component of the rate used in determining total Delta Water Charges.

The time and method of payment for corresponding components of the Delta Water Charge and the Transportation Charge are as follows:

- The capital cost components of the Delta Water Charge and the Transportation Charge are paid in two semiannual installments, due January 1 and July 1 of each year, on the basis of statements furnished by the State on or before July 1 of the preceding year.

- The minimum OMP&R component of the Transportation Charge and all reimbursable operating costs under the Delta Water Charge are paid in 12 equal installments, due the first of each month, also on the basis of statements furnished by the State on or before July 1 of the preceding year.

- The variable OMP&R component of the Transportation Charge is paid in varying monthly amounts, due the 15th of the second month following actual water delivery, on the basis of a unit charge per acre-foot established on or before July 1 of the preceding year and applied to actual monthly delivery quantities as determined by the State on or before the 15th of the month following actual delivery.

The Transportation Charges do not include certain credits from contractor payments under supplemental agreements including the following:

1. Payments for State construction of requested delivery structures which exceed actual construction costs of such structures.

2. Payments for State construction of requested excess capacity in project transportation facilities which exceed actual construction costs of such excess capacity.
3. Payments under the Devil Canyon-Castaic contract.

Transportation Charges for prior years, through 1980 do not equal those amounts actually paid by contractors under statements previously furnished by the State. Overpayments or underpayments of charges (difference between the redetermined amounts and those under statements previously furnished) are accumulated, with interest credits or debits, and are deducted from or added to the redetermined amounts of the Transportation Charge to be paid by respective contractors during 1982 (except for the capital cost component associated with agricultural use by Kern County Water Agency). These adjustment computations are shown in the attachments accompanying each contractor's statement of charges and are reflected in revised copies of Tables C through G of the contract, also furnished with the statement of charges.

The formula for computing the Delta Water Rate, Article 22(f) of the Standard Provisions, provides that all adjustments for prior overpayments or underpayments of the Charge are accounted for in a redetermination of the Rate. Since the redetermined Rate applies to all future entitlements, such adjustments are effectively amortized during the remainder of the project repayment period. This appendix includes a determination of the Delta Water Rate for 1982.

This redetermination excludes charges associated with project water service other than the Delta Water Charge and the Transportation Charge. Other charges (and the manner by which such charges are treated herein) are:

- Advances of funds pursuant to Article 24(d) of the Standard Provisions, for excess capacity constructed by the State at the request of contractors. (Information on required advances is included herein because these charges are covered in the July 1 statements. However, the advances which are projected to exceed the additional capital costs for such excess capacity in completed aqueduct reaches, together with interest accruals thereon, have been credited to future capital cost components of the Transportation Charges of contractors requesting excess capacity. Application of these credits is shown in the copies of revised Tables D and G which are furnished with the statements of charges.)

- Advances of funds pursuant to Article 10(d) of the Standard Provisions, for delivery structures (turnouts) constructed by the State at the request of contractors. (Partial information is included herein concerning actual and projected capital costs of such delivery structures. Statements concerning these costs and data in support of such statements are furnished to the appropriate contractors at various times and are not part of July 1 statements).

- Payments for sale and service of surplus project water to entities other than contractors pursuant to Article 21 of the Standard Provisions. (Payments on such water are based on prices greater than the unit variable OMP&R costs involved. Net revenues resulting from "noncontractor" service are applied as described on page 24, Bulletin 132-71. Such Prices are generally based on the unit rates shown in Table B-24.)

- Payments under the Devil Canyon-Castaic Contract for costs of the Devil Canyon and Castaic Facilities allocable to power generation. (Charges under the Contract are billed separately from those under the Water Supply Contract. The treatment of such charges in relation to redetermined Transportation Charges is shown in special attachments to the bills of the six affected contractors.)

Bases for Allocating Reimbursable Costs Among Contractors

This section concerns how reimbursable costs of aqueduct reaches of the project transportation facilities are allocated among contractors for determining the Transportation Charge. Reimbursable costs of the project conservation facilities are not allocated directly among contractors. Conceptually, the Delta Water Charge is a unit commodity charge rather than a use of facilities charge.

Allocation of reimbursable costs of aqueduct reaches among contractors is based on two specific applications of the Proportionate Use of Facilities method:

- Allocations of reimbursable capital costs and minimum OMP&R costs of each reach are based on the proportionate maximum use of that reach by respective contractors under planned conditions of full project development.

- Allocations of reimbursable variable OMP&R costs of each reach are based on the proportionate actual annual use of that reach by the respective contractors.

Figure B-3, at the end of the text for this appendix, shows reaches in which

reimbursable costs of project transportation facilities are allocated among contractors.

Proportionate Maximum Use of Facilities

The derivation of ratios that represent the proportionate maximum use of each aqueduct reach by the respective contractors was last described in Bulletin 132-70. (See pages 103-106 for a description of the computational procedure; pages 116-117 for a summary of aqueduct reaches, reach delivery quantities, and reach capacities; and pages 118-173 for a detailed derivation of factors for each contractor and for each aqueduct reach.) Such factors are still valid -- except for the first reach of the California Aqueduct and for reaches of the South Bay Aqueduct. Revised ratios for these reaches are described in Bulletin 132-72 (see pages 106-111) and account for certain contract amendments executed early in 1972 regarding South Bay Aqueduct use (see pages 33-35, Bulletin 132-73).

Table B-1 presents a summary of all reach ratios currently applicable to reimbursable capital costs.

Table B-2 presents a corresponding summary applicable to reimbursable minimum OMP&R costs. Requested excess capacity is ignored in B-1 (since the associated capital costs are paid for on an incremental-cost basis and not a proportionate-use basis) but is accounted for in B-2.

Proportionate Annual Use of Facilities

Article 26(a) of the contract provides that the variable OMP&R component of the Transportation Charge shall return to the State those costs which are incurred in an amount which depends upon and varies with the amount of project water delivered to the contractor. (The minimum OMP&R component returns those operating costs which are incurred in an amount which does not vary with deliveries.) The Article explains that all such costs for a reach for a given year shall be allocated among contractors in proportion to the respective delivery quantities conveyed through the reach during the year.

Under the State's procedure, variable OMP&R costs originate with certain operating costs of project pumping and power recovery plants. These costs are incurred in amounts which generally vary with the total water conveyed through the plants -- not with just the portion for delivery to contractor turnouts. In addition to direct deliveries, conveyance may include the following:

(a) Water applied in down-aqueduct onshore recreation developments,
(b) Water stored in the initial fill of down-aqueduct reaches and reservoirs, and

(c) Water lost through evaporation and seepage from down-aqueduct reaches and reservoirs, and

(d) Water stored during a year in excess of storage withdrawals, subsequent to initial fill, in down-aqueduct reservoirs.

Under the State's procedure, certain operating costs for a plant for a given year are allocated among direct deliveries and (a) through (d) above in proportion to respective quantities conveyed through the plant during the year. Plant costs allocated to direct deliveries are designated as variable OMP&R costs to be repaid by contractors for the reach in which the plant is located. Remaining plant costs are allocated to the quantities (a) through (d) above and designated as follows:

(a) A portion of joint OMP&R costs of the reach containing the plant allocated to recreation,

(b) A portion of joint capital costs of respective down-aqueduct reaches and reservoirs,

(c) and (d) A portion of joint minimum OMP&R costs of respective down-aqueduct reaches and reservoirs,

Concerning (d) above, in years when storage in down-aqueduct reservoirs is decreased for the purpose of making deliveries, associated variable OMP&R costs are established for the respective reservoirs with an offsetting credit applied to the minimum OMP&R costs of each. Such variable OMP&R costs are calculated to be equivalent to the original plant costs of conveying the water placed in storage. Under current procedures, the unit cost of conveying water to storage is assumed to be equivalent to the unit cost of conveying water to the storage site in years when such storage is released.

Special Treatment of Certain Plant Costs. As indicated in the preceding section, the State's procedure requires an initial apportionment of certain plant costs among capital cost, minimum OMP&R, and variable OMP&R components. This is based on annual quantities conveyed through respective plants for various down-aqueduct functions. Plant costs which are apportioned are summarized in Table B-3 and include the following items:

- Costs of capacity and energy used, exclusive of associated power transmission and station service charges. (Transmission and station service costs are classified as minimum OMP&R costs.)

- Credits for capacity and energy produced at aqueduct power recovery plants (treated as negative costs).

- Annual payments to sinking fund reserves to finance periodic replacement of plant machinery components having economic lives shorter than the project repayment period. The annual sinking fund payments for years 1962 through 1979 are based on a schedule which was determined in 1970 and has been continued in bulletins and water contractor charges since that date. Sinking fund payments for 1980 and amounts projected from 1981 through 2035 in this bulletin are based on a revised schedule. Amounts in the revised schedule are substantially greater than those projected in the 1970 schedule.

Excluded from the above are costs for salaries of plant operations and maintenance personnel -- classified as minimum OMP&R costs.

Also excluded from B-3 are plant capacity and energy costs associated with surplus water service after May 1, 1973. Prior to May 1, 1973, surplus water service was charged the same unit variable OMP&R component as entitlement water service. Prior to that date, surplus water deliveries are included in "Deliveries -- Water Supply" described in the following section.

Beginning May 1, 1973, the rate structure for surplus water service was significantly changed (see "Contract Amendments, Water Contracts Management", Chapter II). Capacity and energy costs of pumping plants are assigned directly to surplus water service in years of delivery. However, no surplus water was available in 1977 due to the severity of the drought.

Water Conveyance. Table B-4 summarizes the schedules of annual entitlements as set forth in Table A of each contract.

Table B-5A presents a summary of the actual water quantities delivered from each aqueduct reach to each contractor. The projected water quantities reflect the Department's application of water conservation and water reclamation goals contained in Bulletin 76 to reduce future delivery estimates. Future water conservation and reclamation projections will be redefined annually through consultation with local agencies and assessment of water supply variables. These quantities also include actual and projected nonproject water delivered to

contractors and surplus water deliveries prior to May 1, 1973. (For a comparison of actual and projected deliveries to annual entitlements, see Table 1, Chapter II.)

Table B-5B presents a summary of actual and projected annual water quantities delivered and to be delivered to each contractor as shown in Table B-5A.

Table B-5C presents annual requests for water deliveries received from each water contractor. Projected deliveries are from the current annual requests for future water deliveries received from each water contractor in Fall of 1980 for purposes of this bulletin.

Table B-6 summarizes the water quantities conveyed or to be conveyed through each aqueduct pumping plant or power plant for each year of the project repayment period and for each of the following functions:

- Made available to contractors at down-aqueduct delivery structures ("Deliveries -- Water Supply").
- Required to initially fill down-aqueduct reaches and reservoirs to operational levels or for repayment of preconsolidation water used during construction of project facilities ("Initial Fill Water").
- Consumed in down-aqueduct project-associated recreation developments ("Deliveries, Recreation").
- Lost through evaporation and seepage from all down-aqueduct reaches ("Operational Losses").
- Placed in down-aqueduct reservoir storage subsequent to the initial fill of such storage ("Reservoir Storage Changes"). Except at the Harvey O. Banks Delta Pumping Plant, where it is included in "Conservation Water," "Reservoir Storage Changes" also includes Project water placed into Southern California ground water storage in 1978 through 1984 (as plus amounts), and includes a projection for withdrawing a portion of the water from storage and delivery of the water to contractors, between 1979 and 1982 (as negative amounts).

In addition, Table B-6 summarizes the net annual water amounts stored and to be stored in San Luis Reservoir (a project conservation facility with costs reimbursed through the Delta Water Charge) and lost and to be lost through evaporation and seepage from the Reservoir and from the water conservation portion of the Aqueduct (all such quantities are included under the heading "Conservation Water").

The Harvey O. Banks Delta Pumping Plant is a joint transportation-conservation facility. Under the State's procedure, power and replacement costs of the Banks Pumping Plant which are apportioned to the conveyance of annual "conservation water" quantities are transferred to the capital costs of San Luis Reservoir (during initial fill) or to the minimum OMP&R costs of San Luis Reservoir (subsequent to initial fill).

In years when releases from San Luis Reservoir cause a net annual storage depletion in order to make deliveries to contractors down-aqueduct therefrom, a portion of the minimum OMP&R costs of the reservoir is transferred to the transportation variable OMP&R costs of the Banks Pumping Plant. This transfer is in an amount equal to the variable OMP&R cost per acre-foot of delivery through the Banks Pumping Plant for that year, multiplied by the acre-feet of deliveries derived from San Luis Reservoir storage for that year.

Bases for Reimbursable Costs

Tables 8 and 10 (Chapter III) summarize the capital and OMP&R costs of all project facilities, respectively, and the allocation of these costs among the various project purposes. Allocation percentages are shown for each project

Project Facilities	Water Supply and Power Generation		All Other Purposes (Nonreimbursable)	
	Capital Costs	Minimum OMP&R Costs	Capital Costs	Minimum OMP&R Costs
	(in percent)			
Project Conservation Facilities				
Frenchman Dam and Lake	21.5	0	78.5	100.0
Antelope Dam and Lake	0	0	100.0	100.0
Grizzly Valley Dam and Lake Davis	5.1	8.8	94.9	91.2
Oroville Division[a]	97.1	99.5	2.9	0.5
California Aqueduct, Delta to Dos Amigos Pumping Plant	96.6	96.7	3.4	3.3
Delta Facilities	86.0	86.0	14.0	14.0
Additional Conservation Facilities				
Ground Water Storage	100.0	100.0	0	0
Los Vaqueros Reservoir	95.0	95.0	5.0	5.0
Thomes-Newville Project	95.0	95.0	5.0	5.0
Cottonwood Creek Project	100.0	100.0	0	0
Transportation Facilities				
California Aqueduct:				
Delta to Dos Amigos Pumping Plant	96.6	96.7	3.4	3.3
Dos Amigos Pumping Plant to termini excluding Coastal Branch [b]	94.3	96.9	5.7	3.1
Coastal Branch	100.0	100.0	0	0
South Bay Aqueduct:				
Del Valle Dam and Lake Del Valle	25.2	22.0	74.8 [c]	78.0 [d]
Remainder of South Bay Aqueduct	100.0	100.0	0	0
North Bay Aqueduct	100.0	100.0	0	0

a) Percentages shown are applicable to the remaining costs of the Division after excluding costs allocated to flood control which are reimbursed by the Federal Government (22% of capital costs) and excluding specific power costs of Edward Hyatt and Thermalito Powerplants and Switchyards.

b) The percentages shown are the result of final allocation of facilities from the Delta to Dos Amigos Pumping Plant which was approved by the Legislature in 1980.

c) Percentage shown consists of 48.0% recreation and 26.8% flood control.

d) Percentage shown consists of 44.9% recreation and 33.1% flood control.

facility in the above tabulation. For the most part, these percentages are preliminary and subject to future revision and are applicable to the State's costs of the respective facilities. The redetermination of this appendix is concerned only with the costs of project facilities that are allocated to water supply and power generation.

Capital Costs

Table B-7 presents a reconciliation of estimated total capital costs of each project conservation facility and each aqueduct reach as estimated for (a) Chapter III and (b) current redetermination of water charges.

Project Facility	Number of Delivery Structures					
	Requested by Agencies	Under Construction		Completed		Stub Only[a]
		by State	by Agencies	by State	by Agencies	
Oroville Area	6	0	0	0	6	0
North Bay Aqueduct (Phase I)	3	0	0	1	1	1
South Bay Aqueduct	20	0	0	8	9	3
California Aqueduct:						
North San Joaquin Division	5	0	1	0	4	0
San Luis Division (served by the federal Central Valley Project)						
South San Joaquin Division	48	0	3	9	30	6
Tehachapi Division	1	0	0	0	0	1
Mojave Division	24	0	0	0	13	11
Santa Ana Division	10	0	0	3	5	2
West Branch	5	0	0	1	1	3
Coastal Branch (Phase I)	3	0	0	1	2	0
TOTAL	**125**	**0**	**4**	**23**	**71**	**27**

a) Will be completed at a later date. Temporary facilities for delivery of water have been installed at several of the stubs.

Costs of Delivery Structures. Costs incurred by the State in Connection with both State and Contractor constructed delivery structures are paid directly by the contractors for which the structures are built. (State incurs design, review and construction inspection costs in connection with contractor constructed turnouts.)

Costs incurred and projected to be incurred by the State in connection with each contractor's turnouts are shown in Table B-8. The projected costs shown in Table B-8, are only rough approximations as in most cases the structures have not been designed as yet.

Costs of Requested Excess Capacity. Amendments have been added to contracts of the following three agencies and provide for excess capacity in the project transportation facilities:

The Metropolitan Water District of Southern California, San Gabriel Valley Municipal Water District, and Antelope Valley-East Kern Water Agency.

Listed in Table B-9 are the amounts for:

- Additional costs incurred by the State for requested excess capacity.
- Advances, by water contractors, of funds for such costs.
- Credits for advances in excess of costs which are applied to the respective contractor's installment of the capital cost component of the Transportation Charge in 1982.

Under Amendment 2 of Metropolitan's contract, 22.9 cubic metres per second (809 cubic feet per second) of excess capacity originally was constructed in reaches of the West Branch at the District's request. Under Amendment 7, such capacity was reclassified as basic capacity of the project transportation facilities. This aspect of Amendment 7 required a $16.3 million prepayment of the District's capital cost component of the Transportation Charge in lieu of advances of funds for the originally requested capacity.

Application of credits for contractor advances that are estimated to be in excess of actual costs and (concerning Metropolitan's Amendment 7) for prepayments of the capital cost component is shown in attachments to the respective statements of charges.

Amendment 5 of Metropolitan's contract includes a provision whereby additional costs to be incurred because of modifications to the Santa Ana Valley Pipeline, required for enlargement of Lake Perris at the request of Metropolitan, are to be allocated to the District and returned to the State through payments of the Transportation Charge. The estimated additional costs to be repaid through the District's capital cost component for the aqueduct reach from Devil Canyon Powerplant to Barton Road total $6.7 million as shown on page 98, Bulletin 132-72.

Annual Operating Costs

Estimated operating costs allocable to water supply and power generation shown in Table 10 (Chapter III) will be returned to the State through payments to the minimum and variable OMP&R components of Delta Water and Transportation Charges and through a portion of the revenues from electric power sales.

All reimbursable operating costs of conservation facilities are returned to the State through payments of the minimum OMP&R component of the Delta Water Charge.

Those operating costs to be reimbursed through payments of the variable OMP&R component of the Transportation Charge were previously described in the section entitled "Special Treatment of Certain Plant Costs." The remainder of this section centers on those costs to be reimbursed through payments of the minimum OMP&R component of the Transportation Charges.

Minimum Operating Costs. The following types of operating costs are considered to be incurred in annual amounts that do not vary with the water quantities delivered to the contractors and are therefore classified as minimum OMP&R costs:

- All direct labor charges for field operations and maintenance personnel, including associated indirect costs.
- Electric power transmission and station service costs.
- Escalation of projected minimum OMP&R amounts in Table B-11 at 7 percent per year through 1982.
- All costs for equipment, materials, and supplies and for replacement of works other than rotating machinery of pumping and power recovery plants. Minimum OMP&R costs in Table B-11, for 1980 through 2035 include replacement deposits based on a revised schedule, first included in water contractor charges for 1980 and in Bulletin 132-79.
- Portions of the power and replacement costs of all up-aqueduct pumping plants and power plants that are allocable to the annual conveyance of water (a) lost to evaporation and seepage from respective aqueduct reaches, or (b) placed into storage in respective reservoirs of the project transportation facilities (after initial fill).
- Credits, which offset those costs referred to in (b) above, for deliveries derived from reservoir storage.
- A distributed share of general and direct operating costs which cannot be identified solely with one facility or aqueduct reach.

Concerning the allocation of general operating costs among facilities and reaches, this redetermination follows the procedures described on pages 111-113, Bulletin 132-70.

Costs to be Returned to the State Through Payments Under the Transportation Charge and the Devil Canyon-Castaic Contract

Table B-10 presents the actual and projected annual capital costs of each aqueduct reach that will eventually be returned to the State, with interest, through contractor payments of the capital cost component under the Transportation Charge and of debt service under the Devil Canyon-Castaic Contract. Table B-10 includes representative capital costs of small hydroelectric powerplants to be recovered through the Transportation Charge. The capital costs of Reid Gardner Unit No. 4 power plant have been allocated to transportation pumping plants and are shown separately at the bottom of the table. The actual and projected costs to be reimbursed through payments of the minimum OMP&R component under the Transportation Charge and of allocated operating costs under the Devil Canyon-Castaic Contract are shown in Table B-11. Variable OMP&R costs, shown in Table B-12, are a portion of those costs shown in Table B-3 allocable to the water supply delivery quantities shown in Table B-6 and reimbursed through payments of the variable OMP&R component of the Transportation Charge.

Costs to be Returned through Payments Under the Delta Water Charge and the Oroville Power Sale Contract

Summarized in Table B-13 are actual and projected capital and operating costs of the initial project conservation facilities to be reimbursed through payments under (a) the Delta Water Charge, (b) Oroville power sales, and (c) San Luis power credits. Included in Table B-13 are credits applied to the reimbursable capital costs of the project conservation facilities pursuant to negotiated settlements concerning the magnitude of incurred planning costs for the period 1952 through 1976 (see section entitled "Negotiation of Water Charge Settlements," Chapter II). Also included are representative costs of small hydroelectric powerplants to be recovered through the Delta Water Charge.

Ground water storage costs shown in columns (7) and (8) are subject to those costs being determined to be proper charges to conservation under the water supply contracts.

Project Water Charges

This section summarizes the redetermination of past and projected components of the Transportation Charge for annual revision of Tables C through G that are included in each water contract. This section also includes a derivation of the unit Delta Water Rates. Equivalent unit charges for each acre-foot of entitlement water service are also summarized herein for (a) each contractor and (b) each aqueduct reach.

Transportation Charges

The accumulation of allocated costs of each aqueduct reach to each contractor forms the basis for the annual components of the Transportation Charge.

Allocated Capital Costs. Table B-14 summarizes each contractor's share of the capital costs of aqueduct reaches presented in Table B-10, as determined by application of proportionate-use ratios set forth in Table B-1. As in Table B-10, the capital costs of Reid Gardner Unit No. 4 are listed separately. The resulting allocated costs are set forth in Table C of the respective contracts.

Prepayments of the capital cost component, required under Metropolitan's Amendment 7, are shown as negative capital costs in Metropolitan's Table C and in Table B-14. These costs are adjusted

to reflect the current Project Interest Rate. Both Table B-14 and Table C of the six contracts for service below the Devil Canyon and Castaic Facilities include the capital costs that are reimbursable under the Devil Canyon-Castaic Contract.

Capital Cost Components. Criteria as to the types of amortization schedules applicable to the allocated capital costs for the respective contractors are summarized in Figure B-2. The accounting of interest charges included in the capital cost components of the Transportation Charge follows the procedure established in Settlement Letter No. 2.

The amortization of Reid Gardner capital costs will be handled on a separate schedule from other capital costs. For municipal and industrial (M&I) water users, the costs are to be paid over a 25-year period with the initial payment in 1982. For agricultural water users, the cost will be paid on a unit rate basis over the remaining project repayment period (1982-2035).

FIGURE B-2: CRITERIA FOR AMORTIZATION SCHEDULES

Contractor	Amortization of Allocated Capital Costs in 50 Equal Annual Installments, With Initial Payment Due in:								
	1963	1964	1965	1966	1968	1970	1973	a	b
Alameda County FC&WCD, Zone 7	●c								
Alameda County WD	●								
Antelope Valley-East Kern WA	●								
Castaic Lake WA		●							
County of Butte									●
County of Kings					●				
City of Yuba City									●
Coachella Valley WD		●							
Crestline-Lake Arrowhead WA		●							
Desert WA	●d								
Devil's Den WD								●	
Dudley Ridge WD								●	
Empire West Side ID								●	
Hacienda WD								●f	
Kern County WA: Ag use								●	
M&I use			●						
Littlerock Creek ID		●							
Mojave WA		●							
Napa County FC&WCD				●					
Oak Flat WD								●	
Palmdale WD		●							
Plumas County FC&WCD						●			
San Bernardino Valley MWD	●								
San Gabriel Valley MWD	●d								
San Gorgonio Pass WA	●d								
San Luis Obispo County FC&WCD		●e							
Santa Barbara County FC&WCD		●e							
Santa Clara Valley WD	●								
Solano County FC&WCD							●		
The Metropolitan WD-SC	●								
Tulare Lake Basin WSD								●	
Ventura County FCD		●							

a Amortization of allocated capital costs on basis of equivalent unit rate applied to annual entitlements (Table B-4) within project repayment period.
b Payments on Delta Water Charge only.
c Principal payments on each annual capital cost prior to 1971 delayed until calendar year 1972, except payments for 1963.
d Deferred and added to 1964 payment with accrued interest.
e Exception: all principal and interest payments for costs of "Coastal Stub" are assumed deferred until 1976.
f Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981

Table B-15A summarizes the capital cost components of the Transportation Charge for each contractor for each year of the project repayment period. These estimated components, subsequently adjusted for prior overpayments or underpayments are set forth in Table D of the respective contracts. Credits for advance payment for excess capacity that exceeds actual costs of such capacity are applied to reduce the payment amounts set forth in Table D, but are not included in Table B-15A. Both Table B-15A and Table D of the six Devil Canyon-Castaic contracts include the debt service payments due under the Devil Canyon-Castaic Contract.

Table B-15B summarizes the capital cost component of Reid Gardner Unit No. 4 for each contractor for each year of the project repayment period. This component is not included in Table B-15A.

Minimum OMP&R Components. Table B-16 summarizes the minimum OMP&R components of the Transportation Charge for each year of the project repayment period. These estimated components subsequently adjusted for prior overpayments or underpayments, are set forth in Table E of the respective contracts. These components represent the accumulated share of the reach costs presented in Table B-11, as determined by application of the proportionate-use ratios shown for each reach and for each contractor in Table B-2.

Under operating agreements with Kern County Water Agency concerning the early installation of units by Berrenda Mesa Water District in Las Perillas and Badger Hill Pumping Plants (see Page 7, Bulletin 132-71), the Agency is to be billed any additional operating costs caused by early installation of the units which would otherwise increase charges to downstream contractors. Under this requirement, the following minimum OMP&R costs of Reach 31A are assigned directly to the Agency with the remaining reach costs allocated by application of the proportionate-use ratios:

Year	Direct Charge	Year	Direct Charge
1969 . . .	$ 46,510	1979 . . .	$ 118,589
1970 . . .	46,302	1980 . . .	141,330
1971 . . .	139,682	1981 . . .	93,874
1972 . . .	94,551	1982 . . .	111,409
1973 . . .	71,716	1983 . . .	123,587
1974 . . .	98,851	1984 . . .	127,867
1975 . . .	124,993	1985 . . .	128,064
1976 . . .	137,534	1986 . . .	128,154
1977 . . .	120,220	1987 . . .	126,965
1978 . . .	153,148	**Total. . .**	**$2,133,346**

Both Table B-16 and Table E for the six Devil Canyon-Castaic contracts include the portion of operating costs payable under the Devil Canyon-Castaic Contract.

Variable OMP&R Components. Article 26(a) of the Standard Provisions specifies the following procedure for calculating the variable OMP&R component of the Transportation Charge:

- An annual charge per acre-foot of projected water deliveries to all contractors served from or through each reach is determined so as to return to the State the projected variable OMP&R costs to be incurred for each reach.

- The total annual variable OMP&R component for any contractor for a given reach is obtained by multiplying the unit charge associated with that reach by the quantity of water actually delivered from or through the reach to the contractor.

Table B-17 presents a summary of actual and projected total variable OMP&R costs for each acre-foot of conveyance through each aqueduct pumping plant and power plant for each year of the project repayment period. The data summarized in Table B-17 have been derived by dividing

the power costs (and credits) and replacement costs shown in Table B-3 by the total water quantities shown in Table B-6.

However, certain costs included in Table B-12 for "extra peaking service," which would otherwise constitute variable OMP&R costs, are assigned directly to contractors requesting this type of service (see page 21, Bulletin 132-71, and Water Service Contractors Council Memo No. 593, July 10, 1970). These costs are excluded from the unit charges shown in Table B-17. Extra peaking charges for additional power capacity are as shown below:

Year	Agency	Pumping Plant	
		Dos Amigos	Las Perillas and Badger Hill
			(dollars)
1972	Kern County W.A.	$9,553	$24,700
	Hacienda W.D.	10	0
1973	Kern County W.A.	0	6,016
1974	Kern County W.A.	0	7,140
1975	Kern County W.A.	494	6,397
1976	Kern County W.A.	0	1,981
1978	Kern County W.A.	41,832	3,772
	Dudley Ridge W.D.	2,086	0
	County of Kings	43	0
	Antelope Valley East Kern W.A.	2,322	0
1979	Kern County W.A.	0	3,245

Table B-18 summarizes the variable OMP&R components of the Transportation Charge for each contractor and for each year of the project repayment period. Table B-18 is developed from the costs per acre-foot as shown in Table B-17 and the delivery quantities for each contractor from each reach as shown in Table B-5A, plus any costs for "extra peaking service." These estimated components, subsequently adjusted for prior overpayments or underpayments, are set forth in Table F of the respective contracts.

Total Transportation Charges. Annual Transportation Charges for each contractor are summarized in Table B-19. (The amounts shown in Table B-19 represent the sums of the corresponding amounts shown in Tables B-15A, B-15B, B-16, and B-18.) These estimated payments, subsequently adjusted for prior overpayments or underpayments, are set forth in Table C of the respective contracts. Both Table B-19 and Table G of the six Devil Canyon-Castaic contracts include debt service and operating cost payments due under the Devil Canyon-Castaic Contract.

Delta Water Rates per Acre-Foot of Entitlement

Calculation of the Delta Water Rate for the "initial" conservation facilities applicable in 1982 thru 1983, is shown in Table B-20A in accordance with the amended Articles 22(e) and 22(g) of 29 contracts. See discussion of "Costs to be Returned Through Payments Under the Delta Water Charge and the Oroville Power Sale Contract" for Table B-13. Under the amended articles, future construction and operating costs of each additional and supplemental conservation facility will be included in the calculation of the Rate in years when the State first incurs major construction costs.

Ground water storage costs shown in columns (7) and (8) of B-13 are subject to those costs being determined to be proper charges to Conservation under the water supply contracts.

One contract has not as yet been amended (Solano). The Delta Water Rate for this contractor is also shown in Table B-20A. Future charges to this contractor projected in Table B-21, are based upon rates determined under original provisions of the contract.

Delta Water Rates by Facility are shown

in Table B-20B. This table shows the portion of the Delta water rates from Table B-20A which repay each project conservation facility.

Delta Water Charges

Total Delta Water Charges. The annual Delta Water Charge for each contractor is summarized in Table B-21. Table B-21 is developed from the total rate per acre-foot as shown in Table B-20A and the entitlement water for each contractor as shown in Table B-4.

Total Transportation and Delta Water Charges

The total charge to each contractor consists of the sum of the Total Delta Water Charge and the Total Transportation Charge (including Reid Gardner Unit No. 4 capital component).

Total annual transportation and total Delta Water Charges are summarized in Table B-22. Table B-22 summarizes the total charge to each contractor by combining Table B-15B, Table B-19, and Table B-21.

Equivalent Total Water Charges

A summary of total charges is shown in Table B-23 in terms of the equivalent charge for each acre-foot of project water now estimated to be delivered as entitlement water to the respective contractors. These equivalent charges would provide the same principal sum at the end of the project repayment period as annual payments to be made under the Delta Water Charge and Transportation Charge, plus interest at the project interest rate. The Table B-23 values account for the fact that current estimates of future entitlement water service are noticeably less than the amounts shown in Table A for certain Southern California contractors.

Equivalent Water Costs, by Reach

Table B-24 presents a summary of the equivalent unit transportation cost of conveying entitlement water through respective aqueduct reaches of the project transportation facilities. These unit costs provide the basis of charges assessed (a) for certain "extra service" (such as for delivery of entitlements down-aqueduct from a contractor's turnout) and, together with the Delta Water Charge per acre-foot, (b) for surplus water service to entities other than long-term water supply contractors. It should be noted that the cumulative unit conveyance costs shown for reaches in Table B-24 do not necessarily equal the equivalent unit Transportation Charges to contractors served from such reaches. This is because the unit charges of Table B-23 account for the rates of water demand buildup and cost allocation factors of the respective contractors, whereas the unit costs of Table B-24 meld together the effect of the respective buildups and allocation criteria of all contractors whose entitlements are conveyed through a given reach.

Surplus Water Service

Actual and Projected Deliveries. Surplus water has been delivered from project supplies during each of the years 1968 through 1980, except for 1977, when none was available because of the severity of the drought. In 1978 above-normal precipitation and the large quantities of Article 12(d) makeup water available to the usual surplus water users, resulted in surplus deliveries being the second lowest of record.

Table B-25 shows the quantities of surplus water delivered to long-term contractors during the period of May 1, 1973 through December 31, 1980. Table B-28 shows projected surplus water deliveries for each year of the six-year period of January 1, 1981 through December 31, 1986. Amounts during 1981 are scheduled amounts. For the remaining years, requested amounts have been reduced, using contractual criteria so that each year's total projected delivery does not exceed the quantity of

surplus water estimated to be available that year. Estimated availability is based on the assumption that a lower quartile water supply will be available in each of the six years and that enough water will be held in storage at the end of each year so that delivery of at least entitlement water with a 25% agricultural deficiency can be made the following year even if the following year should have a water supply similar to that which would be available in a repeat of the year 1924 (1,651,000 acre-feet). It was further assumed that Delta water quality standards would be maintained through necessary releases of Federal and State water.

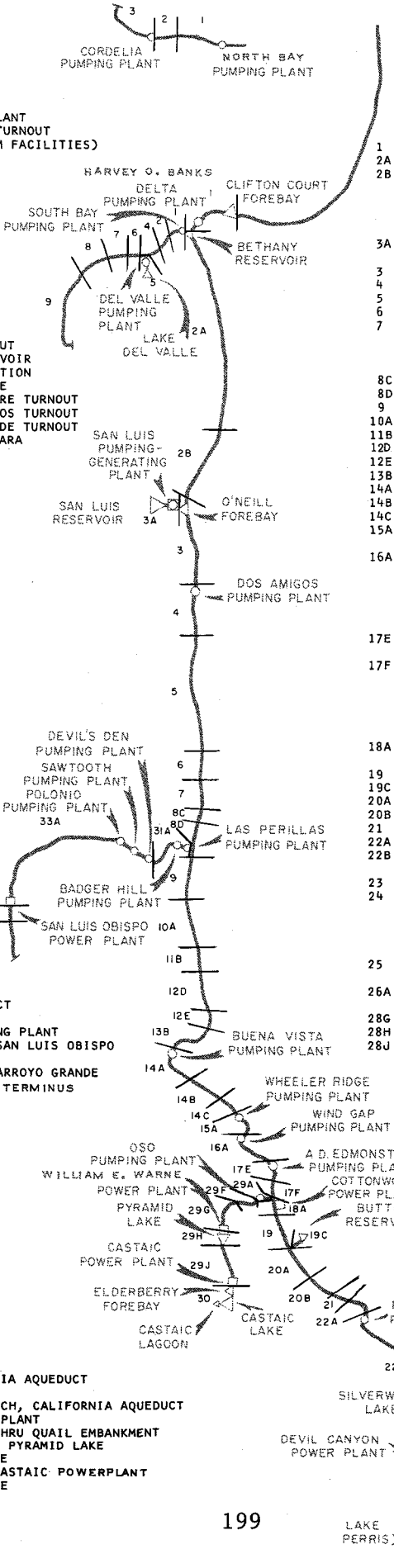
Surplus Water Costs. Table B-26 shows the costs for power which have been incurred by the State at each project pumping plant associated with surplus water deliveries shown in Table B-25. Estimated power costs at each pumping plant that will be incurred in making the projected surplus water deliveries shown in Table B-28 are tabulated in Table B-29.

Surplus Water Charges. Table B-27 shows the actual charges to each contractor for delivery of the surplus water quantities shown in Table B-25. The method of determining these charges is discussed on Page 117 of Bulletin 132-77. Estimated unit power rates for pumping the projected surplus water delivery amounts shown in Table B-28 are shown in Table B-30.

Table B-31 shows the financial obligations incurred by contractors which have requested the State to order power for future surplus water pumping. Under amended Article 21(d) of the long-term water supply contracts, the contractors have made written commitments which guarantee repayment of these costs even if the power cannot be utilized for the intended purpose or for other project uses. In each case the power ordered was an amount estimated by the State to be required to deliver the requested surplus water amounts shown in Table B-31. Based on the Fall 1980 monthly delivery requests and project operation studies reflecting those requests, some of the power ordered for surplus water pumping cannot be used for project purposes. Commitments are made to be assured of the future availability of power for surplus water service at the lowest possible cost.

Figure B-3: REPAYMENT REACHES AND DESCRIPTIONS

PROJECT TRANSPORTATION FACILITIES



NORTH BAY AQUEDUCT

1 CACHE SLOUGH TO SUISUN CITY
2 SUISUN CITY TO CORDELIA PUMPING PLANT
3 CORDELIA PUMPING PLANT THRU NAPA TURNOUT RESERVOIR (INCLUDING THE INTERIM FACILITIES)

SOUTH BAY AQUEDUCT

1 BETHANY RESERVOIR THRU ALTAMONT TURNOUT
2 ALTAMONT TURNOUT THRU PATTERSON RESERVOIR
4 PATTERSON RESERVOIR TO DEL VALLE JUNCTION
5 DEL VALLE JUNCTION THRU LAKE DEL VALLE
6 DEL VALLE JUNCTION THRU SOUTH LIVERMORE TURNOUT
7 SOUTH LIVERMORE TURNOUT THRU VALLECITOS TURNOUT
8 VALLECITOS TURNOUT THRU ALAMEDA-BAYSIDE TURNOUT
9 ALAMEDA-BAYSIDE TURNOUT THRU SANTA CLARA TERMINAL FACILITIES

COASTAL BRANCH, CALIFORNIA AQUEDUCT

31A AVENAL GAP TO DEVIL'S DEN PUMPING PLANT
33A DEVIL'S DEN PUMPING PLANT THRU SAN LUIS OBISPO POWERPLANT
34 SAN LUIS OBISPO POWERPLANT TO ARROYO GRANDE
35 ARROYO GRANDE THRU SANTA MARIA TERMINUS

CALIFORNIA AQUEDUCT

NORTH SAN JOAQUIN DIVISION

1 DELTA THRU BETHANY RESERVOIR
2A BETHANY RESERVOIR TO ORESTIMBA CREEK
2B ORESTIMBA CREEK TO O'NEILL FOREBAY

SAN LUIS DIVISION

3A SAN LUIS DAM, RESERVOIR AND PUMPING-GENERATING PLANT
3 O'NEILL FOREBAY TO DOS AMIGOS PUMPING PLANT
4 DOS AMIGOS PUMPING PLANT TO PANOCHE CREEK
5 PANOCHE CREEK TO FIVE POINTS
6 FIVE POINTS TO ARROYO PASAJERO
7 ARROYO PASAJERO TO KETTLEMAN CITY

SOUTH SAN JOAQUIN DIVISION

8C KETTLEMAN CITY THRU MILHAM AVENUE
8D MILHAM AVENUE THRU AVENAL GAP
9 AVENAL GAP THRU TWISSELMAN ROAD
10A TWISSELMAN ROAD THRU LOST HILLS
11B LOST HILLS TO 7TH STANDARD ROAD
12D 7TH STANDARD ROAD THRU ELK HILLS ROAD
12E ELK HILLS ROAD THRU TUPMAN ROAD
13B TUPMAN ROAD TO BUENA VISTA PUMPING PLANT
14A BUENA VISTA PUMPING PLANT THRU SANTIAGO CREEK
14B SANTIAGO CREEK THRU OLD RIVER ROAD
14C OLD RIVER ROAD TO WHEELER RIDGE PUMPING PLANT
15A WHEELER RIDGE PUMPING PLANT TO WIND GAP PUMPING PLANT
16A WIND GAP PUMPING PLANT TO A. D. EDMONSTON PUMPING PLANT

TEHACHAPI DIVISION

17E A. D. EDMONSTON PUMPING PLANT TO CARLEY V. PORTER TUNNEL
17F CARLEY V. PORTER TUNNEL TO JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT

MOJAVE DIVISION

18A JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT THRU COTTONWOOD CHUTES
19 COTTONWOOD CHUTES TO FAIRMONT
19C BUTTES JUNCTION THRU BUTTES RESERVOIR
20A FAIRMONT THRU 70TH STREET WEST
20B 70TH STREET WEST TO PALMDALE
21 PALMDALE TO LITTLEROCK CREEK
22A LITTLEROCK CREEK TO PEARBLOSSOM PUMPING PLANT
22B PEARBLOSSOM PUMPING PLANT TO WEST FORK MOJAVE RIVER
23 WEST FORK MOJAVE RIVER TO SILVERWOOD LAKE
24 CEDAR SPRINGS DAM AND SILVERWOOD LAKE

SANTA ANA DIVISION

25 SILVERWOOD LAKE TO SOUTH PORTAL, SAN BERNARDINO TUNNEL
26A SOUTH PORTAL, SAN BERNARDINO TUNNEL THRU DEVIL CANYON POWERPLANT
28G DEVIL CANYON POWERPLANT TO BARTON ROAD
28H BARTON ROAD TO LAKE PERRIS
28J PERRIS DAM AND LAKE PERRIS

WEST BRANCH, CALIFORNIA AQUEDUCT

29A JUNCTION, WEST BRANCH, CALIFORNIA AQUEDUCT THRU OSO PUMPING PLANT
29F OSO PUMPING PLANT THRU QUAIL EMBANKMENT
29G QUAIL EMBANKMENT TO PYRAMID LAKE
29H PYRAMID DAM AND LAKE
29J PYRAMID LAKE THRU CASTAIC POWERPLANT
30 CASTAIC DAM AND LAKE

TABLE B-1: FACTORS FOR DISTRIBUTING

Reach No.	Reach Description	NORTH BAY AREA		SOUTH BAY AREA				TOTAL
		Napa County FC&WCD	Solano County FC&WCD	Alameda County FC&WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Future Contractor	
	North Bay Aqueduct							
1	Cache Slough to Suisun City	.39808876	.60191124					1.00000000
2	Suisun City to Cordelia Pumping Plant	.39808861	.60191139					1.00000000
3	Cordelia Pumping Plant thru Napa Turnout Reservoir (Including the interim facilities)	1.00000000						1.00000000
	South Bay Aqueduct							
1	Bethany Reservoir thru Altamont Turnout			.22599621	.20663014	.49237700	.07499665	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663057	.49237791	.07499495	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504791	.21450021	.51113252	.07931936	1.00000000
5	Del Valle Junction thru Lake Del Valle			.14436367	.12972254	.33715573	.38875806	1.00000000
6	Del Valle Junction thru South Livermore Turnout			.14599918	.21144710	.50574745	.13680627	1.00000000
7	South Livermore Turnout thru Vallecitos Turnout				.25176680	.60218448	.14604872	1.00000000
8	Vallecitos Turnout thru Alameda-Bayside Turnout				.06294980	.72065355	.21639665	1.00000000
9	Alameda-Bayside Turnout thru Santa Clara Terminal Facilities					1.00000000		1.00000000
	California Aqueduct							
1	Delta Thru Bethany Reservoir			.00954802	.00872976	.02080260	.00342519	— — —

Reach No.	Reach Description	CENTRAL COASTAL AREA		SOUTHERN				
		San Luis Obispo County FC&WCD	Santa Barbara County FC&WCD	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency
	California Aqueduct							
1	Delta Thru Bethany Reservoir	.00531147	.01240007	.02939503	.00890866	.00528393	.00133630	.00871425
2A	Bethany Reservoir to Orestimba Creek	.00555266	.01296315	.03072975	.00931319	.00552151	.00139640	.00910607
2B	Orestimba Creek to O'Neill Forebay	.00555876	.01297741	.03076360	.00932344	.00552915	.00139833	.00911867
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00555769	.01297494	.03075777	.00932168	.00552856	.00139818	.00911771
4	Dos Amigos Pumping Plant to Panoche Creek	.00555659	.01297235	.03075165	.00931982	.00552794	.00139801	.00911670
5	Panoche Creek to Five Points	.00555520	.01296912	.03074401	.00931751	.00552717	.00139780	.00911543
6	Five Points to Arroyo Pasajero	.00555311	.01296424	.03073244	.00931400	.00552602	.00139750	.00911351
7	Arroyo Pasajero to Kettleman City	.00555243	.01296267	.03072873	.00931287	.00552565	.00139740	.00911289
8C	Kettleman City thru Milham Avenue	.00555159	.01296069	.03072405	.00931145	.00552517	.00139729	.00911211
8D	Milham Avenue thru Avenal Gap	.00566628	.01322842	.03135878	.00950380	.00564073	.00142650	.00930269
9	Avenal Gap thru Twisselman Road			.03437577	.01041812	.00618845	.00156502	.01020599
10A	Twisselman Road thru Lost Hills			.03492681	.01058510	.00628966	.00159061	.01037292
11B	Lost Hills to 7th Standard Road			.03848657	.01166387	.00694140	.00175542	.01144773
12D	7th Standard Road thru Elk Hills Road			.04046660	.01226391	.00730484	.00184732	.01204709
12E	Elk Hills Road thru Tupman Road			.04052108	.01228042	.00731580	.00185010	.01206514
13B	Tupman Road to Buena Vista Pumping Plant			.04397523	.01332721	.00794772	.00200991	.01310729
14A	Buena Vista Pumping Plant thru Santiago Creek			.04618687	.01399742	.00835456	.00211281	.01377821
14B	Santiago Creek thru Old River Road			.04702647	.01425185	.00851020	.00215218	.01403490
14C	Old River Road to Wheeler Ridge Pumping Plant			.04846557	.01468794	.00877627	.00221947	.01447369
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant			.04927653	.01493368	.00892667	.00225752	.01472172
16A	Wind Gap Pumping Plant to A.D. Edmonston Pumping Plant			.05113510	.01549688	.00927016	.00234437	.01528820
17E	A.D. Edmonston Pumping Plant to Carley V. Porter Tunnel			.05355379	.01622984	.00971819	.00245767	.01602709
17F	Carley V. Porter Tunnel to Junction, West Branch, Calif. Aqueduct			.05366827	.01626453	.00973908	.00246295	.01606154
18A	Junction, West Branch, Calif. Aqueduct thru Cottonwood Chutes			.13238112		.02399390	.00606794	.03957043
19	Cottonwood Chutes to Fairmont			.13237766		.02399451	.00606810	.03957141
19C	Buttes Junction thru Buttes Reservoir			1.00000000				
20A	Fairmont thru 70th Street West			.06847931		.02576424	.00651572	.04249001
20B	70th Street West to Palmdale			.02276024		.02702916	.00683554	.04457607
21	Palmdale to Littlerock Creek			.02318953		.02754716	.00696650	.04543034
22A	Littlerock Creek to Pearblossom Pumping Plant			.01181870		.02794143	.00706620	.04608043
22B	Pearblossom Pumping Plant to West Fork Mojave River					.02827552	.00715073	.04663153
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818121	.00535117
24	Cedar Springs Dam and Silverwood Lake					.01024605	.01251569	.01690478
25	Silverwood Lake to South Portal, San Bernardino Tunnel							
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Pwp.							
28G	Devil Canyon Powerplant to Barton Road							
28H	Barton Road to Lake Perris							
28J	Perris Dam and Lake Perris							
29A	Junction, West Branch, Calif. Aqueduct thru Oso Pumping Plant				.02736564			
29F	Oso Pumping Plant thru Quail Embankment				.02736563			
29G	Quail Embankment to Pyramid Lake				.02736564			
29H	Pyramid Dam and Lake				.02646380			
29J	Pyramid Lake thru Castaic Powerplant				.02736563			
30	Castaic Dam and Lake				.02637131			
31A	Avenal Gap to Devil's Den Pumping Plant	.10522767	.24566277					
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.29988697	.70011303					
34	San Luis Obispo Powerplant to Arroyo Grande	.20553239	.79446761					
35	Arroyo Grande thru Santa Maria Terminal	.14771038	.85228962					

REACH CAPITAL COSTS AMONG CONTRACTORS

Reach No.	SAN JOAQUIN VALLEY AREA								
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District (a	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District
					Municipal and Industrial	Agricultural			
California Aqueduct									
1	.00377824	.01707931	.00088687	.00251598	.02742075	.30633444	.00090702	.00167139	.03253706
2A	.00394038	.01781205	.00092491	.00262393	.02864590	.31948963	.00094755	.00174305	.03393294
2B	.00395099	.01786013	.00092740	.00263102	.02869073	.32034362	.00094904		.03402458
3	.00395208	.01786513	.00092766	.00263176	.02868919	.32043064	.00094900		.03403409
4	.00395323	.01787039	.00092794	.00263254	.02868758	.32052214	.00094893		.03404410
5	.00395466	.01787693	.00092828	.00263352	.02868559	.32063639	.00094886		.03405659
6	.00395684	.01788685	.00092879	.00263498	.02868255	.32080926	.00094875		.03407550
7	.00395753	.01789003	.00092896	.00263544	.02868158	.32086471	.00094872		.03408157
8C	.00395842	.01789405	.00092918	.00263603	.02868035	.32093468	.00094867		.03408923
8D	.00404591	.01828966		.00269431	.02928494	.32802221			.01551611
9					.03214521	.32838224			
10A					.03267760	.31755652			
11B					.03609912	.24768443			
12D					.03801001	.20879251			
12E					.03807068	.20769413			
13B					.01464596	.16664965			
14A					.00622935	.13374077			
14B					.00634719	.11790931			
14C					.00654829	.09078926			
15A					.00666217	.07549599			
16A					.00692172	.04047416			
17E					.00213551				
31A	.07364766					.57546190			

Reach No.	CALIFORNIA AREA								
	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	TOTAL
1	.00049187	.01101303	.00369180	.02363192	.00650450	.00398446	.43940274	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932582	.00448829	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985090	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472604	.00680580	.00416893	.45976953	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968397	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957712	.00449037	1.00000000
6	.00051428	.01151416	.00385978	.02471455	.00680178	.00416698	.45941544	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936361	.00448816	1.00000000
8C	.00051414	.01151103	.00385874	.02471072	.00680044	.00416634	.45929816	.00448747	1.00000000
8D	.00052475	.01174889	.00393847	.02522753	.00694206	.00425349	.46880430	.00458017	1.00000000
9	.00057523	.01287942	.00431739	.02767698	.00761389	.00466647	.51396901	.00502081	1.00000000
10A	.00058444	.01308595	.00438661	.02812957	.00773752	.00474279	.52223261	.00510129	1.00000000
11B	.00064401	.01442004	.00483371	.03104405	.00853455	.00523416	.57558975	.00562119	1.00000000
12D	.00067713	.01516215	.00508241	.03266922	.00897860	.00550817	.60527969	.00591035	1.00000000
12E	.00067804	.01518261	.00508926	.03271816	.00899157	.00551643	.60610827	.00591831	1.00000000
13B	.00073586	.01647710	.00552311	.03554404	.00976456	.00599288	.65787670	.00642278	1.00000000
14A	.00077287	.01730602	.00580090	.03736328	.01026125	.00629961	.69105032	.00674576	1.00000000
14B	.00078692	.01762074	.00590636	.03805925	.01045073	.00641694	.70365858	.00686838	1.00000000
14C	.00081102	.01816015	.00608712	.03924903	.01077498	.00661754	.72526114	.00707853	1.00000000
15A	.00082461	.01846415	.00618901	.03992156	.01095807	.00673092	.73744044	.00719696	1.00000000
16A	.00085571	.01916080	.00642247	.04145755	.01137676	.00698987	.76533787	.00746838	1.00000000
17E	.00089617	.02006742	.00672629	.04346097	.01192239	.00732766	.80165539	.00782162	1.00000000
17F	.00089809	.02011032	.00674067	.04355438	.01194797	.00734341	.80337045	.00783834	1.00000000
18A	.00221525	.04960424	.01662681	.10730447	.02944861	.01809192	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730706	.02944877	.01809230	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784830	.11522151	.03161800	.01942666	.61700972		1.00000000
20B	.00249470	.05586076	.01872390	.12087842	.03316988	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319478	.03380326	.02077093	.65963499		1.00000000
22A		.05773081		.12495765	.03428607	.02106816	.66905055		1.00000000
22B		.05842136		.12645206	.03469615	.02132008	.67705257		1.00000000
23				.14467449	.03969012	.02439238	.77446614		1.00000000
24				.22243002	.04339444	.02843498	.66607404		1.00000000
25				.14947726	.03997502	.02520426	.78534346		1.00000000
26A				.14947726	.03997502	.02520426	.78534346		1.00000000
28G				.05126137			.94873863		1.00000000
28H							1.00000000		1.00000000
28J							1.00000000		1.00000000
29A							.95944607	.01318829	1.00000000
29F							.95944608	.01318829	1.00000000
29G							.95944609	.01318827	1.00000000
29H							.96446829	.00906791	1.00000000
29J							.95944608	.01318829	1.00000000
30							.96499830	.00863039	1.00000000
31A									1.00000000
33A									1.00000000
34									1.00000000
35									1.00000000

a) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-2: FACTORS FOR DISTRIBUTING REACH

Reach No.	Reach Description	NORTH BAY AREA		SOUTH BAY AREA				TOTAL
		Napa County FC&WCD	Solano County FC&WCD	Alameda County FC&WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Future Contractor	
North Bay Aqueduct								
1	Lindsey Slough to Suisun City	.39808876	.60191124					1.00000000
2	Suisun City to Cordelia Pumping Plant	.39808861	.60191139					1.00000000
3	Cordelia Pumping Plant thru Napa Turnout Reservoir (Including the interim facilities)	1.00000000						1.00000000
South Bay Aqueduct								
1	Bethany Reservoir thru Altamont Turnout			.22599621	.20663014	.49237700	.07499665	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663057	.49237791	.07499495	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504791	.21450021	.51113252	.07931936	1.00000000
5	Del Valle Junction thru Lake Del Valle			.14436367	.12972254	.33715573	.38875806	1.00000000
6	Del Valle Junction thru South Livermore Turnout			.14599918	.21144710	.50574745	.13680627	1.00000000
7	South Livermore Turnout thru Vallecitos Turnout				.25176680	.60218448	.14604872	1.00000000
8	Vallecitos Turnout thru Alameda-Bayside Turnout				.06294980	.72065355	.21639665	1.00000000
9	Alameda-Bayside Turnout thru Santa Clara Terminal Facilities					1.00000000		1.00000000
California Aqueduct								
1	Delta Thru Bethany Reservoir			.00954802	.00872976	.02080260	.00342519	— — —

Reach No.	Reach Description	CENTRAL COASTAL AREA		SOUTHERN				
		San Luis Obispo County FC&WCD	Santa Barbara County FC&WCD	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency
California Aqueduct								
1	Delta Thru Bethany Reservoir	.00531147	.01240007	.02939503	.00890866	.00528393	.00133630	.00871425
2A	Bethany Reservoir to Orestimba Creek	.00555266	.01296315	.03072975	.00931319	.00552151	.00139640	.00910607
2B	Orestimba Creek to O'Neill Forebay	.00555876	.01297741	.03076360	.00932344	.00552915	.00139833	.00911867
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00555769	.01297494	.03075777	.00932168	.00552856	.00139818	.00911771
4	Dos Amigos Pumping Plant to Panoche Creek	.00555659	.01297235	.03075165	.00931982	.00552794	.00139801	.00911670
5	Panoche Creek to Five Points	.00555520	.01296912	.03074401	.00931751	.00552717	.00139780	.00911543
6	Five Points to Arroyo Pasajero	.00555311	.01296424	.03073244	.00931400	.00552602	.00139750	.00911351
7	Arroyo Pasajero to Kettleman City	.00555243	.01296267	.03072873	.00931287	.00552565	.00139740	.00911289
8C	Kettleman City thru Milham Avenue	.00549671	.01283255	.03042012	.00921937	.00546665	.00138249	.00901561
8D	Milham Avenue thru Avenal Gap	.00560860	.01309375	.03103938	.00940703	.00557923	.00141095	.00920128
9	Avenal Gap thru Twisselman Road			.03398205	.01029883	.00611262	.00154585	.01008094
10A	Twisselman Road thru Lost Hills			.03451663	.01046082	.00621064	.00157063	.01024262
11B	Lost Hills to 7th Standard Road			.03796305	.01150525	.00684053	.00172991	.01128139
12D	7th Standard Road thru Elk Hills Road			.03987187	.01208371	.00719023	.00181834	.01185809
12E	Elk Hills Road thru Tupman Road			.03992309	.01209924	.00720053	.00182095	.01187505
13B	Tupman Road to Buena Vista Pumping Plant			.04324825	.01310695	.00780756	.00197447	.01287616
14A	Buena Vista Pumping Plant thru Santiago Creek			.04536499	.01374841	.00819606	.00207273	.01351685
14B	Santiago Creek thru Old River Road			.04616419	.01399059	.00834387	.00211013	.01376063
14C	Old River Road to Wheeler Ridge Pumping Plant			.04753265	.01440528	.00859629	.00217396	.01417689
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant			.04830162	.01463830	.00873855	.00220995	.01441151
16A	Wind Gap Pumping Plant to A.D. Edmonston Pumping Plant			.05006206	.01517177	.00906311	.00229201	.01494676
17E	A.D. Edmonston Pumping Plant to Carley V. Porter Tunnel			.05234459	.01586347	.00948480	.00239865	.01564222
17F	Carley V. Porter Tunnel to Junction, West Branch, Calif. Aqueduct			.05245356	.01589650	.00950462	.00240367	.01567491
18A	Junction, West Branch, Calif. Aqueduct thru Cottonwood Chutes			.13238112		.02399390	.00606794	.03957043
19	Cottonwood Chutes to Fairmont			.13237766		.02399451	.00606810	.03957141
19C	Buttes Junction thru Buttes Reservoir			1.00000000				
20A	Fairmont thru 70th Street West			.06847931		.02576424	.00651572	.04249001
20B	70th Street West to Palmdale			.02276024		.02702916	.00683554	.04457607
21	Palmdale to Littlerock Creek			.02318953		.02754716	.00696650	.04543034
22A	Littlerock Creek to Pearblossom Pumping Plant			.01181870		.02794143	.00706620	.04608043
22B	Pearblossom Pumping Plant to West Fork Mojave River					.02827552	.00715073	.04663153
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818121	.00535117
24	Cedar Springs Dam and Silverwood Lake					.01024605	.01251569	.01690478
25	Silverwood Lake to South Portal, San Bernardino Tunnel							
26A	South Portal, San Bernardino Tunnel thru Devil Canyon Pwp.							
28G	Devil Canyon Powerplant to Barton Road							
28H	Barton Road to Lake Perris							
28J	Perris Dam and Lake Perris							
29A	Junction, West Branch, Calif. Aqueduct thru Oso Pumping Plant			.00304299	.02728237			
29F	Oso Pumping Plant thru Quail Embankment			.00304379	.02728234			
29G	Quail Embankment to Pyramid Lake				.02736564			
29H	Pyramid Dam and Lake				.02646380			
29J	Pyramid Lake thru Castaic Powerplant				.02736563			
30	Castaic Dam and Lake				.02637131			
31A	Avenal Gap to Devil's Den Pumping Plant	.10522767	.24566277					
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.29988697	.70011303					
34	San Luis Obispo Powerplant to Arroyo Grande	.20553239	.79446761					
35	Arroyo Grande thru Santa Maria Terminal	.14771038	.85228962					

MINIMUM OMP&R COSTS AMONG CONTRACTORS

Reach No.	SAN JOAQUIN VALLEY AREA								
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District (a	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District
					Municipal and Industrial	Agricultural			
California Aqueduct									
1	.00377824	.01707931	.00088687	.00251598	.02742075	.30633444	.00090702	.00167139	.03253706
2A	.00394038	.01781205	.00092491	.00262393	.02864590	.31948963	.00094755	.00174305	.03393294
2B	.00395099	.01786013	.00092740	.00263102	.02869073	.32034362	.00094904		.03402458
3	.00395208	.01786513	.00092766	.00263176	.02868919	.32043064	.00094900		.03403409
4	.00395323	.01787039	.00092794	.00263254	.02868758	.32052214	.00094893		.03404410
5	.00395466	.01787693	.00092828	.00263352	.02868559	.32063639	.00094886		.03405659
6	.00395684	.01788685	.00092879	.00263498	.02868255	.32080926	.00094875		.03407550
7	.00395753	.01789003	.00092896	.00263544	.02868158	.32086471	.00094872		.03408157
8C	.00390372	.01764649	.00091632	.00259956	.02836376	.31651560	.00093819		.03361753
8D	.00398843	.01802948		.00265599	.02895222	.32337797			.01529539
9					.03173493	.32315570			
10A					.03225002	.31237849			
11B					.03555316	.24304304			
12D					.03738966	.20458362			
12E					.03744664	.20348854			
13B					.01437747	.16288986			
14A					.00610657	.13050491			
14B					.00621833	.11497394			
14C					.00640883	.08842321			
15A					.00651639	.07347673			
16A					.00676126	.03933051			
17E					.00208231				
31A	.07364766					.57546190			

Reach No.	CALIFORNIA AREA								
	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	TOTAL
1	.00049187	.01101303	.00369180	.02363192	.00650450	.00398446	.43940274	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932582	.00448829	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985090	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472604	.00680580	.00416893	.45976953	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968397	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957712	.00449037	1.00000000
6	.00051428	.01151416	.00385978	.02471455	.00680178	.00416698	.45941544	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936361	.00448816	1.00000000
8C	.00050905	.01139703	.00382056	.02444913	.00673013	.00412224	.46619410	.00444309	1.00000000
8D	.00051940	.01162908	.00389834	.02495260	.00686817	.00420714	.47575203	.00453354	1.00000000
9	.00056864	.01273174	.00426793	.02733801	.00752279	.00460932	.52108733	.00496332	1.00000000
10A	.00057757	.01293209	.00433508	.02777635	.00764260	.00468324	.52938182	.00504140	1.00000000
11B	.00063524	.01422367	.00476795	.03059311	.00841338	.00515814	.58274744	.00554474	1.00000000
12D	.00066717	.01493906	.00500769	.03215687	.00884093	.00542180	.61234745	.00582351	1.00000000
12E	.00066803	.01495830	.00501413	.03220286	.00885312	.00542956	.61318897	.00583099	1.00000000
13B	.00072369	.01620441	.00543178	.03491750	.00959625	.00588725	.66464178	.00631662	1.00000000
14A	.00075911	.01699773	.00569765	.03665478	.01007092	.00618017	.69750337	.00662575	1.00000000
14B	.00077249	.01729729	.00579803	.03731574	.01025102	.00629159	.70996969	.00674247	1.00000000
14C	.00079540	.01781020	.00596992	.03844447	.01055888	.00648190	.73127981	.00694231	1.00000000
15A	.00080829	.01809845	.00606653	.03908064	.01073222	.00658915	.74327706	.00705461	1.00000000
16A	.00083775	.01875830	.00628766	.04053195	.01112817	.00683383	.77068316	.00731170	1.00000000
17E	.00087593	.01961383	.00657438	.04241764	.01164221	.00715176	.80626315	.00764506	1.00000000
17F	.00087775	.01965466	.00658807	.04250630	.01166651	.00716671	.80794577	.00766097	1.00000000
18A	.00221525	.04960424	.01662681	.10730447	.02944861	.01809192	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730706	.02944877	.01809230	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784830	.11522151	.03161800	.01942666	.61700972		1.00000000
20B	.00249470	.05586076	.01872390	.12087842	.03316988	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319478	.03380326	.02077093	.65963499		1.00000000
22A		.05773081		.12495765	.03428607	.02106816	.66905055		1.00000000
22B		.05842136		.12645206	.03469615	.02132008	.67705257		1.00000000
23				.14467449	.03969012	.02439238	.77446614		1.00000000
24				.22243002	.04339444	.02843498	.66607404		1.00000000
25				.11825184	.03722720	.01993915	.82458181		1.00000000
26A				.14947726	.03997502	.02520426	.78534346		1.00000000
28G				.05126137			.94873863		1.00000000
28H							1.00000000		1.00000000
28J							1.00000000		1.00000000
29A							.95652648	.01314816	1.00000000
29F							.95652573	.01314814	1.00000000
29G							.95944609	.01318827	1.00000000
29H							.96446829	.00906791	1.00000000
29J							.95944608	.01318829	1.00000000
30							.96499830	.00863039	1.00000000
31A									1.00000000
33A									1.00000000
34									1.00000000
35									1.00000000

a) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-3: POWER COSTS AND CREDITS AND ANNUAL REPLACEMENT

(in

Calendar Year	NORTH BAY AQUEDUCT			SOUTH BAY AQUEDUCT	CALIFORNIA					
	Reach 1	Reach 3		Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15A	Reach 16A	Reach 17E
	North Bay Pumping Plant	Cordelia Pumping Plant(b	Total	South Bay and Del Valle Pumping Plants (c	Harvey O. Banks Delta Pumping Plant	Dos Amigos Pumping Plant	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant	Wind Gap Pumping Plant	A.D. Edmonston Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	38,130	0	0	0	0	0	0
1963	0	0	0	58,871	0	0	0	0	0	0
1964	0	0	0	75,239	0	0	0	0	0	0
1965	0	0	0	146,297	0	0	0	0	0	0
1966	0	0	0	198,643	0	0	0	0	0	0
1967	0	0	0	229,629	26,982	0	0	0	0	0
1968	0	7,128	7,128	342,761	1,324,777	239,505	0	0	0	0
1969	0	8,557	8,557	279,751	855,304	143,403	0	0	0	0
1970	0	13,666	13,666	448,383	368,508	217,820	2,940	0	0	0
1971	0	10,626	10,626	422,057	597,946	229,306	156,540	23,021	18,577	29,067
1972	0	14,430	14,430	623,564	1,110,833	575,291	348,668	187,825	385,935	1,263,087
1973	0	14,453	14,453	485,534	918,234	493,776	511,904	514,487	883,725	3,139,297
1974	0	17,508	17,508	510,873	997,269	560,461	556,968	595,585	1,048,196	3,700,573
1975	0	14,801	14,801	382,106	1,353,916	561,089	650,781	707,038	1,394,918	4,853,538
1976	0	20,867	20,867	589,007	916,728	596,426	701,061	687,677	1,414,902	4,917,776
1977	0	22,591	22,591	540,553	650,647	191,127	170,146	172,977	336,796	1,126,681
1978	0	21,690	21,690	568,756	3,873,153	723,319	1,008,992	967,987	1,780,135	6,273,237
1979	0	19,204	19,204	582,591	3,796,475	1,178,155	949,216	800,846	1,596,458	5,398,130
1980	0	19,974	19,974	518,307	2,329,472	1,120,102	1,071,382	1,078,952	2,191,895	7,270,623
1981	0	23,000	23,000	649,000	3,344,348	1,460,746	1,351,456	1,378,897	2,621,115	8,800,224
1982	0	17,000	17,000	674,000	2,878,057	1,679,081	1,766,401	1,600,820	3,359,698	11,352,831
1983	0	42,000	42,000	1,932,000	14,953,064	5,124,269	5,859,453	5,575,954	12,439,481	43,690,133
1984	0	48,000	48,000	2,376,687	16,141,454	7,257,559	8,114,267	7,720,156	17,384,925	62,237,048
1985	87,000	65,000	152,000	2,784,723	18,588,716	8,825,062	9,889,694	9,345,601	21,119,447	75,771,782
1986	82,000	69,000	151,000	2,911,862	25,142,541	9,600,707	10,698,553	10,046,543	22,719,971	81,494,632
1987	92,000	69,000	161,000	2,868,736	23,160,010	10,347,001	11,815,959	11,142,301	25,267,891	90,426,822
1988	139,000	75,000	214,000	3,130,000	28,052,591	11,345,210	12,775,983	11,957,270	27,107,749	96,560,330
1989	194,000	88,000	282,000	3,536,000	28,650,071	13,085,808	14,867,751	13,919,401	31,618,737	112,514,137
1990	229,000	92,000	321,000	3,495,000	30,370,985	13,379,727	15,065,328	14,105,464	32,054,959	113,812,821
1991	241,000	109,000	350,000	3,749,000	31,477,321	13,626,727	15,159,807	14,139,502	32,105,933	113,865,645
1992	239,000	121,000	360,000	3,752,000	32,043,118	13,612,938	15,356,565	14,385,851	32,702,024	116,159,536
1993	248,000	137,000	385,000	3,950,000	33,891,612	13,711,980	15,309,633	14,298,977	32,479,960	115,287,746
1994	255,000	154,000	409,000	4,088,000	32,932,895	13,961,579	15,609,882	14,590,178	33,157,839	117,757,894
1995	256,000	166,000	422,000	4,065,000	32,752,987	13,635,945	15,088,872	14,065,359	31,940,871	113,321,814
1996	256,000	175,000	431,000	4,022,000	33,979,569	13,869,454	15,599,274	14,617,677	33,230,695	118,127,658
1997	265,000	194,000	459,000	4,139,000	32,734,554	13,995,892	15,541,430	14,516,421	32,990,885	117,024,410
1998	264,000	203,000	467,000	4,045,000	32,799,982	14,201,662	16,113,647	15,118,934	34,477,183	122,354,659
1999	273,000	221,000	494,000	4,086,000	33,228,347	14,286,227	15,861,367	14,834,099	33,814,691	119,629,638
2000	275,000	233,000	508,000	4,058,000	34,296,851	14,740,782	16,583,862	15,588,988	35,612,149	125,924,651
2001	288,000	244,000	532,000	4,105,000	33,413,048	15,016,280	16,969,918	15,972,187	36,506,527	128,967,218
2002	311,000	264,000	575,000	4,306,000	37,490,221	15,668,074	17,703,546	16,670,392	38,075,844	134,286,945
2003	321,000	273,000	594,000	4,302,000	36,469,214	16,003,453	18,412,272	17,425,395	39,733,304	140,294,184
2004	332,000	284,000	616,000	4,335,000	36,187,646	16,154,971	18,711,938	17,739,853	40,321,190	142,388,632
2005	345,000	295,000	640,000	4,390,000	38,075,098	16,512,061	19,351,971	18,404,391	41,703,024	147,336,726
2006	353,000	298,000	651,000	4,425,000	37,460,521	16,753,139	19,832,843	18,911,292	42,710,771	150,884,787
2007	367,000	305,000	672,000	4,506,000	39,840,743	17,012,999	20,149,831	19,218,752	43,516,020	153,815,044
2008	373,000	306,000	679,000	4,519,000	39,938,743	17,395,061	20,848,604	19,950,998	45,213,043	159,979,739
2009	386,000	312,000	698,000	4,616,000	39,891,015	17,678,252	21,228,290	20,323,874	46,078,657	163,083,772
2010	396,000	316,000	712,000	4,671,000	40,708,910	18,122,393	21,957,067	21,071,754	47,812,868	169,473,815
2011	409,000	324,000	733,000	4,773,000	41,579,583	18,607,730	22,682,857	21,801,953	49,506,014	175,862,982
2012	418,000	327,000	745,000	4,820,000	40,165,770	18,706,918	22,822,892	21,942,407	49,830,827	177,323,101
2013	448,000	346,000	794,000	5,101,000	48,182,546	19,938,243	24,526,264	23,620,957	53,723,822	191,759,001
2014	482,000	369,000	851,000	5,428,000	47,750,932	21,069,563	25,977,292	25,023,678	56,971,794	203,843,259
2015	510,000	386,000	896,000	5,680,000	51,624,406	22,434,603	27,979,787	27,025,161	61,621,598	220,970,408
2016	536,000	407,000	943,000	5,845,000	52,345,408	22,808,333	28,400,255	27,417,865	62,530,826	224,433,875
2017	557,000	423,000	980,000	5,968,000	53,951,891	23,324,895	29,280,258	28,301,169	64,584,725	231,934,367
2018	601,000	456,000	1,057,000	6,331,000	56,546,735	24,702,860	31,262,796	30,245,806	69,100,300	248,348,190
2019	610,000	463,000	1,073,000	6,330,000	55,866,506	24,245,600	30,669,469	29,646,780	67,663,526	243,244,352
2020	634,000	483,000	1,117,000	6,493,000	57,689,415	25,143,227	32,199,674	31,206,069	71,248,494	256,502,901
2021	641,000	482,000	1,123,000	6,494,000	58,110,471	24,747,427	31,539,766	30,530,467	69,729,442	251,131,720
2022	655,000	486,000	1,141,000	6,592,000	56,259,210	25,499,892	32,823,722	31,855,404	72,781,723	262,855,392
2023	663,000	485,000	1,148,000	6,618,000	59,815,939	24,960,206	31,857,827	30,855,290	70,240,504	254,092,467
2024	678,000	492,000	1,170,000	6,718,000	56,955,657	25,786,491	33,249,529	32,284,240	73,333,784	266,280,856
2025	695,000	498,000	1,193,000	6,839,000	63,724,298	25,849,704	33,199,835	32,204,556	72,915,952	265,495,803
2026	702,000	496,000	1,198,000	6,868,000	60,159,422	25,997,719	33,493,797	32,517,198	73,465,403	268,164,469
2027	707,000	500,000	1,207,000	6,922,000	61,961,935	26,203,108	34,029,767	33,055,418	74,530,113	272,750,147
2028	698,000	494,000	1,192,000	6,834,000	57,245,818	25,667,273	33,449,087	32,539,938	73,336,481	268,392,945
2029	709,000	501,000	1,210,000	6,940,000	63,456,111	25,795,971	33,717,916	32,763,042	74,044,452	270,914,673
2030	705,000	499,000	1,204,000	6,902,000	59,525,675	25,649,460	33,671,112	32,704,857	74,108,625	270,944,799
2031	705,000	499,000	1,204,000	6,905,000	60,867,022	25,454,616	33,415,733	32,466,108	73,763,682	269,134,628
2032	700,000	495,000	1,195,000	6,855,000	58,416,000	25,053,036	32,890,198	31,922,409	72,789,807	265,136,245
2033	718,000	507,000	1,225,000	7,022,000	65,626,000	26,044,198	34,247,193	33,258,364	76,202,691	277,218,281
2034	695,000	491,000	1,186,000	6,802,000	56,096,000	24,739,984	32,168,474	31,158,535	71,631,560	259,968,302
2035	718,000	507,000	1,225,000	7,022,000	64,460,000	26,178,256	34,216,012	33,191,086	76,724,343	278,467,608

a) Includes the costs of electric capacity and energy used by pumping plants, exclusive of associated power transmission and station service charges; the value of electric capacity and energy produced by power recovery plants (treated as negative costs); the payments to sinking fund reserves that will finance periodic replacement of electro-mechanical equipment; and the plant capacity and energy costs associated with surplus water service prior to May 1, 1973.

b) Power costs for the period 1968 through 1984 are for an interim facility.

c) The estimated costs of Del Valle Pumping Plant are combined with those of South Bay Pumping Plant to simplify the cost allocations.

DEPOSITS FOR EACH AQUEDUCT PUMPING AND POWER RECOVERY PLANT [a]

dollars)

AQUEDUCT										
Reach 18A Cottonwood Powerplant	Reach 22B Pear-blossom Pumping Plant	Reach 23 Mojave Siphon	Reach 26A Devil Canyon Powerplant	Reach 29A Oso Pumping Plant	Reach 29G William E. Warne Powerplant (Pyramid)	Reach 29J Castaic Powerplant	Reach 31A Las Perillas and Badger Hill Pumping Plants	Reach 33A Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp.	GRAND TOTAL	Calendar Year
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	
0	0	0	0	0	0	0	0	0	38,130	1962
0	0	0	0	0	0	0	0	0	58,871	1963
0	0	0	0	0	0	0	0	0	75,239	1964
0	0	0	0	0	0	0	0	0	146,297	1965
0	0	0	0	0	0	0	0	0	198,643	1966
0	0	0	0	0	0	0	6,517	0	263,128	1967
0	0	0	0	0	0	0	120,278	0	2,034,449	1968
0	0	0	0	0	0	0	79,620	0	1,366,635	1969
0	0	0	0	0	0	0	137,449	0	1,188,766	1970
0	64,807	0	0	1,696	0	0	171,389	0	1,725,032	1971
0	103,584	0	-3,112	180,005	0	-385,696	240,651	0	4,645,065	1972
0	615,309	0	-931,697	274,450	0	-1,193,216	128,730	0	5,854,986	1973
0	595,646	0	-939,072	322,440	0	-1,823,397	129,345	0	6,272,395	1974
0	616,327	0	-1,101,445	457,487	0	-2,835,302	101,109	0	7,156,363	1975
0	914,440	0	-1,520,412	314,669	0	-2,512,021	151,211	0	7,192,331	1976
0	317,416	0	-1,216,060	53,081	0	-1,233,043	85,147	0	1,218,059	1977
0	1,802,194	0	-3,298,247	250,878	0	-2,194,618	197,420	0	11,974,896	1978
0	1,725,145	0	-3,477,609	160,625	0	-2,679,992	233,521	0	10,282,765	1979
0	1,942,288	0	-3,557,086	187,301	0	-2,761,648	185,840	0	11,597,402	1980
0	2,344,920	0	-3,189,936	441,679	0	-2,612,300	217,000	0	16,830,149	1981
0	2,680,533	0	-4,136,133	449,089	-1,250,000	-3,240,800	226,000	0	18,056,577	1982
0	8,280,380	0	-17,905,432	2,031,594	-5,327,000	-9,902,100	590,000	0	67,383,796	1983
-1,822,874	11,290,910	-574,000	-22,545,430	2,800,212	-6,271,000	-11,671,400	760,000	0	93,246,514	1984
-3,368,864	14,038,641	-1,281,000	-23,712,257	3,250,742	-6,308,603	-11,625,360	919,000	0	118,389,324	1985
-3,446,000	15,098,079	-1,273,000	-24,506,000	3,483,334	-6,444,675	-11,753,911	1,000,000	0	134,923,636	1986
-3,448,840	14,754,842	-1,332,000	-22,581,850	4,737,051	-8,899,110	-15,632,514	985,000	0	143,772,299	1987
-3,190,440	14,612,920	-1,219,000	-20,668,236	5,445,089	-9,435,138	-16,426,594	1,079,000	0	161,340,734	1988
-3,212,440	16,227,582	-1,214,000	-20,869,149	6,626,172	-10,387,110	-17,911,555	1,200,000	0	188,933,405	1989
-3,408,416	16,753,165	-1,300,000	-21,427,437	6,551,525	-10,539,014	-18,053,245	1,409,000	1,490,000	194,080,862	1990
-3,272,416	16,651,698	-1,242,000	-21,057,534	6,543,343	-10,128,000	-17,375,100	1,488,000	1,708,000	197,789,926	1991
-3,381,416	16,757,705	-1,283,000	-21,406,437	6,790,362	-10,784,000	-18,380,600	1,468,000	1,763,000	199,915,646	1992
-3,319,416	16,731,630	-1,250,000	-21,048,534	6,620,435	-10,271,000	-17,540,600	1,524,000	1,953,000	202,714,423	1993
-3,357,416	17,087,854	-1,259,000	-21,278,437	6,726,713	-10,311,000	-17,609,600	1,565,000	2,118,000	206,189,381	1994
-3,421,416	17,200,791	-1,280,000	-21,267,437	6,091,152	-9,423,000	-16,144,600	1,569,000	2,215,000	200,832,338	1995
-3,434,280	16,929,610	-1,275,000	-21,447,044	6,796,201	-10,670,000	-18,220,600	1,566,000	2,303,000	206,425,214	1996
-3,363,280	16,834,253	-1,239,000	-21,055,138	6,621,773	-10,167,000	-17,354,000	1,625,000	2,516,000	205,820,200	1997
-3,475,280	17,156,586	-1,281,000	-21,538,044	7,155,095	-11,124,000	-18,958,000	1,614,000	2,539,000	211,666,424	1998
-3,401,280	16,946,055	-1,244,000	-20,976,138	6,845,387	-10,445,000	-17,821,000	1,665,000	2,746,000	210,549,393	1999
-3,457,280	17,196,803	-1,262,000	-21,034,138	7,511,386	-11,441,000	-19,498,000	1,688,000	2,889,000	219,906,054	2000
-3,539,880	17,700,022	-1,261,000	-21,585,598	7,675,739	-11,644,000	-19,838,000	1,707,000	2,999,000	223,695,461	2001
-3,405,000	17,618,020	-1,080,000	-21,120,000	8,330,586	-12,140,000	-20,621,100	1,793,000	3,277,000	237,428,528	2002
-3,503,000	18,058,340	-1,119,000	-21,409,000	8,949,569	-13,138,000	-22,274,100	1,791,000	3,335,000	243,924,631	2003
-3,510,000	18,162,797	-1,120,000	-21,409,000	9,251,306	-13,474,000	-22,805,100	1,807,000	3,439,000	246,797,233	2004
-3,559,000	18,589,540	-1,137,000	-21,355,000	9,803,192	-14,108,000	-23,808,100	1,829,000	3,562,000	256,229,903	2005
-3,469,000	18,120,940	-1,098,000	-21,158,000	10,480,368	-15,085,000	-25,442,100	1,834,000	3,582,000	259,394,561	2006
-3,559,000	18,806,834	-1,133,000	-21,444,000	10,521,578	-15,012,000	-25,278,500	1,856,000	3,651,000	267,140,301	2007
-3,556,000	18,692,155	-1,130,000	-21,762,000	11,366,169	-16,273,000	-27,338,500	1,851,000	3,648,000	274,022,012	2008
-3,507,000	18,586,861	-1,107,000	-21,294,000	11,769,292	-16,664,000	-27,951,500	1,877,000	3,729,000	279,036,513	2009
-3,602,000	19,253,633	-1,145,000	-21,708,000	12,287,357	-17,308,000	-28,985,500	1,890,000	3,773,000	288,985,297	2010
-3,628,000	19,658,504	-1,155,000	-21,688,000	12,866,232	-17,891,000	-29,927,500	1,916,000	3,846,000	299,544,355	2011
-3,516,000	19,004,812	-1,104,000	-21,457,000	13,316,005	-18,426,000	-30,769,500	1,922,000	3,861,000	299,188,232	2012
-3,628,000	20,725,228	-1,150,000	-21,905,000	14,323,707	-18,902,000	-31,520,500	2,020,000	4,135,000	331,744,268	2013
-3,622,000	21,773,441	-1,145,000	-21,718,000	15,228,277	-19,113,000	-31,830,500	2,134,000	4,446,000	353,068,736	2014
-3,706,000	23,212,516	-1,181,000	-22,980,000	16,676,642	-20,184,000	-33,514,500	2,218,000	4,680,000	383,453,621	2015
-3,848,000	24,751,973	-1,240,000	-23,405,000	16,383,850	-19,435,000	-32,337,500	2,267,000	4,811,000	392,672,885	2016
-3,854,000	25,115,753	-1,241,000	-24,002,000	17,135,014	-20,058,000	-33,286,500	2,299,000	4,901,000	405,334,572	2017
-3,925,000	26,963,181	-1,268,000	-23,668,000	18,292,238	-20,393,000	-33,780,500	2,421,000	5,238,000	437,474,606	2018
-3,904,000	26,568,880	-1,257,000	-24,099,000	17,814,841	-19,998,000	-33,180,500	2,404,000	5,190,000	428,278,454	2019
-3,896,000	26,801,000	-1,251,000	-23,857,000	19,352,473	-21,460,000	-35,463,500	2,436,000	5,276,000	449,537,753	2020
-3,889,000	26,660,671	-1,246,000	-23,553,000	18,729,799	-20,809,000	-34,428,500	2,430,000	5,263,000	442,564,263	2021
-3,963,000	27,425,655	-1,275,000	-24,193,000	19,883,231	-21,939,000	-36,212,500	2,449,000	5,312,000	457,295,729	2022
-3,887,000	26,737,009	-1,240,000	-23,811,000	19,062,331	-21,052,000	-34,820,500	2,446,000	5,305,000	448,328,073	2023
-3,935,000	27,280,811	-1,257,000	-23,929,000	20,359,042	-22,341,000	-36,822,500	2,462,000	5,352,000	462,947,910	2024
-3,950,000	27,697,752	-1,261,000	-24,197,000	20,038,754	-21,737,000	-35,861,500	2,493,000	5,434,000	470,079,154	2025
-3,962,000	27,688,283	-1,264,000	-24,010,000	20,380,053	-22,168,000	-36,530,500	2,486,000	5,415,000	469,898,844	2026
-3,973,000	27,984,402	-1,269,000	-24,082,000	20,815,026	-22,477,000	-37,017,500	2,506,000	5,468,000	478,614,416	2027
-3,938,000	27,355,434	-1,255,000	-23,735,000	20,393,397	-22,472,000	-37,021,500	2,474,000	5,381,000	465,839,873	2028
-3,967,000	28,008,284	-1,267,000	-24,216,000	20,222,201	-22,152,000	-36,517,500	2,512,000	5,486,000	476,951,150	2029
-4,000,000	28,132,004	-1,281,000	-24,110,000	20,168,505	-22,273,000	-36,699,500	2,497,000	5,448,000	472,592,537	2030
-3,897,000	27,282,998	-1,237,000	-23,658,000	20,289,691	-22,461,000	-36,996,500	2,499,000	5,451,000	470,483,978	2031
-3,942,000	27,321,386	-1,256,000	-24,180,000	19,692,193	-22,080,000	-36,403,500	2,481,000	5,402,000	461,292,774	2032
-3,979,000	28,142,757	-1,270,000	-24,158,000	20,675,703	-22,786,000	-37,500,500	2,542,000	5,568,000	488,078,687	2033
-3,930,000	26,744,508	-1,251,000	-23,753,000	19,002,368	-21,852,000	-36,065,500	2,462,000	5,348,000	450,456,231	2034
-3,969,000	27,805,014	-1,266,000	-24,151,000	20,514,000	-23,128,000	-38,031,500	2,542,000	5,568,000	487,367,819	2035

TABLE B-4: ANNUAL ENTITLE-

(in acre-feet)[b]

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA[c]				CENTRAL COASTAL AREA		
	Napa County[d] FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1967	0	0	0	507	5,248	5,783	11,538	0	0	0
1968	0	0	0	6,900	15,000	88,000	109,900	0	0	0
1969	0	0	0	8,200	15,500	75,000	98,700	0	0	0
1970	0	0	0	10,000	16,200	88,000	114,200	0	0	0
1971	0	0	0	11,200	17,000	88,000	116,200	0	0	0
1972	0	0	0	12,400	17,900	88,000	118,300	0	0	0
1973	0	0	0	13,600	18,800	88,000	120,400	0	0	0
1974	0	0	0	14,800	19,600	88,000	122,400	0	0	0
1975	0	0	0	16,000	20,500	88,000	124,500	0	0	0
1976	0	0	0	17,200	21,300	88,000	126,500	0	0	0
1977	0	0	0	18,400	22,200	88,000	128,600	0	0	0
1978	0	0	0	19,600	23,100	88,000	130,700	0	0	0
1979	0	0	0	20,800	23,900	88,000	132,700	0	0	0
1980	0	500	500	22,000	24,800	88,000	134,800	1,000	1,200	2,200
1981	0	650	650	23,000	26,000	88,000	137,000	1,000	2,300	3,300
1982	0	800	800	24,000	27,200	88,000	139,200	2,000	4,600	6,600
1983	0	950	950	25,000	28,400	88,000	141,400	3,000	6,900	9,900
1984	17,500	12,100	29,600	26,000	29,600	88,000	143,600	4,500	10,400	14,900
1985	18,750	14,000	32,750	27,000	30,800	88,000	145,800	7,500	17,300	24,800
1986	20,000	16,500	36,500	28,000	32,100	88,000	148,100	10,000	23,100	33,100
1987	21,250	20,000	41,250	29,000	33,300	88,000	150,300	12,500	28,800	41,300
1988	22,500	27,000	49,500	30,000	34,500	88,000	152,500	15,500	35,800	51,300
1989	23,750	34,500	58,250	31,000	35,700	90,000	156,700	20,000	46,100	66,100
1990	25,000	42,000	67,000	32,000	36,900	92,000	160,900	25,000	57,700	82,700
1991	25,000	42,000	67,000	34,000	38,400	94,000	166,400	25,000	57,700	82,700
1992	25,000	42,000	67,000	36,000	39,900	96,000	171,900	25,000	57,700	82,700
1993	25,000	42,000	67,000	38,000	41,400	98,000	177,400	25,000	57,700	82,700
1994	25,000	42,000	67,000	40,000	42,000	100,000	182,000	25,000	57,700	82,700
1995	25,000	42,000	67,000	42,000	42,000	100,000	184,000	25,000	57,700	82,700
1996	25,000	42,000	67,000	44,000	42,000	100,000	186,000	25,000	57,700	82,700
1997	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
1998	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
1999	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2000	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2001	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2002	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2003	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2004	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2005	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2006	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2007	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2008	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2009	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2010	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2011	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2012	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2013	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2014	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2015	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2016	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2017	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2018	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2019	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2020	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2021	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2022	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2023	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2024	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2025	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2026	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2027	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2028	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2029	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2030	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2031	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2032	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2033	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2034	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
2035	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	57,700	82,700
TOTAL	1,273,750	2,059,000	3,332,750	2,494,607	2,459,248	6,510,783	11,464,638	1,227,000	2,830,700	4,057,700

a) *From Tables A and Articles 6(a) of water supply contracts as of March 3, 1981.*

b) *Metric conversion is acre-feet times 1.2335 equals cubic dekametres.*

c) *Entitlements for the South Bay Area were supplied by nonproject water for the period June 1962 through November 1967. Actual delivery quantities of project water are shown for 1967.*

d) *District's Table A quantities exclude those during the period 1968 through 1983 which are assumed to be supplied by nonproject water.*

MENTS TO PROJECT WATER[a]

(in acre-feet)[b]

Calendar Year	SAN JOAQUIN VALLEY AREA										
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[e]	Kern County Water Agency			County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					M & I	Ag.	Total				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1967	0	0	0	0	0	0	0	0	0	0	0
1968	3,700	14,300	1,000	0	0	46600	46,600	900	2,300	12,250	81,050
1969	5,000	14,325	3,000	2,400	0	95700	95,700	1,200	2,500	43,950	168,075
1970	5,700	15,700	3,000	2,500	28700	116400	145,100	1,300	2,600	31,800	207,700
1971	6,700	17,900	3,000	2,300	35700	154600	190,300	1,300	2,800	34,200	258,500
1972	7,700	20,000	3,000	2,600	39200	231500	270,700	1,400	5,366	110,000	420,766
1973	8,700	22,000	3,000	2,900	43500	267000	310,500	1,500	3,100	40,652	392,352
1974	9,700	33,390	3,000	3,300	48000	299000	347,000	1,500	3,471	68,989	470,350
1975	10,700	40,555	3,000	3,758	52700	358120	410,820	1,600	3,576	82,500	556,509
1976	11,700	30,921	3,000	3,900	56100	386050	442,150	1,600	4,039	57,807	555,117
1977	12,700	30,400	3,000	4,200	60600	423000	483,600	1,700	3,700	54,800	594,100
1978	11,362	32,500	0	4,600	64100	470200	534,300	1,900	3,900	58,700	647,262
1979	12,700	38,544	3,000	4,900	67600	516300	583,900	2,000	4,000	66,341	715,385
1980	12,700	41,000	3,000	5,200	71100	563400	634,500	2,200	5,700	66,500	770,800
1981	12,700	41,000	3,000	5,600	74800	616600	691,400	2,300	4,300	70,400	830,700
1982	12,700	41,000	3,000	5,900	79600	665700	745,300	2,500	4,500	74,300	889,200
1983	12,700	42,900	3,000	6,200	83500	721600	805,100	2,800	4,600	78,200	955,500
1984	12,700	45,100	3,000	6,500	88600	772000	860,600	3,100	4,800	82,100	1,017,900
1985	12,700	47,200	3,000	6,900	93900	821100	915,000	3,400	4,900	86,000	1,079,100
1986	12,700	49,300	3,000	7,200	98400	869800	968,200	3,700	5,100	90,000	1,139,200
1987	12,700	51,400	3,000	7,500	104100	919400	1,023,500	4,000	5,200	93,900	1,201,200
1988	12,700	53,500	3,000	7,800	108900	965700	1,074,600	4,000	5,400	97,800	1,258,800
1989	12,700	55,600	3,000	8,200	113200	999100	1,112,300	4,000	5,600	101,700	1,303,100
1990	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1991	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1992	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1993	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1994	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1995	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1996	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1997	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1998	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
1999	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2000	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2001	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2002	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2003	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2004	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2005	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2006	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2007	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2008	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2009	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2010	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2011	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2012	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2013	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2014	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2015	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2016	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2017	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2018	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2019	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2020	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2021	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2022	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2023	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2024	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2025	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2026	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2027	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2028	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2029	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2030	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2031	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2032	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2033	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2034	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
2035	12,700	57,700	3,000	8,500	119600	1033800	1,153,400	4,000	5,700	110,000	1,355,000
TOTAL	817,562	3,432,735	199,000	495,358	6913900	58833670	65,747,570	233,900	353,652	6,562,889	77,842,666

e) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	20,000	1,236	5,200	526	8,000	170	8,400	1,620	1,677	122
1973	25,000	3,700	5,800	870	9,000	290	10,700	2,940	48,000	11,500
1974	30,000	5,700	6,400	1,160	10,000	400	13,100	4,260	50,000	12,300
1975	35,000	7,500	7,000	1,450	11,000	520	15,400	5,580	52,500	13,100
1976	44,000	9,500	7,600	1,740	12,000	640	17,800	6,900	55,000	14,000
1977	50,000	11,400	8,421	2,030	13,000	730	20,200	8,220	57,500	14,800
1978	57,000	13,400	9,242	2,320	14,000	920	22,500	9,340	60,000	15,700
1979	63,000	15,300	10,063	2,610	15,000	1,040	24,900	10,260	62,500	16,600
1980	69,200	17,700	10,884	2,900	17,000	1,150	27,200	11,180	65,500	17,400
1981	75,000	20,100	12,105	3,190	19,000	1,270	29,600	11,700	68,500	18,300
1982	81,300	22,100	13,326	3,480	21,000	1,380	31,900	12,320	71,500	19,100
1983	87,700	24,600	14,547	3,770	23,000	1,500	34,300	12,940	74,500	19,900
1984	94,000	26,900	15,768	4,060	25,000	1,610	36,700	13,560	78,000	20,700
1985	100,400	29,100	16,989	4,350	27,000	1,730	39,000	14,180	81,500	21,800
1986	106,700	30,900	18,210	4,640	29,000	1,840	41,400	14,800	85,000	23,200
1987	113,000	32,900	19,431	4,930	31,500	1,960	43,700	15,420	89,000	24,600
1988	119,400	35,300	20,652	5,220	34,000	2,070	46,000	16,040	93,000	26,000
1989	125,700	37,400	21,873	5,510	36,500	2,190	48,500	16,660	97,000	27,400
1990	132,100	39,300	23,100	5,800	38,100	2,300	50,800	17,300	101,500	28,800
1991	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1992	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1993	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1994	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1995	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1996	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1997	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1998	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
1999	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2000	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2001	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2002	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2003	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2004	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2005	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2006	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2007	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2008	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2009	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2010	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2011	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2012	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2013	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2014	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2015	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2016	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2017	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2018	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2019	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2020	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2021	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2022	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2023	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2024	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2025	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2026	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2027	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2028	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2029	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2030	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2031	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2032	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2033	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2034	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2035	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	7,656,500	2,251,536	1,286,111	321,556	2,107,600	127,210	2,848,100	983,720	5,909,177	1,641,322

MENTS TO PROJECT WATER [a]

(in acre-feet)[b]

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				TOTAL STATE WATER PROJECT
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	
	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)
1967	0	0	0	0	0	0	0	0	11,538
1968	0	0	0	0	0	300	250	550	191,500
1969	0	0	0	0	0	350	270	620	267,395
1970	0	0	0	0	0	400	300	700	322,600
1971	0	0	0	0	0	450	440	890	375,590
1972	0	154,772	0	201,723	0	500	470	970	741,759
1973	0	354,600	0	472,400	0	600	500	1,100	986,252
1974	0	454,900	0	588,220	0	700	530	1,230	1,182,200
1975	0	555,200	0	704,250	0	1,050	560	1,610	1,386,869
1976	0	655,600	0	824,780	0	1,400	590	1,990	1,508,387
1977	0	755,900	0	942,201	0	1,800	620	2,420	1,667,321
1978	0	856,300	0	1,060,722	0	1,200	650	1,850	1,840,534
1979	0	956,600	0	1,177,873	0	1,450	680	2,130	2,028,088
1980	6,800	1,057,000	1,000	1,304,914	0	1,100	710	1,810	2,215,024
1981	7,800	1,157,300	2,000	1,425,865	0	1,200	740	1,940	2,399,455
1982	8,800	1,257,600	3,000	1,546,806	0	1,200	770	1,970	2,584,576
1983	9,800	1,358,000	4,000	1,668,557	0	1,200	800	2,000	2,778,307
1984	10,800	1,458,300	5,000	1,790,398	1,600	1,200	830	3,630	3,000,028
1985	11,800	1,558,700	6,000	1,912,549	1,700	1,200	860	3,760	3,198,759
1986	12,900	1,659,300	8,000	2,035,890	2,100	1,200	890	4,190	3,396,980
1987	14,000	1,759,800	10,000	2,160,241	2,500	1,200	920	4,620	3,598,911
1988	15,100	1,860,400	13,000	2,286,182	2,900	1,200	960	5,060	3,803,342
1989	16,200	1,961,000	16,000	2,411,933	3,300	1,200	1,000	5,500	4,001,583
1990	17,300	2,011,500	20,000	2,487,900	3,800	1,200	1,040	6,040	4,159,540
1991	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,080	38,180	4,206,780
1992	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,120	38,220	4,212,320
1993	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,160	38,260	4,217,860
1994	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,200	38,300	4,222,500
1995	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,250	38,350	4,224,550
1996	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,300	38,400	4,226,600
1997	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,350	38,450	4,228,650
1998	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,400	38,500	4,228,700
1999	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,450	38,550	4,228,750
2000	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,510	38,610	4,228,810
2001	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,570	38,670	4,228,870
2002	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,630	38,730	4,228,930
2003	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,690	38,790	4,228,990
2004	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,750	38,850	4,229,050
2005	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,810	38,910	4,229,110
2006	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,880	38,980	4,229,180
2007	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,950	39,050	4,229,250
2008	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,020	39,120	4,229,320
2009	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,090	39,190	4,229,390
2010	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,160	39,260	4,229,460
2011	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,240	39,340	4,229,540
2012	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,320	39,420	4,229,620
2013	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,410	39,510	4,229,710
2014	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,500	39,600	4,229,800
2015	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,600	39,700	4,229,900
2016	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2017	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2018	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2019	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2020	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2021	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2022	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2023	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2024	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2025	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2026	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2027	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2028	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2029	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2030	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2031	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2032	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2033	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2034	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	4,230,000
TOTAL	909,800	112,360,272	988,000	139,390,904	449,900	1,260,800	112,820	1,823,520	237,912,178

TABLE B–5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)[c]

Calendar Year	Grizzly Valley Pipeline PC FC&WCD	NORTH BAY AQUEDUCT Reach 2 SC FC&WCD[d]	NORTH BAY AQUEDUCT Reach 3 NC FC&WCD[e]	TOTAL NORTH BAY AQUEDUCT	SOUTH BAY AQUEDUCT[f] Reach 1 ACWD	Reach 1 AC FC&WCD	Reach 2 AC FC&WCD	Reach 4 AC FC&WCD	Reach 5 ACWD	Reach 5 AC FC&WCD	Reach 6 AC FC&WCD
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
1962	0	0	0	0	8,412	141	353	0	0	0	0
1963	0	0	0	0	10,914	814	917	0	0	0	0
1964	0	0	0	0	19,238	248	1,425	0	0	0	0
1965	0	0	0	0	15,280	637	1,830	138	0	0	0
1966	0	0	0	0	0	2,475	2,537	499	0	0	0
1967	0	0	0	0	0	1,527	2,391	862	0	0	0
1968	0	0	1,214	1,214	0	1,608	3,799	721	0	5	0
1969	0	0	2,687	2,687	0	1,165	3,459	1,851	0	160	0
1970	70	0	3,618	3,618	0	1,345	4,558	3,182	0	164	0
1971	64	0	2,521	2,521	0	546	1,908	2,403	0	160	0
1972	505	0	3,647	3,647	0	1,066	4,605	2,041	1,489	2,777	0
1973	679	0	3,792	3,792	0	430	1,123	1,193	0	229	0
1974	648	0	4,870	4,870	0	177	0	975	0	162	0
1975	405	0	6,840	6,840	0	137	1,783	1,864	0	120	714
1976	382	0	7,122	7,122	0	265	7,204	3,384	0	817	5,461
1977	303	0	8,226	8,226	0	210	4,491	2,213	0	524	5,206
1978	278	0	6,034	6,034	0	422	2,426	3,754	0	2,034	2,348
1979	329	0	6,561	6,561	0	197	4,283	5,567	0	3,937	5,341
1980	295	0	6,707	6,707	0	77	3,883	6,686	1,508	0	6,144
1981	740	0	6,088	6,088	0	180	4,179	4,405	0	2,371	11,565
1982	770	0	4,430	4,430	0	180	4,433	6,120	0	3,398	9,069
1983	800	0	4,440	4,440	0	180	4,590	6,620	0	3,215	9,295
1984	830	0	4,525	4,525	0	180	4,640	6,520	0	3,657	9,403
1985	860	7,950	4,570	12,520	0	180	4,687	7,116	0	3,613	9,504
1986	890	6,400	4,635	11,035	0	180	4,430	6,968	0	3,429	9,193
1987	920	8,250	4,705	12,955	0	180	4,470	7,250	0	3,510	9,090
1988	960	13,300	4,709	18,009	0	180	4,500	7,420	0	3,510	9,290
1989	1,000	17,600	5,000	22,600	0	180	4,450	7,720	0	3,610	9,240
1990	1,040	21,900	5,350	27,250	0	180	4,500	7,770	0	3,710	9,440
1991	970	21,500	6,120	27,620	0	180	4,900	7,820	0	3,860	10,040
1992	1,000	21,100	6,990	28,090	0	180	5,300	7,720	0	3,860	10,940
1993	1,030	20,700	7,760	28,460	0	180	5,900	7,620	0	3,860	11,540
1994	1,060	20,300	8,630	28,930	0	180	6,800	7,620	0	3,760	11,940
1995	1,100	19,900	9,400	29,300	0	180	7,400	7,520	0	3,660	12,740
1996	1,140	19,600	10,110	29,710	0	180	8,100	7,420	0	3,660	13,340
1997	1,180	19,200	10,920	30,120	0	180	8,700	7,420	0	3,660	13,940
1998	1,220	18,800	11,630	30,430	0	180	8,400	7,220	0	3,560	13,640
1999	1,260	18,400	12,440	30,840	0	180	8,200	7,120	0	3,460	13,240
2000	1,310	18,000	13,150	31,150	0	180	8,000	6,920	0	3,360	12,940
2001	1,370	18,700	13,700	32,400	0	180	8,200	7,020	0	3,460	13,140
2002	1,430	19,400	14,250	33,650	0	180	8,300	7,120	0	3,560	13,340
2003	1,490	20,100	14,900	35,000	0	180	8,500	7,220	0	3,560	13,640
2004	1,550	20,800	15,450	36,250	0	180	8,600	7,320	0	3,660	13,840
2005	1,610	21,500	16,000	37,500	0	180	8,800	7,520	0	3,760	14,240
2006	1,680	22,200	16,150	38,350	0	180	9,000	7,520	0	3,760	14,340
2007	1,850	23,000	16,400	39,400	0	180	9,100	7,620	0	3,860	14,540
2008	1,920	23,700	16,500	40,200	0	180	9,300	7,720	0	3,860	14,840
2009	1,990	24,400	16,600	41,000	0	180	9,400	7,820	0	3,960	15,140
2010	2,060	25,100	16,700	41,800	0	180	9,500	8,020	0	3,960	15,340
2011	2,140	25,800	16,920	42,720	0	180	9,700	8,120	0	4,060	15,540
2012	2,220	26,500	17,040	43,540	0	180	9,900	8,220	0	4,060	15,740
2013	2,310	27,200	17,160	44,360	0	180	10,000	8,320	0	4,160	16,040
2014	2,400	27,900	17,280	45,180	0	180	10,200	8,420	0	4,260	16,240
2015	2,500	28,600	17,400	46,000	0	180	10,300	8,520	0	4,260	16,540
2016	2,600	29,300	17,960	47,260	0	180	10,500	8,620	0	4,360	16,740
2017	2,600	30,000	18,420	48,420	0	180	10,600	8,720	0	4,460	16,940
2018	2,600	30,700	18,880	49,580	0	180	10,800	8,820	0	4,460	17,240
2019	2,600	31,400	19,340	50,740	0	180	11,000	8,920	0	4,560	17,440
2020	2,700	32,200	19,900	52,100	0	180	11,100	9,020	0	4,560	17,740
2021	2,700	32,900	19,900	52,800	0	180	11,200	9,220	0	4,660	17,940
2022	2,700	33,600	19,900	53,500	0	180	11,400	9,320	0	4,760	18,140
2023	2,700	34,300	19,900	54,200	0	180	11,500	9,420	0	4,760	18,440
2024	2,700	35,000	20,000	55,000	0	180	11,700	9,520	0	4,860	18,640
2025	2,700	35,700	20,000	55,700	0	180	11,800	9,620	0	4,960	18,840
2026	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2027	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2028	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2029	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2030	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2031	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2032	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2033	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2034	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140
2035	2,700	36,400	20,000	56,400	0	180	12,000	9,720	0	4,960	19,140

a) Contractor requests shown in Table B-5C are reduced herein to reflect water conservation and reclamation in Project service areas.

b) Includes entitlement water, surplus water (delivered prior to May 1, 1973), and nonproject water.

c) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.

d) Solano County Flood Control and Water Conservation District (SCFC&WCD) has contracted for 42,000 acre-feet maximum annually, of which 5,600 acre-feet will be delivered from the Delta through the District's facilities.

e) For the period 1968 through 1984 annual quantities delivered are nonproject water pumped through an interim facility.

f) For the period June 1962 through November 1967, deliveries were supplied by by nonproject water.

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a (b

(in acre-feet) (c

Calendar Year	SOUTH BAY AQUEDUCT (f (continued)			TOTAL SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT							
					NORTH SAN JOAQUIN DIVISION	SOUTH SAN JOAQUIN DIVISION						
						Reach 8C				Reach 8D		
	Reach 7	Reach 8	Reach 9		Reach 2A							
	ACWD	ACWD	SCVWD		OFWD	HWD (g	TLBWSD	EWSID	CK	KCWA (Ag.)	DRWD	HWD (g
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
1962	0	0	0	8,906	0	0	0	0	0	0	0	0
1963	0	0	0	12,645	0	0	0	0	0	0	0	0
1964	0	0	0	20,911	0	0	0	0	0	0	0	0
1965	1,127	0	15,014	34,026	0	0	0	0	0	0	0	0
1966	14,864	0	34,538	54,913	0	0	0	0	0	0	0	0
1967	12,882	0	39,101	56,763	0	0	0	0	0	0	0	0
1968	24,817	0	70,105	101,055	3,084	0	25,100	1,978	900	0	26,360	0
1969	813	0	62,264	69,712	3,016	0	7,081	56	100	0	31,375	0
1970	0	0	80,311	89,560	5,911	0	0	3,942	0	0	40,407	3,408
1971	5,961	0	87,606	98,584	7,212	0	80,906	5,990	3,700	0	41,053	6,659
1972	26,182	0	100,266	138,426	8,166	0	144,843	5,795	1,400	0	42,443	5,851
1973	2,521	0	88,582	94,078	3,214	140	26,177	3,000	1,500	1,500	22,057	2,760
1974	0	4	88,000	89,318	3,471	0	32,603	3,000	1,500	0	33,390	3,300
1975	393	593	88,000	93,604	3,576	0	41,536	3,000	1,600	0	40,555	3,758
1976	13,774	7,526	88,000	126,431	4,112	0	26,595	3,000	1,600	0	41,421	3,900
1977	11,284	7,556	76,220	107,704	1,472	0	12,984	738	1,530	0	11,153	1,680
1978	854	5,009	95,727	112,574	3,906	0	3,934	454	2,070	0	51,747	2,520
1979	3,430	7,444	91,991	122,190	6,149	0	74,758	1,739	2,000	0	38,544	8,500
1980	2,824	6,702	88,000	115,824	5,700	0	35,140	894	2,200	0	41,000	6,200
1981	17,165	8,735	86,700	135,300	4,300	0	43,682	5,400	2,300	0	41,000	5,600
1982	18,325	8,675	85,400	135,600	4,500	0	34,200	4,800	2,500	0	41,000	5,900
1983	19,325	8,675	84,100	136,000	4,600	0	36,000	3,000	2,800	0	42,900	6,200
1984	20,525	8,575	82,800	136,300	4,800	0	37,800	3,000	3,100	0	45,100	6,500
1985	21,625	8,575	81,500	136,800	4,900	0	39,550	3,000	3,400	0	47,200	6,900
1986	22,825	8,575	80,200	135,800	5,100	0	41,400	3,000	3,700	0	49,300	7,200
1987	23,900	8,600	78,900	135,900	5,200	0	43,200	3,000	4,000	0	51,400	7,500
1988	25,000	8,500	77,600	136,000	5,400	0	45,000	3,000	4,000	0	53,500	7,800
1989	26,100	8,500	78,300	138,100	5,600	0	46,750	3,000	4,000	0	55,600	8,200
1990	27,200	8,500	79,000	140,300	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1991	28,700	8,500	80,600	144,600	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1992	30,100	8,500	82,200	148,800	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1993	31,600	8,500	83,800	153,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1994	32,200	8,500	85,400	156,400	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1995	32,100	8,500	85,000	157,100	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1996	32,100	8,500	84,600	157,900	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1997	32,100	8,500	84,200	158,700	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1998	32,100	8,500	83,800	157,400	5,700	0	50,750	3,000	4,000	0	57,700	8,500
1999	32,000	8,500	83,400	156,100	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2000	32,000	8,500	83,000	154,900	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2001	32,100	8,500	83,700	156,300	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2002	32,100	8,500	84,300	157,400	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2003	32,200	8,500	85,000	158,800	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2004	32,200	8,500	85,600	159,900	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2005	32,300	8,500	86,300	161,600	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2006	32,300	8,500	86,900	162,500	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2007	32,400	8,600	87,600	163,900	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2008	32,400	8,600	88,200	165,100	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2009	32,400	8,600	88,900	166,400	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2010	32,500	8,600	89,500	167,600	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2011	32,500	8,600	90,200	168,900	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2012	32,600	8,600	90,800	170,100	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2013	32,600	8,600	91,500	171,400	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2014	32,600	8,700	92,200	172,800	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2015	32,700	8,700	92,800	174,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2016	32,700	8,700	93,500	175,300	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2017	32,800	8,700	94,100	176,500	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2018	32,800	8,700	94,800	177,800	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2019	32,900	8,700	95,400	179,100	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2020	33,000	8,700	96,100	180,400	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2021	33,000	8,700	96,700	181,600	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2022	33,000	8,800	97,400	183,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2023	33,000	8,800	98,000	184,100	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2024	33,100	8,800	98,700	185,500	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2025	33,100	8,800	99,300	186,600	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2026	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2027	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2028	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2029	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2030	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2031	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2032	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2033	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2034	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500
2035	33,200	8,800	100,000	188,000	5,700	0	50,750	3,000	4,000	0	57,700	8,500

g) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B–5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)[c]

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	SOUTH SAN JOAQUIN DIVISION (continued)											
	Reach 8 D (continued)	Reach 9		Reach 10 A			Reach 11 B	Reach 11B	Reach 12 E		Reach 13 B	
	TLBWSD	KCWA (Ag.)	HWD[g]	KCWA (M&I)	KCWA (Ag.)	HWD[g]	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)
	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
1968	0	30,951	0	0	0	0	0	24,776	0	0	0	0
1969	0	24,489	0	0	0	2,842	0	64,682	0	0	0	0
1970	0	46,114	1,855	0	158	4,315	0	72,279	0	9,279	0	4,891
1971	34,920	58,356	0	0	9,973	0	0	63,773	0	28,056	0	0
1972	107,699	75,464	0	0	5,876	0	0	72,358	0	62,342	0	17,388
1973	21,387	54,583	0	0	22,948	0	0	67,544	0	13,082	0	9,297
1974	36,386	63,814	0	10,019	22,719	0	0	87,476	2,651	4,248	8,038	4,246
1975	40,964	50,021	0	2,791	72,121	0	0	85,675	0	10,787	8,538	7,059
1976	28,316	53,465	0	74	50,444	0	0	85,067	37,519	20,555	5,626	8,855
1977	3,417	24,668	0	201	34,451	0	3,981	29,603	20,280	1,737	0	5,024
1978	5,599	72,231	0	0	161,889	0	0	88,753	47,133	15,011	21,773	7,601
1979	71,863	74,524	0	285	153,245	0	484	108,379	50,740	61,567	5,663	17,766
1980	34,104	79,946	0	3,780	131,836	0	3,112	103,207	32,039	22,252	0	22,515
1981	36,900	80,300	0	5,000	118,485	0	1,190	118,477	56,165	47,000	0	15,938
1982	40,100	83,890	0	0	135,066	0	775	124,598	57,150	53,448	2,625	17,938
1983	42,200	87,180	0	0	149,609	0	775	128,995	59,250	61,383	3,225	20,563
1984	44,300	98,600	0	1,400	163,609	0	775	133,423	56,800	67,880	25	22,688
1985	46,450	101,380	0	1,400	177,138	0	775	136,744	60,080	75,631	895	24,937
1986	48,600	82,500	0	9,800	198,948	0	0	140,900	71,100	80,827	0	27,125
1987	50,700	90,500	0	1,400	221,370	0	0	147,100	71,300	86,300	0	27,130
1988	52,800	98,500	0	1,400	232,665	0	0	152,800	72,000	91,700	0	27,135
1989	54,950	104,000	0	1,400	241,860	0	0	155,500	72,500	97,000	0	27,140
1990	59,250	110,300	0	1,400	252,460	0	0	160,200	72,900	102,000	0	27,140
1991	59,250	110,300	0	1,400	252,460	0	0	160,200	72,300	102,000	0	27,140
1992	59,250	110,300	0	1,400	252,460	0	0	160,200	71,600	102,000	0	27,140
1993	59,250	110,300	0	1,400	252,460	0	0	160,200	70,900	102,000	0	27,140
1994	59,250	110,300	0	1,400	252,460	0	0	160,200	70,200	102,000	0	27,140
1995	59,250	110,300	0	1,400	252,460	0	0	160,200	69,500	102,000	0	27,140
1996	59,250	110,300	0	1,300	252,460	0	0	160,200	68,800	102,000	0	27,140
1997	59,250	110,300	0	1,300	252,460	0	0	160,200	68,200	102,000	0	27,140
1998	59,250	110,300	0	1,300	252,460	0	0	160,200	67,500	102,000	0	27,140
1999	59,250	110,300	0	1,300	252,460	0	0	160,200	66,800	102,000	0	27,140
2000	59,250	110,300	0	1,200	252,460	0	0	160,200	66,100	102,000	0	27,140
2001	59,250	110,300	0	1,200	252,460	0	0	160,200	66,700	102,000	0	27,140
2002	59,250	110,300	0	1,200	252,460	0	0	160,200	67,200	102,000	0	27,140
2003	59,250	110,300	0	1,300	252,460	0	0	160,200	67,700	102,000	0	27,140
2004	59,250	110,300	0	1,300	252,460	0	0	160,200	68,200	102,000	0	27,140
2005	59,250	110,300	0	1,300	252,460	0	0	160,200	68,800	102,000	0	27,140
2006	59,250	110,300	0	1,300	252,460	0	0	160,200	69,300	102,000	0	27,140
2007	59,250	110,300	0	1,300	252,460	0	0	160,200	69,800	102,000	0	27,140
2008	59,250	110,300	0	1,300	252,460	0	0	160,200	70,300	102,000	0	27,140
2009	59,250	110,300	0	1,300	252,460	0	0	160,200	70,800	102,000	0	27,140
2010	59,250	110,300	0	1,300	252,460	0	0	160,200	71,300	102,000	0	27,140
2011	59,250	110,300	0	1,400	252,460	0	0	160,200	71,800	102,000	0	27,140
2012	59,250	110,300	0	1,400	252,460	0	0	160,200	72,400	102,000	0	27,140
2013	59,250	110,300	0	1,400	252,460	0	0	160,200	72,900	102,000	0	27,140
2014	59,250	110,300	0	1,400	252,460	0	0	160,200	73,400	102,000	0	27,140
2015	59,250	110,300	0	1,400	252,460	0	0	160,200	73,900	102,000	0	27,140
2016	59,250	110,300	0	1,400	252,460	0	0	160,200	74,500	102,000	0	27,140
2017	59,250	110,300	0	1,400	252,460	0	0	160,200	75,000	102,000	0	27,140
2018	59,250	110,300	0	1,400	252,460	0	0	160,200	75,500	102,000	0	27,140
2019	59,250	110,300	0	1,400	252,460	0	0	160,200	76,100	102,000	0	27,140
2020	59,250	110,300	0	1,400	252,460	0	0	160,200	76,500	102,000	0	27,140
2021	59,250	110,300	0	1,500	252,460	0	0	160,200	77,000	102,000	0	27,140
2022	59,250	110,300	0	1,400	252,460	0	0	160,200	77,600	102,000	0	27,140
2023	59,250	110,300	0	1,500	252,460	0	0	160,200	78,000	102,000	0	27,140
2024	59,250	110,300	0	1,500	252,460	0	0	160,200	78,600	102,000	0	27,140
2025	59,250	110,300	0	1,500	252,460	0	0	160,200	79,100	102,000	0	27,140
2026	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2027	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2028	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2029	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2030	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2031	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2032	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2033	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2034	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140
2035	59,250	110,300	0	1,500	252,460	0	0	160,200	79,600	102,000	0	27,140

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a (b

(in acre-feet) (c

Calendar Year	CALIFORNIA AQUEDUCT (continued)									
	SOUTH SAN JOAQUIN DIVISION (continued)							TEHACHAPI DIVISION	MOJAVE DIVISION	
	Reach 14 A		Reach 14 B	Reach 14 C	Reach 15 A	Reach 16 A		Reach 17 E	Reach 18 A	Reach 19
	KCWA (M&I)	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	AVEKWA	AVEKWA
	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
1970	0	0	3	0	0	0	0	0	0	0
1971	0	23,844	49,929	24,187	3,552	0	0	0	0	0
1972	0	26,621	77,034	35,016	6,064	0	4,768	0	0	0
1973	0	15,328	47,040	19,043	19,916	0	1,961	0	0	0
1974	0	7,794	32,356	12,601	18,000	3,000	1,564	0	0	1,223
1975	0	10,306	27,736	12,783	35,420	3,200	9,867	0	0	7,622
1976	0	268	35,296	9,005	39,551	3,500	11,667	0	3,808	23,063
1977	0	8,299	13,539	3,757	6,158	3,420	685	0	1,231	8,927
1978	0	34,029	72,351	24,542	31,148	7,989	1,655	0	1,321	36,333
1979	3,012	27,356	59,413	22,372	38,602	2,813	15,808	0	2,098	49,910
1980	4,312	16,876	40,513	19,953	37,817	2,700	16,145	0	2,610	61,534
1981	8,845	14,950	41,100	18,750	40,000	2,700	20,600	0	2,005	72,290
1982	8,300	15,300	42,200	19,200	47,200	2,500	25,600	1,300	2,005	72,435
1983	8,200	18,900	51,800	23,600	47,200	2,500	25,800	1,300	1,195	40,995
1984	8,100	21,800	60,000	27,200	47,200	2,500	26,000	1,400	1,195	41,165
1985	8,000	24,700	68,000	31,000	47,200	2,400	26,400	1,500	1,195	41,455
1986	8,000	27,400	75,100	34,100	48,000	2,600	27,900	1,600	1,195	41,765
1987	8,000	30,400	82,000	35,700	49,600	6,400	31,300	1,700	1,195	43,425
1988	7,900	33,100	88,200	37,300	51,000	10,200	34,600	1,800	1,195	45,085
1989	7,900	35,700	91,500	38,900	52,000	12,000	37,900	1,800	1,195	46,745
1990	7,800	38,100	94,800	40,400	53,000	13,800	41,200	1,800	1,195	48,405
1991	7,700	38,100	94,800	40,400	53,000	13,600	41,200	1,800	1,195	48,465
1992	7,600	38,100	94,800	40,400	53,000	13,500	41,200	1,800	1,195	49,425
1993	7,600	38,100	94,800	40,400	53,000	13,400	41,200	1,700	1,195	50,485
1994	7,500	38,100	94,800	40,400	53,000	13,300	41,200	1,700	1,195	51,645
1995	7,400	38,100	94,800	40,400	53,000	13,100	41,200	1,700	1,195	52,305
1996	7,300	38,100	94,800	40,400	53,000	13,000	41,200	1,700	1,195	53,365
1997	7,300	38,100	94,800	40,400	53,000	12,800	41,200	1,700	1,195	54,325
1998	7,200	38,100	94,800	40,400	53,000	12,700	41,200	1,700	1,195	55,185
1999	7,100	38,100	94,800	40,400	53,000	12,600	41,200	1,700	1,195	56,145
2000	7,100	38,100	94,800	40,400	53,000	12,500	41,200	1,700	1,195	57,105
2001	7,100	38,100	94,800	40,400	53,000	12,600	41,200	1,700	1,195	57,405
2002	7,200	38,100	94,800	40,400	53,000	12,700	41,200	1,700	1,195	57,705
2003	7,200	38,100	94,800	40,400	53,000	12,800	41,200	1,700	1,195	58,005
2004	7,300	38,100	94,800	40,400	53,000	12,900	41,200	1,700	1,195	58,305
2005	7,300	38,100	94,800	40,400	53,000	13,000	41,200	1,700	1,195	58,605
2006	7,400	38,100	94,800	40,400	53,000	13,100	41,200	1,700	1,195	58,905
2007	7,400	38,100	94,800	40,400	53,000	13,100	41,200	1,800	1,195	59,205
2008	7,500	38,100	94,800	40,400	53,000	13,200	41,200	1,800	1,195	59,505
2009	7,600	38,100	94,800	40,400	53,000	13,300	41,200	1,800	1,195	59,905
2010	7,600	38,100	94,800	40,400	53,000	13,500	41,200	1,800	1,195	60,105
2011	7,700	38,100	94,800	40,400	53,000	13,500	41,200	1,800	1,195	60,405
2012	7,700	38,100	94,800	40,400	53,000	13,600	41,200	1,800	1,195	60,805
2013	7,800	38,100	94,800	40,400	53,000	13,700	41,200	1,800	1,195	61,005
2014	7,800	38,100	94,800	40,400	53,000	13,800	41,200	1,800	1,195	61,305
2015	7,900	38,100	94,800	40,400	53,000	14,000	41,200	1,800	1,195	61,705
2016	7,900	38,100	94,800	40,400	53,000	14,000	41,200	1,900	1,195	62,005
2017	8,000	38,100	94,800	40,400	53,000	14,100	41,200	1,900	1,195	62,205
2018	8,100	38,100	94,800	40,400	53,000	14,200	41,200	1,900	1,195	62,605
2019	8,100	38,100	94,800	40,400	53,000	14,300	41,200	1,900	1,195	62,905
2020	8,200	38,100	94,800	40,400	53,000	14,400	41,200	1,900	1,195	63,205
2021	8,200	38,100	94,800	40,400	53,000	14,500	41,200	1,900	1,195	63,505
2022	8,300	38,100	94,800	40,400	53,000	14,600	41,200	1,900	1,195	63,805
2023	8,300	38,100	94,800	40,400	53,000	14,700	41,200	2,000	1,195	64,105
2024	8,400	38,100	94,800	40,400	53,000	14,800	41,200	2,000	1,195	64,405
2025	8,400	38,100	94,800	40,400	53,000	14,900	41,200	2,000	1,195	64,705
2026	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2027	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2028	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2029	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2030	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2031	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2032	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2033	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2034	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005
2035	8,500	38,100	94,800	40,400	53,000	15,000	41,200	2,000	1,195	65,005

TABLE B–5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)[c]

Calendar Year	CALIFORNIA AQUEDUCT (continued)											
	MOJAVE DIVISION (continued)											
	Reach 20 A	Reach 20 B		Reach 21		Reach 22 A	Reach 22 B				Reach 23	Reach 24
	AVEKWA	PWD	AVEKWA	LCID	AVEKWA	AVEKWA	MWD-SC(h	CVCWD(h	DWA (h	MWA	MWA	CLAWA
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)	(56)	(57)
1972	0	0	0	338	0	0	0	0	0	55	0	464
1973	0	0	0	290	0	0	-14,800	5,800	9,000	0	0	389
1974	0	0	0	400	0	0	-16,400	6,400	10,000	0	14	627
1975	420	0	0	520	0	0	-18,000	7,000	11,000	0	0	825
1976	471	0	416	589	0	0	-19,600	7,600	12,000	0	0	1,002
1977	773	0	271	111	0	0	0	0	0	22	58	1,109
1978	5,549	0	934	208	0	0	-25,384	10,084	15,300	0	0	1,209
1979	7,555	0	930	133	0	0	-25,063	10,063	15,000	4,000	0	1,260
1980	7,605	0	655	191	0	3	-27,884	10,884	17,000	4,000	0	1,239
1981	10,820	0	0	1,260	1,235	1,620	-30,805	12,005	18,800	4,000	0	1,500
1982	11,370	0	0	1,380	1,235	1,705	-33,726	13,126	20,600	10,500	0	1,856
1983	12,045	300	0	1,500	1,450	1,775	-36,747	14,247	22,500	0	0	2,200
1984	12,760	3,000	0	1,610	1,510	1,865	-16,111	15,368	24,300	0	0	2,800
1985	13,660	5,000	0	1,730	1,575	1,950	-42,589	16,489	26,100	100	0	3,086
1986	14,615	5,500	0	1,850	1,675	2,030	-45,410	17,510	27,900	300	0	3,515
1987	17,985	6,200	0	1,960	1,840	2,330	-48,831	18,631	30,200	41,000	0	3,635
1988	21,360	6,800	0	2,070	2,005	2,630	-52,352	19,752	32,600	43,100	0	3,755
1989	24,735	7,400	0	2,190	2,170	2,940	-55,873	20,973	34,900	45,200	0	3,875
1990	28,110	8,000	0	2,200	2,335	3,240	-56,800	20,500	36,300	47,300	0	4,000
1991	27,785	8,800	0	2,190	2,300	3,150	-55,300	19,100	36,200	46,600	0	4,060
1992	29,560	9,600	0	2,180	2,465	3,260	-55,100	19,100	36,000	46,400	0	4,120
1993	31,435	10,400	0	2,170	2,530	3,370	-55,200	19,300	35,900	46,400	0	4,180
1994	33,810	11,200	0	2,160	2,595	3,580	-55,100	19,300	35,800	46,300	0	4,240
1995	35,285	12,000	0	2,150	2,660	3,690	-55,000	19,400	35,600	46,300	0	4,300
1996	37,060	12,600	0	2,140	2,725	3,900	-54,900	19,400	35,500	46,200	0	4,360
1997	38,935	13,200	0	2,130	2,790	4,110	-54,900	19,500	35,400	46,100	0	4,420
1998	40,810	13,800	0	2,120	2,960	4,220	-54,900	19,600	35,300	46,100	0	4,480
1999	44,685	14,400	0	2,110	3,030	4,430	-54,800	19,700	35,100	45,900	0	4,540
2000	44,560	15,000	0	2,100	3,100	4,540	-54,700	19,700	35,000	45,900	0	4,600
2001	45,260	15,500	0	2,100	3,100	4,640	-54,900	19,800	35,100	46,100	0	4,660
2002	45,760	16,000	0	2,100	3,200	4,740	-55,200	20,000	35,200	46,300	0	4,720
2003	46,560	16,500	0	2,100	3,200	4,740	-55,500	20,100	35,400	46,500	0	4,780
2004	47,260	17,000	0	2,100	3,200	4,840	-55,700	20,200	35,500	46,700	0	4,840
2005	47,860	17,300	0	2,100	3,300	4,940	-56,000	20,400	35,600	46,800	0	4,900
2006	48,560	17,300	0	2,100	3,300	4,940	-56,200	20,500	35,700	47,000	0	4,960
2007	49,160	17,300	0	2,200	3,400	5,040	-56,400	20,600	35,800	47,200	0	5,020
2008	49,860	17,300	0	2,200	3,400	5,140	-56,700	20,700	36,000	47,400	0	5,080
2009	50,560	17,300	0	2,200	3,400	5,140	-57,000	20,900	36,100	47,600	0	5,140
2010	51,160	17,300	0	2,200	3,500	5,240	-57,200	21,000	36,200	47,800	0	5,200
2011	51,860	17,300	0	2,200	3,500	5,340	-57,400	21,100	36,300	48,000	0	5,260
2012	52,560	17,300	0	2,200	3,500	5,340	-57,700	21,300	36,400	48,200	0	5,320
2013	53,160	17,300	0	2,200	3,600	5,440	-57,900	21,400	36,500	48,300	0	5,380
2014	53,860	17,300	0	2,200	3,600	5,540	-58,200	21,500	36,700	48,500	0	5,440
2015	54,560	17,300	0	2,200	3,600	5,540	-58,500	21,700	36,800	48,700	0	5,500
2016	55,260	17,300	0	2,200	3,600	5,640	-58,700	21,800	36,900	48,900	0	5,560
2017	55,860	17,300	0	2,200	3,700	5,740	-58,900	21,900	37,000	49,100	0	5,620
2018	56,560	17,300	0	2,200	3,700	5,740	-59,200	22,100	37,100	49,300	0	5,680
2019	57,160	17,300	0	2,200	3,800	5,840	-59,500	22,200	37,300	49,500	0	5,740
2020	57,860	17,300	0	2,300	3,800	5,940	-59,700	22,300	37,400	49,700	0	5,800
2021	58,460	17,300	0	2,300	3,800	6,040	-59,900	22,400	37,500	49,900	0	5,800
2022	59,160	17,300	0	2,300	3,900	6,040	-60,200	22,600	37,600	50,000	0	5,800
2023	59,860	17,300	0	2,300	3,900	6,140	-60,400	22,700	37,700	50,200	0	5,800
2024	60,560	17,300	0	2,300	3,900	6,240	-60,700	22,800	37,900	50,400	0	5,800
2025	61,160	17,300	0	2,300	4,000	6,240	-61,000	23,000	38,000	50,600	0	5,800
2026	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2027	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2028	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2029	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2030	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2031	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2032	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2033	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2034	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800
2035	61,860	17,300	0	2,300	4,000	6,340	-61,200	23,100	38,100	50,800	0	5,800

h) *In accordance with the Exchange Agreement between the noted agencies, Metropolitan Water District assumed responsibility for payment of variable OMP&R costs on the exchange water in reaches beyond Reach 22B, and Desert Water Agency and Coachella Valley County Water District for such costs from the Delta through Reach 22B. The adjustment in deliveries shown in Column 52 provides for compliance with the repayment of the Agreement.*

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR[a (b

(in acre-feet)[c

Calendar Year	CALIFORNIA AQUEDUCT (continued)							
	SANTA ANA DIVISION							
	Reach 26 A				Reach 28 G		Reach 28 H	Reach 28 J
	MWD-SC	SBVMWD	SGVMWD	SGPWA	MWD-SC	SBVMWD	MWD-SC	MWD-SC
	(58)	(59)	(60)	(61)	(62)	(63)	(64)	(65)
1972	0	1,275	0	0	0	0	0	0
1973	444	32,426	0	0	18,942	0	0	0
1974	84,981	16,605	612	0	0	0	0	0
1975	169,960	13,865	5,450	0	0	0	0	251
1976	215,312	12,273	6,071	0	0	0	55	2,000
1977	64,823	24,833	8,996	0	0	0	43	2,442
1978	297,708	4,055	7,771	0	0	0	48	64,054
1979	260,903	18	290	0	0	0	1,290	94,353
1980	300,345	0	1,085	0	0	0	3,013	91,532
1981	354,940	21,900	12,500	0	0	0	87,400	109,895
1982	404,426	31,100	18,500	0	0	0	14,000	139,700
1983	383,747	40,200	18,500	0	0	0	14,500	206,400
1984	371,811	49,400	18,500	0	0	0	16,400	239,900
1985	423,429	58,600	18,500	6,800	0	0	17,800	237,220
1986	427,210	72,800	18,500	7,800	0	0	17,500	273,250
1987	291,080	83,000	18,500	8,800	0	0	10,300	253,000
1988	284,700	86,100	18,500	9,800	0	0	11,500	258,000
1989	281,500	89,300	18,500	10,800	0	0	9,500	263,000
1990	279,600	92,900	18,500	11,800	0	0	0	272,500
1991	278,100	93,100	18,780	12,600	0	0	0	272,500
1992	277,900	92,400	19,060	13,500	0	0	0	272,500
1993	278,000	91,600	19,340	14,300	0	0	0	272,500
1994	277,900	90,900	19,620	15,200	0	0	0	272,500
1995	277,800	90,200	19,900	16,000	0	0	0	272,500
1996	277,700	89,500	20,200	15,700	0	0	0	272,500
1997	277,700	88,700	20,500	15,500	0	0	0	272,500
1998	277,700	88,000	20,800	15,200	0	0	0	272,500
1999	277,600	87,200	21,100	15,000	0	0	0	272,500
2000	277,500	86,500	21,400	14,700	0	0	0	272,500
2001	277,700	87,100	21,720	14,800	0	0	0	272,500
2002	278,000	87,700	22,040	14,900	0	0	0	272,500
2003	278,300	88,400	22,360	15,000	0	0	0	272,500
2004	278,500	89,000	22,680	15,100	0	0	0	272,500
2005	278,800	89,600	23,000	15,200	0	0	0	272,500
2006	279,000	90,200	23,360	15,300	0	0	0	272,500
2007	279,200	90,800	23,720	15,400	0	0	0	272,500
2008	279,500	91,500	24,080	15,500	0	0	0	272,500
2009	279,800	92,100	24,440	15,600	0	0	0	272,500
2010	280,000	92,700	24,800	15,700	0	0	0	272,500
2011	280,200	93,300	25,180	15,800	0	0	0	272,500
2012	280,500	93,900	25,560	15,900	0	0	0	272,500
2013	280,700	94,500	25,940	16,000	0	0	0	272,500
2014	294,100	95,200	26,320	16,100	0	0	0	272,500
2015	316,300	95,800	26,700	16,200	0	0	0	272,500
2016	330,750	96,400	26,700	16,300	0	0	0	272,500
2017	345,200	97,000	27,540	16,400	0	0	0	272,500
2018	345,200	97,600	27,960	16,500	0	0	0	272,500
2019	345,200	98,300	28,380	16,600	0	0	0	272,500
2020	345,200	98,900	28,800	16,700	0	0	0	272,500
2021	345,200	99,500	28,800	16,800	0	0	0	272,500
2022	345,200	100,100	28,800	16,900	0	0	0	272,500
2023	345,200	100,700	28,800	17,000	0	0	0	272,500
2024	345,200	101,400	28,800	17,100	0	0	0	272,500
2025	345,200	102,000	28,800	17,200	0	0	0	272,500
2026	345,200	102,600	28,800	17,300	0	0	0	272,500
2027	345,200	102,600	28,800	17,300	0	0	0	272,500
2028	345,200	102,600	28,800	17,300	0	0	0	272,500
2029	345,200	102,600	28,800	17,300	0	0	0	272,500
2030	345,200	102,600	28,800	17,300	0	0	0	272,500
2031	345,200	102,600	28,800	17,300	0	0	0	272,500
2032	345,200	102,600	28,800	17,300	0	0	0	272,500
2033	345,200	102,600	28,800	17,300	0	0	0	272,500
2034	345,200	102,600	28,800	17,300	0	0	0	272,500
2035	345,200	102,600	28,800	17,300	0	0	0	272,500

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR [a] [b]

(in acre-feet) [c]

Calendar Year	CALIFORNIA AQUEDUCT (continued)											Total California Aqueduct
	WEST BRANCH, CALIFORNIA AQUEDUCT					COASTAL BRANCH, CALIFORNIA AQUEDUCT						
	Reach 29 F	Reach 29H	Reach 30			Reach 31 A		Reach 33 A	Reach 34	Reach 35		
	AVEKWA	VCFCD	MWD-SC	VCFCD	CLWA	KCWA (Ag.)	DDWD	SLOC FC&WCD	SLOC FC&WCD	SLOC FC&WCD	SBC FC&WCD	
	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)	(76)	(77)
1968	0	0	0	0	0	71,657	7,382	0	0	0	0	192,188
1969	0	0	0	0	0	52,094	9,970	0	0	0	0	195,705
1970	0	0	0	0	0	71,910	11,739	0	0	0	0	276,211
1971	0	0	0	0	0	98,481	12,490	0	0	0	0	553,081
1972	53	0	71,938	0	0	107,850	13,905	0	0	0	0	895,006
1973	20	0	155,297	0	0	69,227	9,418	0	0	0	0	638,930
1974	36	0	209,136	0	0	68,474	9,700	0	0	0	0	783,984
1975	26	0	374,280	0	0	74,516	10,700	0	0	0	0	1,129,728
1976	24	0	420,684	0	0	78,358	11,700	0	0	0	0	1,245,662
1977	0	0	122,447	0	0	35,504	5,075	0	0	0	0	465,442
1978	0	0	171,139	0	0	81,242	11,362	0	0	0	0	1,339,268
1979	0	0	145,591	0	7	104,017	19,138	0	0	0	0	1,537,075
1980	0	0	164,721	0	1,210	97,497	13,882	0	0	0	0	1,413,363
1981	0	1,000	177,170	0	8,100	101,000	12,700	0	0	0	0	1,710,017
1982	0	250	304,900	0	9,100	106,510	12,700	0	0	0	0	1,913,762
1983	0	500	366,400	0	10,200	112,220	12,700	0	0	0	0	2,054,807
1984	0	750	392,900	0	11,300	117,600	12,700	0	0	0	0	2,204,723
1985	0	1,000	391,140	0	12,300	122,320	12,700	0	0	0	0	2,311,140
1986	0	1,250	401,550	0	13,700	127,000	12,700	0	0	0	0	2,439,905
1987	0	1,500	594,000	750	14,000	127,100	12,700	0	0	0	0	2,589,500
1988	0	2,000	622,600	1,500	14,400	127,200	12,700	0	0	0	0	2,688,800
1989	0	2,500	667,300	2,250	14,600	127,200	12,700	0	0	0	0	2,790,800
1990	0	3,250	675,500	3,000	14,700	127,200	12,700	2,252	1,076	2,252	20,600	2,888,815
1991	0	3,300	660,600	3,750	15,100	127,200	12,700	2,162	980	2,162	21,900	2,874,779
1992	0	4,000	679,100	4,500	15,500	127,200	12,700	2,372	1,284	2,372	23,100	2,900,093
1993	0	3,700	675,200	6,000	15,900	127,200	12,700	2,781	1,290	2,781	24,400	2,903,357
1994	0	3,300	620,500	7,500	16,300	127,200	12,700	2,990	1,596	2,990	25,700	2,856,221
1995	0	3,100	639,000	9,750	16,700	127,200	12,700	3,400	1,700	3,400	27,000	2,881,835
1996	0	2,800	651,500	12,000	17,000	127,200	12,700	3,780	1,940	3,780	28,300	2,900,745
1997	0	2,500	664,000	15,000	17,200	127,200	12,700	4,160	2,080	4,160	29,500	2,920,405
1998	0	2,200	676,500	15,000	17,400	127,200	12,700	4,140	2,120	4,140	30,800	2,936,170
1999	0	1,900	689,000	15,000	17,600	127,200	12,700	4,520	2,260	4,520	32,100	2,954,635
2000	0	1,600	701,500	15,000	17,800	127,200	12,700	4,900	2,500	4,900	33,400	2,969,300
2001	0	1,700	743,700	15,000	18,500	127,200	12,700	5,520	2,760	5,520	33,700	3,017,880
2002	0	1,900	786,800	15,000	19,200	127,200	12,700	5,940	3,120	5,940	34,000	3,067,160
2003	0	2,000	828,200	15,000	20,000	127,200	12,700	6,760	3,380	6,760	34,300	3,115,640
2004	0	2,100	870,400	15,000	20,700	127,200	12,700	7,380	3,740	7,380	34,600	3,164,320
2005	0	2,300	912,700	15,000	21,400	127,200	12,700	8,000	4,000	8,000	34,900	3,212,900
2006	0	2,400	954,900	15,000	21,900	127,200	12,700	8,100	4,000	8,100	35,200	3,259,420
2007	0	2,500	997,100	15,000	22,500	127,200	12,700	8,200	4,100	8,200	35,500	3,306,240
2008	0	2,600	1,039,300	15,000	23,000	127,200	12,700	8,300	4,100	8,300	35,800	3,353,060
2009	0	2,800	1,071,600	15,000	23,500	127,200	12,700	6,800	4,100	8,400	36,100	3,388,380
2010	0	2,900	1,123,800	15,000	24,000	127,200	12,700	8,500	4,200	8,500	36,400	3,446,600
2011	0	3,000	1,161,000	15,000	24,800	127,200	12,700	7,200	4,200	8,600	36,400	3,486,840
2012	0	3,200	1,198,300	15,000	25,500	127,200	12,700	8,700	4,300	8,700	36,400	3,530,180
2013	0	3,300	1,235,500	15,000	26,200	127,200	12,700	8,800	4,300	8,800	36,500	3,571,620
2014	0	3,400	1,260,200	15,000	26,900	127,200	12,700	8,800	4,500	8,800	36,500	3,613,860
2015	0	3,600	1,276,500	15,000	27,600	127,200	12,700	9,000	4,400	9,000	36,500	3,656,800
2016	0	3,700	1,292,700	15,000	28,400	127,200	12,700	9,000	4,600	9,000	36,500	3,691,310
2017	0	3,800	1,308,900	15,000	29,100	127,200	12,700	9,200	4,500	9,200	36,500	3,726,560
2018	0	4,000	1,325,200	15,000	29,800	127,200	12,700	9,200	4,700	9,200	36,500	3,747,140
2019	0	4,100	1,341,400	15,000	30,500	127,200	12,700	9,300	4,700	9,300	36,500	3,767,620
2020	0	4,200	1,357,600	15,000	31,300	127,200	12,700	9,400	4,800	9,400	36,500	3,788,200
2021	0	4,300	1,373,800	15,000	32,000	127,200	12,700	9,500	4,800	9,500	36,500	3,808,000
2022	0	4,500	1,390,100	15,000	32,700	127,200	12,700	9,600	4,800	9,600	36,500	3,828,000
2023	0	4,600	1,406,300	15,000	33,500	127,200	12,700	9,700	4,900	9,700	36,500	3,848,100
2024	0	4,700	1,422,500	15,000	34,300	127,200	12,700	9,800	4,900	9,800	36,500	3,868,300
2025	0	4,900	1,438,800	15,000	35,000	127,200	12,700	9,900	5,000	9,900	36,500	3,888,300
2026	0	5,000	1,455,000	15,000	35,800	127,200	12,700	10,000	5,000	10,000	36,500	3,908,300
2027	0	5,000	1,455,000	15,000	36,400	127,200	12,700	10,000	5,000	10,000	36,500	3,908,900
2028	0	5,000	1,455,000	15,000	37,000	127,200	12,700	10,000	5,000	10,000	36,500	3,909,500
2029	0	5,000	1,455,000	15,000	37,700	127,200	12,700	10,000	5,000	10,000	36,500	3,910,200
2030	0	5,000	1,455,000	15,000	38,300	127,200	12,700	10,000	5,000	10,000	36,500	3,910,800
2031	0	5,000	1,455,000	15,000	38,900	127,200	12,700	10,000	5,000	10,000	36,500	3,911,400
2032	0	5,000	1,455,000	15,000	39,600	127,200	12,700	10,000	5,000	10,000	36,500	3,912,100
2033	0	5,000	1,455,000	15,000	40,200	127,200	12,700	10,000	5,000	10,000	36,500	3,912,700
2034	0	5,000	1,455,000	15,000	40,800	127,200	12,700	10,000	5,000	10,000	36,500	3,913,300
2035	0	5,000	1,455,000	15,000	41,500	127,200	12,700	10,000	5,000	10,000	36,500	3,914,000

This page left blank
intentionally.

TABLE B-5B: ANNUAL WATER QUANTITIES.

(in acre-feet) [c]

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA [f]				CENTRAL COASTAL AREA		
	Napa [d] County FC & WCD	Solano [e] County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	494	8,412	0	8,906	0	0	0
1963	0	0	0	1,731	10,914	0	12,645	0	0	0
1964	0	0	0	1,673	19,238	0	20,911	0	0	0
1965	0	0	0	2,605	16,407	15,014	34,026	0	0	0
1966	0	0	0	5,511	14,864	34,538	54,913	0	0	0
1967	0	0	0	4,780	12,882	39,101	56,763	0	0	0
1968	1,214	0	1,214	6,133	24,817	70,105	101,055	0	0	0
1969	2,687	0	2,687	6,635	813	62,264	69,712	0	0	0
1970	3,618	0	3,618	9,249	0	80,311	89,560	0	0	0
1971	2,521	0	2,521	5,017	5,961	87,606	98,584	0	0	0
1972	3,647	0	3,647	10,489	27,671	100,266	138,426	0	0	0
1973	3,792	0	3,792	2,975	2,521	88,582	94,078	0	0	0
1974	4,870	0	4,870	1,314	4	88,000	89,318	0	0	0
1975	6,840	0	6,840	4,618	986	88,000	93,604	0	0	0
1976	7,122	0	7,122	17,131	21,300	88,000	126,431	0	0	0
1977	8,226	0	8,226	12,644	18,840	76,220	107,704	0	0	0
1978	6,034	0	6,034	10,984	5,863	95,727	112,574	0	0	0
1979	6,561	0	6,561	19,325	10,874	91,991	122,190	0	0	0
1980	6,707	0	6,707	16,790	11,034	88,000	115,824	0	0	0
1981	6,088	0	6,088	22,700	25,900	86,700	135,300	0	0	0
1982	4,430	0	4,430	23,200	27,000	85,400	135,600	0	0	0
1983	4,440	0	4,440	23,900	28,000	84,100	136,000	0	0	0
1984	4,525	0	4,525	24,400	29,100	82,800	136,300	0	0	0
1985	4,570	7,950	12,520	25,100	30,200	81,500	136,800	0	0	0
1986	4,635	6,400	11,035	24,200	31,400	80,200	135,800	0	0	0
1987	4,705	8,250	12,955	24,500	32,500	78,900	135,900	0	0	0
1988	4,709	13,300	18,009	24,900	33,500	77,600	136,000	0	0	0
1989	5,000	17,600	22,600	25,200	34,600	78,300	138,100	0	0	0
1990	5,350	21,900	27,250	25,600	35,700	79,000	140,300	5,580	20,600	26,180
1991	6,120	21,500	27,620	26,800	37,200	80,600	144,600	5,304	21,900	27,204
1992	6,990	21,100	28,090	28,000	38,600	82,200	148,800	6,028	23,100	29,128
1993	7,760	20,700	28,460	29,100	40,100	83,800	153,000	6,852	24,400	31,252
1994	8,630	20,300	28,930	30,300	40,700	85,400	156,400	7,576	25,700	33,276
1995	9,400	19,900	29,300	31,500	40,600	85,000	157,100	8,500	27,000	35,500
1996	10,110	19,600	29,710	32,700	40,600	84,600	157,900	9,500	28,300	37,800
1997	10,920	19,200	30,120	33,900	40,600	84,200	158,700	10,400	29,500	39,900
1998	11,630	18,800	30,430	33,000	40,600	83,800	157,400	10,400	30,800	41,200
1999	12,440	18,400	30,840	32,200	40,500	83,400	156,100	11,300	32,100	43,400
2000	13,150	18,000	31,150	31,400	40,500	83,000	154,900	12,300	33,400	45,700
2001	13,700	18,700	32,400	32,000	40,600	83,700	156,300	13,800	33,700	47,500
2002	14,250	19,400	33,650	32,500	40,600	84,300	157,400	15,000	34,000	49,000
2003	14,900	20,100	35,000	33,100	40,700	85,000	158,800	16,900	34,300	51,200
2004	15,450	20,800	36,250	33,600	40,700	85,600	159,900	18,500	34,600	53,100
2005	16,000	21,500	37,500	34,500	40,800	86,300	161,600	20,000	34,900	54,900
2006	16,150	22,200	38,350	34,800	40,800	86,900	162,500	20,200	35,200	55,400
2007	16,400	23,000	39,400	35,300	41,000	87,600	163,900	20,500	35,500	56,000
2008	16,500	23,700	40,200	35,900	41,000	88,200	165,100	20,700	35,800	56,500
2009	16,600	24,400	41,000	36,500	41,000	88,900	166,400	19,300	36,100	55,400
2010	16,700	25,100	41,800	37,000	41,100	89,500	167,600	21,200	36,400	57,600
2011	16,920	25,800	42,720	37,600	41,100	90,200	168,900	20,000	36,400	56,400
2012	17,040	26,500	43,540	38,100	41,200	90,800	170,100	21,700	36,400	58,100
2013	17,160	27,200	44,360	38,700	41,200	91,500	171,400	21,900	36,500	58,400
2014	17,280	27,900	45,180	39,300	41,300	92,200	172,800	22,100	36,500	58,600
2015	17,400	28,600	46,000	39,800	41,400	92,800	174,000	22,400	36,500	58,900
2016	17,960	29,300	47,260	40,400	41,400	93,500	175,300	22,600	36,500	59,100
2017	18,420	30,000	48,420	40,900	41,500	94,100	176,500	22,900	36,500	59,400
2018	18,880	30,700	49,580	41,500	41,500	94,800	177,800	23,100	36,500	59,600
2019	19,340	31,400	50,740	42,100	41,600	95,400	179,100	23,300	36,500	59,800
2020	19,900	32,200	52,100	42,600	41,700	96,100	180,400	23,600	36,500	60,100
2021	19,900	32,900	52,800	43,200	41,700	96,700	181,600	23,800	36,500	60,300
2022	19,900	33,600	53,500	43,800	41,800	97,400	183,000	24,000	36,500	60,500
2023	19,900	34,300	54,200	44,300	41,800	98,000	184,100	24,300	36,500	60,800
2024	20,000	35,000	55,000	44,900	41,900	98,700	185,500	24,500	36,500	61,000
2025	20,000	35,700	55,700	45,400	41,900	99,300	186,600	24,800	36,500	61,300
2026	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2027	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2028	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2029	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2030	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2031	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2032	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2033	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2034	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2035	20,000	36,400	56,400	46,000	42,000	100,000	188,000	25,000	36,500	61,500
TOTAL	846,091	1,316,900	2,162,991	2,120,498	2,372,601	6,131,725	10,624,824	874,840	1,559,600	2,434,440

a) *Contractor requests, shown in Table B-5C are reduced herein to reflect water conservation and reclamation in Project service areas.*

b) *Includes entitlement water, surplus water (delivered prior to May 1, 1973), and nonproject water.*

DELIVERED TO EACH CONTRACTOR[a][b]

(in acre-feet)[c]

Calendar Year	SAN JOAQUIN VALLEY AREA										
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[g]	Kern County Water Agency			County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					M&I	Ag.	Total				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1962	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	7,382	26,360	1,978	0	0	127,384	127,384	900	3,084	25,100	192,188
1969	9,970	31,375	56	2,842	0	141,265	141,265	100	3,016	7,081	195,705
1970	11,739	40,407	3,942	9,578	0	204,634	204,634	0	5,911	0	276,211
1971	12,490	41,053	5,990	6,659	0	360,151	360,151	3,700	7,212	115,826	553,081
1972	13,905	42,443	5,795	5,851	0	490,781	490,781	1,400	8,166	252,542	820,883
1973	9,418	22,057	3,000	2,900	0	341,469	341,469	1,500	3,214	47,564	431,122
1974	9,700	33,390	3,000	3,300	23,708	323,292	347,000	1,500	3,471	68,989	470,350
1975	10,700	40,555	3,000	3,758	14,529	396,291	410,820	1,600	3,576	82,500	556,509
1976	11,700	41,421	3,000	3,900	46,719	392,531	439,250	1,600	4,112	54,911	559,894
1977	5,075	11,153	738	1,680	27,882	163,425	191,307	1,530	1,472	16,401	229,356
1978	11,362	51,747	454	2,520	76,895	590,452	667,347	2,070	3,906	9,533	748,939
1979	19,138	38,544	1,739	8,500	62,997	683,049	746,046	2,000	6,149	146,621	968,737
1980	13,882	41,000	894	6,200	45,943	588,557	634,500	2,200	5,700	69,244	773,620
1981	12,700	41,000	5,400	5,600	73,900	616,600	690,500	2,300	4,300	80,582	842,382
1982	12,700	41,000	4,800	5,900	72,650	670,950	743,600	2,500	4,500	74,300	889,300
1983	12,700	42,900	3,000	6,200	75,250	727,250	802,500	2,800	4,600	78,200	952,900
1984	12,700	45,100	3,000	6,500	71,000	786,000	857,000	3,100	4,800	82,100	1,014,300
1985	12,700	47,200	3,000	6,900	75,050	835,450	910,500	3,400	4,900	86,000	1,074,600
1986	12,700	49,300	3,000	7,200	93,100	869,800	962,900	3,700	5,100	90,000	1,133,900
1987	12,700	51,400	3,000	7,500	88,800	928,500	1,017,300	4,000	5,200	93,900	1,195,000
1988	12,700	53,500	3,000	7,800	93,300	974,200	1,067,500	4,000	5,400	97,800	1,251,700
1989	12,700	55,600	3,000	8,200	95,600	1,008,700	1,104,300	4,000	5,600	101,700	1,295,100
1990	12,700	57,700	3,000	8,500	97,700	1,046,800	1,144,500	4,000	5,700	110,000	1,346,100
1991	12,700	57,700	3,000	8,500	96,800	1,046,800	1,143,600	4,000	5,700	110,000	1,345,200
1992	12,700	57,700	3,000	8,500	95,900	1,046,800	1,142,700	4,000	5,700	110,000	1,344,300
1993	12,700	57,700	3,000	8,500	95,000	1,046,800	1,141,800	4,000	5,700	110,000	1,343,400
1994	12,700	57,700	3,000	8,500	94,100	1,046,800	1,140,900	4,000	5,700	110,000	1,342,500
1995	12,700	57,700	3,000	8,500	93,100	1,046,800	1,139,900	4,000	5,700	110,000	1,341,500
1996	12,700	57,700	3,000	8,500	92,100	1,046,800	1,138,900	4,000	5,700	110,000	1,340,500
1997	12,700	57,700	3,000	8,500	91,300	1,046,800	1,138,100	4,000	5,700	110,000	1,339,700
1998	12,700	57,700	3,000	8,500	90,400	1,046,800	1,137,200	4,000	5,700	110,000	1,338,800
1999	12,700	57,700	3,000	8,500	89,500	1,046,800	1,136,300	4,000	5,700	110,000	1,337,900
2000	12,700	57,700	3,000	8,500	88,600	1,046,800	1,135,400	4,000	5,700	110,000	1,337,000
2001	12,700	57,700	3,000	8,500	89,300	1,046,800	1,136,100	4,000	5,700	110,000	1,337,700
2002	12,700	57,700	3,000	8,500	90,000	1,046,800	1,136,800	4,000	5,700	110,000	1,338,400
2003	12,700	57,700	3,000	8,500	90,700	1,046,800	1,137,500	4,000	5,700	110,000	1,339,100
2004	12,700	57,700	3,000	8,500	91,400	1,046,800	1,138,200	4,000	5,700	110,000	1,339,800
2005	12,700	57,700	3,000	8,500	92,100	1,046,800	1,138,900	4,000	5,700	110,000	1,340,500
2006	12,700	57,700	3,000	8,500	92,800	1,046,800	1,139,600	4,000	5,700	110,000	1,341,200
2007	12,700	57,700	3,000	8,500	93,400	1,046,800	1,140,200	4,000	5,700	110,000	1,341,800
2008	12,700	57,700	3,000	8,500	94,100	1,046,800	1,140,900	4,000	5,700	110,000	1,342,500
2009	12,700	57,700	3,000	8,500	94,800	1,046,800	1,141,600	4,000	5,700	110,000	1,343,200
2010	12,700	57,700	3,000	8,500	95,500	1,046,800	1,142,300	4,000	5,700	110,000	1,343,900
2011	12,700	57,700	3,000	8,500	96,200	1,046,800	1,143,000	4,000	5,700	110,000	1,344,600
2012	12,700	57,700	3,000	8,500	96,900	1,046,800	1,143,700	4,000	5,700	110,000	1,345,300
2013	12,700	57,700	3,000	8,500	97,600	1,046,800	1,144,400	4,000	5,700	110,000	1,346,000
2014	12,700	57,700	3,000	8,500	98,200	1,046,800	1,145,000	4,000	5,700	110,000	1,346,600
2015	12,700	57,700	3,000	8,500	99,000	1,046,800	1,145,800	4,000	5,700	110,000	1,347,400
2016	12,700	57,700	3,000	8,500	99,700	1,046,800	1,146,500	4,000	5,700	110,000	1,348,100
2017	12,700	57,700	3,000	8,500	100,400	1,046,800	1,147,200	4,000	5,700	110,000	1,348,800
2018	12,700	57,700	3,000	8,500	101,100	1,046,800	1,147,900	4,000	5,700	110,000	1,349,500
2019	12,700	57,700	3,000	8,500	101,800	1,046,800	1,148,600	4,000	5,700	110,000	1,350,200
2020	12,700	57,700	3,000	8,500	102,400	1,046,800	1,149,200	4,000	5,700	110,000	1,350,800
2021	12,700	57,700	3,000	8,500	103,100	1,046,800	1,149,900	4,000	5,700	110,000	1,351,500
2022	12,700	57,700	3,000	8,500	103,800	1,046,800	1,150,600	4,000	5,700	110,000	1,352,200
2023	12,700	57,700	3,000	8,500	104,500	1,046,800	1,151,300	4,000	5,700	110,000	1,352,900
2024	12,700	57,700	3,000	8,500	105,300	1,046,800	1,152,100	4,000	5,700	110,000	1,353,700
2025	12,700	57,700	3,000	8,500	105,900	1,046,800	1,152,700	4,000	5,700	110,000	1,354,300
2026	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2027	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2028	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2029	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2030	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2031	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2032	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2033	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2034	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2035	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
TOTAL	844,961	3,542,705	202,786	510,488	5,567,823	60,373,531	65,941,354	233,900	365,589	6,740,894	78,382,677

c) *Metric conversion is acre-feet times 1.2335 equals cubic dekametres.*

d) *For the period 1968 through 1984 annual quantities delivered are nonproject water pumped through an interim facility.*

e) *Solano County Flood Control and Water Conservation District (SCFC&WCD) has contracted for 42,000 acre-feet maximum annually, of which 5,600 acre-feet will be delivered from the Delta through the District's facilities.*

f) *For the period June 1962 through November 1967, deliveries were supplied by nonproject water.*

g) *Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.*

TABLE B-5B: ANNUAL WATER QUANTITIES

(in acre-feet) (c

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	53	0	0	464	0	338	55	0	1,275	0
1973	20	0	5,800	389	9,000	290	0	0	32,426	0
1974	1,259	0	6,400	627	10,000	400	14	0	16,605	612
1975	8,068	0	7,000	825	11,000	520	0	0	13,865	5,450
1976	27,782	0	7,600	1,002	12,000	589	0	0	12,273	6,071
1977	11,202	0	0	1,109	0	111	80	0	24,833	8,996
1978	44,137	0	10,084	1,209	15,300	208	0	0	4,055	7,771
1979	60,493	7	10,063	1,260	15,000	133	4,000	0	18	290
1980	72,407	1,210	10,884	1,239	17,000	191	4,000	0	0	1,085
1981	87,970	8,100	12,005	1,500	18,800	1,260	4,000	0	21,900	12,500
1982	88,750	9,100	13,126	1,856	20,600	1,380	10,500	0	31,100	18,500
1983	57,460	10,200	14,247	2,200	22,500	1,500	0	300	40,200	18,500
1984	58,495	11,300	15,368	2,800	24,300	1,610	0	3,000	49,400	18,500
1985	59,835	12,300	16,489	3,086	26,100	1,730	100	5,000	58,600	18,500
1986	61,280	13,700	17,510	3,515	27,900	1,850	300	5,500	72,800	18,500
1987	66,775	14,000	18,631	3,635	30,200	1,960	41,000	6,200	83,000	18,500
1988	72,275	14,400	19,752	3,755	32,600	2,070	43,100	6,800	86,100	18,500
1989	77,785	14,600	20,973	3,875	34,900	2,190	45,200	7,400	89,300	18,500
1990	83,285	14,700	20,500	4,000	36,300	2,200	47,300	8,000	92,900	18,500
1991	82,895	15,100	19,100	4,060	36,200	2,190	46,600	8,800	93,100	18,780
1992	85,905	15,500	19,100	4,120	36,000	2,180	46,400	9,600	92,400	19,060
1993	89,015	15,900	19,300	4,180	35,900	2,170	46,400	10,400	91,600	19,340
1994	92,825	16,300	19,300	4,240	35,800	2,160	46,300	11,200	90,900	19,620
1995	95,135	16,700	19,400	4,300	35,600	2,150	46,300	12,000	90,200	19,900
1996	98,245	17,000	19,400	4,360	35,500	2,140	46,200	12,600	89,500	20,200
1997	101,355	17,200	19,500	4,420	35,400	2,130	46,100	13,200	88,700	20,500
1998	104,370	17,400	19,600	4,480	35,300	2,120	46,100	13,800	88,000	20,800
1999	109,485	17,600	19,700	4,540	35,100	2,110	45,900	14,400	87,200	21,100
2000	110,500	17,800	19,700	4,600	35,000	2,100	45,900	15,000	86,500	21,400
2001	111,600	18,500	19,800	4,660	35,100	2,100	46,100	15,500	87,100	21,720
2002	112,600	19,200	20,000	4,720	35,200	2,100	46,300	16,000	87,700	22,040
2003	113,700	20,000	20,100	4,780	35,400	2,100	46,500	16,500	88,400	22,360
2004	114,800	20,700	20,200	4,840	35,500	2,100	46,700	17,000	89,000	22,680
2005	115,900	21,400	20,400	4,900	35,600	2,100	46,800	17,300	89,600	23,000
2006	116,900	21,900	20,500	4,960	35,700	2,100	47,000	17,300	90,200	23,360
2007	118,000	22,500	20,600	5,020	35,800	2,200	47,200	17,300	90,800	23,720
2008	119,100	23,000	20,700	5,080	36,000	2,200	47,400	17,300	91,500	24,080
2009	120,200	23,500	20,900	5,140	36,100	2,200	47,600	17,300	92,100	24,440
2010	121,200	24,000	21,000	5,200	36,200	2,200	47,800	17,300	92,700	24,800
2011	122,300	24,800	21,100	5,260	36,300	2,200	48,000	17,300	93,300	25,180
2012	123,400	25,500	21,300	5,320	36,400	2,200	48,200	17,300	93,900	25,560
2013	124,400	26,200	21,400	5,380	36,500	2,200	48,300	17,300	94,500	25,940
2014	125,500	26,900	21,500	5,440	36,700	2,200	48,500	17,300	95,200	26,320
2015	126,600	27,600	21,700	5,500	36,800	2,200	48,700	17,300	95,800	26,700
2016	127,700	28,400	21,800	5,560	36,900	2,200	48,900	17,300	96,400	26,700
2017	128,700	29,100	21,900	5,620	37,000	2,200	49,100	17,300	97,000	27,540
2018	129,800	29,800	22,100	5,680	37,100	2,200	49,300	17,300	97,600	27,960
2019	130,900	30,500	22,200	5,740	37,300	2,200	49,500	17,300	98,300	28,380
2020	132,000	31,300	22,300	5,800	37,400	2,300	49,700	17,300	98,900	28,800
2021	133,000	32,000	22,400	5,800	37,500	2,300	49,900	17,300	99,500	28,800
2022	134,100	32,700	22,600	5,800	37,600	2,300	50,000	17,300	100,100	28,800
2023	135,200	33,500	22,700	5,800	37,700	2,300	50,200	17,300	100,700	28,800
2024	136,300	34,300	22,800	5,800	37,900	2,300	50,400	17,300	101,400	28,800
2025	137,300	35,000	23,000	5,800	38,000	2,300	50,600	17,300	102,000	28,800
2026	138,400	35,800	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2027	138,400	36,400	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2028	138,400	37,000	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2029	138,400	37,700	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2030	138,400	38,300	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2031	138,400	38,900	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2032	138,400	39,600	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2033	138,400	40,200	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2034	138,400	40,800	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2035	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	6,404,261	1,338,617	1,186,532	273,246	2,014,000	119,980	2,378,549	764,500	5,018,450	1,343,255

DELIVERED TO EACH CONTRACTOR[a][b]

(in acre-feet)[c]

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	8,906
1963	0	0	0	0	0	0	0	0	0	12,645
1964	0	0	0	0	0	0	0	0	0	20,911
1965	0	0	0	0	0	0	0	0	0	34,026
1966	0	0	0	0	0	0	0	0	0	54,913
1967	0	0	0	0	0	0	0	0	0	56,763
1968	0	0	0	0	0	0	0	0	0	294,457
1969	0	0	0	0	0	0	0	0	0	268,104
1970	0	0	0	0	0	0	70	70	0	369,459
1971	0	0	0	0	0	192	64	256	0	654,442
1972	0	71,938	0	74,123	0	186	505	691	0	1,037,770
1973	0	159,883	0	207,808	0	53	679	732	0	737,532
1974	0	277,717	0	313,634	0	127	648	775	0	878,947
1975	0	526,491	0	573,219	0	253	405	658	0	1,230,830
1976	0	618,451	0	685,768	0	527	382	909	0	1,380,124
1977	0	189,755	0	236,086	0	706	303	1,009	0	582,381
1978	0	507,565	0	590,329	0	579	278	857	0	1,458,733
1979	0	477,074	0	568,338	0	302	329	631	0	1,666,457
1980	0	531,727	0	639,743	0	267	295	562	0	1,536,456
1981	0	698,600	1,000	867,635	0	1,200	740	1,940	0	1,853,345
1982	0	829,300	250	1,024,462	0	1,200	770	1,970	0	2,055,762
1983	0	934,300	500	1,101,907	0	1,200	800	2,000	0	2,197,247
1984	0	1,004,900	750	1,190,423	1,600	1,200	830	3,630	0	2,349,178
1985	6,800	1,027,000	1,000	1,236,540	1,700	1,200	860	3,760	0	2,464,220
1986	7,800	1,074,100	1,250	1,306,005	1,800	1,200	890	3,890	0	2,590,630
1987	8,800	1,099,549	2,250	1,394,500	2,500	1,200	920	4,620	0	2,742,975
1988	9,800	1,124,448	3,500	1,437,100	2,900	1,200	960	5,060	0	2,847,869
1989	10,800	1,165,427	4,750	1,495,700	3,300	1,200	1,000	5,500	0	2,957,000
1990	11,800	1,170,800	6,250	1,516,535	3,800	1,200	1,040	6,040	0	3,062,405
1991	12,600	1,155,900	7,050	1,502,375	4,100	27,100	970	32,170	0	3,079,169
1992	13,500	1,174,400	8,500	1,526,665	4,300	26,700	1,000	32,000	0	3,108,983
1993	14,300	1,170,500	9,700	1,528,705	4,600	26,300	1,030	31,930	0	3,116,747
1994	15,200	1,115,800	10,800	1,480,445	4,800	25,900	1,060	31,760	0	3,073,311
1995	16,000	1,134,300	12,850	1,504,835	5,100	25,400	1,100	31,600	0	3,099,835
1996	15,700	1,146,800	14,800	1,522,445	5,400	25,000	1,140	31,540	0	3,119,895
1997	15,500	1,159,300	17,500	1,540,805	5,600	24,600	1,180	31,380	0	3,140,605
1998	15,200	1,171,800	17,200	1,556,170	5,900	24,200	1,220	31,320	0	3,155,320
1999	15,000	1,184,300	16,900	1,573,335	6,200	23,800	1,260	31,260	0	3,172,835
2000	14,700	1,196,800	16,600	1,586,600	6,600	23,400	1,310	31,310	0	3,186,660
2001	14,800	1,239,000	16,700	1,632,680	7,100	23,600	1,370	32,070	0	3,238,650
2002	14,900	1,282,100	16,900	1,679,760	7,500	23,700	1,430	32,630	0	3,290,840
2003	15,000	1,323,500	17,000	1,725,340	8,000	23,900	1,490	33,390	0	3,342,830
2004	15,100	1,365,700	17,100	1,771,420	8,400	24,000	1,550	33,950	0	3,394,420
2005	15,200	1,408,000	17,300	1,817,500	8,500	24,200	1,610	34,310	0	3,446,310
2006	15,300	1,450,200	17,400	1,862,820	8,500	24,300	1,680	34,480	0	3,494,750
2007	15,400	1,492,400	17,500	1,908,440	8,600	24,500	1,850	34,950	0	3,544,490
2008	15,500	1,534,600	17,600	1,954,060	8,600	24,700	1,920	35,220	0	3,593,580
2009	15,600	1,566,900	17,800	1,989,780	8,700	24,800	1,990	35,490	0	3,631,270
2010	15,700	1,619,100	17,900	2,045,100	8,700	25,000	2,060	35,760	0	3,691,760
2011	15,800	1,656,300	18,000	2,085,840	8,800	25,100	2,140	36,040	0	3,734,500
2012	15,900	1,693,600	18,200	2,126,780	8,800	25,300	2,220	36,320	0	3,780,140
2013	16,000	1,730,800	18,300	2,167,220	8,900	25,400	2,310	36,610	0	3,823,990
2014	16,100	1,768,600	18,400	2,208,660	9,000	25,600	2,400	37,000	0	3,868,840
2015	16,200	1,806,800	18,600	2,250,500	9,000	25,800	2,500	37,300	0	3,914,100
2016	16,300	1,837,250	18,700	2,284,110	9,100	25,900	2,600	37,600	0	3,951,470
2017	16,400	1,867,700	18,800	2,318,360	9,100	26,100	2,600	37,800	0	3,989,280
2018	16,500	1,883,700	19,000	2,338,040	9,200	26,200	2,600	38,000	0	4,012,520
2019	16,600	1,899,600	19,100	2,357,620	9,200	26,400	2,600	38,200	0	4,035,660
2020	16,700	1,915,600	19,200	2,377,300	9,300	26,600	2,700	38,600	0	4,059,300
2021	16,800	1,931,600	19,300	2,396,200	9,300	26,700	2,700	38,700	0	4,081,100
2022	16,900	1,947,600	19,500	2,415,300	9,400	26,900	2,700	39,000	0	4,103,500
2023	17,000	1,963,600	19,600	2,434,400	9,400	27,000	2,700	39,100	0	4,125,500
2024	17,100	1,979,500	19,700	2,453,600	9,500	27,200	2,700	39,400	0	4,148,200
2025	17,200	1,995,500	19,900	2,472,700	9,500	27,300	2,700	39,500	0	4,170,100
2026	17,300	2,011,500	20,000	2,491,800	9,600	27,500	2,700	39,800	0	4,192,500
2027	17,300	2,011,500	20,000	2,492,400	9,600	27,500	2,700	39,800	0	4,193,100
2028	17,300	2,011,500	20,000	2,493,000	9,600	27,500	2,700	39,800	0	4,193,700
2029	17,300	2,011,500	20,000	2,493,700	9,600	27,500	2,700	39,800	0	4,194,400
2030	17,300	2,011,500	20,000	2,494,300	9,600	27,500	2,700	39,800	0	4,195,000
2031	17,300	2,011,500	20,000	2,494,900	9,600	27,500	2,700	39,800	0	4,195,600
2032	17,300	2,011,500	20,000	2,495,600	9,600	27,500	2,700	39,800	0	4,196,300
2033	17,300	2,011,500	20,000	2,496,200	9,600	27,500	2,700	39,800	0	4,196,900
2034	17,300	2,011,500	20,000	2,496,800	9,600	27,500	2,700	39,800	0	4,197,500
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,198,200
TOTAL	776,500	87,373,175	810,900	109,801,965	386,300	1,178,792	106,158	1,671,250	0	205,078,147

TABLE B-5C: ANNUAL REQUESTS FROM EACH

(in acre-feet)(c

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA (e				CENTRAL COASTAL AREA		
	Napa County (d FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	1,000	16,900	0	17,900	0	0	0
1963	0	0	0	2,500	17,600	0	20,100	0	0	0
1964	0	0	0	2,000	25,776	0	27,776	0	0	0
1965	0	0	0	3,600	24,850	25,600	54,050	0	0	0
1966	0	0	0	4,200	19,120	37,610	60,930	0	0	0
1967	0	0	0	6,400	24,234	53,000	83,634	0	0	0
1968	2,045	0	2,045	6,900	25,000	88,000	119,900	0	0	0
1969	4,070	0	4,070	8,200	15,500	75,000	98,700	0	0	0
1970	4,073	0	4,073	9,500	16,200	75,000	100,700	0	0	0
1971	4,532	0	4,532	11,200	17,000	88,000	116,200	0	0	0
1972	3,857	0	3,857	12,400	17,900	88,000	118,300	0	0	0
1973	3,859	0	3,859	13,600	18,800	88,000	120,400	0	0	0
1974	3,866	0	3,866	14,800	19,600	88,000	122,400	0	0	0
1975	4,960	0	4,960	16,000	20,500	88,000	124,500	0	0	0
1976	5,395	0	5,395	17,200	21,300	88,000	126,500	0	0	0
1977	7,350	0	7,350	18,400	22,200	88,000	128,600	0	0	0
1978	8,180	0	8,180	19,600	23,100	88,000	130,700	0	0	0
1979	6,405	0	6,405	20,800	26,120	91,300	138,220	0	0	0
1980	6,600	0	6,600	22,000	24,800	88,000	134,800	0	0	0
1981	6,088	650	6,738	23,000	26,000	88,000	137,000	0	0	0
1982	4,430	800	5,230	24,000	27,200	88,000	139,200	0	0	0
1983	4,440	950	5,390	25,000	28,400	88,000	141,400	0	0	0
1984	4,525	2,866	7,391	26,000	29,600	88,000	143,600	0	0	0
1985	4,570	14,000	18,570	27,000	30,800	88,000	145,800	0	0	0
1986	4,635	16,500	21,135	28,000	32,100	88,000	148,100	0	0	0
1987	4,705	20,000	24,705	29,000	33,300	88,000	150,300	0	0	0
1988	4,709	27,000	31,709	30,000	34,500	88,000	152,500	0	0	0
1989	5,000	34,500	39,500	31,000	35,700	90,000	156,700	0	0	0
1990	5,350	42,000	47,350	32,000	36,900	92,000	160,900	8,380	20,600	28,980
1991	6,220	42,000	48,220	34,000	38,400	94,000	166,400	9,404	21,900	31,304
1992	7,090	42,000	49,090	36,000	39,900	96,000	171,900	10,428	23,100	33,528
1993	7,960	42,000	49,960	38,000	41,400	98,000	177,400	11,452	24,400	35,852
1994	8,830	42,000	50,830	40,000	42,000	100,000	182,000	12,476	25,700	38,176
1995	9,700	42,000	51,700	42,000	42,000	100,000	184,000	13,500	27,000	40,500
1996	10,510	42,000	52,510	44,000	42,000	100,000	186,000	14,700	28,300	43,000
1997	11,320	42,000	53,320	46,000	42,000	100,000	188,000	15,900	29,500	45,400
1998	12,130	42,000	54,130	46,000	42,000	100,000	188,000	16,100	30,800	46,900
1999	12,940	42,000	54,940	46,000	42,000	100,000	188,000	17,300	32,100	49,400
2000	13,750	42,000	55,750	46,000	42,000	100,000	188,000	18,500	33,400	51,900
2001	14,300	42,000	56,300	46,000	42,000	100,000	188,000	19,800	33,700	53,500
2002	14,850	42,000	56,850	46,000	42,000	100,000	188,000	21,100	34,000	55,100
2003	15,400	42,000	57,400	46,000	42,000	100,000	188,000	22,400	34,300	56,700
2004	15,950	42,000	57,950	46,000	42,000	100,000	188,000	23,700	34,600	58,300
2005	16,500	42,000	58,500	46,000	42,000	100,000	188,000	25,000	34,900	59,900
2006	16,650	42,000	58,650	46,000	42,000	100,000	188,000	25,000	35,200	60,200
2007	16,800	42,000	58,800	46,000	42,000	100,000	188,000	25,000	35,500	60,500
2008	16,900	42,000	58,900	46,000	42,000	100,000	188,000	25,000	35,800	60,800
2009	17,000	42,000	59,000	46,000	42,000	100,000	188,000	25,000	36,100	61,100
2010	17,100	42,000	59,100	46,000	42,000	100,000	188,000	25,000	36,400	61,400
2011	17,220	42,000	59,220	46,000	42,000	100,000	188,000	25,000	36,400	61,400
2012	17,340	42,000	59,340	46,000	42,000	100,000	188,000	25,000	36,400	61,400
2013	17,460	42,000	59,460	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2014	17,580	42,000	59,580	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2015	17,700	42,000	59,700	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2016	18,160	42,000	60,160	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2017	18,620	42,000	60,620	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2018	19,080	42,000	61,080	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2019	19,540	42,000	61,540	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2020	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2021	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2022	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2023	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2024	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2025	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2026	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2027	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2028	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2029	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2030	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2031	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2032	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2033	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2034	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
2035	20,000	42,000	62,000	46,000	42,000	100,000	188,000	25,000	36,500	61,500
TOTAL	858,244	2,049,266	2,907,510	2,513,300	2,594,700	6,611,510	11,719,510	1,010,140	1,559,600	2,569,740

a) *Tables B-5A and B-5B show the contractor requests for water deliveries reduced to reflect Bulletin 76 conservation and reclamation goals and are subject to annual review. See Appendix B text, "Water Conveyance".*

b) *Includes entitlement water, surplus water (delivered prior to May 1, 1973), and nonproject water.*

c) *Metric conversion is acre-feet times 1.2335 equals cubic dekametres.*

CONTRACTOR FOR WATER DELIVERIES[a] [b]

(in acre-feet)[c]

Calendar Year	SAN JOAQUIN VALLEY AREA										
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[f]	Kern County Water Agency			County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					M&I	Ag.	Total				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
1962	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0
1968	7,400	23,000	6,000	2,600	0	142,597	142,597	900	4,300	29,832	216,629
1969	5,000	14,325	3,000	2,400	0	95,700	95,700	1,200	2,500	43,950	168,075
1970	5,700	15,700	3,000	2,500	0	176,600	176,600	0	2,600	1,500	207,600
1971	6,700	17,900	3,000	2,300	0	285,550	285,550	1,300	2,800	34,200	353,750
1972	7,700	20,000	3,000	2,600	500	419,746	420,246	1,400	2,900	36,700	494,546
1973	8,700	22,000	3,000	2,900	2,200	392,720	394,920	1,500	3,100	39,100	475,220
1974	9,700	24,100	3,000	3,300	5,300	341,700	347,000	1,500	3,200	43,000	434,800
1975	10,700	26,200	3,000	3,600	25,100	360,400	385,500	1,600	3,400	46,900	480,900
1976	11,700	28,300	3,000	3,900	24,800	408,000	432,800	1,600	3,500	50,800	535,600
1977	12,700	41,000	3,000	4,200	51,100	432,500	483,600	1,700	3,700	54,800	342,990
1978	12,700	32,500	3,000	4,600	49,120	780,373	829,493	1,900	3,900	58,700	946,793
1979	16,000	34,600	6,000	9,500	50,370	643,530	693,900	2,000	4,780	95,480	862,260
1980	14,110	36,700	4,800	6,200	66,100	568,400	634,500	2,200	4,200	76,682	779,392
1981	12,700	41,000	5,400	5,600	74,800	616,600	691,400	2,300	4,300	80,582	843,282
1982	12,700	41,000	4,800	5,900	74,350	670,950	745,300	2,500	4,500	74,300	891,000
1983	12,700	42,900	3,000	6,200	77,850	727,250	805,100	2,800	4,600	78,200	955,500
1984	12,700	45,100	3,000	6,500	74,600	786,000	860,600	3,100	4,800	82,100	1,017,900
1985	12,700	47,200	3,000	6,900	79,350	835,450	915,000	3,400	4,900	86,000	1,079,100
1986	12,700	49,300	3,000	7,200	98,400	869,800	968,200	3,700	5,100	90,000	1,139,200
1987	12,700	51,400	3,000	7,500	95,000	928,500	1,023,500	4,000	5,200	93,900	1,201,200
1988	12,700	53,500	3,000	7,800	100,400	974,200	1,074,600	4,000	5,400	97,800	1,258,800
1989	12,700	55,600	3,000	8,200	103,600	1,008,700	1,112,300	4,000	5,600	101,700	1,303,100
1990	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1991	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1992	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1993	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1994	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1995	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1996	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1997	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1998	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
1999	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2000	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2001	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2002	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2003	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2004	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2005	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2006	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2007	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2008	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2009	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2010	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2011	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2012	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2013	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2014	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2015	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2016	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2017	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2018	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2019	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2020	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2021	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2022	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2023	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2024	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2025	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2026	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2027	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2028	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2029	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2030	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2031	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2032	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2033	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2034	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
2035	12,700	57,700	3,000	8,500	106,600	1,046,800	1,153,400	4,000	5,700	110,000	1,355,000
TOTAL	827,310	3,417,525	216,000	503,400	5,956,740	60,618,066	66,574,806	232,600	351,480	6,456,226	78,317,637

d) For the period 1968 through 1984 annual quantities delivered are nonproject water pumped through an interim facility.

e) For the period June 1962 through November 1967, deliveries were supplied by nonproject water.

f) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

16—82066

TABLE B–5C: ANNUAL REQUESTS FROM EACH

(in acre-feet)(c

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	20	0	0	580	0	170	0	0	23,000	0
1973	45	0	5,800	870	9,000	290	10,700	0	48,000	0
1974	45	0	6,400	1,160	10,000	400	0	0	50,000	12,300
1975	4,600	0	7,000	770	11,000	520	0	0	52,500	4,410
1976	34,635	0	7,600	932	12,000	640	0	0	55,000	10,000
1977	50,000	5,000	8,421	1,514	13,000	730	20,200	0	57,500	10,000
1978	57,000	6,000	9,242	1,812	14,000	920	22,500	0	60,000	15,700
1979	94,372	120	10,063	2,200	15,000	1,205	24,900	0	20,000	10,000
1980	90,520	7,000	10,884	2,565	17,000	1,315	27,200	0	22,800	7,500
1981	87,970	8,200	12,105	1,500	19,000	1,260	33,600	0	22,800	12,500
1982	88,750	9,400	13,326	1,856	21,000	1,380	42,400	0	32,800	18,500
1983	57,460	10,600	14,547	2,200	23,000	1,500	34,300	300	42,800	18,500
1984	58,495	11,800	15,768	2,800	25,000	1,610	36,700	3,000	52,800	18,500
1985	59,835	13,000	16,989	3,086	27,000	1,730	39,000	5,000	62,800	18,500
1986	61,280	14,500	18,210	3,515	29,000	1,830	41,400	5,500	78,000	18,500
1987	66,775	14,900	19,431	3,635	31,500	1,960	43,700	6,200	89,000	18,500
1988	72,275	15,400	20,652	3,755	34,000	2,070	46,000	6,800	93,000	18,500
1989	77,785	15,800	21,873	3,875	36,500	2,190	48,500	7,400	97,000	18,500
1990	83,285	16,000	23,100	4,000	38,100	2,300	50,800	8,000	101,500	18,500
1991	88,795	16,600	23,100	4,060	38,100	2,300	50,800	8,800	102,600	18,780
1992	94,305	17,200	23,100	4,120	38,100	2,300	50,800	9,600	102,600	19,060
1993	99,815	17,800	23,100	4,180	38,100	2,300	50,800	10,400	102,600	19,340
1994	105,325	18,400	23,100	4,240	38,100	2,300	50,800	11,200	102,600	19,620
1995	110,835	19,000	23,100	4,300	38,100	2,300	50,800	12,000	102,600	19,900
1996	116,345	19,400	23,100	4,360	38,100	2,300	50,800	12,600	102,600	20,200
1997	121,855	19,800	23,100	4,420	38,100	2,300	50,800	13,200	102,600	20,500
1998	127,370	20,200	23,100	4,480	38,100	2,300	50,800	13,800	102,600	20,800
1999	132,885	20,600	23,100	4,540	38,100	2,300	50,800	14,400	102,600	21,100
2000	138,400	21,000	23,100	4,600	38,100	2,300	50,800	15,000	102,600	21,400
2001	138,400	21,600	23,100	4,660	38,100	2,300	50,800	15,500	102,600	21,720
2002	138,400	22,200	23,100	4,720	38,100	2,300	50,800	16,000	102,600	22,040
2003	138,400	22,800	23,100	4,780	38,100	2,300	50,800	16,500	102,600	22,360
2004	138,400	23,400	23,100	4,840	38,100	2,300	50,800	17,000	102,600	22,680
2005	138,400	24,000	23,100	4,900	38,100	2,300	50,800	17,300	102,600	23,000
2006	138,400	24,400	23,100	4,960	38,100	2,300	50,800	17,300	102,600	23,360
2007	138,400	24,800	23,100	5,020	38,100	2,300	50,800	17,300	102,600	23,720
2008	138,400	25,200	23,100	5,080	38,100	2,300	50,800	17,300	102,600	24,080
2009	138,400	25,600	23,100	5,140	38,100	2,300	50,800	17,300	102,600	24,440
2010	138,400	26,000	23,100	5,200	38,100	2,300	50,800	17,300	102,600	24,800
2011	138,400	26,600	23,100	5,260	38,100	2,300	50,800	17,300	102,600	25,180
2012	138,400	27,200	23,100	5,320	38,100	2,300	50,800	17,300	102,600	25,560
2013	138,400	27,800	23,100	5,380	38,100	2,300	50,800	17,300	102,600	25,940
2014	138,400	28,400	23,100	5,440	38,100	2,300	50,800	17,300	102,600	26,320
2015	138,400	29,000	23,100	5,500	38,100	2,300	50,800	17,300	102,600	26,700
2016	138,400	29,600	23,100	5,560	38,100	2,300	50,800	17,300	102,600	26,700
2017	138,400	30,200	23,100	5,620	38,100	2,300	50,800	17,300	102,600	27,540
2018	138,400	30,800	23,100	5,680	38,100	2,300	50,800	17,300	102,600	27,960
2019	138,400	31,400	23,100	5,740	38,100	2,300	50,800	17,300	102,600	28,380
2020	138,400	32,000	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2021	138,400	32,600	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2022	138,400	33,200	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2023	138,400	33,900	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2024	138,400	34,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2025	138,400	35,100	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2026	138,400	35,800	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2027	138,400	36,400	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2028	138,400	37,000	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2029	138,400	37,700	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2030	138,400	38,300	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2031	138,400	38,900	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2032	138,400	39,600	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2033	138,400	40,200	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2034	138,400	40,800	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2035	138,400	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
TOTAL	7,025,077	1,426,220	1,280,911	277,525	2,099,600	127,520	2,807,900	764,500	5,678,300	1,382,890

CONTRACTOR FOR WATER DELIVERIES (a (b

(in acre-feet) (c

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	17,900
1963	0	0	0	0	0	0	0	0	0	20,100
1964	0	0	0	0	0	0	0	0	0	27,776
1965	0	0	0	0	0	0	0	0	0	54,050
1966	0	0	0	0	0	0	0	0	0	60,930
1967	0	0	0	0	0	0	0	0	0	83,634
1968	0	0	0	0	0	0	0	0	0	338,574
1969	0	0	0	0	0	0	0	0	0	270,845
1970	0	0	0	0	0	0	70	70	0	312,443
1971	0	0	0	0	0	192	64	256	0	474,738
1972	0	110,000	0	133,770	0	186	505	691	0	751,164
1973	0	275,100	0	349,805	0	53	679	732	0	950,016
1974	0	320,600	0	400,905	0	127	648	775	0	962,746
1975	0	555,200	0	636,000	0	253	405	658	0	1,247,018
1976	0	598,590	0	719,397	0	527	382	909	0	1,387,801
1977	0	624,468	0	790,833	0	706	303	1,009	0	1,532,492
1978	0	800,000	0	987,174	0	579	278	857	0	2,073,704
1979	0	869,000	0	1,046,860	0	302	329	631	0	2,054,376
1980	0	798,800	1,000	986,584	0	267	295	562	0	1,907,938
1981	0	698,900	0	897,835	0	1,200	740	1,940	0	1,886,795
1982	0	829,900	250	1,059,562	0	1,200	770	1,970	0	2,096,962
1983	0	935,200	500	1,140,907	0	1,200	800	2,000	0	2,245,197
1984	0	1,006,100	750	1,233,323	1,600	1,200	830	3,630	0	2,405,844
1985	6,800	1,060,000	1,000	1,314,740	1,700	1,200	860	3,760	0	2,561,970
1986	7,800	1,116,600	1,250	1,397,385	1,800	1,200	890	3,890	0	2,709,710
1987	8,800	1,164,049	2,250	1,470,700	2,500	1,200	920	4,620	0	2,851,525
1988	9,800	1,210,348	3,500	1,536,100	2,900	1,200	960	5,060	0	2,984,169
1989	10,800	1,251,627	4,750	1,596,600	3,300	1,200	1,000	5,500	0	3,101,400
1990	11,800	1,298,800	6,250	1,662,435	3,800	1,200	1,040	6,040	0	3,260,705
1991	12,900	1,333,800	7,750	1,708,385	4,100	27,100	970	32,170	0	3,341,479
1992	14,000	1,368,800	9,500	1,753,485	4,300	26,700	1,000	32,000	0	3,395,003
1993	15,100	1,403,800	11,000	1,798,335	4,600	26,300	1,030	31,930	0	3,448,477
1994	16,200	1,438,800	12,500	1,843,185	4,800	25,900	1,060	31,760	0	3,500,951
1995	17,300	1,473,800	14,750	1,888,785	5,100	25,400	1,100	31,600	0	3,551,585
1996	17,300	1,502,800	17,000	1,926,905	5,400	25,000	1,140	31,540	0	3,594,955
1997	17,300	1,531,800	20,000	1,965,775	5,600	24,600	1,180	31,380	0	3,638,875
1998	17,300	1,560,800	20,000	2,001,650	5,900	24,200	1,220	31,320	0	3,677,000
1999	17,300	1,589,800	20,000	2,037,525	6,200	23,800	1,260	31,260	0	3,716,125
2000	17,300	1,618,800	20,000	2,073,400	6,600	23,400	1,310	31,310	0	3,755,360
2001	17,300	1,644,800	20,000	2,100,880	7,100	23,600	1,370	32,070	0	3,785,750
2002	17,300	1,671,600	20,000	2,129,160	7,500	23,700	1,430	32,630	0	3,816,740
2003	17,300	1,696,800	20,000	2,155,840	8,000	23,900	1,490	33,390	0	3,846,330
2004	17,300	1,722,800	20,000	2,183,320	8,400	24,000	1,550	33,950	0	3,876,520
2005	17,300	1,748,800	20,000	2,210,600	8,500	24,200	1,610	34,310	0	3,906,310
2006	17,300	1,774,800	20,000	2,237,420	8,500	24,300	1,680	34,480	0	3,933,750
2007	17,300	1,800,800	20,000	2,264,240	8,600	24,500	1,850	34,950	0	3,961,490
2008	17,300	1,826,800	20,000	2,291,060	8,600	24,700	1,920	35,220	0	3,988,980
2009	17,300	1,842,800	20,000	2,307,880	8,700	24,800	1,990	35,490	0	4,006,470
2010	17,300	1,878,800	20,000	2,344,700	8,700	25,000	2,060	35,760	0	4,043,960
2011	17,300	1,899,800	20,000	2,366,740	8,800	25,100	2,140	36,040	0	4,066,400
2012	17,300	1,920,800	20,000	2,388,780	8,800	25,300	2,220	36,320	0	4,088,840
2013	17,300	1,941,800	20,000	2,410,820	8,900	25,400	2,310	36,610	0	4,111,390
2014	17,300	1,962,800	20,000	2,432,860	9,000	25,600	2,400	37,000	0	4,133,940
2015	17,300	1,983,800	20,000	2,454,900	9,000	25,800	2,500	37,300	0	4,156,400
2016	17,300	1,997,650	20,000	2,469,410	9,100	25,900	2,600	37,600	0	4,171,670
2017	17,300	2,011,500	20,000	2,484,760	9,100	26,100	2,600	37,800	0	4,187,680
2018	17,300	2,011,500	20,000	2,485,840	9,200	26,200	2,600	38,000	0	4,189,420
2019	17,300	2,011,500	20,000	2,486,920	9,200	26,400	2,600	38,200	0	4,191,160
2020	17,300	2,011,500	20,000	2,488,000	9,300	26,600	2,700	38,600	0	4,193,100
2021	17,300	2,011,500	20,000	2,488,600	9,300	26,700	2,700	38,700	0	4,193,800
2022	17,300	2,011,500	20,000	2,489,200	9,400	26,900	2,700	39,000	0	4,194,700
2023	17,300	2,011,500	20,000	2,489,900	9,400	27,000	2,700	39,100	0	4,195,500
2024	17,300	2,011,500	20,000	2,490,500	9,500	27,200	2,700	39,400	0	4,196,400
2025	17,300	2,011,500	20,000	2,491,100	9,500	27,300	2,700	39,500	0	4,197,100
2026	17,300	2,011,500	20,000	2,491,800	9,600	27,500	2,700	39,800	0	4,198,100
2027	17,300	2,011,500	20,000	2,492,400	9,600	27,500	2,700	39,800	0	4,196,000
2028	17,300	2,011,500	20,000	2,493,000	9,600	27,500	2,700	39,800	0	4,196,600
2029	17,300	2,011,500	20,000	2,493,700	9,600	27,500	2,700	39,800	0	4,197,300
2030	17,300	2,011,500	20,000	2,494,300	9,600	27,500	2,700	39,800	0	4,197,900
2031	17,300	2,011,500	20,000	2,494,900	9,600	27,500	2,700	39,800	0	4,198,500
2032	17,300	2,011,500	20,000	2,495,600	9,600	27,500	2,700	39,800	0	4,199,200
2033	17,300	2,011,500	20,000	2,496,200	9,600	27,500	2,700	39,800	0	4,199,800
2034	17,300	2,011,500	20,000	2,496,800	9,600	27,500	2,700	39,800	0	4,200,400
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,201,100
TOTAL	823,300	97,880,232	874,000	122,447,975	386,300	1,178,792	106,158	1,671,250	0	219,871,032

TABLE B–6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)[b]

Calendar Year	NORTH BAY AQUEDUCT							SOUTH BAY AQUEDUCT					
	North Bay Pumping Plant			CORDELIA PUMPING PLANT				SOUTH BAY PUMPING PLANT					
											Deliveries		
	Operational Losses	Water Supply Delivery	Total	Initial Fill Water	Operational Losses	Water Supply Delivery (c	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply (d	Recreation	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1962	0	0	0	0	0	0	0	9	272	0	8,906	0	9,187
1963	0	0	0	0	0	0	0	71	185	0	12,645	0	12,901
1964	0	0	0	0	0	0	0	171	152	0	20,911	0	21,234
1965	0	0	0	0	0	0	0	93	729	0	34,026	0	34,848
1966	0	0	0	0	0	0	0	0	1,746	0	54,913	0	56,659
1967	0	0	0	0	0	0	0	0	1,677	0	56,763	0	58,440
1968	0	0	0	24	-10	1,214	1,228	0	1,847	0	101,055	0	102,902
1969	0	0	0	0	2	2,687	2,689	3,449	2,668	0	69,712	0	75,829
1970	0	0	0	0	18	3,618	3,636	16,279	1,086	-5,355	89,560	0	101,570
1971	0	0	0	0	4	2,521	2,525	0	1,815	8,854	98,584	0	109,253
1972	0	0	0	0	-10	3,647	3,637	0	3,557	2,273	138,426	0	144,256
1973	0	0	0	0	1	3,792	3,793	0	-33	-1,510	94,078	0	92,535
1974	0	0	0	0	10	4,870	4,880	0	1,287	-10,056	89,318	0	80,549
1975	0	0	0	0	10	6,840	6,850	0	320	8,550	93,604	0	102,474
1976	0	0	0	0	4	7,122	7,126	0	2,431	1,391	126,431	141	130,394
1977	0	0	0	0	2	8,226	8,228	0	2,866	2,685	107,704	112	113,367
1978	0	0	0	0	-6	6,034	6,028	0	2,165	-11,249	112,574	126	103,616
1979	0	0	0	0	1	6,561	6,562	0	2,401	1,069	122,190	89	125,749
1980	0	0	0	0	-3	6,707	6,704	0	1,758	-6,563	115,824	123	111,142
1981	0	0	0	0	0	6,088	6,088	0	3,184	466	135,300	150	139,100
1982	0	0	0	0	0	4,430	4,430	0	3,185	0	135,600	150	138,935
1983	0	0	0	0	0	4,440	4,440	0	3,185	0	136,000	160	139,345
1984	0	6,291	6,291	0	0	4,525	4,525	0	3,185	0	136,300	160	139,645
1985	350	12,520	12,870	0	0	4,570	4,570	0	3,189	0	136,800	200	140,189
1986	350	11,035	11,385	0	0	4,635	4,635	0	3,188	0	135,800	240	139,228
1987	350	12,955	13,305	0	0	4,705	4,705	0	3,202	0	135,900	280	139,382
1988	350	18,009	18,359	0	0	4,709	4,709	0	3,196	0	136,000	320	139,516
1989	350	22,600	22,950	0	0	5,000	5,000	0	3,197	0	138,100	360	141,657
1990	350	27,250	27,600	0	0	5,350	5,350	0	3,198	0	140,300	400	143,898
1991	350	27,620	27,970	0	0	6,120	6,120	0	3,200	0	144,600	400	148,200
1992	350	28,090	28,440	0	0	6,990	6,990	0	3,184	0	148,800	400	152,384
1993	350	28,460	28,810	0	0	7,760	7,760	0	3,161	0	153,000	400	156,561
1994	350	28,930	29,280	0	0	8,630	8,630	0	3,133	0	156,400	400	159,933
1995	350	29,300	29,650	0	0	9,400	9,400	0	3,124	0	157,100	400	160,624
1996	350	29,710	30,060	0	0	10,110	10,110	0	3,115	0	157,900	400	161,415
1997	350	30,120	30,470	0	0	10,920	10,920	0	3,105	0	158,700	400	162,205
1998	350	30,430	30,780	0	0	11,630	11,630	0	3,114	0	157,400	400	160,914
1999	350	30,840	31,190	0	0	12,440	12,440	0	3,123	0	156,100	400	159,623
2000	350	31,150	31,500	0	0	13,150	13,150	0	3,131	0	154,900	400	158,431
2001	350	32,400	32,750	0	0	13,700	13,700	0	3,121	0	156,300	400	159,821
2002	350	33,650	34,000	0	0	14,250	14,250	0	3,114	0	157,400	400	160,914
2003	350	35,000	35,350	0	0	14,900	14,900	0	3,105	0	158,800	400	162,305
2004	350	36,250	36,600	0	0	15,450	15,450	0	3,094	0	159,900	400	163,394
2005	350	37,500	37,850	0	0	16,000	16,000	0	3,079	0	161,600	400	165,079
2006	350	38,350	38,700	0	0	16,150	16,150	0	3,066	0	162,500	400	165,966
2007	350	39,400	39,750	0	0	16,400	16,400	0	3,052	0	163,900	400	167,352
2008	350	40,200	40,550	0	0	16,500	16,500	0	3,041	-134	165,100	400	168,407
2009	350	41,000	41,350	0	0	16,600	16,600	0	3,030	0	166,400	400	169,830
2010	350	41,800	42,150	0	0	16,700	16,700	0	3,020	0	167,600	400	171,020
2011	350	42,720	43,070	0	0	16,920	16,920	0	3,010	0	168,900	400	172,310
2012	350	43,540	43,890	0	0	17,040	17,040	0	3,000	0	170,100	400	173,500
2013	350	44,360	44,710	0	0	17,160	17,160	0	2,990	0	171,400	400	174,790
2014	350	45,180	45,530	0	0	17,280	17,280	0	2,978	-46	172,800	400	176,132
2015	350	46,000	46,350	0	0	17,400	17,400	0	2,968	-102	174,000	400	177,266
2016	350	47,260	47,610	0	0	17,960	17,960	0	2,956	-109	175,300	400	178,547
2017	350	48,420	48,770	0	0	18,420	18,420	0	2,945	-101	176,500	400	179,744
2018	350	49,580	49,930	0	0	18,880	18,880	0	2,934	-110	177,800	400	181,024
2019	350	50,740	51,090	0	0	19,340	19,340	0	2,923	-110	179,100	400	182,313
2020	350	52,100	52,450	0	0	19,900	19,900	0	3,082	712	180,400	400	184,594
2021	350	52,800	53,150	0	0	19,900	19,900	0	3,070	0	181,600	400	185,070
2022	350	53,500	53,850	0	0	19,900	19,900	0	3,055	0	183,000	400	186,455
2023	350	54,200	54,550	0	0	19,900	19,900	0	3,046	-134	184,100	400	187,412
2024	350	55,000	55,350	0	0	20,000	20,000	0	3,035	0	185,500	400	188,935
2025	350	55,700	56,050	0	0	20,000	20,000	0	3,026	0	186,600	400	190,026
2026	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2027	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2028	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2029	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2030	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2031	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2032	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2033	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2034	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416
2035	350	56,400	56,750	0	0	20,000	20,000	0	3,016	0	188,000	400	191,416

Note: "Reservoir Storage Changes" include projected net annual storage accretions (positive values)and withdrawals (negative values) for all down-aqueduct reservoirs of the project transportation facilities. Those variable OMP&R costs (Table B-12) that are allocable to storage accretions are assigned to the minimum OMP&R costs of the respective reservoirs.

"Water Supply Delivery" or "Deliveries, Water Supply", include certain hypothetical quantities to facilitate cost allocations for those years when deliveries are made from net annual storage withdrawals. The net annual amounts of storage withdrawals are hypothetically added to the actual amounts conveyed from the Delta to the reservoirs -- since deliveries made from storage withdrawals bear the same variable OMP&R costs per acre-foot as if the deliveries were actually conveyed, that year, from the Delta. The hypothetical increases in the amounts conveyed are compensated for by proportionate hypothetical increases in the actual variable OMP&R costs (Table B-3) of the up-aqueduct plants. The hypothetical increases in variable OMP&R costs for deliveries made from reservoir storage withdrawals are offset by equal credits to the minimum OMP&R costs of the respective reservoirs. Thus, the variable OMP&R components per acre-foot (Table B-17) may be applied to the total annual quantities delivered either from aqueduct reservoir storage or from the Delta.

"Conservation Water" includes initial fill water, operational losses, and net annual storage changes associated with San Luis Reservoir (and the portion of the aqueduct that is allocated to conservation). The same allocation procedure outlined above for transportation facilities applies also to conservation facilities -- except that the hypothetical cost increases are added to the variable OMP&R costs to be reimbursed through the Transportation Charge, and deducted from the minimum OMP&R costs to be reimbursed through the Delta Water Charge.

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES[a]

(in acre-feet)[b]

Calendar Year	CALIFORNIA AQUEDUCT													
	NORTH SAN JOAQUIN DIVISION								SAN LUIS DIVISION					
	Harvey O. Banks Delta Pumping Plant								DOS AMIGOS PUMPING PLANT					
	Transportation Water													
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Deliveries: Total	Conservation Water	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Deliveries: Total
	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
1967	5,746	1,183	0	11,538	0	18,467	2,957	21,424	0	0	0	0	0	0
1968	11,079	74,464	0	293,243	0	378,786	531,275	910,061	11,079	25,126	0	189,104	0	225,309
1969	7,336	44,287	0	265,417	0	317,040	531,185	848,225	3,887	9,922	0	192,689	0	206,498
1970	23,947	20,767	-5,355	365,771	0	405,130	-12,995	392,135	7,668	1,901	0	270,300	0	279,869
1971	23,207	-10,754	8,854	651,665	8	672,980	7,708	680,688	23,207	-12,030	0	545,869	0	557,046
1972	145,066	9,057	-4,285	1,033,432	6,489	1,189,759	48,300	1,238,059	145,066	-6,635	-6,558	886,840	6,481	1,025,194
1973	214,941	-4,951	2,902	733,008	1,155	947,055	55,846	1,002,901	214,941	-6,778	1,329	635,716	1,147	846,355
1974	247,894	-11,526	-32,510	873,302	2,118	1,079,278	54,683	1,133,961	247,894	-16,765	-15,295	780,513	2,108	998,455
1975	110,149	-8,092	16,101	1,223,332	3,377	1,344,867	-102,625	1,242,242	110,149	-12,144	-693	1,126,152	3,358	1,226,822
1976	67,834	5,443	-244,124	1,372,093	1,745	1,202,991	-442,348	760,643	67,834	-456	-152,171	1,241,550	1,581	1,158,338
1977	0	39,897	-157,543	573,146	1,111	456,611	-13,507	443,104	0	26,359	-116,219	463,970	737	374,847
1978	67,457	-36,898	35,129	1,451,842	1,177	1,518,707	752,075	2,270,782	67,457	1,905	79,308	1,335,362	680	1,484,712
1979	17,397	60,958	-32,307	1,659,265	1,398	1,688,259	-112,053	1,594,658	17,397	33,884	-51,299	1,530,926	685	1,531,593
1980	3,159	58,484	-275,538	1,529,187	2,131	1,317,423	186,601	1,504,024	3,159	34,391	-272,825	1,407,663	1,514	1,173,902
1981	0	93,373	115,212	1,845,317	10,188	2,064,090	-81,440	1,982,650	0	77,127	114,746	1,705,717	8,855	1,906,445
1982	0	92,774	-17,769	2,049,362	15,852	2,140,219	-257,229	1,882,990	0	76,527	-17,769	1,909,262	14,505	1,982,525
1983	0	93,868	3,017	2,190,807	17,462	2,305,154	448,359	2,753,513	0	77,621	3,017	2,050,207	16,105	2,146,950
1984	0	93,380	-7,389	2,341,023	18,942	2,445,956	-90,597	2,355,359	0	77,133	-7,389	2,199,923	17,585	2,287,252
1985	0	93,645	8,339	2,447,940	19,282	2,569,206	-230,422	2,338,784	0	77,394	8,339	2,306,240	17,885	2,409,858
1986	0	93,213	-30,336	2,575,705	20,508	2,659,090	348,777	3,007,867	0	76,963	-30,336	2,434,805	17,955	2,499,387
1987	0	93,155	43,447	2,725,400	22,560	2,884,562	-77,644	2,806,918	0	76,891	43,447	2,584,300	19,580	2,724,218
1988	0	93,473	-29,129	2,824,800	22,600	2,911,744	212,152	3,123,896	0	77,215	-29,129	2,683,400	19,580	2,751,066
1989	0	93,605	-16,546	2,928,900	22,640	3,028,599	-154,877	2,873,722	0	77,346	-16,546	2,785,200	19,580	2,865,580
1990	0	93,487	24,161	3,029,115	22,690	3,169,453	-42,991	3,126,462	0	77,227	24,161	2,883,115	19,580	3,004,083
1991	0	93,864	-25,756	3,019,379	22,870	3,110,357	284	3,110,641	0	77,602	-25,756	2,869,079	19,580	2,940,505
1992	0	93,595	23,817	3,048,893	23,040	3,189,345	61,699	3,251,044	0	77,349	23,817	2,894,393	19,580	3,015,139
1993	0	93,624	-29,777	3,056,357	23,220	3,143,424	212,135	3,355,559	0	77,401	-29,777	2,897,657	19,580	2,964,861
1994	0	93,724	31,579	3,012,621	23,390	3,161,314	57,205	3,218,519	0	77,529	31,579	2,850,521	19,580	2,979,209
1995	0	93,655	-38,394	3,038,935	23,560	3,117,756	112,702	3,230,458	0	77,469	-38,394	2,876,135	19,580	2,934,790
1996	0	93,445	33,751	3,058,645	23,740	3,209,581	193,287	3,402,868	0	77,268	33,751	2,895,045	19,580	3,025,644
1997	0	93,657	-37,927	3,079,105	23,910	3,158,745	42,983	3,201,728	0	77,490	-37,927	2,914,705	19,580	2,973,848
1998	0	93,583	41,865	3,093,570	24,080	3,253,098	4,253	3,257,351	0	77,407	41,865	2,930,470	19,580	3,069,322
1999	0	93,623	-39,439	3,110,735	24,260	3,189,179	56,811	3,245,990	0	77,438	-39,439	2,948,935	19,580	3,006,514
2000	0	93,641	28,508	3,124,200	24,430	3,270,779	77,044	3,347,823	0	77,448	28,508	2,963,600	19,580	3,089,136
2001	0	94,218	17,254	3,174,180	24,430	3,310,082	-57,434	3,252,648	0	78,035	17,254	3,012,180	19,580	3,127,049
2002	0	93,990	-29,341	3,224,560	24,430	3,313,639	191,745	3,505,384	0	77,814	-29,341	3,061,460	19,580	3,129,513
2003	0	93,947	18,308	3,274,440	24,430	3,411,125	31,607	3,442,732	0	77,780	18,308	3,109,940	19,580	3,225,608
2004	0	94,240	-3,045	3,324,220	24,430	3,439,845	-26,190	3,413,655	0	78,084	-3,045	3,158,620	19,580	3,253,239
2005	0	94,100	7,175	3,374,500	24,430	3,500,205	77,330	3,577,535	0	77,959	7,175	3,207,200	19,580	3,311,914
2006	0	94,276	6,128	3,421,920	24,430	3,546,754	-30,142	3,516,612	0	78,148	6,128	3,253,720	19,580	3,357,576
2007	0	94,209	-21,630	3,470,140	24,430	3,567,149	135,064	3,702,213	0	78,095	-21,630	3,300,540	19,580	3,376,585
2008	0	94,173	19,218	3,518,160	24,430	3,655,981	69,270	3,725,251	0	78,070	19,352	3,347,360	19,580	3,464,362
2009	0	94,285	-12,226	3,554,780	24,430	3,661,269	2,190	3,663,459	0	78,193	-12,226	3,382,680	19,580	3,468,227
2010	0	94,146	11,228	3,614,200	24,430	3,744,004	-12,030	3,731,974	0	78,064	11,228	3,440,900	19,580	3,549,772
2011	0	94,477	17,153	3,655,740	24,430	3,791,800	-32,908	3,758,892	0	78,405	17,153	3,481,140	19,580	3,596,278
2012	0	94,238	-15,620	3,700,280	24,430	3,803,328	-181,600	3,621,728	0	78,176	-15,620	3,524,480	19,580	3,606,616
2013	0	94,283	5,569	3,743,020	24,430	3,867,302	271,538	4,138,840	0	78,231	5,569	3,565,920	19,580	3,669,300
2014	0	93,921	-22,353	3,786,660	24,430	3,882,658	4,965	3,887,623	0	77,881	-22,307	3,608,160	19,580	3,683,314
2015	0	94,333	31,665	3,830,800	24,430	3,981,228	64,644	4,045,872	0	78,303	31,767	3,651,100	19,580	3,780,750
2016	0	94,219	-16,600	3,866,610	24,430	3,968,659	48,428	4,017,087	0	78,201	-16,491	3,685,610	19,580	3,766,900
2017	0	94,169	-5,980	3,903,060	24,430	4,015,679	67,549	4,083,228	0	78,162	-5,879	3,720,860	19,580	3,812,723
2018	0	94,023	15,409	3,924,940	24,430	4,058,802	9,800	4,068,602	0	78,027	15,519	3,741,440	19,580	3,854,566
2019	0	93,825	-36,724	3,946,720	24,430	4,028,251	25,370	4,053,621	0	77,840	-36,614	3,761,920	19,580	3,822,726
2020	0	93,985	42,729	3,968,600	24,430	4,129,744	7,240	4,136,984	0	77,841	42,017	3,782,500	19,580	3,921,938
2021	0	94,189	-23,883	3,989,600	24,430	4,084,336	91,282	4,175,618	0	78,057	-23,883	3,802,300	19,580	3,876,054
2022	0	94,185	53,536	4,011,000	24,430	4,183,151	-169,996	4,013,155	0	78,068	53,536	3,822,300	19,580	3,973,484
2023	0	94,228	-46,738	4,032,200	24,430	4,104,120	166,765	4,270,885	0	78,120	-46,604	3,842,400	19,580	3,893,496
2024	0	93,996	35,451	4,053,800	24,430	4,207,677	-168,181	4,039,496	0	77,899	35,451	3,862,600	19,580	3,995,530
2025	0	94,127	-22,018	4,074,900	24,430	4,171,439	293,212	4,464,651	0	78,039	-22,018	3,882,600	19,580	3,958,201
2026	0	94,033	-8,307	4,096,300	24,430	4,206,456	21,982	4,228,438	0	77,955	-8,307	3,902,600	19,580	3,991,828
2027	0	94,154	14,913	4,096,900	24,430	4,230,397	92,929	4,323,326	0	78,076	14,913	3,903,200	19,580	4,015,769
2028	0	94,300	5,131	4,097,500	24,430	4,221,361	-169,945	4,051,416	0	78,222	5,131	3,903,800	19,580	4,006,733
2029	0	94,087	-10,096	4,098,200	24,430	4,206,621	223,467	4,430,088	0	78,009	-10,096	3,904,500	19,580	3,991,993
2030	0	94,227	5,957	4,098,800	24,430	4,223,414	-37,334	4,186,080	0	78,149	5,957	3,905,100	19,580	4,008,786
2031	0	94,099	-8,015	4,099,400	24,430	4,209,914	76,048	4,285,962	0	78,021	-8,015	3,905,700	19,580	3,995,286
2032	0	93,945	-23,295	4,100,100	24,430	4,195,180	-44,058	4,151,122	0	77,867	-23,295	3,906,400	19,580	3,980,552
2033	0	94,105	34,085	4,100,700	24,430	4,253,320	298,276	4,551,596	0	78,027	34,085	3,907,000	19,580	4,038,692
2034	0	94,071	-43,461	4,101,300	24,430	4,176,340	-158,821	4,017,519	0	77,993	-43,461	3,907,600	19,580	3,961,712
2035	0	94,061	53,795	4,102,000	24,430	4,274,286	196,764	4,471,050	0	77,983	53,795	3,908,300	19,580	4,059,658

a) Includes entitlement water, surplus water (delivered prior to May 1, 1973), and nonproject water.

b) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.

c) For the period 1968 through 1984 deliveries are from nonproject water.

d) For the period June 1962 through November 1967, deliveries were nonproject water.

TABLE B–6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)[b]

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	SOUTH SAN JOAQUIN DIVISION											
	BUENA VISTA PUMPING PLANT						WHEELER RIDGE PUMPING PLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recreation					Water Supply	Recreation	
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)
1970	4,779	1,012	0	3	0	5,794	198	2	0	0	0	200
1971	7,853	8,399	0	101,512	0	117,764	7,533	-112	0	3,552	0	10,973
1972	100,274	20,044	-6,558	223,626	6,481	343,867	100,274	12,765	-6,558	84,955	6,481	197,917
1973	204,638	35,695	1,329	311,096	1,147	553,905	204,638	21,543	1,329	229,685	1,147	458,342
1974	237,554	19,672	-15,295	388,949	2,108	632,988	237,554	11,843	-15,295	336,198	2,108	572,408
1975	103,352	26,342	-693	672,531	3,358	804,890	103,352	19,763	-693	621,706	3,358	747,486
1976	61,122	29,428	-152,171	785,055	1,581	725,015	61,122	18,552	-152,171	740,486	1,581	669,570
1977	0	25,173	-116,219	271,944	560	181,458	0	16,415	-116,219	246,349	560	147,105
1978	65,027	17,751	121,904	762,043	674	967,399	65,027	28,820	121,904	631,121	674	847,546
1979	12,302	46,157	-51,299	737,714	502	745,376	12,302	50,663	-51,299	625,561	502	637,729
1980	0	49,025	-134,009	778,059	1,262	694,337	0	48,825	-134,009	696,405	1,262	612,483
1981	0	55,440	114,746	1,014,580	8,680	1,193,446	0	51,810	114,746	930,935	8,680	1,106,171
1982	0	54,840	-17,769	1,186,062	14,330	1,237,463	0	51,210	-17,769	1,101,062	14,330	1,148,833
1983	0	55,934	3,017	1,281,207	15,930	1,356,088	0	52,304	3,017	1,178,707	15,930	1,249,958
1984	0	55,446	-7,389	1,384,623	17,410	1,450,090	0	51,816	-7,389	1,267,523	17,410	1,329,360
1985	0	55,707	8,339	1,445,740	17,710	1,527,496	0	52,077	8,339	1,314,040	17,710	1,392,166
1986	0	55,276	-30,336	1,530,705	17,780	1,573,425	0	51,646	-30,336	1,386,105	17,780	1,425,195
1987	0	55,204	43,447	1,639,600	17,780	1,756,031	0	51,574	43,447	1,483,500	17,780	1,596,301
1988	0	55,528	-29,129	1,701,200	17,780	1,745,379	0	51,898	-29,129	1,534,700	17,780	1,575,249
1989	0	55,659	-16,546	1,773,400	17,780	1,830,293	0	52,029	-16,546	1,599,400	17,780	1,652,663
1990	0	54,990	24,161	1,807,435	17,780	1,904,366	0	51,360	24,161	1,626,335	17,780	1,719,636
1991	0	55,365	-25,756	1,792,975	17,780	1,840,364	0	51,735	-25,756	1,611,975	17,780	1,655,734
1992	0	55,112	23,817	1,817,065	17,780	1,913,774	0	51,482	23,817	1,636,165	17,780	1,729,244
1993	0	55,164	-29,777	1,818,905	17,780	1,862,072	0	51,534	-29,777	1,638,005	17,780	1,677,542
1994	0	55,292	31,579	1,770,445	17,780	1,875,096	0	51,662	31,579	1,589,645	17,780	1,690,666
1995	0	55,232	-38,394	1,794,535	17,780	1,829,153	0	51,602	-38,394	1,613,835	17,780	1,644,823
1996	0	55,031	33,751	1,811,945	17,780	1,918,507	0	51,401	33,751	1,631,345	17,780	1,734,277
1997	0	55,253	-37,927	1,830,105	17,780	1,865,211	0	51,623	-37,927	1,649,505	17,780	1,680,981
1998	0	55,170	41,865	1,845,270	17,780	1,960,085	0	51,540	41,865	1,664,770	17,780	1,775,955
1999	0	55,201	-39,439	1,862,235	17,780	1,895,777	0	51,571	-39,439	1,681,835	17,780	1,711,747
2000	0	55,211	28,508	1,875,400	17,780	1,976,899	0	51,581	28,508	1,695,000	17,780	1,792,869
2001	0	55,798	17,254	1,921,580	17,780	2,012,412	0	52,168	17,254	1,741,180	17,780	1,828,382
2002	0	55,577	-29,341	1,968,860	17,780	2,012,876	0	51,947	-29,341	1,788,360	17,780	1,828,746
2003	0	55,543	18,308	2,014,540	17,780	2,106,171	0	51,913	18,308	1,834,040	17,780	1,922,041
2004	0	55,847	-3,045	2,060,820	17,780	2,131,402	0	52,217	-3,045	1,880,220	17,780	1,947,172
2005	0	55,722	7,175	2,107,000	17,780	2,187,677	0	52,092	7,175	1,926,400	17,780	2,003,447
2006	0	55,911	6,128	2,152,520	17,780	2,232,339	0	52,281	6,128	1,971,820	17,780	2,048,009
2007	0	55,858	-21,630	2,198,240	17,780	2,250,248	0	52,228	-21,630	2,017,540	17,780	2,065,918
2008	0	55,833	19,352	2,244,060	17,780	2,337,025	0	52,203	19,352	2,063,260	17,780	2,152,595
2009	0	55,956	-12,226	2,279,980	17,780	2,341,490	0	52,326	-12,226	2,099,080	17,780	2,156,960
2010	0	55,827	11,228	2,335,500	17,780	2,420,335	0	52,197	11,228	2,154,600	17,780	2,235,805
2011	0	56,168	17,153	2,376,340	17,780	2,467,441	0	52,538	17,153	2,195,340	17,780	2,282,811
2012	0	55,939	-15,620	2,417,380	17,780	2,475,479	0	52,309	-15,620	2,236,380	17,780	2,290,849
2013	0	55,994	5,569	2,458,020	17,780	2,537,363	0	52,364	5,569	2,276,920	17,780	2,352,633
2014	0	55,644	-22,307	2,499,560	17,780	2,550,677	0	52,014	-22,307	2,318,460	17,780	2,365,947
2015	0	56,066	31,767	2,541,700	17,780	2,647,313	0	52,436	31,767	2,360,500	17,780	2,462,483
2016	0	55,964	-16,491	2,575,410	17,780	2,632,663	0	52,334	-16,491	2,394,210	17,780	2,447,833
2017	0	55,925	-5,879	2,609,860	17,780	2,677,686	0	52,295	-5,879	2,428,560	17,780	2,492,756
2018	0	55,790	15,519	2,629,740	17,780	2,718,829	0	52,160	15,519	2,448,340	17,780	2,533,799
2019	0	55,603	-36,614	2,649,420	17,780	2,686,189	0	51,973	-36,614	2,468,020	17,780	2,501,159
2020	0	55,604	42,017	2,669,300	17,780	2,784,701	0	51,974	42,017	2,487,800	17,780	2,599,571
2021	0	55,820	-23,883	2,688,300	17,780	2,738,017	0	52,190	-23,883	2,506,800	17,780	2,552,887
2022	0	55,831	53,536	2,707,600	17,780	2,834,747	0	52,201	53,536	2,526,000	17,780	2,649,517
2023	0	55,883	-46,604	2,726,900	17,780	2,753,959	0	52,253	-46,604	2,545,300	17,780	2,568,729
2024	0	55,662	35,451	2,746,300	17,780	2,855,193	0	52,032	35,451	2,564,600	17,780	2,669,863
2025	0	55,802	-22,018	2,765,500	17,780	2,817,064	0	52,172	-22,018	2,583,800	17,780	2,631,734
2026	0	55,718	-8,307	2,784,800	17,780	2,849,991	0	52,088	-8,307	2,603,000	17,780	2,664,561
2027	0	55,839	14,913	2,785,400	17,780	2,873,932	0	52,209	14,913	2,603,600	17,780	2,688,502
2028	0	55,985	5,131	2,786,000	17,780	2,864,896	0	52,355	5,131	2,604,200	17,780	2,679,466
2029	0	55,772	-10,096	2,786,700	17,780	2,850,156	0	52,142	-10,096	2,604,900	17,780	2,664,726
2030	0	55,912	5,957	2,787,300	17,780	2,866,949	0	52,282	5,957	2,605,500	17,780	2,681,519
2031	0	55,784	-8,015	2,787,900	17,780	2,853,449	0	52,154	-8,015	2,606,100	17,780	2,668,019
2032	0	55,630	-23,295	2,788,600	17,780	2,838,715	0	52,000	-23,295	2,606,800	17,780	2,653,285
2033	0	55,790	34,085	2,789,200	17,780	2,896,855	0	52,160	34,085	2,607,400	17,780	2,711,425
2034	0	55,756	-43,461	2,789,800	17,780	2,819,875	0	52,126	-43,461	2,608,000	17,780	2,634,445
2035	0	55,746	53,795	2,790,500	17,780	2,917,821	0	52,116	53,795	2,608,700	17,780	2,732,391

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES [a]

(in acre-feet) [b]

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	SOUTH SAN JOAQUIN DIVISION (Continued)						TEHACHAPI DIVISION					
	WIND GAP PUMPING PLANT						A. D. EDMONSTON PUMPING PLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recreation					Water Supply	Recreation	
	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)	48)	(49)	(50)	(51)
1971	7,366	-159	0	0	0	7,207	5,446	8	0	0	0	5,454
1972	100,274	13,160	-6,558	78,891	6,481	192,248	100,274	16,067	-6,558	74,123	6,481	190,387
1973	204,638	32,414	1,329	209,769	1,147	449,297	204,638	34,051	1,329	207,808	1,147	448,973
1974	237,554	17,655	-15,295	318,198	2,108	560,220	237,554	18,181	-15,295	313,634	2,108	556,182
1975	103,352	25,326	-693	586,286	3,358	717,629	103,352	20,183	-693	573,219	3,358	699,419
1976	61,122	21,468	-152,171	700,935	1,581	632,935	61,122	21,096	-152,171	685,768	1,581	617,396
1977	0	15,698	-116,219	240,191	560	140,230	0	18,424	-116,219	236,086	560	138,851
1978	65,027	26,705	121,904	599,973	674	814,283	65,027	20,887	121,904	590,329	674	798,821
1979	12,302	50,580	-51,299	586,959	502	599,044	12,302	46,332	-51,299	568,338	502	576,175
1980	0	58,085	-134,009	658,588	1,262	583,926	0	52,967	-134,009	639,743	1,262	559,963
1981	0	51,560	114,746	890,935	8,680	1,065,921	0	50,010	114,746	867,635	8,680	1,041,071
1982	0	50,960	-17,769	1,053,862	14,330	1,101,383	0	49,410	-17,769	1,025,762	14,330	1,071,733
1983	0	52,054	3,017	1,131,507	15,930	1,202,508	0	50,504	3,017	1,103,207	15,930	1,172,658
1984	0	51,566	-7,389	1,220,323	17,410	1,281,910	0	50,016	-7,389	1,191,823	17,410	1,251,860
1985	0	51,827	8,339	1,266,840	17,710	1,344,716	0	50,277	8,339	1,238,040	17,710	1,314,366
1986	0	51,396	-30,336	1,338,105	17,780	1,376,945	0	49,846	-30,336	1,307,605	17,780	1,344,895
1987	0	51,324	43,447	1,433,900	17,780	1,546,451	0	49,774	43,447	1,396,200	17,780	1,507,201
1988	0	51,648	-29,129	1,483,700	17,780	1,523,999	0	50,098	-29,129	1,438,900	17,780	1,477,649
1989	0	51,779	-16,546	1,547,400	17,780	1,600,413	0	50,229	-16,546	1,497,500	17,780	1,548,963
1990	0	51,110	24,161	1,573,335	17,780	1,666,386	0	49,560	24,161	1,518,335	17,780	1,609,836
1991	0	51,485	-25,756	1,558,975	17,780	1,602,484	0	49,935	-25,756	1,504,175	17,780	1,546,134
1992	0	51,232	23,817	1,583,165	17,780	1,675,994	0	49,682	23,817	1,528,465	17,780	1,619,744
1993	0	51,284	-29,777	1,585,005	17,780	1,624,292	0	49,734	-29,777	1,530,405	17,780	1,568,142
1994	0	51,412	31,579	1,536,645	17,780	1,637,416	0	49,862	31,579	1,482,145	17,780	1,581,366
1995	0	51,352	-38,394	1,560,835	17,780	1,591,573	0	49,802	-38,394	1,506,535	17,780	1,535,723
1996	0	51,151	33,751	1,578,345	17,780	1,681,027	0	49,601	33,751	1,524,145	17,780	1,625,277
1997	0	51,373	-37,927	1,596,505	17,780	1,627,731	0	49,823	-37,927	1,542,505	17,780	1,572,181
1998	0	51,290	41,865	1,611,770	17,780	1,722,705	0	49,740	41,865	1,557,870	17,780	1,667,255
1999	0	51,321	-39,439	1,628,835	17,780	1,658,497	0	49,771	-39,439	1,575,035	17,780	1,603,147
2000	0	51,331	28,508	1,642,000	17,780	1,739,619	0	49,781	28,508	1,588,300	17,780	1,684,369
2001	0	51,918	17,254	1,688,180	17,780	1,775,132	0	50,368	17,254	1,634,380	17,780	1,719,782
2002	0	51,697	-29,341	1,735,360	17,780	1,775,496	0	50,147	-29,341	1,681,460	17,780	1,720,046
2003	0	51,663	18,308	1,781,040	17,780	1,868,791	0	50,113	18,308	1,727,040	17,780	1,813,241
2004	0	51,967	-3,045	1,827,220	17,780	1,893,922	0	50,417	-3,045	1,773,120	17,780	1,838,272
2005	0	51,842	7,175	1,873,400	17,780	1,950,197	0	50,292	7,175	1,819,200	17,780	1,894,447
2006	0	52,031	6,128	1,918,820	17,780	1,994,759	0	50,481	6,128	1,864,520	17,780	1,938,909
2007	0	51,978	-21,630	1,964,540	17,780	2,012,668	0	50,428	-21,630	1,910,240	17,780	1,956,818
2008	0	51,953	19,352	2,010,260	17,780	2,099,345	0	50,403	19,352	1,955,860	17,780	2,043,395
2009	0	52,076	-12,226	2,046,080	17,780	2,103,710	0	50,526	-12,226	1,991,580	17,780	2,047,660
2010	0	51,947	11,228	2,101,600	17,780	2,182,555	0	50,397	11,228	2,046,900	17,780	2,126,305
2011	0	52,288	17,153	2,142,340	17,780	2,229,561	0	50,738	17,153	2,087,640	17,780	2,173,311
2012	0	52,059	-15,620	2,183,380	17,780	2,237,599	0	50,509	-15,620	2,128,580	17,780	2,181,249
2013	0	52,114	5,569	2,223,920	17,780	2,299,383	0	50,564	5,569	2,169,020	17,780	2,242,933
2014	0	51,764	-22,307	2,265,460	17,780	2,312,697	0	50,214	-22,307	2,210,460	17,780	2,256,147
2015	0	52,186	31,767	2,307,500	17,780	2,409,233	0	50,636	31,767	2,252,300	17,780	2,352,483
2016	0	52,084	-16,491	2,341,210	17,780	2,394,583	0	50,534	-16,491	2,286,010	17,780	2,337,833
2017	0	52,045	-5,879	2,375,560	17,780	2,439,506	0	50,495	-5,879	2,320,260	17,780	2,382,656
2018	0	51,910	15,519	2,395,340	17,780	2,480,549	0	50,360	15,519	2,339,940	17,780	2,423,599
2019	0	51,723	-36,614	2,415,020	17,780	2,447,909	0	50,173	-36,614	2,359,520	17,780	2,390,859
2020	0	51,724	42,017	2,434,800	17,780	2,546,321	0	50,174	42,017	2,379,200	17,780	2,489,171
2021	0	51,940	-23,883	2,453,800	17,780	2,499,637	0	50,390	-23,883	2,398,100	17,780	2,442,387
2022	0	51,951	53,536	2,473,000	17,780	2,596,267	0	50,401	53,536	2,417,200	17,780	2,538,917
2023	0	52,003	-46,604	2,492,300	17,780	2,515,479	0	50,453	-46,604	2,436,400	17,780	2,458,029
2024	0	51,782	35,451	2,511,600	17,780	2,616,613	0	50,232	35,451	2,455,600	17,780	2,559,063
2025	0	51,922	-22,018	2,530,800	17,780	2,578,484	0	50,372	-22,018	2,474,700	17,780	2,520,834
2026	0	51,838	-8,307	2,550,000	17,780	2,611,311	0	50,288	-8,307	2,493,800	17,780	2,553,561
2027	0	51,959	14,913	2,550,600	17,780	2,635,252	0	50,409	14,913	2,494,400	17,780	2,577,502
2028	0	52,105	5,131	2,551,200	17,780	2,626,216	0	50,555	5,131	2,495,000	17,780	2,568,466
2029	0	51,892	-10,096	2,551,900	17,780	2,611,476	0	50,342	-10,096	2,495,700	17,780	2,553,726
2030	0	52,032	5,957	2,552,500	17,780	2,628,269	0	50,482	5,957	2,496,300	17,780	2,570,519
2031	0	51,904	-8,015	2,553,100	17,780	2,614,769	0	50,354	-8,015	2,496,900	17,780	2,557,019
2032	0	51,750	-23,295	2,553,800	17,780	2,600,035	0	50,200	-23,295	2,497,600	17,780	2,542,285
2033	0	51,910	34,085	2,554,400	17,780	2,658,175	0	50,360	34,085	2,498,200	17,780	2,600,425
2034	0	51,876	-43,461	2,555,000	17,780	2,581,195	0	50,326	-43,461	2,498,800	17,780	2,523,445
2035	0	51,866	53,795	2,555,700	17,780	2,679,141	0	50,316	53,795	2,499,500	17,780	2,621,391

TABLE B–6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)[b]

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	MOJAVE DIVISION											
	COTTONWOOD POWERPLANT						PEARBLOSSOM PUMPING PLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recreation					Water Supply	Recreation	
	(52)	(53)	(54)	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
1971	0	0	0	0	0	0	21	0	0	0	0	21
1972	0	0	0	0	0	0	35,243	5,282	-153	1,794	0	42,166
1973	0	0	0	0	0	0	80,177	21,522	-2,700	52,201	72	151,272
1974	0	0	0	0	0	0	76,694	10,847	-11,149	102,839	44	179,275
1975	0	0	0	0	0	0	10,000	2,364	-8,397	190,351	70	194,388
1976	0	0	0	0	0	0	4,168	7,040	-16,055	236,713	152	232,018
1977	0	0	0	0	0	0	0	11,398	-17,534	102,326	580	96,770
1978	0	0	0	0	0	0	19,922	5,696	69,130	374,845	498	470,091
1979	0	0	0	0	0	0	12,302	6,836	-32,518	362,114	502	349,236
1980	0	0	0	0	0	0	0	16,200	6,159	401,214	781	424,354
1981	0	0	0	0	0	0	0	22,182	25	592,135	3,430	617,772
1982	0	0	0	0	0	0	0	21,235	-12,694	620,082	5,430	634,053
1983	0	0	0	0	0	0	0	22,301	-9,037	665,547	6,630	685,441
1984	0	27,238	-8,253	785,473	11,880	816,338	0	21,888	-8,253	722,368	6,630	742,633
1985	0	27,368	4,894	832,100	12,080	876,442	0	22,018	4,894	765,535	6,830	799,277
1986	0	27,018	-31,165	889,505	12,080	897,438	0	21,668	-31,165	820,875	6,830	818,208
1987	0	27,298	66,484	784,250	12,080	890,112	0	21,948	66,484	709,315	6,830	804,577
1988	0	27,640	-12,818	796,600	12,080	823,502	0	22,290	-12,818	715,455	6,830	731,757
1989	0	27,543	-19,399	809,050	12,080	829,274	0	22,193	-19,399	721,675	6,830	731,299
1990	0	27,374	20,133	820,085	12,080	879,672	0	22,024	20,133	726,600	6,830	775,587
1991	0	27,469	-14,559	819,625	12,080	844,615	0	22,119	-14,559	725,740	6,830	740,130
1992	0	27,591	9,646	823,565	12,080	872,882	0	22,241	9,646	725,880	6,830	764,597
1993	0	27,436	-10,683	827,905	12,080	856,738	0	22,086	-10,683	726,320	6,830	744,553
1994	0	27,544	-5,067	832,845	12,080	867,402	0	22,194	-5,067	726,660	6,830	750,617
1995	0	27,555	7,029	836,285	12,080	882,949	0	22,205	7,029	727,000	6,830	763,064
1996	0	27,523	7,562	839,145	12,080	886,310	0	22,173	7,562	726,160	6,830	762,725
1997	0	27,459	-13,535	842,105	12,080	868,109	0	22,109	-13,535	725,420	6,830	740,824
1998	0	27,530	12,262	845,070	12,080	896,942	0	22,180	12,262	724,780	6,830	766,052
1999	0	27,585	-9,538	849,835	12,080	879,962	0	22,235	-9,538	723,840	6,830	743,367
2000	0	27,523	1,905	850,700	12,080	892,208	0	22,173	1,905	723,100	6,830	754,008
2001	0	27,649	20,121	853,780	12,080	913,630	0	22,299	20,121	724,580	6,830	773,830
2002	0	27,561	-17,487	856,860	12,080	879,014	0	22,211	-17,487	726,160	6,830	737,714
2003	0	27,502	4,428	860,140	12,080	904,150	0	22,152	4,428	727,840	6,830	761,250
2004	0	27,745	2,993	863,220	12,080	906,038	0	22,395	2,993	729,320	6,830	761,538
2005	0	27,625	12,682	866,100	12,080	918,487	0	22,275	12,682	730,800	6,830	772,587
2006	0	27,705	-12,909	868,620	12,080	895,496	0	22,355	-12,909	732,320	6,830	748,596
2007	0	27,681	7,384	871,340	12,080	918,485	0	22,331	7,384	733,840	6,830	770,385
2008	0	27,620	4,072	874,160	12,080	917,932	0	22,270	4,072	735,560	6,830	768,732
2009	0	27,751	-11,389	876,880	12,080	905,322	0	22,401	-11,389	737,180	6,830	755,022
2010	0	27,720	10,387	879,400	12,080	929,587	0	22,370	10,387	738,700	6,830	778,287
2011	0	27,856	14,421	882,040	12,080	936,397	0	22,506	14,421	740,240	6,830	783,997
2012	0	27,784	-17,176	884,780	12,080	907,468	0	22,434	-17,176	741,880	6,830	753,968
2013	0	27,797	9,361	887,220	12,080	936,458	0	22,447	9,361	743,320	6,830	781,958
2014	0	27,605	-7,536	903,160	12,080	935,309	0	22,255	-7,536	758,160	6,830	779,709
2015	0	27,845	-9,823	927,800	12,080	957,902	0	22,495	-9,823	781,700	6,830	801,202
2016	0	27,717	10,714	944,310	12,080	994,821	0	22,367	10,714	797,110	6,830	837,021
2017	0	27,761	-4,598	961,560	12,080	996,803	0	22,411	-4,598	813,360	6,830	838,003
2018	0	27,782	10,903	964,040	12,080	1,014,805	0	22,432	10,903	814,740	6,830	854,905
2019	0	27,637	2,896	966,620	12,080	1,009,233	0	22,287	2,896	816,220	6,830	848,233
2020	0	27,690	-2,162	969,200	12,080	1,006,808	0	22,340	-2,162	817,600	6,830	844,608
2021	0	27,713	-6,017	971,100	12,080	1,004,876	0	22,363	-6,017	818,500	6,830	841,676
2022	0	27,765	10,733	973,000	12,080	1,023,578	0	22,415	10,733	819,300	6,830	859,278
2023	0	27,644	-10,999	975,000	12,080	1,003,725	0	22,294	-10,999	820,200	6,830	838,325
2024	0	27,591	-866	977,100	12,080	1,015,905	0	22,241	-866	821,200	6,830	849,405
2025	0	27,757	512	979,000	12,080	1,019,349	0	22,407	512	822,100	6,830	851,849
2026	0	27,612	1,683	981,000	12,080	1,022,375	0	22,262	1,683	823,000	6,830	853,775
2027	0	27,741	4,221	981,000	12,080	1,025,042	0	22,391	4,221	823,000	6,830	856,442
2028	0	27,773	-4,582	981,000	12,080	1,016,271	0	22,423	-4,582	823,000	6,830	847,671
2029	0	27,642	2,913	981,000	12,080	1,023,635	0	22,292	2,913	823,000	6,830	855,035
2030	0	27,734	11,280	981,000	12,080	1,032,094	0	22,384	11,280	823,000	6,830	863,494
2031	0	27,729	-15,156	981,000	12,080	1,005,653	0	22,379	-15,156	823,000	6,830	837,053
2032	0	27,611	-3,576	981,000	12,080	1,017,115	0	22,261	-3,576	823,000	6,830	848,515
2033	0	27,712	5,909	981,000	12,080	1,026,701	0	22,362	5,909	823,000	6,830	858,101
2034	0	27,631	-6,730	981,000	12,080	1,013,981	0	22,281	-6,730	823,000	6,830	845,381
2035	0	27,651	3,324	981,000	12,080	1,024,055	0	22,301	3,324	823,000	6,830	855,453

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES (a

(in acre-feet)(b

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	MOJAVE DIVISION (continued)						SANTA ANA DIVISION					
	MOJAVE SIPHON						DEVIL CANYON POWERPLANT					
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries		Total
				Water Supply	Recreation					Water Supply	Recreation	
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)
1972	0	0	0	0	0	0	37	0	0	1,275	0	1,312
1973	0	0	0	0	0	0	40,848	14,745	0	51,812	0	107,405
1974	0	0	0	0	0	0	74,666	8,367	-4,925	102,198	0	180,306
1975	0	0	0	0	0	0	10,000	1,995	-6,719	189,526	0	194,802
1976	0	0	0	0	0	0	4,168	5,180	-9,182	235,711	23	235,900
1977	0	0	0	0	0	0	0	8,082	-5,235	101,137	469	104,453
1978	0	0	0	0	0	0	14,820	3,754	21,686	373,636	481	414,377
1979	0	0	0	0	0	0	12,302	5,620	-27,107	356,854	485	348,154
1980	0	0	0	0	0	0	0	9,468	12,714	395,975	742	418,899
1981	0	0	0	0	0	0	0	13,269	19,788	586,635	3,250	622,942
1982	0	0	0	0	0	0	0	13,320	-29,159	607,726	5,250	597,137
1983	0	0	0	0	0	0	0	13,179	679	663,347	6,250	683,455
1984	0	18,418	-8,253	698,811	6,430	715,406	0	13,099	-1,504	696,011	6,250	713,856
1985	0	18,548	4,894	765,435	6,430	795,307	0	13,135	625	762,349	6,250	782,359
1986	0	18,198	-31,165	820,575	6,430	814,038	0	12,902	-26,896	817,060	6,250	809,316
1987	0	18,478	66,484	668,315	6,430	759,707	0	13,039	54,597	664,680	6,250	738,566
1988	0	18,820	-12,818	672,355	6,430	684,787	0	13,273	-12,084	668,600	6,250	676,039
1989	0	18,723	-19,399	676,475	6,430	682,229	0	13,173	-9,416	672,600	6,250	682,607
1990	0	18,554	20,133	679,300	6,430	724,417	0	13,106	6,195	675,300	6,250	700,851
1991	0	18,649	-14,559	679,140	6,430	689,660	0	13,117	-5,689	675,080	6,250	688,758
1992	0	18,771	9,646	679,480	6,430	714,327	0	13,184	5,373	675,360	6,250	700,167
1993	0	18,616	-10,683	679,920	6,430	694,283	0	13,140	-6,668	675,740	6,250	688,462
1994	0	18,724	-5,067	680,360	6,430	700,447	0	13,178	419	676,120	6,250	695,967
1995	0	18,735	7,029	680,700	6,430	712,894	0	13,163	-209	676,400	6,250	695,604
1996	0	18,703	7,562	679,960	6,430	712,655	0	13,216	6,427	675,600	6,250	701,493
1997	0	18,639	-13,535	679,320	6,430	690,854	0	13,212	-5,701	674,900	6,250	688,661
1998	0	18,710	12,262	678,680	6,430	716,082	0	13,211	10,784	674,200	6,250	704,445
1999	0	18,765	-9,538	677,940	6,430	693,597	0	13,229	-6,792	673,400	6,250	686,087
2000	0	18,703	1,905	677,200	6,430	704,238	0	13,189	-4,037	672,600	6,250	688,002
2001	0	18,829	20,121	678,480	6,430	723,860	0	13,289	12,663	673,820	6,250	706,022
2002	0	18,741	-17,487	679,860	6,430	687,544	0	13,329	-3,806	675,140	6,250	690,913
2003	0	18,682	4,428	681,340	6,430	710,880	0	13,351	4,177	676,560	6,250	700,338
2004	0	18,925	2,993	682,620	6,430	710,968	0	13,334	2,989	677,780	6,250	700,353
2005	0	18,805	12,682	684,000	6,430	721,917	0	13,366	-130	679,100	6,250	698,586
2006	0	18,885	-12,909	685,320	6,430	697,726	0	13,344	-7,807	680,360	6,250	692,147
2007	0	18,861	7,384	686,640	6,430	719,315	0	13,341	267	681,620	6,250	701,478
2008	0	18,800	4,072	688,160	6,430	717,462	0	13,351	9,184	683,080	6,250	711,865
2009	0	18,931	-11,389	689,580	6,430	703,552	0	13,343	-7,454	684,440	6,250	696,579
2010	0	18,900	10,387	690,900	6,430	726,617	0	13,373	4,788	685,700	6,250	710,111
2011	0	19,036	14,421	692,240	6,430	732,127	0	13,354	2,867	686,980	6,250	709,451
2012	0	18,964	-17,176	693,680	6,430	701,898	0	13,365	-6,062	688,360	6,250	701,913
2013	0	18,977	9,361	695,020	6,430	729,788	0	13,370	7,282	689,640	6,250	716,542
2014	0	18,785	-7,536	709,660	6,430	727,339	0	13,368	-13,416	704,220	6,250	710,422
2015	0	19,025	-9,823	733,000	6,430	748,632	0	13,348	4,575	727,500	6,250	751,673
2016	0	18,897	10,714	748,210	6,430	784,251	0	13,295	3,353	742,650	6,250	765,548
2017	0	18,941	-4,598	764,260	6,430	785,033	0	13,274	6,904	758,640	6,250	785,068
2018	0	18,962	10,903	765,440	6,430	801,735	0	13,303	-5,172	759,760	6,250	774,141
2019	0	18,817	2,896	766,720	6,430	794,863	0	13,142	7,853	760,980	6,250	788,225
2020	0	18,870	-2,162	767,900	6,430	791,038	0	13,240	-1,275	762,100	6,250	780,315
2021	0	18,893	-6,017	768,600	6,430	787,906	0	13,261	-11,902	762,800	6,250	770,409
2022	0	18,945	10,733	769,300	6,430	805,408	0	13,285	8,264	763,500	6,250	791,299
2023	0	18,824	-10,999	770,000	6,430	784,255	0	13,212	-4,847	764,200	6,250	778,815
2024	0	18,771	-866	770,800	6,430	795,135	0	13,137	-1,713	765,000	6,250	782,674
2025	0	18,937	512	771,500	6,430	797,379	0	13,267	6,215	765,700	6,250	791,432
2026	0	18,792	1,683	772,200	6,430	799,105	0	13,185	-524	766,400	6,250	785,311
2027	0	18,921	4,221	772,200	6,430	801,772	0	13,250	1,770	766,400	6,250	787,670
2028	0	18,953	-4,582	772,200	6,430	793,001	0	13,254	-9,578	766,400	6,250	776,326
2029	0	18,822	2,913	772,200	6,430	800,365	0	13,206	6,194	766,400	6,250	792,050
2030	0	18,914	11,280	772,200	6,430	808,824	0	13,251	2,693	766,400	6,250	788,594
2031	0	18,909	-15,156	772,200	6,430	782,383	0	13,251	-12,078	766,400	6,250	773,823
2032	0	18,791	-3,576	772,200	6,430	793,845	0	13,129	5,093	766,400	6,250	790,872
2033	0	18,892	5,909	772,200	6,430	803,431	0	13,220	4,301	766,400	6,250	790,171
2034	0	18,811	-6,730	772,200	6,430	790,711	0	13,188	-8,925	766,400	6,250	776,913
2035	0	18,831	3,324	772,200	6,430	800,785	0	13,192	4,078	766,400	6,250	789,920

TABLE B–6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)[b]

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	WEST BRANCH, CALIFORNIA AQUEDUCT											
	OSO PUMPING PLANT						WILLIAM E. WARNE POWERPLANT (PYRAMID)					
				Deliveries						Deliveries		
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply	Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply	Recreation	Total
	(76)	(77)	(78)	(79)	(80)	(81)	(82)	(83)	(84)	(85)	(86)	(87)
1971	2,444	133	0	0	0	2,577	0	0	0	0	0	0
1972	63,883	6,557	-6,405	71,991	6,481	142,507	0	0	0	0	0	0
1973	124,461	16,995	4,029	155,317	1,075	301,877	0	0	0	0	0	0
1974	160,860	12,702	-4,146	209,172	2,064	380,652	0	0	0	0	0	0
1975	93,352	23,008	7,704	374,306	3,288	501,658	0	0	0	0	0	0
1976	56,954	15,845	-136,116	420,708	1,429	358,820	0	0	0	0	0	0
1977	0	4,407	-98,685	122,447	-20	28,149	0	0	0	0	0	0
1978	45,105	9,061	52,774	171,139	176	278,255	0	0	0	0	0	0
1979	0	25,355	-18,781	145,598	0	152,172	0	0	0	0	0	0
1980	0	24,576	-140,168	165,931	481	50,820	0	0	0	0	0	0
1981	0	22,428	114,721	186,270	4,650	328,069	0	0	0	0	0	0
1982	0	22,775	-5,075	314,250	4,850	336,800	0	20,865	-5,075	314,250	4,850	334,890
1983	0	22,803	12,054	377,100	5,050	417,007	0	20,893	12,054	377,100	5,050	415,097
1984	0	22,728	864	404,950	5,530	434,072	0	20,818	864	404,950	5,530	432,162
1985	0	22,859	3,445	404,440	5,630	436,374	0	20,949	3,445	404,440	5,630	434,464
1986	0	22,778	829	416,500	5,700	445,807	0	20,868	829	416,500	5,700	443,897
1987	0	22,426	-23,037	610,250	5,700	615,339	0	20,516	-23,037	610,250	5,700	613,429
1988	0	22,408	-16,311	640,500	5,700	652,297	0	20,498	-16,311	640,500	5,700	650,387
1989	0	22,636	2,853	686,650	5,700	717,839	0	20,726	2,853	686,650	5,700	715,929
1990	0	22,136	4,028	696,450	5,700	728,314	0	20,226	4,028	696,450	5,700	726,404
1991	0	22,416	-11,197	682,750	5,700	699,669	0	20,506	-11,197	682,750	5,700	697,759
1992	0	22,041	14,171	703,100	5,700	745,012	0	20,131	14,171	703,100	5,700	743,102
1993	0	22,248	-19,094	700,800	5,700	709,654	0	20,338	-19,094	700,800	5,700	707,744
1994	0	22,268	36,646	647,600	5,700	712,214	0	20,358	36,646	647,600	5,700	710,304
1995	0	22,197	-45,423	668,550	5,700	651,024	0	20,287	-45,423	668,550	5,700	649,114
1996	0	22,028	26,189	683,300	5,700	737,217	0	20,118	26,189	683,300	5,700	735,307
1997	0	22,314	-24,392	698,700	5,700	702,322	0	20,404	-24,392	698,700	5,700	700,412
1998	0	22,160	29,603	711,100	5,700	768,563	0	20,250	29,603	711,100	5,700	766,653
1999	0	22,136	-29,901	723,500	5,700	721,435	0	20,226	-29,901	723,500	5,700	719,525
2000	0	22,208	26,603	735,900	5,700	790,411	0	20,298	26,603	735,900	5,700	788,501
2001	0	22,669	-2,867	778,900	5,700	804,402	0	20,759	-2,867	778,900	5,700	802,492
2002	0	22,536	-11,854	822,900	5,700	839,282	0	20,626	-11,854	822,900	5,700	837,372
2003	0	22,561	13,880	865,200	5,700	907,341	0	20,651	13,880	865,200	5,700	905,431
2004	0	22,622	-6,038	908,200	5,700	930,484	0	20,712	-6,038	908,200	5,700	928,574
2005	0	22,617	-5,507	951,400	5,700	974,210	0	20,707	-5,507	951,400	5,700	972,300
2006	0	22,726	19,037	994,200	5,700	1,041,663	0	20,816	19,037	994,200	5,700	1,039,753
2007	0	22,697	-29,014	1,037,100	5,700	1,036,483	0	20,787	-29,014	1,037,100	5,700	1,034,573
2008	0	22,733	15,280	1,079,900	5,700	1,123,613	0	20,823	15,280	1,079,900	5,700	1,121,703
2009	0	22,725	-837	1,112,900	5,700	1,140,488	0	20,815	-837	1,112,900	5,700	1,138,578
2010	0	22,627	841	1,165,700	5,700	1,194,868	0	20,717	841	1,165,700	5,700	1,192,958
2011	0	22,832	2,732	1,203,800	5,700	1,235,064	0	20,922	2,732	1,203,800	5,700	1,233,154
2012	0	22,675	1,556	1,242,000	5,700	1,271,931	0	20,765	1,556	1,242,000	5,700	1,270,021
2013	0	22,717	-3,792	1,280,000	5,700	1,304,625	0	20,807	-3,792	1,280,000	5,700	1,302,715
2014	0	22,559	-14,771	1,305,500	5,700	1,318,988	0	20,649	-14,771	1,305,500	5,700	1,317,078
2015	0	22,741	41,590	1,322,700	5,700	1,392,731	0	20,831	41,590	1,322,700	5,700	1,390,821
2016	0	22,767	-27,205	1,339,800	5,700	1,341,062	0	20,857	-27,205	1,339,800	5,700	1,339,152
2017	0	22,684	-1,281	1,356,800	5,700	1,383,903	0	20,774	-1,281	1,356,800	5,700	1,381,993
2018	0	22,528	4,616	1,374,000	5,700	1,406,844	0	20,618	4,616	1,374,000	5,700	1,404,934
2019	0	22,486	-39,510	1,391,000	5,700	1,379,676	0	20,576	-39,510	1,391,000	5,700	1,377,766
2020	0	22,434	44,179	1,408,100	5,700	1,480,413	0	20,524	44,179	1,408,100	5,700	1,478,503
2021	0	22,627	-17,866	1,425,100	5,700	1,435,561	0	20,717	-17,866	1,425,100	5,700	1,433,651
2022	0	22,586	42,803	1,442,300	5,700	1,513,389	0	20,676	42,803	1,442,300	5,700	1,511,479
2023	0	22,759	-35,605	1,459,400	5,700	1,452,254	0	20,849	-35,605	1,459,400	5,700	1,450,344
2024	0	22,591	36,317	1,476,500	5,700	1,541,108	0	20,681	36,317	1,476,500	5,700	1,539,198
2025	0	22,565	-22,530	1,493,700	5,700	1,499,435	0	20,655	-22,530	1,493,700	5,700	1,497,525
2026	0	22,626	-9,990	1,510,800	5,700	1,529,136	0	20,716	-9,990	1,510,800	5,700	1,527,226
2027	0	22,618	10,692	1,511,400	5,700	1,550,410	0	20,708	10,692	1,511,400	5,700	1,548,500
2028	0	22,732	9,713	1,512,000	5,700	1,550,145	0	20,822	9,713	1,512,000	5,700	1,548,235
2029	0	22,650	-13,009	1,512,700	5,700	1,528,041	0	20,740	-13,009	1,512,700	5,700	1,526,131
2030	0	22,698	-5,323	1,513,300	5,700	1,536,375	0	20,788	-5,323	1,513,300	5,700	1,534,465
2031	0	22,575	7,141	1,513,900	5,700	1,549,316	0	20,665	7,141	1,513,900	5,700	1,547,406
2032	0	22,539	-19,719	1,514,600	5,700	1,523,120	0	20,629	-19,719	1,514,600	5,700	1,521,210
2033	0	22,598	28,176	1,515,200	5,700	1,571,674	0	20,688	28,176	1,515,200	5,700	1,569,764
2034	0	22,645	-36,731	1,515,800	5,700	1,507,414	0	20,735	-36,731	1,515,800	5,700	1,505,504
2035	0	22,615	50,471	1,516,500	5,700	1,595,286	0	20,705	50,471	1,516,500	5,700	1,593,376

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES(a

(In acre-feet)(b

Calendar Year	CALIFORNIA AQUEDUCT (Continued)												
	WEST BRANCH, CALIFORNIA AQUEDUCT (Continued)						COASTAL BRANCH, CALIFORNIA AQUEDUCT						
	CASTAIC POWERPLANT						LAS PERILLAS AND BADGER HILL PUMPING PLANTS				DEVIL'S DEN, SAWTOOTH AND POLONIO PUMPING PLANTS AND SAN LUIS OBISPO POWERPLANT		
				Deliveries									
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply	Recreation	Total	Initial Fill Water	Operational Losses	Water Supply Delivery	Total	Operational Losses	Water Supply Delivery	Total
	(88)	(89)	(90)	(91)	(92)	(93)	(94)	(95)	(96)	(97)	(98)	(99)	(100)
1968	0	0	0	0	0	0	210	873	79,039	80,122	0	0	0
1969	0	0	0	0	0	0	0	1,042	62,064	63,106	0	0	0
1970	0	0	0	0	0	0	0	638	83,649	84,287	0	0	0
1971	0	0	0	0	0	0	0	3,455	110,971	114,426	0	0	0
1972	57,364	1,788	-6,162	71,938	6,481	131,409	0	1,745	121,755	123,500	0	0	0
1973	87,198	6,430	4,542	155,297	1,075	204,542	0	5,479	78,645	84,124	0	0	0
1974	82,364	1,772	-950	209,136	541	292,863	0	7,344	78,174	85,518	0	0	0
1975	90,460	5,002	-1,534	374,280	1,563	469,771	0	5,819	85,216	91,035	0	0	0
1976	55,990	-7,695	-132,036	420,684	1,429	338,372	0	6,562	90,058	96,620	0	0	0
1977	0	-1,485	-102,532	122,447	-20	18,410	0	5,777	40,579	46,356	0	0	0
1978	45,105	-2,264	129,523	171,139	176	343,679	0	9,085	92,604	101,689	0	0	0
1979	0	-2,339	-20,400	145,598	0	122,859	0	10,896	123,155	134,051	0	0	0
1980	0	991	-118,026	165,931	481	49,377	0	9,449	111,379	120,828	0	0	0
1981	0	12,773	89,619	185,270	2,330	289,992	0	590	113,700	114,290	0	0	0
1982	0	13,106	-5,075	314,000	2,330	324,361	0	590	119,210	119,800	0	0	0
1983	0	13,134	12,054	376,600	2,430	404,218	0	590	124,920	125,510	0	0	0
1984	0	13,059	864	404,200	2,530	420,653	0	590	130,300	130,890	0	0	0
1985	0	13,190	3,445	403,440	2,630	422,705	0	590	135,020	135,610	0	0	0
1986	0	13,109	829	415,250	2,700	431,888	0	590	139,700	140,290	0	0	0
1987	0	12,757	-23,037	608,750	2,700	601,170	0	590	139,800	140,390	0	0	0
1988	0	12,739	-16,311	638,500	2,700	637,628	0	590	139,900	140,490	0	0	0
1989	0	12,967	2,853	684,150	2,700	702,670	0	590	139,900	140,490	0	0	0
1990	0	12,467	4,028	693,200	2,700	712,395	0	1,140	166,080	167,220	550	26,180	26,730
1991	0	12,747	-11,197	679,450	2,700	683,700	0	1,140	167,104	168,244	550	27,204	27,754
1992	0	12,372	14,171	699,100	2,700	728,343	0	1,140	169,028	170,168	550	29,128	29,678
1993	0	12,579	-19,094	697,100	2,700	693,285	0	1,140	171,152	172,292	550	31,252	31,802
1994	0	12,599	36,646	644,300	2,700	696,245	0	1,140	173,176	174,316	550	33,276	33,826
1995	0	12,528	-45,423	665,450	2,700	635,255	0	1,140	175,400	176,540	550	35,500	36,050
1996	0	12,359	26,189	680,500	2,700	721,748	0	1,140	177,700	178,840	550	37,800	38,350
1997	0	12,645	-24,392	696,200	2,700	687,153	0	1,140	179,800	180,940	550	39,900	40,450
1998	0	12,491	29,603	708,900	2,700	753,694	0	1,140	181,100	182,240	550	41,200	41,750
1999	0	12,467	-29,901	721,600	2,700	706,866	0	1,140	183,300	184,440	550	43,400	43,950
2000	0	12,539	26,603	734,300	2,700	776,142	0	1,140	185,600	186,740	550	45,700	46,250
2001	0	13,000	-2,867	777,200	2,700	790,033	0	1,140	187,400	188,540	550	47,500	48,050
2002	0	12,867	-11,854	821,000	2,700	824,713	0	1,140	188,900	190,040	550	49,000	49,550
2003	0	12,892	13,880	863,200	2,700	892,672	0	1,140	191,100	192,240	550	51,200	51,750
2004	0	12,953	-6,038	906,100	2,700	915,715	0	1,140	193,000	194,140	550	53,100	53,650
2005	0	12,948	-5,507	949,100	2,700	959,241	0	1,140	194,800	195,940	550	54,900	55,450
2006	0	13,057	19,037	991,800	2,700	1,026,594	0	1,140	195,300	196,440	550	55,400	55,950
2007	0	13,028	-29,014	1,034,600	2,700	1,021,314	0	1,140	195,900	197,040	550	56,000	56,550
2008	0	13,064	15,280	1,077,300	2,700	1,108,344	0	1,140	196,400	197,540	550	56,500	57,050
2009	0	13,056	-837	1,110,100	2,700	1,125,019	0	1,140	195,300	196,440	550	55,400	55,950
2010	0	12,958	841	1,162,800	2,700	1,179,299	0	1,140	197,500	198,640	550	57,600	58,150
2011	0	13,163	2,732	1,200,800	2,700	1,219,395	0	1,140	196,300	197,440	550	56,400	56,950
2012	0	13,006	1,556	1,238,800	2,700	1,256,062	0	1,140	198,000	199,140	550	58,100	58,650
2013	0	13,048	-3,792	1,276,700	2,700	1,288,656	0	1,140	198,300	199,440	550	58,400	58,950
2014	0	12,890	-14,771	1,302,100	2,700	1,302,919	0	1,140	198,500	199,640	550	58,600	59,150
2015	0	13,072	41,590	1,319,100	2,700	1,376,462	0	1,140	198,800	199,940	550	58,900	59,450
2016	0	13,098	-27,205	1,336,100	2,700	1,324,693	0	1,140	199,000	200,140	550	59,100	59,650
2017	0	13,015	-1,281	1,353,000	2,700	1,367,434	0	1,140	199,300	200,440	550	59,400	59,950
2018	0	12,859	4,616	1,370,000	2,700	1,390,175	0	1,140	199,500	200,640	550	59,600	60,150
2019	0	12,817	-39,510	1,386,900	2,700	1,362,907	0	1,140	199,700	200,840	550	59,800	60,350
2020	0	12,765	44,179	1,403,900	2,700	1,463,544	0	1,140	200,000	201,140	550	60,100	60,650
2021	0	12,958	-17,866	1,420,800	2,700	1,418,592	0	1,140	200,200	201,340	550	60,300	60,850
2022	0	12,917	42,803	1,437,800	2,700	1,496,220	0	1,140	200,400	201,540	550	60,500	61,050
2023	0	13,090	-35,605	1,454,800	2,700	1,434,985	0	1,140	200,700	201,840	550	60,800	61,350
2024	0	12,922	36,317	1,471,800	2,700	1,523,739	0	1,140	200,900	202,040	550	61,000	61,550
2025	0	12,896	-22,530	1,488,800	2,700	1,481,866	0	1,140	201,200	202,340	550	61,300	61,850
2026	0	12,957	-9,990	1,505,800	2,700	1,511,467	0	1,140	201,400	202,540	550	61,500	62,050
2027	0	12,949	10,692	1,506,400	2,700	1,532,741	0	1,140	201,400	202,540	550	61,500	62,050
2028	0	13,063	9,713	1,507,000	2,700	1,532,476	0	1,140	201,400	202,540	550	61,500	62,050
2029	0	12,981	-13,009	1,507,700	2,700	1,510,372	0	1,140	201,400	202,540	550	61,500	62,050
2030	0	13,029	-5,323	1,508,300	2,700	1,518,706	0	1,140	201,400	202,540	550	61,500	62,050
2031	0	12,906	7,141	1,508,900	2,700	1,531,647	0	1,140	201,400	202,540	550	61,500	62,050
2032	0	12,870	-19,719	1,509,600	2,700	1,505,451	0	1,140	201,400	202,540	550	61,500	62,050
2033	0	12,929	28,176	1,510,200	2,700	1,554,005	0	1,140	201,400	202,540	550	61,500	62,050
2034	0	12,976	-36,731	1,510,800	2,700	1,489,745	0	1,140	201,400	202,540	550	61,500	62,050
2035	0	12,946	50,471	1,511,500	2,700	1,577,617	0	1,140	201,400	202,540	550	61,500	62,050

TABLE B-7: RECONCILIATION OF CAPITAL COSTS ALLOCATED TO WATER SUPPLY AND POWER GENERATION

(in thousands of dollars)

Project Facility	Project Costs Allocated to Water Supply and Power Generation							Projected Costs Allocated to Other Purposes	Total State Water Project
	Misc. Income Credited to Construction (a	Allowances for Future Price Escalation (b	Costs of Construction of Water Delivery Structures (c	Additional Costs of Requested Excess Capacity and Future Enlargement (d	Capital Cost Component of Delta Water Charge (e	Capital Cost Component of Transportation Water Charge (f	Water Supply and Power Total		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CONSERVATION FACILITIES									
Upper Feather Division									
Frenchman Dam and Lake	173	0	0	0	477	0	650	3,632	4,282
Grizzly Valley Dam and Lake Davis	29	5	0	0	272	0	306	1,887	2,193
Antelope Dam and Lake	0	0	0	0	0	0	0	7,674	7,674
Abbey Bridge Dam and Res.	0	0	0	0	0	0	0	517	517
Dixie Refuge Dam and Res.	0	0	0	0	0	0	0	235	235
Total, Upper Feather Division	202	5	0	0	749	0	956	13,945	14,901
Oroville Division									
Multipurpose Facilities	3,161	374	149	0	341,839	0	345,523	83,105	428,628
Specific Power Facilities	0	0	0	0	110,602	0	110,602	5	110,607
Total, Oroville Division	3,161	374	149	0	452,441	0	456,125	83,110	539,235
California Aqueduct									
North San Joaquin Division	172	2,742	0	0	61,897	0	64,811	2,230	67,041
San Luis Division	395	126	0	0	85,683	0	86,204	3,570	89,774
Total, California Aqueduct	567	2,868	0	0	147,580	0	151,015	5,800	156,815
Delta Facilities	321	595,813	0	0	746,360	0	1,342,494	367,838	1,710,332
Additional Conservation Facilities	3	3,473,438	0	0	3,132,011	0	6,605,452	165,038	6,770,490
Planning and Preoperations	0	0	0	0	101,229	0	101,229	0	101,229
Small Hydroelectric Power Generating Facilities	0	10,201	0	0	47,988	0	58,189	8,694	66,883
TOTAL CONSERVATION FACILITIES	4,254	4,082,699	149	0	4,628,358	0	8,715,460	644,425	9,359,885
TRANSPORTATION FACILITIES									
Upper Feather Division									
Grizzly Valley Pipeline	0	0	0	0	0	341	341	0	341
North Bay Aqueduct	20	11,210	86	0	0	59,194	70,510	0	70,510
South Bay Aqueduct	1,609	1	314	0	0	47,001	48,925	22,013	70,938
California Aqueduct									
North San Joaquin Division	382	7,104	14	0	0	134,949	142,449	5,705	148,154
San Luis Division	84	21,267	0	0	0	134,598	155,949	9,867	165,816
South San Joaquin Division	290	68	3,296	2,093	0	247,826	253,573	15,251	268,824
Tehachapi Division	23	1,262	9	5,229	0	294,221	300,744	18,169	318,913
Mojave Division	560	136,023	513	161,000 (g	0	239,448	537,544	14,208	551,752
Santa Ana Division	340	86	2,894	9,710	0	162,414	175,444	16,773	192,217
West Branch	35,200	4,904	2,754	37	0	437,199	480,094	32,397	512,491
Coastal Branch	10	93,756	87	0	0	174,331	268,184	105	268,289
Total, California Aqueduct	36,889	264,470	9,567	178,069	0	1,824,986	2,313,981	112,475	2,426,456
Small Hydroelectric Power Generating Facilities	0	4,197	0	0	0	67,910	72,107	4,255	76,362
Off-Aqueduct Power Generating Facilities	0	100,635	0	0	0	510,330	610,965	0	610,965
TOTAL TRANSPORTATION FACILITIES	38,518	380,513	9,967	178,069	0	2,509,762	3,116,829	138,743	3,255,572
SAN JOAQUIN DRAINAGE FACILITIES	0	0	0	0	0	0	0	11,450	11,450
UNASSIGNED AND DAVIS-GRUNSKY	0	0	0	0	0	0	0	141,860	141,860
TOTAL	42,772	4,463,212	10,116	178,069	4,628,358	2,509,762	11,832,289	936,478	12,768,767

a) Miscellaneous project receipts, including those from sale of Airpoint Reservoir Land, that are applied for accounting purposes to reduce the capital costs of the particular facilities.
b) These allowances are included for planning the future financial program, but not for determining current water charges. The costs shown in this appendix are based on prices prevailing on December 31, 1980.
c) See Table B-8.
d) From Table B-9.
e) See Table B-13. A portion of these costs will be offset by power generation sales and credits.
f) See Table B-10.
g) Cost of future enlargement of the California Aqueduct in the Mojave Division.

TABLE B–8: CAPITAL COSTS OF REQUESTED DELIVERY STRUCTURES (a

(in dollars)

Project Area and Water Supply Contractor	Calendar Year						Total
	1952 - 1980	1981	1982	1983	1984	1985	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
FEATHER RIVER AREA							
County of Butte	104,924	0	0	0	0	0	104,924
Thermalito Irrigation District (b	43,939	0	0	0	0	0	43,939
Subtotal	148,863	0	0	0	0	0	148,863
NORTH BAY AREA							
Napa County Flood Control and Water Conservation District	10,068	0	0	0	0	0	10,068
Solano County Flood Control and Water Conservation District	0	0	0	75,000	0	1,000	76,000
Subtotal	10,068	0	0	75,000	0	1,000	86,068
SOUTH BAY AREA							
Alameda County Flood Control and Water Conservation District, Zone 7	155,919	0	0	0	0	0	155,919
Alameda County Water District	143,789	0	0	0	0	0	143,789
Santa Clara Valley Water District	13,865	0	0	0	0	0	13,865
Subtotal	313,573	0	0	0	0	0	313,573
SAN JOAQUIN VALLEY AREA							
Devil's Den Water District	75,841	0	0	0	0	0	75,841
Dudley Ridge Water District	283,509	0	0	0	0	0	283,509
Empire West Side Irrigation District	6,358	0	0	0	0	0	6,358
Green Valley Water District (c	5,292	0	0	0	0	0	5,292
Hacienda Water District (d	20,659	0	0	0	0	0	20,659
Kern County Water Agency	2,700,754	12,000	11,000	0	0	15,500	2,739,254
Oak Flat Water District	13,333	0	0	0	0	0	13,333
Tracy Golf and County Club (c	1,028	0	0	0	0	3,500	4,528
Tulare Lake Basin Water Storage District	256,824	4,000	0	0	0	0	260,824
Subtotal	3,363,598	16,000	11,000	0	0	19,000	3,409,598
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	323,688	8,000	5,000	10,000	0	0	346,688
Castaic Lake Water Agency	346,979	5,000	0	0	0	0	351,979
Coachella Valley Water District	14,206	0	0	0	0	8,000	22,206
Crestline-Lake Arrowhead Water Agency	12,097	0	3,000	0	0	0	15,097
Desert Water Agency	23,438	0	0	0	0	12,000	35,438
Littlerock Creek Irrigation District	23,732	0	0	0	0	0	23,732
Mojave Water Agency	65,378	10,000	10,000	0	4,000	0	89,378
Palmdale Water District	24,232	5,000	5,000	0	0	0	34,232
San Bernardino Valley Municipal Water District	597,553	0	80,000	0	0	5,000	682,553
San Gabriel Valley Municipal Water District	131,052	0	0	0	0	0	131,052
San Gorgonio Pass Water Agency	66,530	0	0	0	0	0	66,530
The Metropolitan Water District of Southern California	4,239,040	0	0	0	20,000	0	4,259,040
Ventura County Flood Control District	79,699	5,000	15,000	0	0	0	99,699
Subtotal	5,947,624	33,000	118,000	10,000	24,000	25,000	6,157,624
TOTAL	9,783,726	49,000	129,000	85,000	24,000	45,000	10,115,726

a) Approximate only, not to be construed as invoice amounts.
b) Not a project water supply contractor. A delivery structure was constructed on the Thermalito Power Canal at the District's expense as part of a water exchange agreement.
c) Not a project water supply contractor. District has contracted for surplus water.
d) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-9: CAPITAL COSTS OF

(in dollars unless otherwise indicated)

Calendar Year	Total Advance Payments and Credits for Excess Capacity	Total Incremental Costs for Excess Capacity	Overpayment (+) or Underpayment (-)[a]	Annual Surplus Money Investment Fund Interest Rate [b] Jan-Jun	Jul-Dec	Net Over or Underpayment With Interest[c]
	(1)	(2)	(3)	(4)	(5)	(6)
	THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA					
1965	0	158,000	-158,000	3.968%	4.184%	-163,412
1966	8,056,000	435,800	7,620,200	4.540%	5.057%	7,701,103
1967	9,094,963	1,878,270	7,216,693	4.815%	4.744%	15,524,533
1968	1,523,252	2,887,351	-1,364,099	5.330%	5.540%	14,959,187
1969	8,310,651	3,059,310	5,251,341	5.946%	6.389%	21,369,973
1970	3,426,736	2,397,102	1,029,634	7.071%	7.125%	23,986,083
1971	1,086,045	1,146,648	-60,603	5.154%	5.580%	25,238,017
1972	-4,244,807	487,394	-4,732,201	4.477%	4.977%	21,532,965
1973	-15,913,829	25,041	-15,938,870	6.023%	8.717%	6,014,116
1974	0	37,775	-37,775	9.222%	10.351%	6,576,393
1975	0	2,085	-2,085	7.089%	6.791%	7,038,515
1976	0	0	0	6.048%	6.021%	7,469,662
1977	0	0	0	5.788%	6.182%	7,923,403
1978	0	0	0	7.171%	8.096%	8,539,736
1979	0	0	0	8.979%	9.671%	9,354,605
1980	0	0	0	11.500%	11.500%	10,461,314
Totals	11,339,011	12,514,776	-1,175,765	-	-	10,461,314
	SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT					
1967	0	25,730	-25,730	4.815%	4.744%	-26,611
1968	184,422	44,053	140,369	5.330%	5.540%	117,587
1969	49,052	38,075	10,977	5.946%	6.389%	136,751
1970	44,911	17,959	26,952	7.071%	7.125%	175,186
1971	61,588	5,900	55,688	5.154%	5.580%	242,927
1972	-20,263	6,835	-27,098	4.477%	4.977%	226,230
1973	-180,465	0	-180,465	6.023%	8.717%	49,198
1974	0	0	0	9.222%	10.351%	54,130
1975	0	0	0	7.089%	6.791%	57,952
1976	0	0	0	6.048%	6.021%	61,501
1977	0	0	0	5.788%	6.182%	65,237
1978	0	0	0	7.171%	8.096%	70,312
1979	0	0	0	8.979%	9.671%	77,021
1980	0	0	0	11.500%	11.500%	86,133
Totals	139,245	138,552	693	-	-	86,133
	ANTELOPE VALLEY-EAST KERN WATER AGENCY					
1968	85,495	1,645	83,850	5.330%	5.540%	86,962
1969	52,625	6,326	46,299	5.946%	6.389%	140,964
1970	101,648	15,076	86,572	7.071%	7.125%	243,222
1971	34,062	11,748	22,314	5.154%	5.580%	279,673
1972	-12,794	2,018	-14,812	4.477%	4.977%	277,552
1973	-205,354	308	-205,662	6.023%	8.717%	77,288
1974	0	96	-96	9.222%	10.351%	84,933
1975	0	0	0	7.089%	6.791%	90,929
1976	0	190	-190	6.048%	6.021%	96,300
1977	0	0	0	5.788%	6.182%	102,150
1978	0	0	0	7.171%	8.096%	110,096
1979	0	0	0	8.979%	9.671%	120,601
1980	0	0	0	11.500%	11.500%	134,869
Totals	55,682	37,407	18,275	-	-	134,869

a) *Overpayment or underpayment for each calendar year - column (1) minus column (2).*

b) *Interest rates shown are annual rates. Interest is credited daily at applicable rates on funds deposited in the State's Surplus Money Investment Fund.*

c) *Amounts shown are end-of-year balances. Interest on overpayments is credited at applicable Surplus Money Investment Fund Interest Rates shown in columns (4) and (5). Interest on underpayments is charged at the project interest rate of 4.584 percent.*

REQUESTED EXCESS PEAKING CAPACITY

(in dollars)

Reach Number	Item	ANNUAL REQUIRED ADVANCE OF FUNDS — Incremental Costs and Advance Payments by Calendar Year													Reach Totals
		1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1981	
		(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
		THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA													
8C	Incremental Costs		1,000	1,000											2,000
8D	Incremental Costs		43,500	43,500											87,000
9	Incremental Costs	13,500	27,000	27,000	13,500										81,000
10A	Incremental Costs	14,800	29,700	29,700	14,800										89,000
11B	Incremental Costs	10,100	18,300	18,300	9,200										55,900
12D	Incremental Costs	1,800		19,300	25,800	12,900									59,800
12E	Incremental Costs	1,800		12,400	18,800	10,800									43,800
13B	Incremental Costs			12,600	37,800	31,600									82,000
14A	Incremental Costs	2,500	500	11,100	80,216	107,504	124,069	37,519	6,413	381	87				370,289
14B	Incremental Costs	1,200	1,800		19,100	19,100	12,800								54,000
14C	Incremental Costs	1,800	900		13,500	13,500	9,000								38,700
15A	Incremental Costs	700		14,000	66,947	133,357	128,099	54,821	5,327	946	2,076				406,273
16A	Incremental Costs	700		18,900	137,894	182,000	211,608	133,927	26,203	5,767	6,156				723,155
17E	Incremental Costs		51,500	444,600	537,247	860,024	998,985	699,281	193,286	17,947	29,456	2,085			3,834,411
17F	Incremental Costs	109,100	261,600	261,600	261,600	261,600	239,500								1,395,000
25	Incremental Costs			964,270	1,650,947	1,426,925	673,041	221,100	256,165						5,192,448
28J	Incremental Costs		304,612	13,706	296,668	65,966	230,169	1,209,586	2,017,134	235,900	4,900				4,378,641
Totals Unadjusted for past payments	Incremental Costs	158,000	740,412	1,891,976	3,184,019	3,125,276	2,627,271	2,356,234	2,504,528	260,941	42,675	2,085			16,893,417
Current Adjustments	8C thru 25														
	1. Advance Payments Applied to Incremental Costs Amendment 2 (d	0	8,056,000	9,094,963	1,523,252	8,310,651	3,426,736	1,086,045	-4,244,807	-14,381,396				-356,668	12,514,776
	8C thru 25														
	2. Interest Credits-Amendment 2 (e									-1,532,433				-10,104,646 (h	-11,637,079
	28J														
	3. Advance Payments Applied to Incremental Costs Amendment 5 (f	0	1,240,000	1,483,180	2,469,325	-927,035	1,729,160	3,215,258	2,967,475	1,690,000	-9,488,722				4,378,641
	28J														
	4. Interest Credits-Amendment 5 (g										-2,721,803				-2,721,803
	5. Net Required Advance of Funds	0	9,296,000	10,578,143	3,992,577	7,383,616	5,155,896	4,301,303	-1,277,332	-14,223,829	-12,210,525			-10,461,314	2,534,535
		SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT													
25	Incremental Costs			25,730	44,053	38,075	17,959	5,900	6,835						138,552
Totals Unadjusted for past payments	Incremental Costs			25,730	44,053	38,075	17,959	5,900	6,835						138,552
Current Adjustments	25														
	1. Advance Payments Applied to Incremental Costs (d			0	184,422	49,052	44,911	61,588	-20,263	-174,133				-7,025	138,552
	2. Interest Credit									-6,332				-79,108	-85,440
	3. Net Required Advance of Funds			0	184,422	49,052	44,911	61,588	-20,263	-180,465				-86,133 (h	53,112
		ANTELOPE VALLEY-EAST KERN WATER AGENCY													
29A	Incremental Costs				1,645	6,326	13,376	10,048	2,018	308	96		190		34,007
29F	Incremental Costs						1,700	1,700							3,400
Totals Unadjusted for past payments	Incremental Costs				1,645	6,326	15,076	11,748	2,018	308	96		190		37,407
Current Adjustments	29A and 29F														
	1. Advance Payments Applied to Incremental Costs (d				85,495	52,625	101,648	34,062	-12,794	-189,120	0		0	-34,509	37,407
	2. Interest Credit									-16,234				-100,360	-116,594
	3. Net Required Advance of Funds				85,495	52,625	101,648	34,062	-12,794	-205,354	0		0	-134,869 (h	-79,187

d) Actual payments are shown for 1965 through 1976 with 1981 adjusted to reflect overpayments and underpayments without interest for prior years.

e) Interest for overpayments and underpayments under provisions of Amendment 2 of the contract.

f) Actual payments are shown for 1965 through 1973 with 1974 adjusted to reflect overpayments and underpayments without interest for prior years.

g) Interest for overpayments and underpayments under the provisions of Amendment 5 of the contract.

h) Amount in excess of incremental costs, under the provisions of the contract, reduce the Transportation Charge Capital Cost Component of the Agency's Statement of Charges for January 1981.

TABLE B–10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Calendar Year	UPPER FEATHER DIVISION	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT			
		Reach 1	Reach 2	Reach 3	Total	Reach 1	Reach 2	Reach 4	Reach 5
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1952	0	0	0	0	0	97	34	30	57
1953	0	0	0	0	0	477	166	144	297
1954	0	0	0	0	0	1,466	508	437	959
1955	0	0	0	0	0	1,944	674	560	1,266
1956	0	0	0	0	0	18,789	6,515	5,090	12,545
1957	0	13,290	3,391	9,953	26,634	45,090	15,639	12,285	33,218
1958	2	19,202	5,011	25,798	50,011	195,985	80,961	7,714	21,930
1959	14	7,517	2,118	17,653	27,288	496,140	148,516	24,945	17,118
1960	28	8,797	4,292	4,838	17,927	1,130,378	67,351	71,779	68,028
1961	10	1,551	10,318	2,526	14,395	3,273,247	180,596	307,885	74,398
1962	32	217	1,751–	414	1,120–	1,548,884	203,535	695,446	35,102
1963	51	2,510	1,063–	983	2,430	480,716	69,182	2,284,291	206,587
1964	7,791	39,879	12,046	21,934	73,859	2,549,118	15,903	181,900	264,410
1965	3,139	72,793	17,900	170,361	261,054	807,505	153,454	85,425	447,830
1966	–48	59,615	12,972	438,949	511,536	898,074	149,529	142,096	1,690,200
1967	47	47,257	11,597	1,551,023	1,609,877	607,614	50,423	293,304	3,496,284
1968	51,573	70,586	19,560	831,158	921,304	965,119	19,543	89,300	2,931,101
1969	234,232	63,650	23,628	46,428	133,706	455,173	9,618	3,860	896,727
1970	16,227	59,090	42,733	9,415	111,238	52,481	3,380	10,517	154,358
1971	27,204	20,819	31,516	8,480	60,815	24,505	4,645	5,035	20,395
1972	9	15,538	12,952	10,058	38,548	26,918	825	2,945	26,090
1973	25	18,488	29,018	39,878	87,384	24,468	4,010	6,016	12,708
1974	45	67,352	29,978	134,332	231,662	17,108	1,192	1,765	65,587
1975	21	62,855	73,112	45,091	181,058	57,619	561	1,165	7,291
1976	51	51,983	75,611	13,176	140,770	104,215	2,846	8,915	12,700
1977	28	48,822	65,662	23,100	137,584	175,264	3,625	3,225	16,120
1978	38	56,450	57,158	26,631	140,239	235,046	4,494	3,668	12,883
1979	23	309,817	91,234	62,832	463,883	97,773	17,213	8,573	30,680
1980	25	347,068	101,737	71,339	520,144	106,519	17,308	8,338	27,405
1981	0	1,158,608	729,411	154,640	2,042,659	213,826	40,000	15,000	16,233
1982	0	1,173,744	933,376	257,557	2,364,677	386,724	64,000	8,000	23,932
1983	0	7,259,608	4,454,830	841,507	12,555,945	609,046	22,000	1,000	13,025
1984	0	14,518,614	8,334,103	2,208,003	25,060,720	706,973	0	1,000	158,354
1985	0	6,436,769	3,810,000	717,101	10,963,870	583,002	0	0	143,883
1986	0	723,658	116,000	71,600	911,258	409,454	0	0	3,711
1987	0	166,760	53,000	61,997	281,757	364,720	0	0	3,305
1988	0	57,896	23,000	40,789	121,685	239,957	0	0	2,174
1989	0	12,315	6,000	614	18,929	3,613	0	0	33
1990	0	3,000	1,000	0	4,000	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	340,567	32,976,118	19,191,450	7,920,158	60,087,726	17,915,047	1,358,246	4,291,653	10,948,924

Capital Cost of

Calendar Year	NORTH BAY AQUEDUCT		SOUTH BAY AQUEDUCT	CALIFORNIA			
	Reach 1 North Bay Pumping Plant	Reach 3 Cordelia Pumping Plant	Reach 1 South Bay and Del Valle Pumping Plants	Reach 1 Harvey O. Banks Delta Pumping Plant	Reach 4 Dos Amigos Pumping Plant	Reach 14A Buena Vista Pumping Plant	Reach 15A Wheeler Ridge Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
1979	1,543	3,011	17,875	165,171	75,451	92,724	90,089
1980	26,003	50,758	301,308	2,784,293	1,271,886	1,563,059	1,518,643
1981	73,749	143,961	854,584	7,896,929	3,607,376	4,433,213	4,307,238
1982	82,663	161,362	957,879	8,851,436	4,043,402	4,969,058	4,827,857
1983	13,283	25,929	153,919	1,422,317	649,724	798,466	775,777
1984	79	153	908	8,395	3,835	4,713	4,579
Total	197,320	385,174	2,286,473	21,128,541	9,651,674	11,861,233	11,524,183

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	SOUTH BAY AQUEDUCT (continued)					CALIFORNIA AQUEDUCT NORTH SAN JOAQUIN DIVISION			
	Reach 6	Reach 7	Reach 8	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1952	8	66	72	132	496	4,012	3,279	1,499	8,790
1953	38	327	336	640	2,425	10,559	8,589	3,964	23,112
1954	123	1,005	1,003	1,954	7,455	13,796	11,163	5,179	30,138
1955	160	1,293	1,149	2,454	9,500	7,370	5,952	2,760	16,082
1956	1,559	11,959	11,043	28,372	95,872	9,880	5,020	2,398	17,298
1957	3,659	28,675	27,385	563,114	729,065	11,953	5,456	2,612	20,021
1958	2,243	17,872	17,385	560,904	904,994	18,585	17,191	7,994	43,770
1959	357	3,200	3,568	149,874	843,718	123,170	100,306	45,510	268,986
1960	1,102	2,944	4,498	359,749	1,705,829	191,408	102,136	48,968	342,512
1961	4,726	18,325	22,765	1,367-	3,880,575	153,765	195,947	42,843	392,555
1962	17,295	160,939	178,242	209,042	3,048,485	612,258	491,225	168,218	1,271,701
1963	265,414	1,250,386	939,832	129,902	5,626,310	1,993,284	1,525,734	684,095	4,203,113
1964	100,603	1,716,371	2,327,770	2,947,522	10,103,597	4,674,280	2,369,858	700,074	7,744,212
1965	42,345	368,476	637,266	1,921,844	4,464,145	5,877,189	6,873,699	2,975,719	15,726,607
1966	17,663	34,915	140,350	777,887	3,850,714	8,553,362	14,112,820	5,677,099	28,343,281
1967	41,567-	137,856	147,183	379,764	5,070,861	9,678,607	10,672,113	6,646,739	26,997,459
1968	84,553	2,130	68,057	253,152	4,412,955	6,392,664	891,681	1,303,186	8,587,531
1969	4,279	11,572	162,300	32,000	1,575,529	3,542,767	792,259	443,924	4,778,950
1970	2,487	6,820	20,086	15,718-	234,411	2,236,607	149,692	115,578	2,501,877
1971	4,350	6,923	17,750	39,084	122,687	98,138	215,512	69,410	383,060
1972	1,084	203	4,800	32,199	95,064	159,608	43,721	7,744	211,073
1973	288	989	7,449	9,693	65,621	105,581	25,496	22,418	153,495
1974	527	6,020	30,628	11,433	134,260	177,700	16,627	45,707	240,034
1975	126	679	1,086	3,464	71,991	239,144	14,680	169,676	423,500
1976	701	3,529	8,362	26,186	167,454	641,501	45,533	65,943	752,977
1977	270	1,310	8,651	24,938	233,403	263,652	20,283	22,568	306,503
1978	231	1,204	1,631	17,123	276,280	419,890	36,221	9,714	465,825
1979	1,367	1,728	2,135	7,350	166,819	758,623	59,755	26,143	844,521
1980	1,309	1,714	2,139	7,097	171,829	35,681	94,474	37,515	167,670
1981	0	3,000	1,000	10,000	299,059	4,381,132	144,639	99,981	4,625,752
1982	0	2,000	2,000	7,000	493,656	6,007,910	49,991	37,992	6,095,893
1983	0	0	1,000	1,000	647,071	6,904,805	3,999	2,000	6,910,804
1984	0	0	1,000	1,000	868,327	8,596,420	2,000	1,333	8,599,753
1985	0	0	0	0	726,885	9,962,631	667	667	9,963,965
1986	0	0	0	0	413,165	12,109,679	667	667	12,111,013
1987	0	0	0	0	368,025	9,838,242	667	667	9,839,576
1988	0	0	0	0	242,131	3,919,814	667	667	3,921,148
1989	0	0	0	0	3,646	39,017	0	0	39,017
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
Total	517,300	3,804,430	4,799,921	8,498,788	52,134,309	108,764,684	39,109,719	19,499,171	167,373,574

Reid Gardner Unit No. 4

Calendar Year	AQUEDUCT						GRAND TOTAL
	Reach 16A Wind Gap Pumping Plant	Reach 17E A.D. Edmonston Pumping Plant	Reach 22B Pear-blossom Pumping Plant	Reach 29A Oso Pumping Plant	Reach 31A Las Perillas and Badger Hill Pumping Plant	Reach 33A Devil's Den Sawtooth and Polonio P.P.'s and San Luis Obispo Pwp.	
	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1979	204,113	756,636	72,347	65,219	9,658	20,163	1,574,000
1980	3,440,746	12,754,652	1,219,563	1,099,395	162,806	339,888	26,533,000
1981	9,758,788	36,175,276	3,458,975	3,118,149	461,759	964,003	75,254,000
1982	10,938,339	40,547,804	3,877,063	3,495,042	517,572	1,080,523	84,350,000
1983	1,757,655	6,515,530	622,996	561,610	83,168	173,626	13,554,000
1984	10,374	38,458	3,677	3,315	490	1,024	80,000
Total	26,110,015	96,788,356	9,254,621	8,342,730	1,235,453	2,579,227	201,345,000

TABLE B–10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION		
	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal	Reach 8C	Reach 8D	Reach 9
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
1952	2,492	3,549	3,987	1,010	1,390	12,428	13	727	1,109
1953	6,999	10,144	10,986	2,834	3,869	34,832	45	2,671	4,185
1954	8,704	12,545	13,693	3,520	4,766	43,228	50	2,719	4,026
1955	4,273	6,055	6,813	1,728	2,325	21,194	19	888	1,100
1956	3,295	5,600	5,857	1,445	3,556	19,753	98	3,850	4,376
1957	3,543	6,115	6,357	1,565	3,998	21,578	234	10,604	13,209
1958	11,927	19,393	22,037	5,509	7,512	66,378	375	19,033	25,073
1959	21,979	37,358	39,689	9,813	19,679	128,518	436	20,578	25,697
1960	207,025	45,419	41,044	12,074	37,633	343,195	1,673	44,565	25,290
1961	184,443	292,639	170,559	38,338	70,068	756,047	3,949	75,726	30,852
1962	495,836	549,984	252,698	22,397	26,967	1,347,882	6,131	159,481	62,375
1963	2,772,189	2,034,351	2,498,712	66,353	30,647	7,402,252	5,861	161,252	81,343
1964	4,348,311	4,932,301	1,053,227	161,422	251,461	10,746,722	4,014	90,622	117,907
1965	3,860,997	5,688,252	2,869,931	1,072,111	667,768	14,159,059	15,049	491,042	564,036
1966	2,312,372	8,527,843	5,765,798	4,230,221	7,708,334	28,544,568	201,274	5,197,322	2,539,278
1967	-44,527	2,062,305	6,942,522	222,885	6,675,398	15,858,583	211,640	4,983,488	3,363,650
1968	119,884	395,689	973,956	179,917	461,031	2,130,477	55,432	619,991	940,075
1969	-6,065	126,946	98,492	107,486	160,668	487,527	55,452	119,653	85,130
1970	32,387	-20,243	105,385	-827,457	1,215,966	506,038	13,998	115,822	84,116
1971	99,945	230,624	305,227	26,995	341,010	1,003,801	6,735	35,176	23,088
1972	15,990	90,852	17,053	14,621	281,343	419,859	8,699	15,468	16,603
1973	6,753	103,707	41,549	13,810	41,427	207,246	2,886	13,347	13,249
1974	6,618	117,165	55,978	16,199	71,796	267,756	5,255	24,613	16,567
1975	18,921	107,275	23,671	8,797	152,574	311,238	4,909	16,476	12,966
1976	17,485	79,242	13,041	5,138	41,687	156,593	17,978	78,234	62,164
1977	35,707	73,938	9,412	4,028	9,655	132,740	20,794	70,306	97,952
1978	8,539	69,052	7,006	3,536	6,994	95,127	4,268	43,769	17,395
1979	-35,302	231,805	19,539	9,519	-242,197	-16,636	526	16,178	6,259
1980	66,753	412,711	190,875	74,882	184,841	930,062	616	18,910	17,439
1981	30,323	1,032,840	1,094,823	485,645	612,007	3,255,638	10,373	14,145	13,202
1982	8,462	1,966,998	2,135,895	950,544	1,188,180	6,250,079	4,715	6,601	6,601
1983	2,116	2,907,188	943,943	402,661	511,106	4,767,014	1,886	2,829	2,829
1984	1,410	3,206,989	306,475	110,331	148,994	3,774,199	943	1,886	1,886
1985	705	2,683,192	313,076	113,160	151,823	3,261,956	943	943	943
1986	705	3,126,494	2,169,843	777,032	1,051,445	7,125,519	943	943	943
1987	705	4,075,092	3,957,771	1,415,443	1,917,119	11,366,130	943	943	943
1988	705	3,857,692	4,451,903	1,590,841	2,155,698	12,056,839	943	943	943
1989	0	2,244,639	3,500,416	1,250,418	1,694,571	8,690,044	0	0	0
1990	0	535,624	840,213	300,817	407,376	2,084,030	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	14,632,604	51,889,364	41,279,452	12,887,588	28,080,485	148,769,493	670,098	12,481,744	8,284,799

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)								
	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
1952	695	1,279	1,980	995	1,663	794	212	212	1,911
1953	2,569	4,790	7,480	3,745	6,236	2,599	733	741	7,016
1954	2,821	4,855	7,565	3,792	6,319	2,880	810	817	7,073
1955	1,097	1,557	2,404	1,211	2,025	1,183	325	327	2,253
1956	4,428	6,223	9,233	4,737	8,054	7,026	1,638	1,584	9,939
1957	13,269	18,772	29,082	14,615	24,411	15,651	3,834	3,864	26,871
1958	25,086	48,191	78,564	39,087	61,715	33,726	12,330	11,813	49,499
1959	25,787	67,246	107,781	53,836	86,478	64,824	22,102	21,828	70,838
1960	47,492	66,317	77,936	39,867	63,517	84,363	23,260	22,305	73,305
1961	68,505	46,073	88,274	51,457	28,015	242,753	91,290	65,565	150,205
1962	57,705	56,056	69,189	44,851	49,179	208,180	61,489	47,608	133,653
1963	52,585	91,914	173,985	86,405	67,733	425,626	104,436	77,970	102,072
1964	124,014	333,621	291,013	174,469	86,271	1,093,795	684,005	485,033	571,173
1965	622,257	1,053,029	1,524,848	1,044,851	196,487	3,385,205	1,655,024	1,436,258	476,830
1966	2,800,056	3,709,779	673,429	466,228	418,141	4,916,319	974,862	724,354	1,829,852
1967	3,652,342	4,636,627	1,881,333	1,244,265	1,238,428	2,788,299	525,653	400,183	1,721,304
1968	1,025,969	1,323,302	4,726,074	3,145,775	8,343,706	10,210,266	1,330,361	1,405,117	7,522,015
1969	145,111	229,185	706,272	529,080	3,704,065	15,112,041	1,223,457	1,134,395	9,523,012
1970	74,366	85,151	70,725	72,798	320,797	11,031,255	987,213	738,955	8,836,897
1971	15,595	45,006	43,988	42,624	339,078	2,925,191	193,255	36,514	3,275,227
1972	19,736	32,657	43,939	24,748	81,937	1,388,348	101,784	20,165	1,003,380
1973	14,283	16,448	9,980	16,320	25,090	680,834	19,584	13,469	798,805
1974	22,111	14,951	19,555	32,240	29,582	524,504	30,735	16,333	778,696
1975	15,865	13,479	10,793	13,678	25,827	269,197	25,164	21,048	370,265
1976	76,202	54,217	37,464	59,842	105,332	507,366	59,753	42,776	434,414
1977	75,628	52,919	22,826	54,444	81,293	297,316	49,972	30,152	231,026
1978	48,754	16,469	-2,816	27,331	43,126	193,548	-653	1,500	134,132
1979	286	6,972	13,580	14,361	25,438	222,712	10,029	8,003	162,277
1980	17,859	18,421	15,697	27,447	35,218	301,120	29,164	23,037	274,423
1981	14,145	12,259	11,316	14,145	22,632	865,895	14,145	236,693	831,201
1982	6,601	6,601	5,658	6,601	6,601	1,795,182	6,601	13,202	1,744,049
1983	2,829	2,829	2,829	2,829	2,829	3,187,812	2,829	2,829	3,099,053
1984	1,886	1,886	1,886	1,886	1,886	3,703,027	1,886	1,886	3,598,017
1985	943	943	943	943	943	3,052,716	943	943	2,965,997
1986	943	943	943	943	943	2,144,266	943	943	2,083,361
1987	943	943	943	943	943	1,910,099	943	943	1,855,847
1988	943	943	943	943	943	1,257,022	943	943	1,221,329
1989	0	0	0	0	0	18,910	0	0	18,373
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	9,081,706	12,082,853	10,767,634	7,364,332	15,542,881	74,871,850	8,251,054	7,050,308	55,995,590

TABLE B–10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)		TEHACHAPI DIVISION			MOJAVE DIVISION			
	Reach 16A	Subtotal	Reach 17E	Reach 17F	Subtotal	Reach 18A	Reach 19	Reach 19C	Reach 20A
	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
1952	4,440	16,030	9,703	4,072	13,775	4,090	1,520	0	2,561
1953	16,513	59,323	31,337	13,284	44,621	12,610	4,685	0	7,246
1954	16,601	60,328	46,243	20,010	66,253	16,642	6,184	0	9,506
1955	5,223	19,612	25,880	11,362	37,242	5,612	2,086	0	2,529
1956	21,754	82,940	47,487	17,609	65,096	6,038	2,244	0	2,440
1957	62,657	237,073	119,673	49,130	168,803	22,348	8,304	0	9,035
1958	133,083	537,575	164,056	72,091	236,147	37,917	14,166	123	15,391
1959	205,748	773,179	151,389	57,883	209,272	38,620	23,450	1,102	23,605
1960	204,788	774,678	203,222	45,323	248,545	21,356	26,093	5,318	40,523
1961	206,305	1,148,969	387,819	85,558	473,377	35,664	32,280	2,262	34,918
1962	171,396	1,127,293	353,119	82,610	435,729	68,508	266,283	1,841	10,323
1963	481,941	1,913,123	1,191,633	124,757	1,316,390	37,379	435,880	4,137	39,706
1964	1,778,952	5,834,889	1,866,000	775,005	2,641,005	95,693	706,368	8,564	43,342
1965	1,268,176	13,733,092	2,574,824	2,284,869	4,859,693	121,060	716,091	9,156	108,519
1966	2,896,274	27,347,168	5,537,412	9,323,517	14,860,929	366,116	1,644,700	13,373	159,282
1967	3,442,021	30,089,233	26,239,390	12,398,708	38,638,098	1,312,022	903,881	24,103	645,078
1968	7,578,498	48,226,581	33,363,479	7,416,464	40,779,943	136,804	7,109,655	71,388	1,889,601
1969	13,136,056	45,702,909	40,368,425	6,883,206	47,251,631	213,805	2,465,642	7,423	5,939,151
1970	13,890,751	36,322,844	35,446,706	6,786,232	42,232,938	2,211,077	1,210,666	6,217	3,652,478
1971	7,903,937	14,885,414	20,141,395	6,835,303	26,976,698	1,496,843	284,735	6,994	1,074,759
1972	3,025,555	5,783,019	10,002,935	34,791	10,037,726	129,417	409,904	3,620	471,963
1973	1,472,313	3,096,608	3,090,140	36,207	3,126,347	23,931	75,637	2,539	88,416
1974	1,031,843	2,546,985	4,798,348	152,494	4,950,842	28,399	205,580	2,703	138,673
1975	489,545	1,289,212	2,144,178	411,404	2,555,582	44,774	70,652	5,066	68,157
1976	617,696	2,153,438	1,123,108	174,629	1,297,737	121,043	84,593	6,786	59,967
1977	570,495	1,655,123	621,475	31,512	652,987	261,400	133,766	7,521	117,878
1978	226,433	753,256	657,387	27,956	685,343	553,014	57,153	5,872	51,615
1979	369,322	855,943	1,540,195	61,387	1,601,582	742,632	339,241	10,790	37,048
1980	620,078	1,399,429	6,379,457	5,816	6,385,273	1,304,351	1,064,805	3,954	307,084
1981	1,908,628	3,968,779	15,108,632	16,031	15,124,663	6,342,618	1,370,179	6,260	15,088
1982	3,998,955	7,607,968	32,061,262	14,145	32,075,407	20,572,488	865,674	4,158	6,601
1983	7,083,646	13,397,858	40,180,086	12,259	40,192,345	9,264,975	4,715	2,069	3,772
1984	8,148,974	15,467,935	34,077,296	943	34,078,239	3,115,672	2,829	1,041	2,829
1985	6,718,783	12,746,926	24,953,591	943	24,954,534	163,139	1,886	85,586	1,886
1986	4,719,018	8,956,075	17,490,574	943	17,491,517	943	1,886	1,471,558	943
1987	4,203,548	7,978,924	15,579,757	943	15,580,700	943	943	2,964,488	943
1988	2,765,937	5,253,718	10,250,620	943	10,251,563	943	943	8,925,277	943
1989	41,627	78,910	154,306	0	154,306	0	0	11,239,748	0
1990	0	0	0	0	0	0	0	2,451,000	0
1991	0	0	0	0	0	0	0	56,000	0
1992	0	0	0	0	0	0	0	16,000	0
1993	0	0	0	0	0	0	0	6,000	0
1994	0	0	0	0	0	0	0	4,000	0
1995	0	0	0	0	0	0	0	4,000	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	101,437,510	323,882,359	388,482,539	54,270,339	442,752,878	48,930,886	20,555,299	27,448,037	15,083,799

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	MOJAVE DIVISION (continued)							SANTA ANA DIVISION	
	Reach 20B	Reach 21	Reach 22A	Reach 22B	Reach 23	Reach 24	Subtotal	Reach 25	Reach 26A
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
1952	892	5,788	35	2,013	2,074	2,413	21,386	3,334	5,599
1953	3,402	17,846	71	5,752	6,886	7,438	65,936	10,275	17,264
1954	4,548	23,558	369	8,560	7,849	9,820	87,036	13,566	22,790
1955	2,213	7,947	178	2,754	2,725	3,313	29,357	4,575	7,687
1956	2,655	8,542	216	2,905	2,961	3,561	31,562	4,917	8,264
1957	9,826	31,616	800	10,757	10,962	13,177	116,825	18,205	30,586
1958	16,752	53,569	1,397	18,717	18,578	22,627	199,237	31,001	52,019
1959	18,604	56,724	1,844	25,421	20,372	45,646	255,388	39,325	58,137
1960	37,179	43,893	11,029	136,751	17,152	109,816	449,110	65,655	93,700
1961	37,102	21,532	14,517	215,859	9,546	373,473	777,153	26,979	56,734
1962	10,730	8,197	4,186	164,168	4,336	279,421	817,993	9,964	36,235
1963	40,865	26,670	17,081	237,695	7,228	349,420	1,196,061	31,013	112,271
1964	71,116	33,912	22,793	262,996	6,863	244,003	1,495,650	69,669	202,642
1965	343,506	91,095	65,689	827,655	11,836	621,566	2,916,173	279,237	206,356
1966	1,311,628	160,388	178,538	1,746,245	31,078	1,018,628	6,629,976	415,066	364,004
1967	1,718,942	498,257	367,961	3,146,128	62,135	2,331,106	11,009,613	3,184,296	638,539
1968	2,291,691	1,141,929	1,145,768	4,588,850	102,207	2,600,293	21,078,186	8,264,126	1,268,194
1969	5,626,284	2,358,737	1,515,147	7,750,478	260,659	11,131,406	37,268,732	6,807,783	1,768,456
1970	5,304,372	3,232,911	2,081,810	23,451,612	1,240,798	16,885,193	59,277,134	2,169,051	7,229,429
1971	1,091,123	825,070	432,464	16,772,680	1,922,115	5,385,721	29,292,504	1,135,248	9,811,736
1972	635,507	484,772	324,865	3,788,894	48,049	788,479	7,085,470	1,095,444	5,522,303
1973	83,840	63,774	36,179	1,623,274	24,333	4,225,877	6,247,800	136,994	1,810,729
1974	118,639	103,545	54,198	5,699,605	130,567	766,562	7,248,471	68,180	1,922,999
1975	169,294	167,240	19,453	4,793,580	19,467	373,783	5,731,466	166,653	3,787,797
1976	102,909	44,896	24,732	3,103,796	84,188	204,705	3,837,615	475,176	1,494,752
1977	120,160	71,389	49,445	1,650,837	60,112	232,230	2,704,738	76,255	776,086
1978	68,838	32,855	18,183	556,200	36,484	210,150	1,590,364	57,463	131,076
1979	36,194	18,961	10,687	504,811	10,646	103,638	1,814,648	29,967	80,699
1980	282,881	133,413	121,018	1,164,147	122,367	555,244	5,059,264	31,379	140,310
1981	55,637	16,974	8,487	891,365	834,555	107,502	9,648,665	11,316	45,264
1982	16,031	4,715	4,715	1,657,856	4,610,327	175,398	27,917,963	4,715	44,321
1983	3,772	2,829	2,829	2,586,414	7,714,683	69,782	19,655,840	2,829	32,062
1984	2,829	1,886	1,886	2,892,796	5,508,063	4,715	11,534,546	1,886	6,601
1985	1,886	943	943	2,383,948	448,868	1,886	3,090,971	943	943
1986	943	943	943	1,674,194	5,658	943	3,158,954	943	943
1987	943	943	943	1,491,488	943	943	4,463,520	943	943
1988	943	943	943	980,987	943	943	9,913,808	943	943
1989	0	0	0	14,754	0	0	11,254,502	0	0
1990	0	0	0	0	0	0	2,451,000	0	0
1991	0	0	0	0	0	0	56,000	0	0
1992	0	0	0	0	0	0	16,000	0	0
1993	0	0	0	0	0	0	6,000	0	0
1994	0	0	0	0	0	0	4,000	0	0
1995	0	0	0	0	0	0	4,000	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	19,644,676	9,799,202	6,542,342	96,836,942	23,408,613	49,260,821	317,510,617	24,745,314	37,789,413

TABLE B–10: CAPITAL COSTS OF EACH AQUEDUCT REACH TO BE REIMBURSED

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SANTA ANA DIVISION (continued)				WEST BRANCH				
	Reach 28G[a]	Reach 28H	Reach 28J	Subtotal	Reach 29A	Reach 29F	Reach 29G	Reach 29H	Reach 29J
	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
1952	4,785	4,055	3,020	20,793	2,924	136	175	459	553
1953	15,580	11,511	9,476	64,106	9,093	344	237	1,754	1,683
1954	18,015	18,100	12,160	84,631	7,389	1,201	2,229	2,350	4,162
1955	6,052	6,081	4,151	28,546	1,019	585	1,086	1,147	2,029
1956	6,496	6,525	4,480	30,682	490	698	1,297	1,366	2,420
1957	24,044	24,156	16,585	113,576	1,809	2,583	4,792	5,057	8,952
1958	40,844	41,033	28,470	193,367	3,256	4,516	8,714	8,878	15,847
1959	45,746	45,946	44,331	233,485	7,953	9,150	19,414	18,243	35,583
1960	59,102	58,548	118,969	395,974	21,753	14,990	34,447	29,764	69,752
1961	32,226	34,382	674,787	825,108	22,442	12,775	21,559	20,086	39,761
1962	21,383	20,530	47,484	135,596	40,237	28,729	86,938	58,215	108,962
1963	43,884	41,698	1,506,440	1,735,306	91,959	69,162	163,347	110,015	211,592
1964	89,710	45,762	98,569	506,352	150,670	66,420	207,977	143,340	291,404
1965	96,956	76,899	146,095	805,543	361,811	77,914	403,115	127,430	589,638
1966	170,878	308,756	589,107	1,847,811	489,512	203,497	1,233,640	348,918	3,231,797
1967	233,968	283,126	987,832	5,327,761	1,589,715	882,096	1,117,243	891,607	31,088,491
1968	871,337	266,295	780,587	11,450,539	3,899,363	300,921	396,190	1,104,832	36,157,768
1969	1,117,873	1,444,654	756,442	11,895,208	6,592,580	336,480	693,348	1,184,454	9,655,871
1970	1,843,621	1,013,468	2,829,523	15,085,092	7,986,733	6,089,401	2,624,747	3,002,968	8,463,475
1971	16,095,702	6,401,303	12,111,623	45,555,612	4,247,037	3,768,699	1,120,231	8,244,651	5,844,024
1972	1,536,618	11,960,441	21,539,200	41,654,006	1,871,831	426,932	985,512	18,787,722	-23,015,734
1973	209,664	246,735	3,662,840	6,066,962	775,824	168,064	399,856	9,408,706	1,821,206
1974	162,178	101,638	1,980,991	4,235,986	560,657	168,878	169,717	3,901,261	- 3,454,239
1975	157,365	124,399	1,626,274	5,862,488	353,670	421,176	925,693	664,113	609,891
1976	178,287	118,748	1,497,465	3,764,428	396,709	650,417	1,274,484	706,244	650,209
1977	127,106	89,036	323,091	1,391,574	417,296	3,018,637	2,152,961	196,012	1,135,148
1978	147,112	153,867	347,325	836,843	1,329,283	2,219,135	6,695,030	57,817	149,932
1979	29,697	19,218	214,774	374,355	902,388	2,168,117	20,014,443	598,063	331,309
1980	137,779	152,971	1,075,992	1,538,431	463,927	4,082,720	24,290,345	551,000	200,756
1981	273,470	30,176	25,461	385,687	765,601	3,247,692	25,574,160	125,419	118,818
1982	223,491	7,544	13,202	293,273	1,256,146	437,552	14,166,689	46,207	37,720
1983	3,772	3,772	6,601	49,036	2,240,099	2,829	3,643,752	4,715	516,764
1984	1,886	1,886	1,886	14,145	2,600,974	1,886	2,694,151	2,829	185,771
1985	943	943	943	4,715	2,147,442	943	2,735,643	1,886	943
1986	943	943	943	4,715	1,508,474	943	397,003	943	943
1987	943	943	943	4,715	1,343,769	943	943	943	943
1988	943	943	943	4,715	884,420	943	943	943	943
1989	0	0	0	0	13,301	0	0	0	0
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	24,030,399	23,167,031	53,089,005	162,821,162	45,359,556	28,888,104	114,262,051	50,360,357	75,115,087

a) *Includes excess capacity costs in the following years allocated to The Metropolitan Water District and repaid under Article 24(c) of their contract; 1970, $362,000; 1971, $6,198,000; 1972, $139,000.*

THRU CAPITAL COST COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)							TOTAL	GRAND TOTAL
	WEST BRANCH (continued)		COASTAL BRANCH						
	Reach 30	Subtotal	Reach 31A	Reach 33A	Reach 34	Reach 35	Subtotal		
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
1952	1,408	5,655	0	0	0	0	0	98,857	99,353
1953	4,346	17,457	0	0	0	0	0	309,387	311,812
1954	5,743	23,074	0	0	0	0	0	394,688	402,143
1955	1,943	7,809	0	0	0	0	0	159,842	169,342
1956	2,077	8,348	0	0	0	0	0	255,679	351,551
1957	7,684	30,877	0	0	0	0	0	708,753	1,464,452
1958	13,931	55,142	0	0	0	0	0	1,331,616	2,286,623
1959	44,384	134,727	28,046	49,114	7,441	8,236	92,837	2,096,392	2,967,412
1960	84,703	255,409	34,404	70,450	8,507	14,265	127,626	2,937,049	4,660,833
1961	123,330	239,953	13,801	17,868	1,501	3,931	37,101	4,650,263	8,545,243
1962	348,366	671,447	10,121	7,798	524	1,689	20,132	5,827,773	8,875,170
1963	521,491	1,167,566	20,470	14,299	880	2,943	38,592	18,972,403	24,601,194
1964	1,372,464	2,232,275	315,418	26,963	1,687	5,639	349,707	31,550,812	41,736,059
1965	3,383,950	4,943,858	747,023	36,178	2,118	7,060	792,379	57,936,404	62,664,742
1966	9,364,753	14,872,117	2,258,915	35,864	1,736	5,764	2,302,279	124,748,129	129,110,331
1967	17,618,827	53,187,979	6,310,419	38,331	1,891	6,213	6,356,854	187,465,580	194,146,365
1968	15,736,691	57,595,765	2,707,580	30,784	1,324	4,369	2,744,057	192,593,079	197,978,911
1969	16,228,175	34,690,908	423,797	26,549	907	2,905	454,158	182,530,023	184,473,490
1970	22,330,328	50,497,652	269,194	24,368	851	2,787	297,200	206,720,775	207,082,651
1971	16,890,503	40,115,145	164,446	32,230	1,315	3,804	201,795	158,414,029	158,624,735
1972	3,818,001	2,874,264	131,332	17,601	522	1,660	151,115	68,216,532	68,350,153
1973	13,426,222	25,999,878	182,493	16,154	542	1,758	200,947	45,099,283	45,252,313
1974	2,988,318	4,334,592	190,866	18,799	463	1,405	211,533	24,036,199	24,402,166
1975	1,808,235	4,782,778	64,582	36,012	2,255	6,656	109,505	21,065,769	21,318,839
1976	1,253,067	4,931,130	198,249	68,898	5,088	14,988	287,223	17,181,141	17,489,416
1977	345,023	7,265,077	918,012	81,304	1,834	5,387	1,006,537	15,115,279	15,486,294
1978	762,837	11,214,034	36,140	80,478	1,302	3,852	121,772	15,762,564	16,179,121
1979	282,457	24,296,777	30,255	97,615	1,503	4,426	133,799	29,904,989	30,535,714
1980	2,059,372	31,648,120	39,724	105,961	1,167	3,491	150,343	47,278,592	47,970,590
1981	392,288	30,223,978	221,236	232,833	5,000	5,000	464,069	67,697,231	70,038,949
1982	224,434	16,168,748	191,413	442,630	3,000	3,000	640,043	97,049,374	99,907,707
1983	509,220	6,917,379	335,798	1,037,728	53,744	105,487	1,532,757	93,423,033	106,626,049
1984	1,832,249	7,317,860	395,918	1,867,489	504,085	354,989	3,122,481	83,909,158	109,838,205
1985	3,165,651	8,052,508	350,870	3,269,898	1,025,373	1,599,497	6,245,638	68,321,213	80,011,968
1986	1,726,633	3,634,939	270,247	9,437,331	884,850	1,776,306	12,368,734	64,851,466	66,175,889
1987	943	1,348,484	157,855	30,394,662	1,431,757	8,621,472	40,605,746	91,187,795	91,837,577
1988	943	889,135	243,832	39,715,975	3,337,096	10,376,614	53,673,517	95,964,443	96,328,259
1989	0	13,301	151,970	30,511,848	2,229,464	5,844,969	38,738,251	58,968,331	58,990,906
1990	0	0	377,000	3,750,000	105,000	310,000	4,542,000	9,077,030	9,081,030
1991	0	0	30,000	1,296,000	142,000	360,000	1,828,000	1,884,000	1,884,000
1992	0	0	14,000	25,000	17,000	23,000	79,000	95,000	95,000
1993	0	0	0	16,000	8,000	14,000	38,000	44,000	44,000
1994	0	0	0	5,000	0	7,000	12,000	16,000	16,000
1995	0	0	0	0	0	0	0	4,000	4,000
1996	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0
TOTAL	138,680,990	452,666,145	17,835,426	122,936,012	9,791,727	29,514,562	180,077,727	2,195,853,955	2,308,416,557

TABLE B–11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Calendar Year	UPPER FEATHER DIVISION	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT			
		Reach 1	Reach 2	Reach 3	Total	Reach 1	Reach 2	Reach 4	Reach 5
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1962	0	0	0	0	0	37,396	5,522	0	0
1963	0	0	0	0	0	147,719	20,639	0	0
1964	0	0	0	0	0	149,750	15,574	19,405	0
1965	0	0	0	0	0	259,939	45,718	46,485	0
1966	0	0	0	0	0	270,890	23,799	63,921	0
1967	0	0	0	0	0	438,050	32,798	108,127	0
1968	0	0	0	130	130	410,919	44,277	66,973	706
1969	0	0	0	80,875	80,875	487,377	48,339	75,644	706
1970	0	0	0	94,872	94,872	381,734	44,852	64,833	71,376
1971	54	0	0	45,579	45,579	357,850	25,666	50,344	38,735
1972	40	0	0	37,895	37,895	347,941	30,606	56,800	100,106
1973	1	0	0	32,993	32,993	386,897	36,172	58,288	28,810
1974	143	0	0	46,498	46,498	456,381	57,081	83,120	61,623
1975	1,069	0	0	37,707	37,707	624,989	46,111	81,361	36,682
1976	139	0	0	60,930	60,930	614,385	47,862	123,838	91,097
1977	892	0	0	79,971	79,971	511,668	48,925	104,278	102,082
1978	39	0	0	59,717	59,717	691,879	125,224	176,855	50,955
1979	3,235	0	0	75,755	75,755	650,806	76,772	212,592	91,515
1980	577	0	0	80,877	80,877	1,088,850	184,542	229,773	93,982
1981	200	0	0	107,137	107,137	944,360	123,831	213,673	148,709
1982	200	0	0	135,502	135,502	1,206,570	144,881	248,870	172,243
1983	200	0	0	158,199	158,199	1,560,598	159,940	273,413	201,178
1984	200	0	0	159,114	159,114	1,641,699	165,496	284,942	213,050
1985	200	306,777	85,541	180,171	572,489	1,651,761	166,135	286,208	163,289
1986	200	311,827	68,262	175,690	555,779	1,640,571	165,699	285,541	170,142
1987	200	302,912	67,039	174,197	544,148	1,632,377	164,032	282,485	167,781
1988	200	301,840	66,390	173,280	541,510	1,608,601	163,211	281,233	168,085
1989	200	304,802	66,690	175,018	546,510	1,617,074	164,150	283,023	171,685
1990	200	302,579	65,603	172,879	541,061	1,591,680	161,893	279,132	167,738
1991	200	305,448	66,283	174,451	546,182	1,617,237	163,590	282,096	171,197
1992	200	305,130	66,198	175,303	546,631	1,611,934	163,390	281,705	170,247
1993	200	306,134	66,443	175,832	548,409	1,621,503	163,979	282,753	171,395
1994	200	307,165	66,689	177,390	551,244	1,629,305	164,578	283,799	172,289
1995	200	309,843	67,077	179,330	556,250	1,641,354	165,531	285,401	173,371
1996	200	311,382	67,669	180,752	559,803	1,642,548	166,975	287,827	175,038
1997	200	311,566	67,484	181,275	560,325	1,645,485	166,523	287,105	174,793
1998	200	310,801	67,535	181,422	559,758	1,638,729	166,648	287,290	174,741
1999	200	311,002	67,355	180,954	559,311	1,636,740	166,198	286,556	174,526
2000	200	311,264	67,649	181,658	560,571	1,633,773	166,925	287,794	175,632
2001	200	311,099	67,611	182,556	561,266	1,632,905	166,825	287,629	175,469
2002	200	311,324	67,446	182,080	560,850	1,632,871	166,407	287,000	175,665
2003	200	310,804	67,321	181,799	559,924	1,626,459	166,101	286,459	174,956
2004	200	311,663	67,522	183,277	562,462	1,628,556	166,595	287,304	175,586
2005	200	311,674	67,526	183,277	562,477	1,625,561	166,600	287,319	175,528
2006	200	312,676	67,527	182,277	562,480	1,623,563	166,604	287,330	175,470
2007	200	329,232	69,474	186,929	585,635	1,744,046	176,681	309,589	185,399
2008	200	328,223	69,471	186,929	584,623	1,740,041	176,675	309,570	184,119
2009	200	328,258	69,484	186,929	584,671	1,739,062	176,700	309,641	185,451
2010	200	328,273	69,490	186,929	584,692	1,736,068	176,708	309,663	185,460
2011	200	328,534	69,556	187,059	585,149	1,735,208	176,870	309,967	185,898
2012	200	328,541	69,558	187,059	585,158	1,735,213	176,876	309,982	185,881
2013	200	328,665	69,608	186,059	584,332	1,729,291	176,973	310,256	186,981
2014	200	329,806	69,665	186,059	585,530	1,730,382	177,087	310,574	187,814
2015	200	328,911	69,706	186,059	584,676	1,726,450	177,172	310,812	188,174
2016	200	329,974	69,732	186,059	585,765	1,727,488	177,221	310,947	188,543
2017	200	330,015	69,748	186,059	585,822	1,726,515	177,253	311,038	189,104
2018	200	331,169	69,810	186,059	587,038	1,727,613	177,376	311,382	190,302
2019	200	331,145	69,800	187,059	588,004	1,728,598	177,357	311,330	189,975
2020	200	331,182	69,815	187,059	588,056	1,727,623	177,388	311,416	200,926
2021	200	331,175	69,812	187,059	588,046	1,728,619	177,382	311,401	193,031
2022	200	312,334	67,612	182,129	562,075	1,576,955	165,124	284,354	181,122
2023	200	312,332	67,611	182,129	562,072	1,578,953	165,121	284,346	179,536
2024	200	312,355	67,621	182,129	562,105	1,577,966	165,138	284,393	181,081
2025	200	313,393	67,636	182,129	563,158	1,577,991	165,168	284,478	181,353
2026	200	313,386	67,633	182,129	563,148	1,577,984	165,160	284,456	181,149
2027	200	309,694	67,207	179,682	556,583	1,559,612	163,763	281,383	180,005
2028	200	309,655	67,191	180,682	557,528	1,560,586	163,729	281,290	179,599
2029	200	309,704	67,210	179,682	556,596	1,560,616	163,767	281,395	180,057
2030	200	309,686	67,203	180,682	557,571	1,560,604	163,752	281,353	179,873
2031	200	309,686	67,203	180,682	557,571	1,561,604	163,752	281,352	179,869
2032	200	309,664	67,194	180,682	557,540	1,562,588	163,733	281,298	179,631
2033	200	308,743	67,226	179,682	555,651	1,558,637	163,793	281,469	180,378
2034	200	309,641	67,186	180,682	557,509	1,562,573	163,713	281,244	179,395
2035	200	308,743	67,226	179,682	555,651	1,558,637	163,793	281,468	180,377

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	SOUTH BAY AQUEDUCT (continued)					CALIFORNIA AQUEDUCT			
						NORTH SAN JOAQUIN DIVISION			
	Reach 6	Reach 7	Reach 8	Reach 9	Total	Reach 1	Reach 2A	Reach 2B	Subtotal
	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
1962	0	0	0	0	42,918	0	0	0	0
1963	0	0	0	0	168,358	0	0	0	0
1964	0	0	0	0	184,729	0	0	0	0
1965	2,634	6,490	4,704	12,904	378,874	0	0	0	0
1966	4,707	10,328	9,233	25,519	408,397	0	0	0	0
1967	2,712	7,659	10,812	34,347	634,505	0	0	0	0
1968	3,109	7,960	10,166	40,372	584,482	1,001,998	228,359	103,116	1,333,473
1969	3,944	5,975	8,795	38,566	669,346	933,116	301,596	188,194	1,422,906
1970	2,464	-1,991	6,870	28,210	598,348	971,602	306,198	151,539	1,429,339
1971	3,116	9,394	9,895	31,068	526,068	1,103,021	254,786	113,694	1,471,501
1972	5,125	10,247	12,054	44,699	607,578	1,107,855	230,906	110,109	1,448,870
1973	4,178	7,500	4,890	43,816	570,551	1,150,864	221,445	100,221	1,472,530
1974	7,812	7,564	5,523	48,054	727,158	1,272,034	231,383	117,156	1,620,573
1975	18,120	14,683	18,325	68,377	908,648	1,434,736	455,110	201,075	2,090,921
1976	10,873	5,557	19,920	49,921	963,453	1,519,992	217,348	453,400	2,190,740
1977	-240	2,228	8,391	89,579	866,911	1,922,873	292,346	196,553	2,411,772
1978	-1,404	16,766	-5,313	104,078	1,159,040	2,026,237	303,415	187,188	2,516,840
1979	1,268	29,279	7,342	106,755	1,176,329	1,848,743	223,305	142,461	2,214,509
1980	2,028	23,496	11,271	105,703	1,739,645	2,309,857	393,750	220,135	2,923,742
1981	10,095	22,045	16,238	88,813	1,567,764	3,266,957	1,421,125	305,927	4,994,009
1982	63,366	26,074	19,296	104,891	1,986,191	3,636,506	677,002	346,414	4,659,922
1983	120,017	29,032	22,320	117,870	2,484,368	4,573,895	671,929	419,349	5,665,173
1984	124,867	29,194	22,446	122,697	2,604,391	4,772,346	704,481	395,453	5,872,280
1985	125,211	29,272	22,463	122,984	2,567,323	4,798,626	723,113	398,216	5,919,955
1986	124,816	29,183	22,396	122,606	2,560,954	5,000,752	734,252	397,677	6,132,681
1987	123,742	28,855	22,084	121,288	2,542,644	4,967,414	726,853	393,503	6,087,770
1988	123,008	28,689	21,961	120,586	2,515,374	5,017,107	726,671	392,451	6,136,229
1989	123,598	28,823	22,059	121,152	2,531,564	4,946,178	735,049	395,800	6,077,027
1990	121,889	28,435	21,772	119,515	2,492,054	4,918,514	724,403	390,229	6,033,146
1991	123,146	28,721	21,983	120,717	2,528,687	4,985,536	733,369	394,673	6,113,578
1992	123,028	28,694	21,963	120,605	2,521,566	4,916,813	731,350	393,897	6,042,060
1993	123,451	28,789	22,035	121,009	2,534,914	4,960,624	734,925	395,563	6,091,112
1994	123,895	28,891	22,109	121,436	2,546,302	4,934,322	738,044	397,120	6,069,486
1995	124,645	29,061	22,235	122,154	2,563,752	4,973,155	741,644	399,236	6,114,035
1996	125,782	29,319	22,426	123,243	2,573,158	4,989,348	747,036	402,426	6,138,810
1997	125,401	29,232	22,362	122,878	2,573,779	4,958,132	746,208	401,655	6,105,995
1998	125,518	29,258	22,382	122,991	2,567,557	4,938,676	746,038	401,763	6,086,477
1999	125,145	29,175	22,319	122,632	2,563,291	4,941,026	744,879	400,904	6,086,809
2000	125,707	29,301	22,414	123,170	2,564,716	4,939,267	747,980	402,612	6,089,859
2001	125,624	29,283	22,400	123,093	2,563,228	4,898,321	747,685	402,413	6,048,419
2002	125,244	29,197	22,335	122,729	2,561,448	5,003,273	747,822	401,937	6,153,032
2003	125,021	29,146	22,298	122,514	2,552,954	4,948,338	746,070	401,100	6,095,508
2004	125,401	29,233	22,363	122,879	2,557,917	4,935,578	748,189	402,263	6,086,030
2005	125,401	29,233	22,363	122,879	2,554,884	4,947,598	748,409	402,331	6,098,338
2006	125,401	29,233	22,363	122,879	2,552,843	4,921,579	748,460	402,346	6,072,385
2007	127,924	31,968	26,349	132,906	2,734,862	5,105,830	787,691	425,975	6,319,496
2008	127,924	31,968	26,349	132,906	2,729,552	5,080,467	787,479	425,910	6,293,856
2009	127,924	31,968	26,349	132,906	2,730,001	5,059,823	788,359	426,180	6,274,362
2010	127,924	31,968	26,349	132,906	2,727,046	5,046,481	788,459	426,211	6,261,151
2011	128,029	31,991	26,366	133,007	2,727,336	5,036,065	789,830	426,771	6,252,666
2012	128,029	31,991	26,366	133,007	2,727,345	5,007,381	789,980	426,816	6,224,177
2013	128,029	31,991	26,366	133,007	2,722,894	5,062,225	792,868	427,699	6,282,792
2014	128,029	31,991	26,366	133,007	2,725,250	5,016,342	796,227	428,726	6,241,295
2015	128,029	31,991	26,366	133,007	2,722,001	5,013,118	798,725	429,490	6,241,333
2016	128,029	31,991	26,366	133,007	2,723,592	5,009,181	800,144	429,925	6,239,250
2017	128,029	31,991	26,366	133,007	2,723,303	5,011,226	801,098	430,216	6,242,540
2018	128,029	31,991	26,366	133,007	2,726,066	5,008,056	804,688	431,314	6,244,058
2019	128,029	31,991	26,366	133,007	2,726,653	5,010,695	804,078	431,127	6,245,900
2020	128,029	31,991	26,366	133,007	2,736,746	5,004,729	804,931	431,388	6,241,048
2021	128,029	31,991	26,366	133,007	2,729,826	5,019,401	804,783	431,342	6,255,526
2022	124,949	28,654	21,501	120,771	2,503,430	4,686,911	762,005	413,005	5,861,921
2023	124,949	28,654	21,501	120,771	2,503,831	4,736,283	761,935	412,985	5,911,203
2024	124,949	28,654	21,501	120,771	2,504,453	4,688,933	762,429	413,135	5,864,497
2025	124,949	28,654	21,501	120,771	2,504,865	4,752,362	763,336	413,413	5,929,111
2026	124,949	28,654	21,501	120,771	2,504,624	4,712,983	763,097	413,340	5,889,420
2027	124,593	28,269	20,940	119,359	2,477,924	4,675,131	754,098	399,490	5,828,719
2028	124,593	28,269	20,940	119,359	2,478,365	4,637,719	753,039	399,167	5,789,925
2029	124,593	28,269	20,940	119,359	2,478,996	4,695,147	754,056	399,477	5,848,680
2030	124,593	28,269	20,940	119,359	2,478,743	4,658,427	753,511	399,311	5,811,249
2031	124,593	28,269	20,940	119,359	2,479,738	4,677,104	753,414	399,282	5,829,800
2032	124,593	28,269	20,940	119,359	2,480,411	4,661,059	752,738	399,075	5,812,872
2033	124,593	28,269	20,940	119,359	2,477,438	4,700,508	754,551	399,629	5,854,688
2034	124,593	28,269	20,940	119,359	2,480,086	4,643,016	752,166	398,899	5,794,081
2035	124,593	28,269	20,940	119,359	2,477,436	4,688,498	754,545	399,627	5,842,670

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SAN LUIS DIVISION						SOUTH SAN JOAQUIN DIVISION		
	Reach 3	Reach 4	Reach 5	Reach 6	Reach 7	Subtotal	Reach 8C	Reach 8D	Reach 9
	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	120,038	428,308	130,105	44,591	104,033	827,075	0	0	0
1969	90,033	460,907	184,467	35,696	235,322	1,006,425	22,013	134,760	86,103
1970	89,547	484,300	226,002	66,070	192,582	1,058,501	26,207	156,981	128,273
1971	99,917	541,574	175,592	64,193	158,170	1,039,446	32,312	190,753	118,372
1972	116,708	647,979	174,519	73,670	154,783	1,167,659	35,031	187,242	130,396
1973	116,791	611,705	158,145	58,344	153,955	1,098,940	51,150	225,747	127,530
1974	120,309	671,455	150,835	63,905	150,230	1,156,734	34,752	199,127	131,298
1975	133,593	839,285	178,974	81,478	157,586	1,390,916	78,523	250,377	159,006
1976	54,938	884,049	220,832	90,305	174,835	1,424,959	39,348	133,933	123,424
1977	73,571	1,116,759	270,629	98,094	196,261	1,755,314	38,087	125,423	178,121
1978	46,051	980,058	203,930	107,236	203,527	1,540,802	45,559	183,239	130,332
1979	230,488	845,029	142,046	99,082	180,040	1,496,685	69,873	155,743	130,850
1980	178,378	1,111,634	260,661	139,549	257,850	1,948,072	61,473	256,742	177,397
1981	238,165	1,507,217	251,002	859,383	180,698	3,036,465	89,465	304,462	235,582
1982	294,521	1,605,523	276,597	1,577,626	200,634	3,954,901	104,302	356,890	274,077
1983	372,799	2,053,929	327,536	836,767	230,495	3,821,526	111,255	391,615	301,532
1984	395,586	2,258,667	352,908	147,522	245,497	3,400,180	116,153	410,433	317,459
1985	403,088	2,314,395	361,088	150,334	249,277	3,478,182	116,519	414,564	321,144
1986	403,664	2,318,399	370,021	153,329	253,061	3,498,474	116,189	414,531	321,323
1987	398,264	2,377,193	360,051	149,508	247,274	3,532,290	115,242	411,047	318,594
1988	399,182	2,378,552	358,494	148,577	245,500	3,530,305	114,628	410,910	318,852
1989	407,174	2,420,990	366,237	151,304	249,342	3,595,047	115,181	415,498	322,836
1990	397,242	2,369,090	345,713	143,461	237,673	3,493,179	113,652	409,608	318,219
1991	406,142	2,411,403	353,207	146,494	242,569	3,559,815	114,787	414,561	322,197
1992	404,172	2,353,257	351,340	145,846	241,669	3,496,284	115,722	419,481	325,271
1993	407,339	2,357,238	354,203	146,938	243,344	3,509,062	116,108	421,457	326,898
1994	409,979	2,367,959	356,546	147,872	244,835	3,527,191	116,509	423,184	328,284
1995	412,677	2,379,986	358,759	148,894	246,649	3,546,965	117,173	425,186	329,765
1996	416,697	2,375,886	362,067	150,428	249,377	3,554,455	118,172	428,193	331,985
1997	416,388	2,383,101	362,041	150,258	248,899	3,560,687	118,269	430,167	333,395
1998	416,034	2,376,706	361,589	150,165	248,862	3,553,356	118,366	430,061	333,234
1999	415,362	2,372,252	361,333	149,928	248,300	3,547,175	118,044	429,511	332,914
2000	417,811	2,368,966	363,470	150,845	249,853	3,550,945	118,545	431,259	334,259
2001	417,617	2,364,870	363,396	150,787	249,722	3,546,392	118,475	431,130	334,180
2002	418,332	2,363,063	364,371	150,939	249,647	3,546,352	118,162	431,220	334,464
2003	416,810	2,354,176	363,012	150,409	248,823	3,533,230	117,957	430,255	333,675
2004	418,486	2,354,672	364,439	151,025	249,868	3,538,490	118,297	431,430	334,577
2005	418,718	2,348,041	364,672	151,100	249,961	3,532,492	118,299	431,552	334,692
2006	418,774	2,347,107	364,722	151,116	249,980	3,531,699	118,300	431,578	334,716
2007	434,710	2,436,251	383,621	157,178	261,649	3,673,409	121,405	447,304	345,947
2008	434,487	2,429,323	383,405	157,108	261,562	3,665,885	121,403	447,190	345,839
2009	435,417	2,427,025	384,322	157,399	261,931	3,666,094	121,412	447,672	346,291
2010	435,525	2,422,246	384,425	157,432	261,973	3,661,601	121,412	447,727	346,342
2011	436,822	2,419,670	385,636	157,864	262,588	3,662,580	121,513	448,480	346,995
2012	436,980	2,420,743	385,792	157,914	262,652	3,664,081	122,090	451,861	349,288
2013	440,042	2,410,132	388,791	158,871	263,860	3,661,696	122,121	453,439	350,766
2014	443,603	2,421,163	392,277	159,985	265,264	3,682,292	122,157	455,272	352,483
2015	446,249	2,420,944	394,873	160,813	266,310	3,689,189	122,183	456,638	353,761
2016	447,754	2,423,858	396,345	161,284	266,903	3,696,144	122,198	457,413	354,486
2017	448,767	2,426,406	397,267	161,578	267,274	3,701,292	122,209	457,897	354,941
2018	452,572	2,440,465	400,936	162,749	268,751	3,725,473	122,246	459,828	356,748
2019	451,925	2,438,072	400,249	162,530	268,475	3,721,251	122,239	459,466	356,408
2020	452,829	2,439,616	401,119	162,808	268,826	3,725,198	122,248	459,923	356,837
2021	452,672	2,438,513	400,914	162,742	268,743	3,723,584	122,246	459,816	356,737
2022	437,280	2,329,967	382,058	156,817	256,618	3,562,740	122,252	460,082	356,986
2023	437,207	2,326,040	381,981	156,792	256,590	3,558,610	122,250	460,043	356,950
2024	437,731	2,332,196	382,498	156,957	256,796	3,566,178	122,256	460,314	357,203
2025	438,694	2,327,974	383,438	157,257	257,176	3,564,539	122,265	460,809	357,667
2026	438,440	2,329,753	383,199	157,181	257,079	3,565,652	122,263	460,683	357,548
2027	433,944	2,305,665	377,905	155,351	253,928	3,526,793	116,634	431,984	337,494
2028	432,821	2,305,835	376,697	154,966	253,442	3,523,761	116,621	431,349	336,900
2029	433,899	2,305,487	377,636	155,265	253,820	3,526,107	116,631	431,843	337,362
2030	433,319	2,307,008	377,008	155,063	253,565	3,525,963	116,625	431,513	337,052
2031	433,220	2,307,865	376,835	155,009	253,497	3,526,426	116,623	431,422	336,968
2032	432,503	2,307,350	376,060	154,762	253,185	3,523,860	115,445	424,309	332,077
2033	434,423	2,304,720	377,942	155,363	253,943	3,526,391	115,464	425,298	333,004
2034	431,896	2,305,987	375,463	154,571	252,945	3,520,862	115,439	423,995	331,784
2035	434,416	2,306,655	377,937	155,361	253,941	3,528,310	115,464	425,296	333,001

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)								
	Reach 10A	Reach 11B	Reach 12D	Reach 12E	Reach 13B	Reach 14A	Reach 14B	Reach 14C	Reach 15A
	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)	(36)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	83,706	59,077	0	0	0	0	0	0	0
1970	118,046	85,758	94,171	123,374	152,424	0	0	0	0
1971	129,811	80,282	95,075	91,389	167,142	691,791	151,979	111,623	529,723
1972	117,625	84,287	98,647	115,592	146,096	877,535	124,831	101,479	609,058
1973	117,706	92,257	74,238	114,843	221,385	961,855	120,106	99,429	692,748
1974	141,658	98,103	74,914	193,523	141,540	898,272	143,866	115,649	853,098
1975	207,908	124,105	61,799	117,194	108,154	1,156,757	180,614	119,889	988,045
1976	139,134	69,715	33,655	147,908	134,063	1,124,171	177,086	114,133	1,037,922
1977	194,137	108,675	91,589	175,070	138,026	1,400,042	203,803	119,443	1,342,374
1978	169,073	106,953	72,982	170,871	151,483	1,359,551	139,945	132,466	1,374,931
1979	176,308	86,620	57,526	174,834	151,085	1,491,424	201,687	260,909	1,217,421
1980	263,980	121,219	112,317	178,587	162,416	1,937,027	192,900	240,116	1,436,089
1981	269,319	178,900	144,124	254,942	293,372	2,184,031	228,806	203,871	1,987,324
1982	312,315	207,929	167,492	297,437	344,033	2,618,790	265,711	237,068	2,394,751
1983	342,974	227,638	187,441	322,838	375,538	3,191,871	292,962	260,330	2,946,950
1984	360,679	238,665	198,367	337,367	393,330	3,386,698	307,905	272,913	3,116,556
1985	364,669	240,953	201,626	340,010	396,873	3,406,421	311,570	275,722	3,128,110
1986	364,827	240,915	202,106	339,680	396,653	3,396,407	311,772	275,714	3,113,882
1987	361,792	238,926	200,354	336,816	393,335	3,487,645	309,090	273,374	3,205,268
1988	361,999	238,814	201,175	336,158	392,865	3,472,306	309,404	273,311	3,184,520
1989	366,330	241,370	204,528	339,264	396,902	3,511,857	313,363	276,435	3,217,627
1990	361,217	238,034	201,441	334,519	391,244	3,468,086	308,845	272,450	3,179,435
1991	365,602	240,833	204,269	338,367	395,914	3,493,140	312,745	275,804	3,197,392
1992	368,518	242,958	206,358	340,950	400,862	3,503,153	315,069	277,812	3,205,445
1993	370,304	244,070	207,587	342,422	402,685	3,499,331	316,673	279,153	3,198,325
1994	371,831	245,048	208,564	343,772	404,316	3,512,047	318,022	280,318	3,209,929
1995	373,491	246,188	209,397	345,519	406,324	3,521,070	319,451	281,662	3,216,902
1996	375,975	247,906	210,634	348,151	409,345	3,528,490	321,599	283,684	3,226,583
1997	377,307	248,745	211,903	348,924	411,166	3,537,423	322,737	284,506	3,229,964
1998	377,145	248,691	211,654	348,957	411,135	3,541,081	322,589	284,444	3,237,679
1999	376,767	248,368	211,641	348,344	410,500	3,526,915	322,275	284,064	3,221,736
2000	378,261	249,363	212,490	349,797	412,210	3,531,775	323,589	285,251	3,227,497
2001	378,170	249,288	212,478	349,659	412,061	3,531,359	323,530	285,175	3,228,078
2002	378,437	249,320	213,047	349,411	411,950	3,515,913	323,856	285,264	3,210,254
2003	377,574	248,775	212,467	348,678	411,050	3,515,281	323,118	284,633	3,213,151
2004	378,576	249,443	213,034	349,656	412,198	3,518,679	324,030	285,452	3,215,831
2005	378,700	249,510	213,143	349,728	412,299	3,514,989	324,183	285,565	3,213,942
2006	378,727	249,525	213,168	349,742	412,322	3,517,973	324,246	285,611	3,217,840
2007	390,389	257,276	220,485	359,802	426,736	3,761,834	334,563	293,621	3,447,464
2008	390,274	257,213	220,384	359,737	426,643	3,761,700	334,455	293,542	3,449,369
2009	390,758	257,480	220,816	360,017	427,037	3,758,389	334,918	293,881	3,445,627
2010	390,814	257,510	220,864	360,047	427,083	3,755,531	334,956	293,911	3,444,664
2011	391,520	257,933	221,406	360,567	427,751	3,754,118	335,599	294,421	3,443,657
2012	393,778	259,481	223,085	362,426	431,055	3,768,184	337,485	295,993	3,453,979
2013	395,364	260,355	224,501	363,340	432,346	3,750,615	338,969	297,076	3,435,979
2014	397,207	261,372	226,145	364,402	433,848	3,755,623	340,694	298,339	3,438,398
2015	398,579	262,127	227,369	365,191	434,966	3,752,343	341,975	299,277	3,434,878
2016	399,358	262,557	228,065	365,639	435,600	3,751,289	342,703	299,809	3,432,174
2017	399,844	262,825	228,499	365,919	435,996	3,753,800	343,170	300,151	3,434,244
2018	401,785	263,893	230,231	367,036	437,576	3,762,820	345,006	301,494	3,441,541
2019	401,421	263,694	229,907	366,827	437,282	3,760,499	344,690	301,264	3,438,550
2020	401,881	263,947	230,317	367,091	437,655	3,764,923	345,140	301,593	3,443,523
2021	401,773	263,887	230,221	367,029	437,567	3,761,873	345,023	301,508	3,440,582
2022	402,040	264,035	230,460	367,183	437,785	3,514,093	345,254	301,678	3,193,549
2023	402,001	264,012	230,424	367,161	437,753	3,505,326	345,219	301,650	3,183,848
2024	402,273	264,164	230,668	367,318	437,975	3,516,297	345,474	301,838	3,195,548
2025	402,771	264,438	231,112	367,603	438,380	3,506,205	345,940	302,179	3,185,018
2026	402,644	264,368	230,999	367,531	438,277	3,510,909	345,824	302,093	3,189,833
2027	382,103	250,520	217,794	349,747	411,463	3,384,267	327,934	287,944	3,092,971
2028	381,465	250,170	217,224	349,379	410,943	3,387,435	327,354	287,518	3,095,725
2029	381,962	250,443	217,666	349,665	411,347	3,382,210	327,836	287,872	3,090,045
2030	381,629	250,259	217,369	349,473	411,077	3,386,686	327,534	287,650	3,095,773
2031	381,538	250,210	217,289	349,422	411,003	3,386,571	327,439	287,581	3,094,779
2032	376,705	246,931	213,661	345,497	404,092	3,361,611	323,379	284,214	3,077,645
2033	377,700	247,479	214,548	346,070	404,902	3,353,960	324,257	284,857	3,070,129
2034	376,391	246,757	213,380	345,316	403,836	3,360,153	322,979	283,921	3,076,546
2035	377,697	247,477	214,546	346,068	404,901	3,358,666	324,143	284,773	3,073,952

TABLE B–11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SOUTH SAN JOAQUIN DIVISION (continued)		TEHACHAPI DIVISION			MOJAVE DIVISION			
	Reach 16A	Subtotal	Reach 17E	Reach 17F	Subtotal	Reach 18A	Reach 19	Reach 19C	Reach 20A
	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	385,659	0	0	0	0	0	0	0
1970	0	885,234	0	0	0	0	0	0	0
1971	10,291	2,400,543	3,471	0	3,471	0	0	0	0
1972	1,106,884	3,734,703	1,424,782	29,378	1,454,160	36,174	134,009	0	128,798
1973	1,243,941	4,142,935	1,777,260	53,650	1,830,910	34,657	141,805	0	156,168
1974	1,343,972	4,369,772	2,298,091	19,674	2,317,765	28,681	84,294	0	108,270
1975	1,537,862	5,090,233	2,403,430	40,342	2,443,772	38,285	115,267	0	129,389
1976	1,727,701	5,002,193	2,777,159	149,758	2,926,917	111,632	188,382	0	171,318
1977	1,968,138	6,082,928	3,870,200	100,669	3,970,869	88,106	213,290	0	170,096
1978	2,162,661	6,200,046	3,800,104	48,965	3,849,069	88,419	191,336	0	206,299
1979	1,803,668	5,977,948	3,553,413	53,868	3,607,281	94,203	286,578	0	243,251
1980	2,206,209	7,346,472	4,533,378	61,909	4,595,287	123,426	386,674	0	283,456
1981	2,756,547	9,130,745	5,397,058	30,472	5,427,530	225,351	372,527	0	279,957
1982	3,099,613	10,680,408	5,971,650	45,151	6,016,801	240,135	388,072	0	335,398
1983	4,246,291	13,199,235	13,871,777	58,116	13,929,893	157,733	499,560	0	452,694
1984	4,544,508	14,001,033	14,819,530	67,453	14,886,983	148,736	546,498	0	488,310
1985	4,565,557	14,083,738	14,818,353	68,275	14,886,628	133,283	568,083	0	502,536
1986	4,541,546	14,035,545	14,726,209	68,319	14,794,528	131,391	568,189	0	506,820
1987	4,784,279	14,435,762	15,667,371	67,644	15,735,015	130,276	563,035	0	502,348
1988	4,751,325	14,366,267	15,528,126	67,786	15,595,912	130,436	576,410	0	510,135
1989	4,818,798	14,539,989	15,701,592	68,577	15,770,169	132,180	599,639	0	525,696
1990	4,764,149	14,360,899	15,571,553	67,587	15,639,140	130,206	588,557	62,725	516,706
1991	4,779,104	14,454,715	15,554,687	68,442	15,623,129	131,910	601,208	57,850	526,211
1992	4,790,790	14,512,389	15,663,107	69,901	15,733,008	132,849	596,988	62,731	528,859
1993	4,766,961	14,491,974	15,549,386	70,253	15,619,639	133,555	603,607	62,491	533,574
1994	4,784,374	14,546,198	15,588,518	70,550	15,659,068	134,139	607,809	62,446	536,761
1995	4,784,721	14,576,849	15,560,656	70,859	15,631,515	134,757	608,197	62,471	537,832
1996	4,785,381	14,616,098	15,533,264	71,322	15,604,586	135,679	608,571	62,509	539,318
1997	4,797,496	14,652,002	15,552,020	71,287	15,623,307	135,598	612,606	62,496	541,490
1998	4,814,208	14,679,244	15,620,628	71,256	15,691,884	135,543	609,908	62,500	539,887
1999	4,782,223	14,613,302	15,509,130	71,180	15,580,310	135,396	612,554	62,488	541,181
2000	4,788,553	14,642,849	15,516,045	71,470	15,587,515	135,966	614,844	62,507	543,262
2001	4,792,174	14,645,757	15,529,978	71,454	15,601,432	135,934	615,396	62,504	543,528
2002	4,757,122	14,578,420	15,399,833	71,525	15,471,358	136,084	623,432	62,491	548,273
2003	4,769,564	14,586,178	15,462,611	71,360	15,533,971	135,755	620,758	62,483	546,312
2004	4,769,423	14,600,626	15,449,355	71,556	15,520,911	136,146	622,331	62,497	547,739
2005	4,765,997	14,592,599	15,438,696	71,585	15,510,281	136,206	623,390	62,497	548,423
2006	4,774,908	14,608,656	15,473,580	71,594	15,545,174	136,220	623,696	62,497	548,615
2007	5,026,593	15,433,419	15,711,001	77,274	15,788,275	139,860	631,315	77,559	565,987
2008	5,032,093	15,439,842	15,737,164	77,250	15,814,414	139,810	630,410	77,559	565,406
2009	5,023,769	15,428,067	15,703,249	77,358	15,780,607	140,030	634,334	77,559	567,928
2010	5,022,857	15,423,718	15,701,311	77,362	15,778,673	140,040	634,502	77,559	568,036
2011	5,018,284	15,422,244	15,680,344	77,514	15,757,858	140,332	638,273	77,562	570,571
2012	5,037,604	15,486,309	15,711,167	77,538	15,788,705	140,385	639,202	77,562	571,169
2013	4,998,206	15,423,077	15,552,251	77,877	15,630,128	141,063	651,348	77,562	578,971
2014	5,003,091	15,449,031	15,550,313	78,271	15,628,584	141,848	665,413	77,562	588,009
2015	4,998,001	15,447,288	15,517,367	78,561	15,595,928	142,430	675,824	77,562	594,695
2016	4,992,310	15,443,601	15,486,359	78,729	15,565,088	142,763	681,794	77,562	598,532
2017	4,997,545	15,457,040	15,502,832	78,838	15,581,670	142,980	685,697	77,562	601,039
2018	5,014,438	15,504,642	15,539,654	79,254	15,618,908	143,819	700,672	77,562	610,658
2019	5,007,779	15,490,026	15,519,305	79,192	15,598,497	143,692	698,422	77,562	609,216
2020	5,019,742	15,514,820	15,561,941	79,296	15,641,237	143,903	702,195	77,562	611,640
2021	5,011,647	15,499,909	15,531,902	79,275	15,611,177	143,860	701,408	77,562	611,132
2022	4,777,744	14,773,141	15,606,515	79,330	15,685,845	143,967	703,319	77,562	612,362
2023	4,752,321	14,728,958	15,514,460	79,314	15,593,774	143,937	702,781	77,562	612,016
2024	4,781,988	14,783,316	15,622,019	79,367	15,701,386	144,041	704,652	77,562	613,217
2025	4,756,039	14,740,426	15,520,274	79,467	15,599,741	144,240	708,213	77,562	615,504
2026	4,768,223	14,761,195	15,567,755	79,438	15,647,193	144,183	707,206	77,562	614,857
2027	4,602,572	14,193,427	14,905,091	69,551	14,974,642	137,710	699,592	49,188	585,855
2028	4,608,829	14,200,912	14,935,130	69,437	15,004,567	137,485	695,571	49,188	583,271
2029	4,596,745	14,181,627	14,882,804	69,564	14,952,368	137,734	700,037	49,188	586,139
2030	4,607,608	14,200,248	14,927,378	69,505	14,996,883	137,619	697,972	49,188	584,812
2031	4,606,497	14,197,342	14,922,533	69,494	14,992,027	137,595	697,549	49,188	584,542
2032	4,576,487	14,082,053	14,893,119	69,414	14,962,533	137,436	694,692	49,188	582,706
2033	4,559,574	14,057,242	14,823,351	69,605	14,892,956	137,819	701,556	49,188	587,118
2034	4,574,339	14,074,836	14,888,274	69,312	14,957,586	137,237	691,127	49,188	580,414
2035	4,569,865	14,075,849	14,860,173	69,574	14,929,747	137,760	700,479	49,188	586,424

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	MOJAVE DIVISION (continued)							SANTA ANA DIVISION	
	Reach 20B	Reach 21	Reach 22A	Reach 22B	Reach 23	Reach 24	Subtotal	Reach 25	Reach 26A
	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	118,563	74,929	79,695	1,022,687	50,928	358,591	2,004,374	26	578
1973	143,577	58,153	64,345	1,241,940	63,725	342,711	2,247,081	19,640	658,988
1974	82,376	61,262	73,380	1,405,028	91,547	312,982	2,247,820	22,923	762,309
1975	111,788	127,679	72,835	1,525,740	104,140	392,826	2,617,949	27,769	832,879
1976	141,676	99,047	122,225	1,492,627	99,509	282,016	2,708,432	48,528	1,032,933
1977	105,427	92,687	80,476	1,778,912	65,462	42,570	2,637,026	59,044	1,342,356
1978	115,144	104,438	68,299	2,199,640	68,335	603,500	3,645,410	64,254	1,220,948
1979	180,686	189,582	113,373	1,963,350	71,733	193,682	3,336,438	78,939	1,157,293
1980	226,871	164,870	115,585	2,545,292	125,272	591,813	4,563,259	71,923	1,395,386
1981	212,681	197,448	129,085	2,657,725	125,176	286,486	4,486,436	66,605	1,435,066
1982	239,804	257,547	162,205	3,100,854	169,374	1,157,161	6,050,550	82,155	1,551,531
1983	312,378	303,046	198,935	4,261,850	170,386	435,085	6,791,667	85,732	1,667,035
1984	342,147	325,102	213,932	4,611,603	183,344	627,295	7,486,967	89,222	1,699,856
1985	355,971	333,267	220,214	4,668,050	99,392	1,797,946	8,678,742	89,428	1,704,237
1986	360,718	335,553	222,136	4,650,506	106,577	876,692	7,758,582	89,146	1,698,914
1987	357,422	332,617	220,115	4,726,682	104,927	2,682,231	9,619,653	88,400	1,684,617
1988	366,067	336,721	223,580	4,676,746	103,935	1,335,507	8,259,537	87,875	1,674,744
1989	380,937	345,739	230,456	4,732,549	104,703	152,453	7,204,352	88,267	1,682,650
1990	373,952	339,972	226,504	4,684,751	102,408	3,301,139	10,326,920	87,058	1,659,659
1991	381,980	345,850	230,693	4,736,664	104,095	291,754	7,408,215	87,948	1,676,565
1992	384,049	346,459	231,497	4,805,077	105,994	2,083,158	9,277,661	88,923	1,698,888
1993	388,269	349,293	233,577	4,814,390	106,562	966,125	8,191,443	89,222	1,704,567
1994	390,934	351,274	234,982	4,835,001	107,159	776,436	8,036,941	89,539	1,710,558
1995	391,126	352,181	235,441	4,871,074	108,167	2,539,155	9,840,401	90,069	1,720,655
1996	391,278	353,478	236,073	4,837,725	109,694	1,678,507	8,952,832	90,874	1,735,954
1997	393,897	354,551	237,044	4,848,555	109,182	442,093	7,737,512	90,605	1,730,823
1998	392,156	353,694	236,331	4,834,547	109,340	1,734,935	9,008,841	90,688	1,732,406
1999	393,887	354,273	236,912	4,828,836	108,838	1,165,378	8,439,743	90,423	1,727,382
2000	395,311	355,678	237,822	4,816,727	109,592	2,382,762	9,654,471	90,823	1,734,933
2001	395,671	355,795	237,944	4,812,756	109,483	2,605,494	9,874,505	90,765	1,733,841
2002	400,865	358,323	240,057	4,748,675	108,971	−438,241	6,788,930	90,493	1,728,717
2003	399,163	357,128	239,190	4,734,292	108,671	1,587,669	8,791,421	90,335	1,725,712
2004	400,145	358,084	239,813	4,733,625	109,184	1,593,672	8,803,236	90,607	1,730,842
2005	400,829	358,472	240,118	4,725,736	109,184	3,455,225	10,660,080	90,607	1,730,842
2006	401,021	358,580	240,205	4,700,648	109,184	841,715	8,022,381	90,607	1,730,842
2007	416,539	366,969	248,161	4,931,388	115,363	2,683,616	10,176,757	93,404	-1,795,700
2008	415,958	366,640	247,903	4,907,016	115,363	856,929	8,322,994	93,404	1,795,700
2009	418,480	368,066	249,022	4,900,140	115,363	1,055,670	8,526,592	93,404	1,795,700
2010	418,588	368,125	249,072	4,898,934	115,363	2,482,559	9,952,778	93,404	1,795,700
2011	421,001	369,604	250,192	4,900,427	115,503	3,442,000	10,925,465	93,476	1,797,102
2012	421,599	369,940	250,458	4,882,323	115,503	−38,768	7,429,373	93,476	1,797,102
2013	429,401	374,351	253,917	4,900,543	115,503	2,049,221	9,571,880	93,476	1,797,102
2014	438,439	379,459	257,927	4,931,617	115,503	2,736,837	10,332,614	93,476	1,797,102
2015	445,125	383,238	260,889	4,946,593	115,503	−741,046	6,900,813	93,476	1,797,102
2016	448,962	385,409	262,591	4,981,507	115,503	3,160,554	10,855,177	93,476	1,797,102
2017	451,469	386,825	263,704	4,984,600	115,503	−266,340	7,443,039	93,476	1,797,102
2018	461,088	392,261	267,969	5,027,620	115,503	5,023,143	12,820,295	93,476	1,797,102
2019	459,646	391,446	267,331	5,022,538	115,503	945,925	8,731,281	93,476	1,797,102
2020	462,070	392,816	268,405	5,016,690	115,503	1,732,572	9,523,356	93,476	1,797,102
2021	461,562	392,527	268,179	5,018,851	115,503	3,047,766	10,838,350	93,476	1,797,102
2022	462,792	393,224	268,726	5,023,368	115,503	2,399,378	10,200,201	93,476	1,797,102
2023	462,446	393,028	268,573	5,016,428	115,503	702,157	8,494,431	93,476	1,797,102
2024	463,647	393,705	269,105	5,019,841	115,503	2,082,794	9,884,067	93,476	1,797,102
2025	465,934	394,998	270,120	5,027,110	115,503	801,144	8,620,328	93,476	1,797,102
2026	465,287	394,633	269,832	5,024,873	115,503	2,358,554	10,172,490	93,476	1,797,102
2027	439,761	381,246	257,035	4,584,616	104,317	2,374,476	9,613,796	88,265	1,677,042
2028	437,177	379,784	255,890	4,574,496	104,317	2,860,655	10,077,834	88,265	1,677,042
2029	440,045	381,408	257,162	4,586,722	104,317	1,218,330	8,461,082	88,265	1,677,042
2030	438,718	380,657	256,571	4,587,938	104,317	3,585,328	10,823,120	88,265	1,677,042
2031	438,448	380,505	256,451	4,575,537	104,317	1,263,402	8,487,534	88,265	1,677,042
2032	436,612	379,467	255,638	4,578,364	104,317	159,232	7,377,652	88,265	1,677,042
2033	441,024	381,959	257,594	4,583,020	104,317	2,215,010	9,458,605	88,265	1,677,042
2034	434,320	378,173	254,622	4,569,562	104,317	2,268,871	9,467,831	88,265	1,677,042
2035	440,330	381,566	257,288	4,578,975	104,317	1,728,966	8,965,293	88,265	1,677,042

TABLE B-11: MINIMUM OMP&R COSTS OF EACH AQUEDUCT REACH TO BE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	SANTA ANA DIVISION (continued)				WEST BRANCH				
	Reach 28G	Reach 28H	Reach 28J	Subtotal	Reach 29A	Reach 29F	Reach 29G	Reach 29H	Reach 29J
	(55)	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	109	30	0	743	732,112	164,208	201,198	237,812	92,998
1973	132,514	79	0	811,221	818,016	354,043	128,739	274,694	135,683
1974	147,048	32,837	814,384	1,779,501	960,785	175,869	124,047	357,980	42,903
1975	103,028	65,232	671,469	1,700,377	1,146,986	192,954	211,203	857,922	105,849
1976	129,043	93,810	588,125	1,892,439	1,363,253	238,715	223,740	704,152	116,346
1977	119,398	86,683	771,912	2,379,393	1,380,009	127,630	229,163	738,607	27,931
1978	159,645	65,159	781,548	2,291,554	1,296,967	353,310	270,953	427,712	33,554
1979	-147,211	87,039	545,801	1,721,861	1,468,427	306,261	291,184	1,026,290	79,211
1980	147,634	115,154	965,379	2,695,476	1,785,641	261,070	449,314	923,220	272,283
1981	145,725	98,452	996,164	2,742,012	1,703,549	565,630	585,407	1,267,886	107,578
1982	191,192	104,096	379,645	2,308,619	2,057,861	588,011	521,920	939,256	91,874
1983	215,338	114,521	1,361,186	3,443,812	3,040,694	479,565	709,344	1,318,135	849,891
1984	223,552	118,140	1,449,161	3,579,931	3,149,966	532,376	701,542	1,404,987	851,343
1985	224,118	118,425	1,783,509	3,919,717	3,162,929	558,674	706,915	1,514,811	850,457
1986	223,421	118,051	-449,777	1,679,755	3,160,367	566,915	691,551	1,551,598	850,805
1987	221,542	117,023	6,229,290	8,340,872	3,207,488	561,785	688,899	1,534,761	858,863
1988	220,246	116,330	814,164	2,913,359	3,210,057	576,669	690,511	1,601,319	857,711
1989	221,317	116,857	1,106,548	3,215,639	3,244,938	601,526	696,448	1,703,923	862,483
1990	218,286	115,257	2,673,026	4,753,286	3,201,946	590,432	692,464	1,665,009	859,813
1991	220,515	116,433	1,507,844	3,609,305	3,216,817	603,469	695,894	1,714,241	860,807
1992	224,815	117,572	2,652,702	4,782,900	3,244,281	607,752	698,891	1,695,165	872,025
1993	225,565	117,967	1,417,424	3,554,745	3,241,368	614,693	700,815	1,722,577	871,717
1994	226,355	118,384	2,212,793	4,357,629	3,250,332	619,003	701,671	1,738,697	872,413
1995	227,687	119,085	2,129,337	4,286,833	3,245,973	619,020	702,754	1,735,212	871,647
1996	229,704	120,150	2,818,056	4,994,738	3,279,344	618,813	704,384	1,728,972	875,361
1997	229,027	119,794	1,553,994	3,724,243	3,270,041	623,367	704,060	1,750,066	873,798
1998	229,236	119,904	3,312,238	5,484,472	3,283,558	620,400	704,081	1,736,965	873,982
1999	228,574	119,553	1,438,067	3,603,999	3,266,562	623,490	703,698	1,751,773	875,335
2000	229,569	120,080	1,742,766	3,918,171	3,286,155	625,672	704,614	1,758,414	876,213
2001	229,426	120,005	3,611,155	5,785,192	3,287,684	626,325	705,502	1,761,556	874,148
2002	228,749	119,647	1,846,624	4,014,230	3,298,980	635,239	706,363	1,801,226	878,398
2003	228,353	119,438	2,761,890	4,925,728	3,305,592	632,494	705,905	1,790,559	877,080
2004	229,030	119,796	2,629,570	4,799,845	3,314,267	634,104	706,534	1,795,576	880,582
2005	229,030	119,796	2,281,083	4,451,358	3,318,215	635,391	706,598	1,801,034	883,489
2006	229,030	119,796	1,381,148	3,551,423	3,333,733	635,694	706,613	1,802,325	882,520
2007	240,261	123,968	2,385,795	4,639,128	3,589,139	662,766	718,896	1,841,920	906,103
2008	240,261	123,968	3,433,437	5,686,770	3,601,683	661,783	718,846	1,837,788	906,103
2009	240,261	123,968	1,479,335	3,732,668	3,604,829	666,111	720,022	1,855,164	909,010
2010	240,261	123,968	2,965,079	5,218,412	3,606,773	666,220	720,037	1,856,570	906,103
2011	240,446	124,063	2,767,415	5,022,502	3,610,747	670,235	720,387	1,873,087	907,235
2012	240,446	124,063	1,673,357	3,928,444	3,619,526	671,267	720,437	1,877,456	907,235
2013	240,446	124,063	3,492,869	5,747,956	3,609,594	684,443	723,032	1,933,268	907,235
2014	240,446	124,063	761,988	3,017,075	3,613,341	699,656	725,726	1,997,714	909,173
2015	240,446	124,063	3,420,754	5,675,841	3,616,871	710,924	728,224	2,045,458	911,111
2016	240,446	124,063	3,297,242	5,552,329	3,605,600	717,389	729,515	2,072,843	911,111
2017	240,446	124,063	3,885,180	6,140,267	3,611,647	721,621	730,692	2,090,766	911,111
2018	240,446	124,063	2,104,928	4,360,015	3,616,422	737,851	733,438	2,159,528	911,111
2019	240,446	124,063	4,188,105	6,443,192	3,612,410	735,422	733,319	2,149,245	911,111
2020	240,446	124,063	2,747,393	5,002,480	3,625,233	739,521	733,523	2,166,603	912,080
2021	240,446	124,063	992,830	3,247,917	3,619,375	738,680	733,480	2,163,042	912,080
2022	240,446	124,063	4,349,655	6,604,742	3,374,333	740,776	734,553	2,171,925	912,080
2023	240,446	124,063	2,156,118	4,411,205	3,365,581	740,211	734,524	2,169,525	912,080
2024	240,446	124,063	2,677,880	4,932,967	3,379,259	742,253	734,627	2,178,180	912,080
2025	240,446	124,063	4,070,713	6,325,800	3,368,815	746,123	734,820	2,194,581	912,080
2026	240,446	124,063	2,906,495	5,161,582	3,373,600	745,044	734,765	2,190,002	912,080
2027	219,233	116,671	3,258,798	5,360,009	3,232,278	699,851	713,365	2,149,058	869,216
2028	219,233	116,671	1,317,338	3,418,549	3,234,933	695,314	712,169	2,129,828	869,216
2029	219,233	116,671	4,011,021	6,112,232	3,228,407	699,965	713,371	2,149,541	869,216
2030	219,233	116,671	3,400,234	5,501,445	3,231,189	697,691	713,255	2,139,903	869,216
2031	219,233	116,671	899,371	3,000,582	3,235,038	697,206	713,230	2,137,847	869,216
2032	219,233	116,671	3,745,795	5,847,006	3,232,925	694,027	712,106	2,124,381	869,216
2033	219,233	116,671	3,706,042	5,807,253	3,231,392	701,364	713,439	2,155,466	869,216
2034	219,233	116,671	1,402,553	3,503,764	3,230,757	689,858	711,900	2,106,712	869,216
2035	219,233	116,671	3,647,659	5,748,870	3,236,149	699,755	713,358	2,148,652	869,216

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								
	WEST BRANCH (continued)		COASTAL BRANCH					TOTAL	GRAND TOTAL
	Reach 30	Subtotal	Reach 31A [a]	Reach 33A	Reach 34	Reach 35	Subtotal		
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)
1962	0	0	0	0	0	0	0	0	42,918
1963	0	0	0	0	0	0	0	0	168,358
1964	0	0	0	0	0	0	0	0	184,729
1965	0	0	0	0	0	0	0	0	378,874
1966	0	0	0	0	0	0	0	0	408,397
1967	0	0	0	0	0	0	0	0	634,505
1968	0	0	0	0	0	0	0	2,160,548	2,745,160
1969	0	0	509,728	0	0	0	509,728	3,324,718	4,074,939
1970	0	0	609,988	0	0	0	609,988	3,983,062	4,676,282
1971	0	0	699,052	0	0	0	699,052	5,614,013	6,185,714
1972	429,423	1,857,751	697,576	0	0	0	697,576	12,365,836	13,011,349
1973	646,130	2,357,305	641,626	0	0	0	641,626	14,602,548	15,206,093
1974	775,734	2,437,318	669,279	0	0	0	669,279	16,598,762	17,372,561
1975	914,490	3,429,404	806,429	0	0	0	806,429	19,570,001	20,517,425
1976	-627,892	2,018,314	840,939	0	0	0	840,939	19,004,933	20,029,455
1977	717,354	3,220,694	872,418	0	0	0	872,418	23,330,414	24,278,188
1978	3,263,220	5,645,716	945,831	0	0	0	945,831	26,635,268	27,854,064
1979	1,047,724	4,219,097	876,327	0	0	0	876,327	23,450,146	24,705,465
1980	565,903	4,257,431	1,041,204	0	0	0	1,041,204	29,370,943	31,192,042
1981	2,879,481	7,109,531	1,278,733	0	0	0	1,278,733	38,205,461	39,880,562
1982	1,633,392	5,832,314	1,485,763	0	0	0	1,485,763	40,989,278	43,111,171
1983	2,513,750	8,911,379	1,709,747	0	0	0	1,709,747	57,472,432	60,115,199
1984	2,388,065	9,028,279	1,769,245	0	0	0	1,769,245	60,024,898	62,788,603
1985	2,762,171	9,555,957	1,780,137	0	0	0	1,780,137	62,303,056	65,443,068
1986	2,646,725	9,467,961	1,777,244	0	0	0	1,777,244	59,144,770	62,261,703
1987	947,342	7,799,138	1,765,510	0	0	0	1,765,510	67,316,010	70,403,002
1988	1,364,049	8,300,316	1,753,969	0	0	0	1,753,969	60,855,894	63,912,978
1989	3,089,198	10,198,516	1,766,057	0	0	0	1,766,057	62,366,796	65,445,070
1990	3,071,425	10,081,089	1,750,438	333,454	18,831	38,960	2,141,683	66,829,342	69,862,657
1991	1,788,482	8,879,710	1,771,587	345,996	19,492	40,399	2,177,474	61,825,941	64,901,010
1992	4,032,773	11,150,887	1,780,200	342,804	19,178	39,209	2,181,391	67,176,580	70,244,977
1993	1,065,416	8,216,586	1,787,409	351,408	19,518	39,918	2,198,253	61,872,814	64,956,337
1994	6,309,082	13,491,198	1,793,125	359,714	19,736	40,367	2,212,942	67,900,653	70,998,399
1995	-1,371,517	5,803,089	1,805,303	368,862	19,626	40,131	2,233,922	62,033,609	65,153,811
1996	5,208,137	12,415,011	1,815,206	368,406	19,503	39,870	2,242,985	68,519,515	71,652,676
1997	589,165	7,810,497	1,820,771	382,005	19,810	40,517	2,263,103	61,477,346	64,611,650
1998	5,582,116	12,801,102	1,819,019	379,781	19,611	40,097	2,258,508	69,563,884	72,691,399
1999	41,810	7,262,668	1,816,659	390,881	19,836	40,575	2,267,951	61,401,957	64,524,759
2000	5,414,753	12,665,821	1,821,646	391,311	19,883	40,665	2,273,505	68,383,136	71,508,623
2001	2,664,694	9,919,909	1,820,684	394,253	19,879	40,658	2,275,474	67,697,080	70,821,774
2002	1,794,889	9,115,095	1,820,551	403,815	20,417	41,785	2,286,568	61,953,985	65,076,483
2003	4,362,925	11,674,555	1,814,624	402,295	20,166	41,259	2,278,344	67,418,935	70,532,013
2004	2,387,387	9,718,450	1,819,358	403,521	20,154	41,233	2,284,266	65,351,854	68,472,433
2005	2,445,774	9,790,501	1,817,409	403,562	20,181	41,290	2,282,442	66,918,091	70,035,652
2006	4,939,388	12,300,273	1,816,418	401,525	20,157	41,240	2,279,340	65,911,331	69,026,854
2007	97,468	7,816,292	1,861,380	407,268	20,312	41,587	2,330,547	66,177,323	69,498,020
2008	4,625,576	12,351,779	1,860,316	402,139	20,226	41,404	2,324,085	69,899,625	73,214,000
2009	3,006,858	10,761,994	1,859,570	400,702	20,603	42,186	2,323,061	66,493,445	69,808,317
2010	3,177,033	10,932,736	1,857,563	396,382	20,389	41,742	2,316,076	69,545,145	72,857,083
2011	3,430,339	11,212,030	1,859,098	394,012	20,764	42,522	2,316,396	70,571,741	73,884,426
2012	3,297,072	11,092,993	1,867,229	395,609	20,570	42,125	2,325,533	65,939,615	69,252,318
2013	2,796,177	10,653,749	1,865,982	389,614	21,240	43,521	2,320,357	69,291,635	72,599,061
2014	1,505,793	9,451,403	1,868,860	390,787	22,022	45,149	2,326,818	66,129,112	69,440,092
2015	8,796,530	16,809,118	1,868,505	386,624	22,580	46,311	2,324,020	72,683,530	75,990,407
2016	-134,757	7,901,701	1,870,874	387,085	22,888	46,952	2,327,799	67,581,089	70,890,646
2017	3,321,782	11,387,619	1,871,103	386,351	23,065	47,323	2,327,842	68,281,309	71,590,634
2018	4,254,497	12,412,847	1,874,031	389,595	23,894	49,049	2,336,569	73,022,807	76,336,111
2019	-2,071,925	6,069,582	1,873,866	388,349	23,730	48,708	2,334,653	64,634,382	67,949,239
2020	9,995,844	18,172,804	1,873,086	385,594	23,893	49,050	2,331,623	76,152,566	79,477,568
2021	1,027,474	9,194,131	1,873,030	388,486	23,822	48,901	2,334,239	66,704,833	70,022,905
2022	9,858,064	17,791,731	1,873,158	385,619	23,910	49,085	2,331,772	76,812,093	79,877,798
2023	-1,536,587	6,385,334	1,873,126	386,513	23,840	48,936	2,332,415	61,415,930	64,482,033
2024	8,955,035	16,901,434	1,873,248	384,637	23,922	49,108	2,330,915	73,964,760	77,031,518
2025	304,244	8,260,663	1,873,474	384,869	24,078	49,431	2,331,852	65,372,460	68,440,683
2026	2,176,426	10,131,917	1,873,409	384,742	23,993	49,257	2,331,401	67,660,850	70,728,822
2027	5,190,417	12,854,185	1,789,583	365,227	24,010	49,244	2,228,064	68,579,635	71,614,342
2028	5,003,879	12,645,339	1,789,301	366,888	23,784	48,774	2,228,747	66,889,634	69,925,727
2029	1,653,026	9,313,526	1,789,559	366,270	24,039	49,307	2,229,175	64,624,797	67,660,589
2030	2,799,621	10,450,875	1,789,416	367,118	23,936	49,094	2,229,564	67,539,347	70,575,861
2031	4,623,919	12,276,456	1,789,395	367,120	23,939	49,096	2,229,550	64,539,717	67,577,226
2032	655,807	8,288,462	1,772,682	363,052	23,784	48,764	2,208,282	62,102,720	65,140,871
2033	7,835,373	15,506,250	1,773,156	360,678	24,201	49,635	2,207,670	71,311,055	74,344,344
2034	-1,760,782	5,847,661	1,772,533	363,850	23,650	48,483	2,208,516	59,375,137	62,412,932
2035	11,133,730	18,800,860	1,773,155	361,678	24,201	49,634	2,208,668	74,100,267	77,133,554

a) Includes certain costs to be assigned directly to Kern County Water Agency. Refer to Appendix B text "Project Water Charges, Minimum OMP&R Components".

TABLE B–12: VARIABLE OMP&R COSTS TO BE REIMBURSED

(in dollars)

Calendar Year	NORTH BAY AQUEDUCT			SOUTH BAY AQUEDUCT	CALIFORNIA AQUEDUCT			
	Reach 1	Reach 3		Reach 1	Reach 1	Reach 4	Reach 14A	Reach 15A
	North Bay Pumping Plant	Cordelia Pumping Plant[a]	Total	South Bay and Del Valle Pumping Plants[b]	Harvey O. Banks Delta Pumping Plant	Dos Amigos Pumping Plant[c]	Buena Vista Pumping Plant	Wheeler Ridge Pumping Plant
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1962	0	0	0	36,970	0	0	0	0
1963	0	0	0	57,711	0	0	0	0
1964	0	0	0	74,134	0	0	0	0
1965	0	0	0	142,609	0	0	0	0
1966	0	0	0	192,605	0	0	0	0
1967	0	0	0	223,117	13,881	0	0	0
1968	0	6,989	6,989	336,671	452,630	202,947	0	0
1969	0	8,551	8,551	257,579	293,741	135,425	0	0
1970	0	13,598	13,598	396,358	346,215	211,197	1	0
1971	0	10,609	10,609	381,662	574,015	225,188	138,001	17,664
1972	0	14,434	14,434	598,702	927,369	498,553	234,626	89,516
1973	0	14,449	14,449	493,490	685,014	379,305	303,105	275,021
1974	0	17,473	17,473	565,575	769,839	438,997	344,632	350,558
1975	0	14,479	14,479	349,758	1,330,133	514,245	542,726	585,743
1976	0	20,856	20,856	571,361	1,456,742	562,537	609,257	600,780
1977	0	22,586	22,586	511,808	798,316	204,929	164,859	171,675
1978	0	21,712	21,712	586,742	2,217,047	574,294	657,948	577,895
1979	0	19,201	19,201	566,340	3,806,042	1,125,798	849,352	697,825
1980	0	19,983	19,983	510,362	2,048,941	977,621	891,567	876,177
1981	0	23,000	23,000	631,270	3,079,357	1,291,802	1,126,530	1,135,820
1982	0	17,000	17,000	657,821	3,080,023	1,588,037	1,644,162	1,486,551
1983	0	42,000	42,000	1,885,622	11,844,504	4,870,176	5,493,922	5,214,767
1984	0	48,000	48,000	2,319,757	15,986,650	6,954,272	7,701,752	7,313,114
1985	84,634	65,000	149,634	2,717,404	19,456,290	8,445,606	9,360,370	8,821,141
1986	79,479	69,000	148,479	2,840,168	21,269,623	9,232,922	10,196,169	9,551,298
1987	89,580	69,000	158,580	2,797,070	22,297,323	9,728,072	10,877,508	10,194,142
1988	136,350	75,000	211,350	3,051,120	25,105,130	10,946,034	12,239,376	11,428,364
1989	191,041	88,000	279,041	3,447,211	29,006,777	12,630,163	14,248,019	13,307,413
1990	226,096	92,000	318,096	3,407,612	29,425,339	12,840,954	14,298,512	13,340,154
1991	237,984	109,000	346,984	3,657,931	30,293,188	13,176,371	14,557,283	13,545,864
1992	236,059	121,000	357,059	3,663,755	30,050,666	13,067,787	14,580,550	13,611,511
1993	244,987	137,000	381,987	3,860,157	30,568,879	13,263,459	14,709,900	13,708,160
1994	251,952	154,000	405,952	3,997,694	30,769,949	13,332,794	14,693,009	13,671,039
1995	252,978	166,000	418,978	3,975,816	30,348,518	13,151,395	14,426,882	13,410,159
1996	253,019	175,000	428,019	3,934,416	30,542,308	13,270,792	14,732,824	13,750,095
1997	261,956	194,000	455,956	4,049,562	31,093,087	13,539,049	14,932,899	13,917,079
1998	260,998	203,000	463,998	3,956,666	31,150,785	13,559,198	15,169,766	14,172,402
1999	269,937	221,000	490,937	3,995,819	31,440,050	13,825,221	15,250,758	14,233,099
2000	271,944	233,000	504,944	3,967,559	31,964,583	14,122,484	15,698,540	14,702,915
2001	284,922	244,000	528,922	4,014,563	32,577,527	14,450,905	16,179,789	15,185,371
2002	307,799	264,000	571,799	4,211,966	34,172,994	15,180,466	17,058,360	16,034,778
2003	317,822	273,000	590,822	4,209,098	34,686,480	15,429,580	17,611,228	16,627,570
2004	328,825	284,000	612,825	4,242,301	35,175,551	15,655,127	18,039,278	17,074,872
2005	341,810	295,000	636,810	4,297,482	35,854,238	15,961,889	18,588,446	17,644,825
2006	349,807	298,000	647,807	4,332,589	36,314,307	16,170,523	19,009,017	18,088,563
2007	363,769	305,000	668,769	4,413,054	37,031,101	16,483,658	19,424,320	18,498,792
2008	369,781	306,000	675,781	4,431,697	37,662,260	16,781,909	19,973,660	19,075,630
2009	382,733	312,000	694,733	4,522,772	38,574,493	17,179,884	20,559,789	19,663,303
2010	392,712	316,000	708,712	4,577,591	39,424,214	17,566,578	21,187,451	20,306,423
2011	405,676	324,000	729,676	4,678,543	40,438,552	18,011,988	21,845,378	20,966,563
2012	414,667	327,000	741,667	4,725,545	40,846,444	18,191,803	22,128,888	21,256,170
2013	444,493	346,000	790,493	5,002,068	43,530,439	19,355,891	23,722,677	22,822,709
2014	478,295	369,000	847,295	5,325,881	46,164,042	20,478,424	25,169,622	24,223,305
2015	506,149	386,000	892,149	5,576,651	48,695,119	21,579,836	26,711,375	25,747,907
2016	532,060	407,000	939,060	5,740,124	50,028,669	22,151,403	27,489,152	26,512,520
2017	553,003	423,000	976,003	5,861,625	51,401,084	22,684,707	28,398,805	27,427,198
2018	596,787	456,000	1,052,787	6,219,775	54,476,662	23,944,720	30,178,924	29,163,949
2019	605,821	463,000	1,068,821	6,219,959	53,778,855	23,577,907	29,741,960	28,726,900
2020	629,769	483,000	1,112,769	6,345,478	55,311,185	24,235,441	30,840,285	29,838,381
2021	636,779	482,000	1,118,779	6,372,239	55,107,460	24,086,471	30,624,163	29,623,303
2022	650,743	486,000	1,136,743	6,469,850	56,228,999	24,529,666	31,351,478	30,370,346
2023	658,746	485,000	1,143,746	6,502,922	55,818,443	24,333,877	31,005,693	30,014,062
2024	673,713	492,000	1,165,713	6,595,861	57,133,185	24,917,528	31,961,490	30,990,676
2025	690,660	498,000	1,188,660	6,715,699	57,758,381	25,171,598	32,259,407	31,272,500
2026	697,670	496,000	1,193,670	6,745,434	58,129,863	25,348,126	32,604,093	31,637,625
2027	702,640	500,000	1,202,640	6,798,470	58,716,795	25,468,589	32,981,474	32,011,540
2028	693,695	494,000	1,187,695	6,712,041	57,761,641	24,946,523	32,416,109	31,509,577
2029	704,627	501,000	1,205,627	6,816,150	58,468,846	25,125,332	32,774,505	31,827,188
2030	700,652	499,000	1,199,652	6,778,827	58,208,870	24,951,986	32,673,151	31,712,778
2031	700,652	499,000	1,199,652	6,781,774	58,002,328	24,787,289	32,470,625	31,528,212
2032	695,683	495,000	1,190,683	6,732,666	57,298,516	24,407,663	31,980,639	31,021,592
2033	713,572	507,000	1,220,572	6,896,686	59,124,874	25,194,960	32,974,475	31,982,392
2034	690,714	491,000	1,181,714	6,680,612	56,628,334	24,116,956	31,304,553	30,305,771
2035	713,572	507,000	1,220,572	6,896,686	59,128,464	25,197,378	32,714,133	31,679,419

a) *Costs for the period 1968 through 1984 are for an interim facility.*

b) *The relatively minor estimated costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedure.*

c) *Includes extra peaking costs assigned directly to Kern County Water Agency and to Hacienda Water District. Refer to Appendix B text "Project Water Charges, Variable OMP&R Components".*

THRU VARIABLE OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (Continued)								
	Reach 16A Wind Gap Pumping Plant	Reach 17E A.D. Edmonston Pumping Plant	Reach 18A Cottonwood Powerplant	Reach 22B Pear-blossom Pumping Plant	Reach 23 Mojave Siphon	Reach 24 Silver-wood Lake (d	Reach 26A Devil Canyon Powerplant	Reach 28J Lake Perris (d	Reach 29A Oso Pumping Plant
	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
1962	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	165,589	494,616	0	23,388	0	4,214	-3,024	0	93,212
1973	434,834	1,524,488	0	219,421	0	47,861	-436,768	0	158,063
1974	589,117	2,058,680	0	315,705	0	98,179	-496,517	52,549	189,479
1975	1,130,256	3,940,915	0	577,509	0	25,949	-1,033,054	65,935	349,000
1976	1,222,413	4,235,934	0	869,201	0	122,336	-1,459,978	104,257	245,397
1977	348,817	1,149,296	0	295,396	0	259,464	-1,115,096	49,570	18,049
1978	1,033,445	3,631,793	0	1,551,719	0	0	-3,038,194	0	68,930
1979	1,377,007	4,664,598	0	1,626,356	0	42,000	-3,254,572	379,334	120,939
1980	1,730,061	5,739,828	0	1,764,115	0	246,084	-3,352,146	0	46,435
1981	2,142,225	7,167,104	0	2,172,592	0	386,166	-3,004,017	0	250,775
1982	3,110,310	10,503,223	0	2,498,196	0	0	-4,007,506	470,646	412,254
1983	11,604,494	40,740,580	0	7,922,680	0	741,149	-17,378,634	0	1,837,173
1984	16,437,774	58,841,965	-1,735,524	10,857,325	-554,063	653,810	-21,934,338	98,200	2,612,345
1985	19,896,365	71,371,670	-3,198,423	13,445,991	-1,232,885	0	-23,105,781	0	3,012,852
1986	21,564,869	77,346,564	-3,295,871	14,572,217	-1,234,487	496,030	-23,926,080	2,310,739	3,254,343
1987	23,052,482	82,385,008	-3,038,666	13,007,868	-1,171,761	0	-20,322,766	0	4,520,529
1988	25,872,816	92,124,688	-3,036,555	14,031,404	-1,174,052	92,091	-20,071,369	1,146,672	5,210,456
1989	30,188,120	107,366,838	-3,058,949	15,583,560	-1,169,241	1,397,756	-20,275,336	1,030,495	6,338,275
1990	30,265,011	107,343,848	-3,177,537	15,695,015	-1,219,036	0	-20,646,254	0	6,264,893
1991	30,718,202	108,878,747	-3,119,186	16,000,393	-1,196,835	1,259,842	-20,465,423	634,101	6,280,400
1992	30,890,742	109,613,486	-3,190,370	15,909,143	-1,220,411	0	-20,648,004	0	6,408,358
1993	31,098,930	110,324,205	-3,166,312	16,081,828	-1,204,906	569,258	-20,455,718	741,545	6,359,705
1994	31,006,124	109,960,790	-3,202,423	16,417,582	-1,213,035	788,262	-20,671,637	0	6,116,447
1995	30,408,221	107,800,806	-3,239,784	16,383,135	-1,221,820	0	-20,673,903	23,353	5,830,140
1996	31,200,866	110,777,227	-3,251,525	16,118,005	-1,216,506	0	-20,655,407	0	6,299,155
1997	31,589,291	111,992,419	-3,210,096	16,176,652	-1,194,040	1,125,406	-20,460,106	644,685	6,357,646
1998	32,256,997	114,327,234	-3,274,297	16,232,254	-1,214,091	0	-20,613,318	0	6,620,132
1999	32,405,808	114,588,864	-3,247,965	16,283,479	-1,198,811	395,889	-20,380,595	771,542	6,581,263
2000	33,531,125	118,440,653	-3,280,794	16,399,806	-1,206,313	0	-20,439,834	459,814	6,993,360
2001	34,659,352	122,347,886	-3,307,990	16,573,514	-1,181,946	0	-20,601,068	0	7,405,038
2002	36,585,897	128,983,768	-3,251,444	16,924,466	-1,040,461	2,073,586	-20,521,504	460,521	8,050,320
2003	37,867,585	133,624,636	-3,332,490	17,265,789	-1,072,502	0	-20,682,117	0	8,533,910
2004	38,772,572	136,874,406	-3,344,124	17,394,393	-1,075,343	0	-20,718,970	0	8,969,716
2005	39,940,254	141,046,139	-3,355,504	17,580,958	-1,077,077	0	-20,755,360	15,711	9,518,247
2006	40,808,403	144,091,308	-3,314,880	17,414,471	-1,058,162	774,231	-20,559,038	946,067	10,002,833
2007	41,848,128	147,873,160	-3,376,320	17,914,688	-1,081,533	0	-20,836,946	0	10,233,314
2008	43,184,348	152,726,298	-3,366,627	17,761,258	-1,075,798	780,224	-20,882,031	0	10,923,980
2009	44,548,564	157,643,611	-3,352,704	17,867,263	-1,067,096	610,681	-20,695,054	928,943	11,475,960
2010	46,039,401	163,144,963	-3,407,533	18,274,310	-1,088,717	0	-20,961,758	0	11,987,410
2011	47,569,327	168,930,536	-3,417,398	18,561,310	-1,092,074	0	-21,001,059	0	12,540,540
2012	48,240,876	171,645,100	-3,361,546	18,267,172	-1,064,058	1,760,435	-20,857,383	774,898	13,002,654
2013	51,872,072	185,115,630	-3,437,244	19,701,157	-1,095,213	0	-21,082,594	0	14,011,712
2014	55,113,772	197,168,731	-3,445,549	20,797,040	-1,096,050	0	-21,118,267	1,954,126	14,902,015
2015	58,651,284	210,207,733	-3,533,835	22,230,361	-1,133,626	2,638,740	-22,240,988	0	15,838,087
2016	60,426,657	216,847,122	-3,652,621	23,571,745	-1,183,013	0	-22,704,943	0	16,036,067
2017	62,553,362	224,616,233	-3,673,267	24,032,453	-1,189,979	2,184,919	-23,194,013	0	16,783,573
2018	66,582,570	239,245,604	-3,708,651	25,533,279	-1,202,417	0	-23,070,201	877,105	17,865,190
2019	65,525,301	235,531,901	-3,719,985	25,410,883	-1,204,656	984,701	-23,266,018	0	17,450,894
2020	68,067,535	244,947,874	-3,742,104	25,875,381	-1,210,989	178,492	-23,261,121	217,592	18,407,173
2021	67,620,378	243,517,218	-3,712,220	25,549,551	-1,196,647	0	-22,956,509	2,025,124	18,360,216
2022	69,326,151	250,253,967	-3,767,177	26,149,673	-1,217,839	0	-23,343,079	0	18,949,248
2023	68,291,932	247,039,055	-3,733,166	25,808,146	-1,200,070	1,241,052	-23,215,981	829,604	18,688,778
2024	70,342,658	255,336,867	-3,778,057	26,319,917	-1,215,822	0	-23,336,273	295,426	19,505,528
2025	70,769,124	257,663,424	-3,771,548	26,545,035	-1,211,054	1,171,873	-23,410,277	0	19,661,015
2026	71,444,712	260,784,478	-3,799,628	26,673,243	-1,220,613	0	-23,415,796	91,304	20,002,529
2027	72,135,988	263,956,328	-3,802,297	26,891,678	-1,222,196	0	-23,431,697	0	20,291,298
2028	70,974,214	259,715,227	-3,764,213	26,250,175	-1,206,922	0	-23,138,695	1,657,147	19,891,569
2029	71,893,386	263,030,783	-3,789,057	26,851,441	-1,217,220	678,016	-23,431,782	0	19,847,015
2030	71,822,095	262,560,698	-3,801,980	26,812,740	-1,222,995	0	-23,431,454	0	19,795,715
2031	71,596,418	261,211,688	-3,742,737	26,330,956	-1,196,938	631,154	-23,061,798	2,107,379	19,825,886
2032	70,700,683	257,515,422	-3,768,432	26,220,693	-1,208,038	1,759,905	-23,431,796	0	19,327,096
2033	73,227,742	266,320,586	-3,801,885	26,991,565	-1,220,632	0	-23,431,246	0	19,932,776
2034	69,637,601	252,725,809	-3,767,580	25,754,110	-1,207,593	0	-23,158,711	1,515,642	18,645,053
2035	73,167,688	265,439,158	-3,799,207	26,725,615	-1,219,616	155,817	-23,431,900	0	19,500,881

d) These values represent a proportionate allocation of the total variable OMP&R costs of pumping and power recovery plants (Table B-3) associated with net annual withdrawals from reservoir storage for the project transportation facilities. The allocation is determined annually by applying the following ratio, calculated from the data shown in Table B-6: "Reservoir Storage Changes" (withdrawals, as a positive value) conveyed through each plant, in acre-feet + "Total" annual quantity conveyed through each plant, in acre-feet. The costs so determined are accumulated for all upstream plants for each year, for each respective reservoir.

TABLE B-12: VARIABLE OMP&R COSTS TO BE REIMBURSED THRU VARIABLE OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (Continued)							GRAND TOTAL
	Reach 29G William E. Warne Powerplant (Pyramid)	Reach 29H Pyramid Lake (d	Reach 29J Castaic Powerplant	Reach 30 Castaic Lake (d	Reach 31A Las Perillas and Badger Hill Pumping Plants (e	Reach 33A Devil's Den Sawtooth and Polonio PP's and San Luis Obispo Pwp.	Total	
	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)
1962	0	0	0	0	0	0	0	36,970
1963	0	0	0	0	0	0	0	57,711
1964	0	0	0	0	0	0	0	74,134
1965	0	0	0	0	0	0	0	142,609
1966	0	0	0	0	0	0	0	192,605
1967	0	0	0	0	0	0	13,881	236,998
1968	0	0	0	0	118,676	0	774,253	1,117,913
1969	0	0	0	0	78,350	0	507,516	773,646
1970	0	0	0	0	136,429	0	693,842	1,103,798
1971	0	0	0	0	166,296	0	1,121,164	1,513,435
1972	0	3,575	-193,058	72,572	237,638	0	2,648,786	3,261,922
1973	0	7,343	-1,057,564	0	120,913	0	2,661,036	3,168,975
1974	0	42,364	-1,540,853	5,561	118,582	0	3,336,872	3,919,920
1975	0	0	-2,445,397	10,226	94,848	0	5,689,034	6,053,571
1976	0	60,068	-1,940,099	1,056,464	141,260	0	7,886,569	8,478,786
1977	0	0	-531,224	-836,220	62,737	0	1,040,568	1,574,962
1978	0	1,060,002	-1,375,720	0	180,110	0	7,139,269	7,747,723
1979	0	0	-2,325,888	-7,724	214,634	0	9,315,701	9,901,242
1980	0	491,814	-959,171	258,416	171,079	0	10,930,821	11,461,166
1981	0	0	-2,302,097	0	215,880	0	13,662,137	14,316,407
1982	-1,154,017	0	-3,159,422	56,680	224,887	0	16,754,024	17,428,845
1983	-4,839,379	0	-9,323,802	0	587,227	0	59,314,857	61,242,479
1984	-5,876,133	0	-11,267,598	0	756,574	0	86,846,125	89,213,882
1985	-5,872,642	0	-11,152,626	0	915,002	0	110,162,930	113,029,968
1986	-6,046,914	0	-11,345,796	0	995,794	0	124,941,420	127,930,067
1987	-8,518,790	0	-15,254,778	1,632,105	980,860	0	130,369,136	133,324,786
1988	-9,055,084	0	-16,049,692	1,314,296	1,074,469	0	151,199,044	154,461,514
1989	-9,962,313	0	-17,459,967	0	1,194,960	0	180,366,570	184,092,822
1990	-10,104,428	0	-17,585,569	0	1,399,394	1,459,342	179,599,638	183,325,346
1991	-9,747,619	0	-16,998,267	1,071,024	1,477,918	1,674,153	188,040,156	192,045,071
1992	-10,203,485	0	-17,668,058	0	1,458,165	1,730,328	184,390,408	188,411,222
1993	-9,893,129	0	-17,167,994	1,821,868	1,513,916	1,919,224	190,792,818	195,034,962
1994	-9,400,769	0	-16,343,065	0	1,554,765	2,083,562	189,563,394	193,967,040
1995	-9,045,754	0	-15,772,778	4,354,583	1,558,868	2,181,207	189,923,228	194,318,022
1996	-9,915,330	0	-17,215,500	0	1,556,018	2,269,971	188,262,993	192,625,428
1997	-9,788,081	0	-16,979,728	2,369,024	1,614,762	2,481,790	196,201,738	200,707,256
1998	-10,317,936	0	-17,866,580	0	1,603,904	2,505,552	194,312,002	198,732,666
1999	-10,068,645	0	-17,451,365	2,919,319	1,654,709	2,711,636	200,714,256	205,201,012
2000	-10,677,770	0	-18,478,882	0	1,677,695	2,854,644	202,762,026	207,234,529
2001	-11,260,085	0	-19,455,572	282,320	1,696,679	2,964,672	208,516,392	213,059,877
2002	-11,758,333	0	-20,242,945	1,235,963	1,782,244	3,240,626	224,969,302	229,753,067
2003	-12,554,240	0	-21,558,094	0	1,780,379	3,299,556	227,527,270	232,327,190
2004	-13,090,751	0	-22,425,311	624,169	1,796,389	3,403,745	233,125,719	237,980,845
2005	-13,724,836	0	-23,429,298	573,624	1,818,359	3,526,669	239,727,284	244,661,576
2006	-14,424,105	0	-24,599,698	0	1,823,357	3,546,788	245,033,985	250,014,381
2007	-14,627,665	0	-24,898,187	3,068,031	1,845,262	3,615,491	253,015,294	258,097,117
2008	-15,666,547	0	-26,589,082	0	1,840,318	3,612,831	256,742,631	261,850,109
2009	-16,275,932	0	-27,568,195	89,875	1,866,107	3,692,343	265,741,835	270,959,340
2010	-16,912,528	0	-28,588,127	0	1,879,153	3,737,314	272,588,554	277,874,857
2011	-17,465,123	0	-29,480,008	0	1,904,937	3,808,857	282,122,326	287,530,545
2012	-18,019,460	0	-30,354,642	0	1,910,997	3,824,793	288,193,141	293,660,353
2013	-18,517,392	0	-31,142,423	447,845	2,008,454	4,096,421	311,410,141	317,202,702
2014	-18,730,632	0	-31,456,604	1,872,952	2,121,814	4,404,659	338,523,400	344,696,576
2015	-19,195,408	0	-32,142,108	0	2,205,354	4,636,703	360,896,534	367,365,334
2016	-19,049,580	0	-31,958,797	3,724,934	2,254,087	4,766,640	375,260,042	381,939,226
2017	-19,673,761	0	-32,910,655	178,557	2,285,924	4,856,037	386,761,177	393,598,805
2018	-19,943,985	0	-33,298,712	0	2,407,244	5,190,105	414,241,386	421,513,948
2019	-19,616,609	0	-32,809,364	5,818,055	2,390,355	5,142,701	413,463,781	420,752,561
2020	-20,438,123	0	-34,041,990	0	2,422,193	5,228,155	422,875,360	430,333,607
2021	-20,425,565	0	-34,054,918	2,665,093	2,416,241	5,215,430	424,464,789	431,955,807
2022	-20,934,872	0	-34,821,324	0	2,435,147	5,264,144	430,774,528	438,381,121
2023	-20,666,636	0	-34,443,758	5,342,291	2,432,185	5,257,441	432,842,948	440,489,616
2024	-21,430,957	0	-35,587,203	0	2,448,108	5,304,175	439,207,246	446,968,820
2025	-21,354,450	0	-35,490,204	3,457,612	2,478,954	5,385,678	448,357,068	456,261,427
2026	-21,784,566	0	-36,158,122	1,527,216	2,472,008	5,367,002	449,703,474	457,642,578
2027	-21,938,481	0	-36,391,345	0	2,491,895	5,419,533	453,579,102	461,580,212
2028	-21,946,064	0	-36,415,736	0	2,460,075	5,333,304	446,443,931	454,343,667
2029	-21,768,220	0	-36,144,415	2,006,996	2,497,861	5,437,373	454,088,048	462,109,825
2030	-21,888,523	0	-36,325,442	814,372	2,482,946	5,399,710	450,564,667	458,543,146
2031	-21,974,652	0	-36,455,703	0	2,484,934	5,402,683	449,947,724	457,929,150
2032	-21,697,841	0	-36,033,025	2,975,397	2,467,036	5,354,118	444,889,628	452,812,977
2033	-21,993,973	0	-36,459,839	0	2,527,692	5,518,646	456,888,133	465,005,391
2034	-21,468,303	0	-35,692,126	5,454,124	2,448,143	5,300,596	438,542,379	446,404,705
2035	-22,012,138	0	-36,462,035	0	2,527,692	5,518,646	454,829,995	462,947,253

e) Includes extra peaking costs assigned directly to Kern County Water Agency. Refer to Appendix B text "Project Water Charges, Variable OMP&R Components".

This page left blank
intentionally.

TABLE B–13: CAPITAL AND OPERATING COSTS OF PROJECT CONSERVATION

(in

Calendar Year	INITIAL PROJECT CONSERVATION FACILITIES (Portions of Upper Feather Lakes, Oroville-Thermalito Facilities, Delta Facilities and California Aqueduct)						Planning and Pre-operating Costs (a & (d	ADDITIONAL PROJECT	
	Capital Costs (a	Capital Cost Credits (b	Operating Costs (c	Application of Oroville Power Revenues to:		Total		Ground Water Storage	
				Capital Costs	Operating Costs			Capital Costs	Operating Costs
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1952	171,322	0	0	0	0	171,322	0	0	0
1953	312,190	0	0	0	0	312,190	0	0	0
1954	308,624	0	0	0	0	308,624	0	0	0
1955	194,645	0	0	0	0	194,645	0	0	0
1956	1,357,077	0	0	0	0	1,357,077	0	0	0
1957	6,210,803	0	0	0	0	6,210,803	0	0	0
1958	9,510,981	0	0	0	0	9,510,981	0	0	0
1959	11,391,101	0	0	0	0	11,391,101	0	0	0
1960	14,463,378	-4,850,000	0	0	0	9,613,378	0	0	0
1961	18,688,438	-431,527	0	0	0	18,256,911	0	0	0
1962	9,003,384	-479,280	0	0	0	8,524,104	0	0	0
1963	72,946,419	-478,743	-14,000	0	0	72,453,676	0	0	0
1964	62,493,879	-751,330	-14,000	0	0	61,728,549	107,780	0	0
1965	70,920,176	-763,541	-14,000	0	0	70,142,635	551,850	0	0
1966	130,830,263	-748,649	-14,000	0	0	130,067,614	1,081,023	0	0
1967	94,014,864	-812,145	-11,282	0	0	93,191,437	1,189,212	0	0
1968	39,871,722	-409,386	1,295,544	-951,000	0	39,806,880	793,399	0	0
1969	5,268,038	-245,732	2,871,459	-11,007,000	0	-3,113,235	601,867	0	0
1970	4,132,026	-192,432	4,800,052	-14,650,000	-1,500,000	-7,410,354	516,659	0	0
1971	3,877,149	-187,320	6,006,627	-14,650,000	-1,500,000	-6,453,544	408,754	0	0
1972	4,568,851	-196,361	5,360,345	-14,650,000	-1,500,000	-6,417,165	287,374	0	0
1973	3,985,350	-136,203	6,064,772	-14,650,000	-1,500,000	-6,236,081	203,384	0	0
1974	6,661,577	-134,426	6,855,404	-14,650,000	-1,500,000	-2,767,445	201,907	0	0
1975	8,085,984	-232,065	7,604,247	-14,650,000	-1,500,000	-691,834	146,188	0	0
1976	5,871,312	-132,788	7,089,259	-14,650,000	-1,500,000	-3,322,217	55,097	0	0
1977	21,236,310	0	11,295,284	-14,650,000	-1,500,000	16,381,594	3,036	0	0
1978	7,382,497	0	15,989,029	-14,650,000	-1,500,000	7,221,526	4,546	0	0
1979	8,583,992	0	11,819,594	-14,650,000	-1,500,000	4,253,586	4,869	0	0
1980	9,970,385	0	15,605,421	-14,650,000	-1,500,000	9,425,806	5,179	0	0
1981	11,472,330	0	14,241,239	-14,650,000	-1,500,000	9,563,569	8,241,445	0	0
1982	25,611,843	0	14,768,996	-14,650,000	-1,500,000	24,230,839	8,074,806	0	0
1983	38,613,689	0	27,159,888	-28,838,000	-7,250,000	29,685,577	7,122,465	10,820,764	0
1984	35,716,745	0	21,545,756	-15,427,000	-7,431,000	34,404,501	5,621,577	7,384,028	0
1985	28,932,013	0	20,427,139	-15,427,000	-7,624,000	26,308,152	3,090,477	10,103,694	0
1986	52,302,088	0	29,859,714	-15,427,000	-7,624,000	59,110,802	1,489,696	9,406,450	0
1987	95,661,602	0	18,019,577	-15,427,000	-7,624,000	90,630,179	1,449,414	15,742,032	0
1988	115,667,887	0	23,986,313	-15,427,000	-7,624,000	116,603,200	1,466,172	18,680,055	0
1989	78,029,936	0	17,869,279	-15,427,000	-7,624,000	72,848,215	1,507,412	23,418,895	0
1990	40,180,920	0	22,697,724	-15,427,000	-7,624,000	39,827,644	1,355,580	40,379,271	0
1991	27,489,900	0	26,461,882	-15,427,000	-7,624,000	30,900,782	1,384,477	60,262,308	0
1992	37,377,320	0	26,443,289	-15,427,000	-7,624,000	40,769,609	1,373,831	48,965,200	0
1993	74,438,160	0	30,080,556	-15,427,000	-7,624,000	81,467,716	1,387,468	20,475,894	6,290,442
1994	66,459,080	0	27,360,193	-15,427,000	-7,624,000	70,768,273	1,397,479	19,421,460	5,703,108
1995	32,028,980	0	28,191,743	-15,427,000	-7,624,000	37,169,723	1,403,289	18,129,745	4,682,984
1996	2,770,920	0	29,278,851	-15,427,000	-7,624,000	8,998,771	1,412,001	11,585,306	4,643,567
1997	30,960	0	26,456,028	-15,427,000	-7,624,000	3,435,988	1,415,476	12,019,982	5,693,539
1998	21,500	0	25,457,569	-15,427,000	-7,624,000	2,428,069	1,411,865	11,818,728	3,624,111
1999	8,600	0	26,922,919	-15,427,000	-7,624,000	3,880,519	1,413,422	19,124,820	7,982,920
2000	0	0	25,784,218	-15,427,000	-7,624,000	2,733,218	1,420,545	11,211,588	1,548,474
2001	0	0	22,941,111	-15,427,000	-7,624,000	-109,889	1,070,560	9,321,886	2,578,398
2002	0	0	28,693,420	-15,427,000	-7,624,000	5,642,420	1,065,855	1,440,000	5,042,874
2003	0	0	25,875,642	-15,427,000	-7,624,000	2,824,642	1,063,098	1,360,000	3,440,276
2004	0	0	25,114,038	-15,427,000	-7,624,000	2,063,038	1,067,807	0	6,023,599
2005	0	0	26,265,639	-15,427,000	-7,624,000	3,214,639	1,067,807	0	6,023,599
2006	0	0	23,251,014	-15,427,000	-7,624,000	200,014	1,067,807	0	6,023,599
2007	0	0	28,039,933	-15,427,000	-7,624,000	4,988,933	1,067,807	0	6,023,599
2008	0	0	26,129,229	-15,427,000	-7,624,000	3,078,229	1,067,807	0	6,023,599
2009	0	0	25,672,714	-15,427,000	-7,624,000	2,621,714	1,067,807	0	6,023,599
2010	0	0	25,021,599	-15,427,000	-7,624,000	1,970,599	1,067,807	0	6,023,599
2011	0	0	25,419,549	-15,427,000	-7,624,000	2,368,549	0	0	6,028,633
2012	0	0	21,645,868	-15,427,000	-7,624,000	-1,405,132	0	0	6,028,633
2013	0	0	32,281,251	-15,427,000	-7,624,000	9,230,251	0	0	6,028,633
2014	0	0	25,672,991	-15,427,000	-7,624,000	2,621,991	0	0	6,028,633
2015	0	0	28,557,854	-15,427,000	-7,624,000	5,506,854	0	0	6,028,633
2016	0	0	28,315,670	-15,427,000	-7,624,000	5,264,670	0	0	6,028,633
2017	0	0	28,856,620	-15,427,000	-7,624,000	5,805,620	0	0	6,028,633
2018	0	0	27,836,266	-15,427,000	-7,624,000	4,785,266	0	0	6,028,633
2019	0	0	28,539,379	-15,427,000	-7,624,000	5,488,379	0	0	6,028,633
2020	0	0	27,967,122	-15,427,000	-7,624,000	4,916,122	0	0	6,028,633
2021	0	0	30,188,783	-15,427,000	-7,624,000	7,137,783	0	0	6,028,633
2022	0	0	23,212,134	-15,427,000	-7,624,000	161,134	0	0	6,028,633
2023	0	0	32,331,535	-15,427,000	-7,624,000	9,280,535	0	0	6,028,633
2024	0	0	22,628,035	-15,427,000	-7,624,000	-422,965	0	0	6,028,633
2025	0	0	35,251,333	-15,427,000	-7,624,000	12,200,333	0	0	6,028,633
2026	0	0	29,407,265	-15,427,000	-7,624,000	6,356,265	0	0	6,028,633
2027	0	0	30,832,391	-15,427,000	-7,624,000	7,781,391	0	0	6,028,633
2028	0	0	24,687,724	-15,427,000	-7,624,000	1,636,724	0	0	6,028,633
2029	0	0	33,611,251	-15,427,000	-7,624,000	10,560,251	0	0	6,028,633
2030	0	0	27,220,556	-15,427,000	-7,624,000	4,169,556	0	0	6,028,633
2031	0	0	28,534,548	-15,427,000	-7,624,000	5,483,548	0	0	6,028,633
2032	0	0	24,303,701	-15,427,000	-7,624,000	1,252,701	0	0	6,028,633
2033	0	0	36,254,291	-15,427,000	-7,624,000	13,203,291	0	0	6,028,633
2034	0	0	22,765,378	-15,427,000	-7,624,000	-285,622	0	0	6,028,633
2035	0	0	32,385,556	-15,427,000	-7,624,000	9,334,556	0	0	6,028,633
TOTAL 1952-2035	1,395,127,210	-11,181,928	1,551,314,018	-1,033,450,000	-423,005,000	1,478,804,300	70,275,183	381,072,106	244,111,711

a) Reimbursed thru payments of the capital cost component of the Delta Water Charge, except for a portion of the costs of the Initial Project Conservation Facilities that will be reimbursed through project power revenues shown in column 4.

b) Negotiated settlements as to the magnitude of project planning costs from 1962 through 1976 to be reimbursed through water charges. Credits are applied to the reimbursable capital costs of the Initial Conservation Facilities.

FACILITIES TO BE REIMBURSED THRU DELTA WATER CHARGE

dollars)

CONSERVATION FACILITIES								
Los Vaqueros Reservoir		Thomes-Newville Project		Cottonwood Creek Project		Total	Grand Total	Calendar Year
Capital Costs	Operating Costs	Capital Costs	Operating Costs	Capital Costs	Operating Costs			
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	
0	0	0	0	0	0	0	171,322	1952
0	0	0	0	0	0	0	312,190	1953
0	0	0	0	0	0	0	308,624	1954
0	0	0	0	0	0	0	194,645	1955
0	0	0	0	0	0	0	1,357,077	1956
0	0	0	0	0	0	0	6,210,803	1957
0	0	0	0	0	0	0	9,510,981	1958
0	0	0	0	0	0	0	11,391,101	1959
0	0	0	0	0	0	0	9,613,378	1960
0	0	0	0	0	0	0	18,256,911	1961
0	0	0	0	0	0	0	8,524,104	1962
0	0	0	0	0	0	0	72,453,676	1963
0	0	0	0	0	0	0	61,836,329	1964
0	0	0	0	0	0	0	70,694,485	1965
0	0	0	0	0	0	0	131,148,637	1966
0	0	0	0	0	0	0	94,380,649	1967
0	0	0	0	0	0	0	40,600,279	1968
0	0	0	0	0	0	0	-2,511,368	1969
0	0	0	0	0	0	0	-6,893,695	1970
0	0	0	0	0	0	0	-6,044,790	1971
0	0	0	0	0	0	0	-6,129,791	1972
0	0	0	0	0	0	0	-6,032,697	1973
0	0	0	0	0	0	0	-2,565,538	1974
0	0	0	0	0	0	0	-545,646	1975
0	0	0	0	0	0	0	-3,267,120	1976
0	0	0	0	0	0	0	16,384,630	1977
0	0	0	0	0	0	0	7,226,072	1978
0	0	0	0	0	0	0	4,258,455	1979
0	0	0	0	0	0	0	9,430,985	1980
0	0	0	0	0	0	0	17,805,014	1981
0	0	0	0	0	0	0	32,305,645	1982
0	0	0	0	0	0	10,820,764	47,628,806	1983
3,838,037	0	0	0	0	0	11,222,065	51,248,143	1984
8,641,661	0	0	0	0	0	18,745,355	48,143,984	1985
34,538,651	0	0	0	0	0	43,945,101	104,545,599	1986
88,088,908	0	3,590,589	0	0	0	107,421,529	199,501,122	1987
185,474,581	0	3,891,137	0	0	0	208,045,773	326,115,145	1988
117,736,457	0	5,848,535	0	0	0	147,003,887	221,359,514	1989
117,027,837	0	25,468,231	0	31,608,000	0	214,483,339	255,666,563	1990
115,715,079	0	64,494,411	0	31,608,000	1,594,160	273,673,958	305,959,217	1991
114,950,000	12,336,734	89,193,890	0	31,608,000	1,592,625	298,646,449	340,789,889	1992
42,750,000	14,683,691	103,117,499	0	31,608,000	1,598,128	220,523,654	303,378,838	1993
0	13,160,704	98,795,919	0	31,608,000	1,603,935	170,293,126	242,458,878	1994
0	12,811,346	55,953,389	0	31,608,000	1,613,718	124,799,182	163,372,194	1995
0	12,805,437	17,856,019	0	31,608,000	1,628,541	80,126,870	90,537,642	1996
0	13,012,213	0	13,518,572	31,608,000	1,623,569	77,475,875	82,327,339	1997
0	12,873,624	0	13,433,002	31,608,000	1,625,103	74,982,568	78,822,502	1998
0	13,024,613	0	13,516,624	31,608,000	1,620,236	86,877,213	92,171,154	1999
0	13,029,969	0	13,540,407	31,608,000	1,627,553	72,565,991	76,719,754	2000
0	13,052,924	0	13,552,021	31,608,000	1,626,495	71,739,724	72,700,395	2001
0	13,420,259	0	13,774,871	31,608,000	1,621,528	66,907,532	73,615,807	2002
0	13,312,139	0	9,309,738	31,608,000	1,618,617	60,648,770	64,536,510	2003
0	13,328,612	0	9,332,958	31,608,000	1,623,590	61,916,759	65,047,604	2004
0	13,357,112	0	9,343,408	31,608,000	1,623,590	61,955,709	66,238,155	2005
0	13,359,962	0	9,345,308	31,608,000	1,623,590	61,960,459	63,228,280	2006
0	13,448,312	0	9,377,608	31,608,000	1,623,590	62,081,109	68,137,849	2007
0	13,402,712	0	9,360,508	31,608,000	1,623,590	62,018,409	66,164,445	2008
0	13,517,662	0	9,404,208	31,608,000	1,623,590	62,177,059	65,866,580	2009
0	13,556,612	0	9,418,458	31,608,000	1,623,590	62,230,259	65,268,665	2010
0	13,684,523	0	9,472,727	31,608,000	1,624,945	62,418,828	64,787,377	2011
0	13,713,973	0	9,483,177	31,608,000	1,624,945	62,458,728	61,053,596	2012
0	14,188,023	0	9,662,727	31,608,000	1,624,945	63,112,328	72,342,579	2013
0	14,755,173	0	9,876,477	31,608,000	1,624,945	63,893,228	66,515,219	2014
0	15,170,323	0	10,034,177	31,608,000	1,624,945	64,466,078	69,972,932	2015
0	15,411,623	0	10,124,427	31,608,000	1,624,945	64,797,628	70,062,298	2016
0	15,572,173	0	10,185,227	31,608,000	1,624,945	65,018,978	70,824,598	2017
0	16,185,873	0	10,417,027	31,608,000	1,624,945	65,864,478	70,649,744	2018
0	16,098,473	0	10,384,727	31,608,000	1,624,945	65,744,778	71,233,157	2019
0	16,251,423	0	10,441,727	31,608,000	1,624,945	65,954,728	70,870,850	2020
0	16,228,623	0	10,433,177	31,608,000	1,624,945	65,923,378	73,061,161	2021
0	16,314,123	0	10,465,477	31,608,000	1,624,945	66,041,178	66,202,312	2022
0	16,305,573	0	10,461,677	31,608,000	1,624,945	66,028,828	75,309,363	2023
0	16,385,373	0	10,493,027	31,608,000	1,624,945	66,139,978	65,717,013	2024
0	16,536,423	0	10,550,027	31,608,000	1,624,945	66,348,028	78,548,361	2025
0	16,500,323	0	10,535,777	31,608,000	1,624,945	66,297,678	72,653,943	2026
0	16,594,373	0	10,570,927	31,608,000	1,624,945	66,426,878	74,208,269	2027
0	16,437,623	0	10,512,027	31,608,000	1,624,945	66,211,228	67,847,952	2028
0	16,627,623	0	10,584,227	31,608,000	1,624,945	66,473,428	77,033,679	2029
0	16,557,323	0	10,557,627	31,608,000	1,624,945	66,376,528	70,546,084	2030
0	16,564,923	0	10,560,477	31,608,000	1,624,945	66,386,978	71,870,526	2031
0	16,477,523	0	10,527,227	31,608,000	1,624,945	66,266,328	67,519,029	2032
0	16,774,873	0	10,639,327	31,608,000	1,624,945	66,675,778	79,879,069	2033
0	16,380,623	0	10,490,177	31,608,000	1,624,945	66,132,378	65,846,756	2034
0	16,773,923	0	10,639,327	31,608,000	1,624,945	66,674,828	76,009,384	2035
828,761,211	649,985,462	468,209,619	414,330,616	1,453,968,000	72,982,963	4,513,421,688	6,062,501,171	TOTAL 1952-2035

c) Reimbursed through payments of the minimum OMP&R component of the Delta Water Charge, except for those costs that will be reimbursed through project power revenues shown in column 5. San Luis power credits are included in these costs.

d) Under the long-term amendments of Articles 22(e) and 22(g), those planning and pre-operating costs of Additional Project Conservation Facilities which are incurred through the previous year (1980) will be included in current calculations of the Delta Water Charge.

TABLE B–14: CAPITAL COSTS OF TRANSPORTATION

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1952	0	0	0	83	99	409	591	121	283	404
1953	0	0	0	324	406	1,808	2,538	334	781	1,115
1954	0	0	0	819	1,088	5,150	7,057	419	982	1,401
1955	0	0	0	976	1,321	6,297	8,594	211	490	701
1956	0	0	0	8,844	12,069	63,816	84,729	226	528	754
1957	16,594	10,040	26,634	21,563	29,313	649,598	700,474	289	675	964
1958	35,437	14,574	50,011	67,764	67,955	733,415	869,134	717	1,675	2,392
1959	21,488	5,800	27,288	154,254	142,958	493,050	790,262	22,722	59,569	82,291
1960	10,049	7,878	17,927	296,492	274,637	1,018,662	1,589,791	32,627	86,088	118,715
1961	7,250	7,145	14,395	853,505	797,748	1,914,711	3,565,964	14,494	36,304	50,798
1962	-197	-923	-1,120	545,123	576,571	1,686,044	2,807,738	19,104	45,618	64,722
1963	1,559	871	2,430	657,427	1,077,895	3,243,842	4,979,164	71,997	169,851	241,848
1964	42,604	31,255	73,859	712,653	1,244,064	7,251,805	9,208,522	144,587	340,942	485,529
1965	206,465	54,589	261,054	360,783	468,127	3,414,466	4,243,376	258,395	607,497	865,892
1966	467,845	43,691	511,536	592,720	562,232	2,245,228	3,400,180	594,140	1,390,545	1,984,685
1967	1,574,452	35,425	1,609,877	797,000	772,107	2,401,877	3,970,984	941,943	2,202,785	3,144,728
1968	867,044	54,260	921,304	736,474	681,350	1,997,934	3,415,758	356,866	835,767	1,192,633
1969	81,172	52,534	133,706	269,700	258,156	764,957	1,292,813	82,549	194,480	277,029
1970	49,950	61,288	111,238	58,678	56,854	135,572	251,104	53,119	125,688	178,807
1971	29,314	31,501	60,815	12,086	14,386	84,090	110,562	35,716	85,732	121,448
1972	21,400	17,148	38,548	12,291	11,723	63,612	87,626	23,052	54,824	77,876
1973	58,790	28,594	87,384	10,494	10,525	39,380	60,399	26,490	62,904	89,394
1974	173,078	58,584	231,662	15,721	17,774	73,122	106,617	28,971	68,494	97,465
1975	99,218	81,840	181,058	16,730	15,572	41,395	73,697	23,185	58,217	81,402
1976	63,970	76,800	140,770	33,994	32,843	109,593	176,430	50,222	126,454	176,676
1977	68,674	68,910	137,584	45,940	42,981	132,747	221,668	125,043	295,237	420,280
1978	71,857	68,382	140,239	60,754	56,076	152,035	268,865	32,060	77,211	109,271
1979	222,486	241,397	463,883	39,530	37,060	97,744	174,334	37,930	91,268	129,198
1980	250,003	270,141	520,144	34,099	32,085	85,545	151,729	42,912	102,320	145,232
1981	906,239	1,136,420	2,042,659	104,464	96,836	241,784	443,084	137,723	325,629	463,352
1982	1,096,377	1,268,300	2,364,677	164,241	151,032	368,708	683,981	221,121	518,695	739,816
1983	5,504,892	7,051,053	12,555,945	210,616	192,638	460,974	864,228	436,382	1,089,209	1,525,591
1984	11,305,411	13,755,309	25,060,720	264,908	241,947	582,547	1,089,402	824,405	2,263,379	3,087,784
1985	4,796,224	6,167,646	10,963,870	247,650	226,102	542,817	1,016,569	1,535,587	4,719,245	6,254,832
1986	405,858	505,400	911,258	208,694	190,802	454,769	854,265	3,406,736	9,133,115	12,539,851
1987	149,481	132,276	281,757	176,838	161,676	385,355	723,869	10,814,740	30,073,394	40,888,134
1988	72,993	48,692	121,685	91,969	84,083	200,425	376,477	14,242,388	39,565,672	53,808,060
1989	7,905	11,024	18,929	1,195	1,092	2,601	4,888	10,536,166	28,265,094	38,801,260
1990	1,592	2,408	4,000	0	0	0	0	1,243,194	3,092,694	4,335,888
1991	0	0	0	0	0	0	0	474,173	1,334,354	1,808,527
1992	0	0	0	0	0	0	0	15,861	54,051	69,912
1993	0	0	0	0	0	0	0	8,510	29,490	38,000
1994	0	0	0	0	0	0	0	2,533	9,467	12,000
1995	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	28,687,474	31,400,252	60,087,726	7,887,396	8,642,183	32,147,884	48,677,463	46,919,960	127,596,697	174,516,657

Capital Costs of

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1979	3,625	929	4,554	5,603	5,123	12,213	22,939	8,359	19,516	27,875
1980	61,110	15,651	76,761	94,458	86,357	205,858	386,673	140,916	328,979	469,895
1981	173,320	44,390	217,710	267,906	244,931	583,863	1,096,700	399,671	933,066	1,332,737
1982	194,269	49,756	244,025	300,289	274,536	654,435	1,229,260	447,980	1,045,846	1,493,826
1983	31,217	7,995	39,212	48,253	44,114	105,159	197,526	71,985	168,054	240,039
1984	184	48	232	284	260	622	1,166	425	991	1,416
TOTAL	463,725	118,769	582,494	716,793	655,321	1,562,150	2,934,264	1,069,336	2,496,452	3,565,788

FACILITIES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District (a	Dudley Ridge Water District	Empire West Side Irrigation District (b	Hacienda Water District (c	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1952	87	389	19	58	938	9,257	19	13	727	11,507
1953	238	1,076	53	158	2,892	27,760	56	33	1,999	34,265
1954	298	1,350	67	199	3,379	32,820	70	42	2,519	40,744
1955	150	676	36	100	1,499	14,928	36	22	1,272	18,719
1956	160	727	33	106	2,709	24,572	34	26	1,308	29,675
1957	205	932	38	138	6,067	50,551	38	30	1,570	59,569
1958	511	2,308	100	340	14,412	120,493	103	61	4,029	142,357
1959	3,700	7,387	363	1,088	26,276	256,904	372	381	13,671	310,142
1960	5,396	12,942	629	1,907	34,105	356,732	644	498	23,792	436,645
1961	5,850	21,851	1,063	3,218	51,474	545,804	1,087	599	40,163	671,109
1962	11,657	49,324	2,410	7,266	95,002	1,031,606	2,466	1,879	90,885	1,292,495
1963	47,693	208,777	10,688	30,755	364,163	3,991,682	10,933	5,991	394,617	5,065,299
1964	95,861	328,316	16,963	48,365	600,501	6,728,447	17,352	11,944	623,713	8,471,462
1965	174,091	538,267	27,484	79,294	1,099,974	12,161,681	28,118	21,804	1,015,940	15,146,653
1966	411,444	1,107,866	52,591	163,204	2,220,604	25,213,130	53,793	38,895	2,010,098	31,271,625
1967	653,362	852,621	39,542	125,602	2,015,231	23,934,870	40,446	34,779	1,527,977	29,224,430
1968	243,377	198,761	9,732	29,281	1,107,264	11,640,537	9,954	12,239	366,670	13,617,815
1969	52,106	94,448	4,791	13,912	618,551	6,462,283	4,899	7,302	177,615	7,435,907
1970	31,850	54,352	2,712	8,008	416,145	4,173,641	2,775	3,999	101,306	4,794,788
1971	17,745	25,467	1,288	3,752	191,240	1,634,091	1,319	540	47,834	1,923,276
1972	12,235	11,592	587	1,708	83,180	728,957	599	343	21,782	860,983
1973	14,913	6,658	334	981	40,106	461,541	339	220	12,427	537,519
1974	16,154	9,478	469	1,395	45,558	487,524	478	326	17,581	578,963
1975	7,706	13,329	678	1,963	36,537	386,944	692	426	25,077	473,352
1976	18,472	17,497	835	2,577	53,163	660,338	854	1,151	31,822	786,709
1977	69,664	9,297	417	1,369	35,764	882,877	425	476	16,353	1,016,642
1978	-9,088	10,566	-31,081	1,555	26,354	293,111	519	765	19,285	311,986
1979	5,431	14,490	736	2,135	33,603	350,163	754	1,372	27,296	435,980
1980	7,339	19,945	1,019	2,939	57,935	503,023	1,041	225	37,632	631,098
1981	46,787	137,841	7,144	20,306	281,924	2,899,487	7,306	7,575	262,319	3,670,689
1982	61,908	216,129	11,216	31,838	467,180	4,531,752	11,467	10,129	411,611	5,753,230
1983	69,711	203,334	10,557	29,953	502,310	4,791,982	10,795	11,548	387,306	6,017,496
1984	76,585	214,385	11,129	31,582	520,769	5,172,919	11,382	14,371	408,378	6,461,500
1985	76,393	228,513	11,867	33,663	505,616	5,206,219	12,134	16,652	435,311	6,526,368
1986	93,850	334,267	17,358	49,242	633,993	6,787,536	17,749	20,241	636,779	8,591,015
1987	93,764	371,292	19,280	54,697	682,729	7,317,573	19,711	16,445	707,315	9,282,806
1988	80,467	282,564	14,674	41,626	510,623	5,582,176	14,998	6,553	538,284	7,071,965
1989	45,710	156,038	8,102	22,986	251,200	2,891,698	8,280	65	297,261	3,681,340
1990	36,007	37,261	1,934	5,490	59,780	885,249	1,976	0	70,984	1,098,681
1991	2,209	0	0	0	0	17,264	0	0	0	19,473
1992	1,031	0	0	0	0	8,057	0	0	0	9,088
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0	0
1995	0	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	2,583,029	5,802,313	257,857	854,756	13,700,750	149,258,179	296,013	249,960	10,812,508	183,815,365

Reid Gardner Unit No. 4

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1979	1,633	4,169	216	615	10,901	107,803	222	276	7,943	133,778
1980	27,538	70,283	3,649	10,353	183,742	1,817,239	3,732	4,654	133,893	2,255,083
1981	78,104	199,339	10,351	29,366	521,140	5,154,129	10,586	13,199	379,753	6,395,967
1982	87,545	223,433	11,602	32,914	584,128	5,777,113	11,865	14,794	425,654	7,169,048
1983	14,068	35,903	1,864	5,289	93,862	928,311	1,907	2,377	68,397	1,151,978
1984	83	212	11	31	554	5,479	12	14	404	6,800
TOTAL	208,971	533,339	27,693	78,568	1,394,327	13,790,074	28,324	35,314	1,016,044	17,112,654

a) *Costs from Table B-10 allocated to Devil's Den are reduced herein by $14,088 in 1978 in accordance with a letter of agreement with the District.*

b) *Costs from Table B-10 allocated to Empire are reduced by $31,588 in 1978 in accordance with a letter of agreement with the District.*

c) *Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.*

TABLE B–14: CAPITAL COSTS OF TRANSPORTATION

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1952	3,163	786	851	252	1,406	72	1,697	419	6,086	1,550
1953	10,047	2,522	2,674	801	4,406	222	5,329	1,330	19,079	4,859
1954	12,772	3,183	3,468	1,034	5,721	286	6,922	1,695	24,631	6,296
1955	5,423	1,422	1,380	399	2,270	115	2,757	717	9,239	2,379
1956	9,806	2,733	2,202	616	3,631	193	4,463	1,272	13,162	3,445
1957	26,389	7,121	6,358	1,822	10,488	542	12,802	3,462	40,719	10,556
1958	49,361	13,504	11,610	3,298	19,147	994	23,418	6,434	72,837	18,930
1959	70,442	21,126	15,907	4,625	26,227	1,350	31,831	9,054	98,754	25,564
1960	84,754	27,606	22,105	6,806	36,457	1,550	43,336	10,797	147,332	37,513
1961	126,875	40,281	34,676	12,547	57,185	2,256	63,834	16,480	236,434	57,782
1962	198,861	63,895	43,774	13,875	72,194	3,351	84,823	24,980	253,680	64,395
1963	580,866	185,778	116,836	33,070	192,688	9,842	235,199	73,346	608,848	160,389
1964	1,096,289	355,355	209,810	55,533	346,024	18,471	430,329	138,008	1,027,622	276,545
1965	1,911,871	669,374	386,223	103,929	636,955	32,882	788,408	245,063	1,916,155	513,707
1966	3,968,189	1,501,127	814,083	216,216	1,342,588	69,455	1,667,540	518,255	3,949,958	1,064,169
1967	4,990,835	2,823,458	1,080,012	296,718	1,781,155	88,543	2,187,592	655,042	5,833,249	1,553,416
1968	5,944,192	2,981,440	1,354,310	369,053	2,233,524	107,681	2,745,397	786,415	7,998,774	2,127,324
1969	5,844,557	2,409,562	1,694,216	540,851	2,794,154	121,674	3,264,694	868,198	10,915,869	2,774,504
1970	5,051,810	2,606,252	2,054,203	696,207	3,387,878	106,696	3,879,431	739,143	13,811,075	3,461,299
1971	2,587,830	1,747,033	1,073,392	339,055	1,770,260	48,510	2,091,089	348,355	8,145,412	1,989,414
1972	977,314	312,618	332,460	92,254	548,296	19,198	670,003	134,851	2,693,168	698,540
1973	355,902	789,770	158,851	82,290	262,003	6,328	238,655	46,292	1,761,778	403,917
1974	453,284	234,678	259,509	74,194	427,981	8,174	519,140	59,375	1,618,882	426,335
1975	254,378	195,585	193,804	52,864	319,619	4,970	392,465	34,115	1,534,426	408,123
1976	238,180	192,579	136,863	37,262	225,714	4,257	278,042	31,081	962,780	256,039
1977	196,694	235,819	90,775	25,702	149,705	3,707	182,346	26,475	588,717	154,788
1978	180,610	332,704	53,145	15,797	87,650	3,204	105,204	23,393	315,252	80,548
1979	309,441	709,990	71,521	19,194	117,945	5,155	145,620	38,356	357,591	95,780
1980	792,695	997,819	198,792	56,685	327,850	14,439	398,306	105,823	1,035,745	272,307
1981	2,271,347	1,202,776	441,456	118,848	728,042	38,073	905,133	285,449	2,124,350	577,266
1982	5,308,494	1,189,348	1,025,514	295,022	1,691,270	88,813	2,085,841	666,508	5,236,143	1,430,723
1983	4,395,062	1,148,094	895,272	283,886	1,476,470	73,530	1,797,756	551,832	5,025,711	1,377,851
1984	3,373,797	1,095,370	711,002	220,396	1,172,579	56,452	1,433,195	423,672	3,898,872	1,069,879
1985	2,468,326	932,642	500,517	129,901	825,449	39,880	1,032,329	299,312	2,297,498	630,606
1986	3,427,234	690,293	401,224	101,517	661,694	32,731	830,759	245,650	1,795,594	493,035
1987	4,832,913	603,037	380,122	96,148	626,889	31,270	787,388	234,691	1,700,602	467,015
1988	10,220,618	416,788	261,993	66,273	432,076	21,680	542,832	162,714	1,172,313	321,956
1989	11,520,209	85,362	50,860	12,862	83,878	4,693	105,940	35,224	227,467	62,594
1990	2,515,066	19,417	11,518	2,912	18,995	1,072	24,003	8,046	51,514	14,178
1991	56,000	0	0	0	0	0	0	0	0	0
1992	16,000	0	0	0	0	0	0	0	0	0
1993	6,000	0	0	0	0	0	0	0	0	0
1994	4,000	0	0	0	0	0	0	0	0	0
1995	4,000	0	0	0	0	0	0	0	0	0
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	86,751,896	26,848,247	15,103,288	4,480,714	24,908,463	1,072,311	30,045,848	7,861,324	89,527,318	23,395,516

Capital Costs of

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1979	66,855	22,045	14,160	3,581	23,353	1,119	29,278	8,397	63,322	17,378
1980	1,126,986	371,629	238,690	60,363	393,644	18,858	493,537	141,546	1,067,462	292,970
1981	3,196,405	1,054,028	676,983	171,206	1,116,470	53,488	1,399,789	401,462	3,027,580	830,935
1982	3,582,756	1,181,428	758,810	191,900	1,251,419	59,954	1,568,983	449,986	3,393,525	931,371
1983	575,705	189,840	121,932	30,836	201,086	9,634	252,116	72,306	545,296	149,659
1984	3,399	1,121	719	181	1,186	57	1,489	427	3,218	884
TOTAL	8,552,106	2,820,091	1,811,294	458,067	2,987,158	143,110	3,745,192	1,074,124	8,100,403	2,223,197

FACILITIES ALLOCATED TO EACH CONTRACTOR

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (Continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California(c	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1952	963	69,158	373	86,776	0	0	0	0	75	99,353
1953	3,014	218,084	1,191	273,558	0	0	0	0	336	311,812
1954	3,907	280,543	1,499	351,957	0	0	0	0	984	402,143
1955	1,475	111,862	672	140,110	0	0	0	0	1,218	169,342
1956	2,128	179,876	1,303	224,830	0	0	0	0	11,563	351,551
1957	6,540	517,532	3,381	647,712	0	0	0	0	29,099	1,464,452
1958	11,720	948,404	6,420	1,186,077	0	0	2	2	36,650	2,286,623
1959	15,842	1,368,068	9,934	1,698,724	0	0	14	14	58,691	2,967,412
1960	23,334	1,919,113	12,849	2,373,552	0	0	28	28	124,175	4,660,833
1961	36,199	3,218,436	18,835	3,921,820	0	0	10	10	321,147	8,545,243
1962	40,053	3,551,492	29,158	4,444,531	0	0	32	32	266,772	8,875,170
1963	99,106	11,197,562	87,001	13,580,531	0	0	51	51	731,871	24,601,194
1964	170,271	18,105,751	165,131	22,395,139	0	0	7,791	7,791	1,093,757	41,736,059
1965	316,597	33,844,562	308,320	41,674,046	0	0	3,139	3,139	470,582	62,664,742
1966	655,265	74,677,454	683,954	91,128,253	0	0	-48	-48	814,100	129,110,331
1967	960,355	131,149,095	1,285,557	154,685,027	0	0	47	47	1,511,272	194,146,365
1968	1,317,528	148,176,682	1,368,588	177,510,908	0	0	51,573	51,573	1,268,920	197,978,911
1969	1,729,871	140,617,670	1,090,679	174,666,499	0	0	234,232	234,232	433,304	184,473,490
1970	2,162,696	162,541,541	1,153,881	201,652,112	0	0	16,227	16,227	78,375	207,082,651
1971	1,238,982	134,243,133	742,668	156,365,133	0	0	27,204	27,204	16,297	158,624,735
1972	434,860	43,866,955	65,840	50,846,357	0	0	9	9	14,222	51,925,621
1973	256,916	39,814,005	291,175	44,467,882	0	0	25	25	9,710	45,252,313
1974	264,599	18,919,537	86,529	23,352,217	0	0	45	45	35,197	24,402,166
1975	253,967	16,772,099	84,435	20,500,850	0	0	21	21	8,459	21,318,839
1976	158,933	13,583,664	85,095	16,190,489	0	0	51	51	18,291	17,489,416
1977	96,057	11,804,849	111,516	13,667,150	0	0	28	28	22,942	15,486,294
1978	49,976	13,873,285	157,015	15,277,783	0	0	38	38	25,263	16,133,445
1979	59,096	27,039,071	338,806	29,307,566	0	0	23	23	24,730	30,535,714
1980	168,401	41,661,436	470,448	46,500,746	0	0	25	25	21,616	47,970,590
1981	354,835	53,751,805	577,588	63,376,968	0	0	0	0	42,197	70,038,949
1982	879,307	69,831,881	572,094	90,300,958	0	0	0	0	65,045	99,907,707
1983	846,684	67,163,102	551,204	85,586,454	0	0	0	0	76,335	106,626,049
1984	657,302	59,361,558	520,404	73,994,478	0	0	0	0	144,321	109,838,205
1985	387,342	45,136,198	436,546	55,116,546	0	0	0	0	133,783	80,011,968
1986	302,728	33,897,786	325,626	43,205,871	0	0	0	0	73,629	66,175,889
1987	286,712	30,261,278	290,610	40,598,675	0	0	0	0	62,336	91,837,577
1988	197,641	20,900,068	200,853	34,917,805	0	0	0	0	32,267	96,328,259
1989	38,352	4,215,490	41,140	16,484,071	0	0	0	0	418	58,990,906
1990	8,685	957,698	9,357	3,642,461	0	0	0	0	0	9,081,030
1991	0	0	0	56,000	0	0	0	0	0	1,884,000
1992	0	0	0	16,000	0	0	0	0	0	95,000
1993	0	0	0	6,000	0	0	0	0	0	44,000
1994	0	0	0	4,000	0	0	0	0	0	16,000
1995	0	0	0	4,000	0	0	0	0	0	4,000
1996	0	0	0	0	0	0	0	0	0	0
1997	0	0	0	0	0	0	0	0	0	0
1998	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	0	0	0
TOTAL	14,498,239	1,479,747,783	12,187,675	1,816,428,622	0	0	340,567	340,567	8,079,949	2,291,946,349

Reid Gardner Unit No. 4

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (Continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1979	10,676	1,112,110	10,623	1,382,897	0	0	0	0	1,957	1,574,000
1980	179,978	18,746,843	179,099	23,311,605	0	0	0	0	32,983	26,533,000
1981	510,461	53,170,568	507,964	66,117,339	0	0	0	0	93,547	75,254,000
1982	572,160	59,597,329	569,365	74,108,986	0	0	0	0	104,855	84,350,000
1983	91,939	9,576,558	91,489	11,908,396	0	0	0	0	16,849	13,554,000
1984	543	56,523	540	70,287	0	0	0	0	99	80,000
TOTAL	1,365,757	142,259,931	1,359,080	176,899,510	0	0	0	0	250,290	201,345,000

c) Costs from Table B-10, allocated to MWD, are reduced herein by $16,424,532 in 1972 under provisions of Contract Amendment No. 7.

Table B–15A: Capital Cost Component of

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1963	0	0	0	104,941	102,470	365,644	573,055	0	0	0
1964	0	0	0	123,329	157,333	530,749	811,411	8,301	20,638	28,939
1965	0	0	0	155,784	220,653	899,850	1,276,287	13,971	34,047	48,018
1966	19,051	0	19,051	172,215	244,479	1,073,639	1,490,333	23,122	55,627	78,749
1967	42,863	0	42,863	199,208	273,096	1,187,916	1,660,220	41,264	98,158	139,422
1968	122,999	0	122,999	235,505	312,394	1,310,167	1,858,066	55,409	131,371	186,780
1969	167,130	0	167,130	269,045	347,074	1,411,857	2,027,976,	59,072	140,055	199,127
1970	171,261	0	171,261	281,328	360,213	1,450,792	2,092,333	61,003	144,654	205,657
1971	173,804	0	173,804	284,000	363,107	1,457,692	2,104,799	62,265	147,686	209,951
1972	175,296	0	175,296	331,388	363,839	1,461,972	2,157,199	63,202	149,993	213,195
1973	176,385	27,797	204,182	332,014	364,436	1,465,210	2,161,660	63,672	151,141	214,813
1974	179,377	29,252	208,629	332,548	364,972	1,467,214	2,164,734	64,043	152,061	216,104
1975	188,187	32,234	220,421	333,348	365,876	1,470,936	2,170,160	64,495	153,161	217,656
1976	193,237	36,400	229,637	334,200	366,669	1,473,043	2,173,912	171,072	402,182	573,254
1977	196,492	40,309	236,801	335,930	368,340	1,478,621	2,182,891	173,628	408,618	582,246
1978	199,988	43,816	243,804	338,268	370,528	1,485,377	2,194,173	179,993	423,645	603,638
1979	203,645	47,296	250,941	341,360	373,382	1,493,116	2,207,858	181,625	427,575	609,200
1980	214,969	59,583	274,552	343,372	375,268	1,498,091	2,216,731	183,555	432,220	615,775
1981	227,694	73,333	301,027	345,108	376,902	1,502,445	2,224,455	185,739	437,428	623,167
1982	273,819	131,174	404,993	350,425	381,830	1,514,751	2,247,006	192,749	454,002	646,751
1983	329,623	195,728	525,351	358,784	389,517	1,533,517	2,281,818	204,004	480,403	684,407
1984	609,810	554,611	1,164,421	369,504	399,322	1,556,980	2,325,806	226,215	535,841	762,056
1985	1,185,231	1,254,727	2,439,958	382,987	411,637	1,586,630	2,381,254	268,175	651,042	919,217
1986	1,429,348	1,568,647	2,997,995	395,592	423,145	1,614,259	2,432,996	346,333	891,241	1,237,574
1987	1,450,118	1,594,511	3,044,629	406,272	432,909	1,637,531	2,476,712	520,673	1,358,629	1,879,302
1988	1,457,812	1,601,319	3,059,131	415,374	441,231	1,657,365	2,513,970	1,077,290	2,906,457	3,983,747
1989	1,461,591	1,603,840	3,065,431	420,136	445,584	1,667,743	2,533,463	1,814,742	4,955,117	6,769,859
1990	1,462,003	1,604,414	3,066,417	420,198	445,641	1,667,878	2,533,717	2,363,755	6,427,938	8,791,693
1991	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,428,968	6,590,167	9,019,135
1992	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,454,016	6,660,655	9,114,671
1993	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,454,860	6,663,531	9,118,391
1994	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,316	6,665,113	9,120,429
1995	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
1996	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
1997	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
1998	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
1999	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2000	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2001	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2002	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2003	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2004	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2005	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2006	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2007	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2008	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2009	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2010	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2011	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2012	1,462,087	1,604,541	3,066,628	420,198	445,641	1,667,878	2,533,717	2,455,453	6,665,625	9,121,078
2013	1,462,087	1,604,541	3,066,628	309,308	343,171	1,302,234	1,954,713	2,455,453	6,665,625	9,121,078
2014	1,462,087	1,604,541	3,066,628	274,048	288,309	1,137,130	1,699,487	2,447,152	6,644,987	9,092,139
2015	1,462,087	1,604,541	3,066,628	236,122	224,988	768,028	1,229,138	2,441,482	6,631,578	9,073,060
2016	1,443,036	1,604,541	3,047,577	217,064	201,162	594,239	1,012,465	2,432,331	6,609,998	9,042,329
2017	1,419,224	1,604,541	3,023,765	185,972	172,545	479,962	838,479	2,414,189	6,567,467	8,981,656
2018	1,339,087	1,604,541	2,943,628	144,443	133,247	357,712	635,402	2,400,044	6,534,254	8,934,298
2019	1,294,957	1,604,541	2,899,498	106,309	98,568	256,021	460,898	2,396,382	6,525,570	8,921,952
2020	1,290,825	1,604,541	2,895,366	92,428	85,428	217,087	394,943	2,394,450	6,520,970	8,915,420
2021	1,288,283	1,604,541	2,892,824	89,425	82,534	210,186	382,145	2,393,188	6,517,939	8,911,127
2022	1,286,791	1,604,541	2,891,332	88,810	81,802	205,906	376,518	2,392,251	6,515,632	8,907,883
2023	1,285,702	1,576,744	2,862,446	88,184	81,205	202,669	372,058	2,391,781	6,514,483	8,906,264
2024	1,282,709	1,575,288	2,857,997	87,650	80,670	200,664	368,984	2,391,410	6,513,564	8,904,974
2025	1,273,900	1,572,306	2,846,206	86,850	79,765	196,942	363,557	2,390,958	6,512,464	8,903,422
2026	1,268,850	1,568,141	2,836,991	85,999	78,972	194,835	359,806	2,284,381	6,263,443	8,547,824
2027	1,265,594	1,564,232	2,829,826	84,268	77,301	189,257	350,826	2,281,825	6,257,007	8,538,832
2028	1,262,099	1,560,725	2,822,824	81,930	75,113	182,501	339,544	2,275,460	6,241,980	8,517,440
2029	1,258,442	1,557,244	2,815,686	78,838	72,259	174,763	325,860	2,273,829	6,238,050	8,511,879
2030	1,247,117	1,544,958	2,792,075	76,826	70,373	169,788	316,987	2,271,898	6,233,405	8,505,303
2031	1,234,393	1,531,208	2,765,601	75,090	68,740	165,434	309,264	2,269,714	6,228,197	8,497,911
2032	1,188,267	1,473,367	2,661,634	69,773	63,811	153,127	286,711	2,262,704	6,211,623	8,474,327
2033	1,132,464	1,408,813	2,541,277	61,414	56,124	134,361	251,899	2,251,450	6,185,222	8,436,672
2034	852,277	1,049,929	1,902,206	50,694	46,319	110,898	207,911	2,229,239	6,129,784	8,359,023
2035	276,859	349,834	626,693	37,195	34,049	81,303	152,547	2,187,260	6,014,652	8,201,912
TOTAL	73,054,784	80,177,092	153,231,876	20,665,159	22,242,404	83,299,348	126,206,911	116,589,512	316,409,540	432,999,052

a) Unadjusted for prior overpayments or underpayments of charges.
b) Determined at the current project interest rate of 4.606 percent per annum.

Transportation Charge for Each Contractor[a][b]

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[c]	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	64,286	0	0	0	0	64,286
1966	0	0	0	0	120,273	0	0	0	0	120,273
1967	0	0	0	0	233,297	0	0	0	0	233,297
1968	35,783	79,678	3,524	0	335,867	437,588	8,498	4,799	64,913	970,650
1969	48,356	79,817	10,572	14,192	392,225	898,652	9,005	5,216	232,893	1,690,928
1970	55,126	87,479	10,572	14,783	423,708	1,093,031	9,254	5,425	168,510	1,867,888
1971	64,797	99,737	10,572	13,601	444,889	1,451,741	9,395	5,842	181,227	2,281,801
1972	74,468	111,438	10,572	15,375	454,622	2,173,855	9,463	11,197	582,895	3,443,885
1973	84,140	122,582	10,572	17,149	458,856	2,507,210	9,493	6,468	215,417	3,431,887
1974	93,811	186,045	10,572	19,514	460,897	2,807,700	9,510	7,243	365,576	3,960,868
1975	103,482	225,968	10,572	22,222	463,216	3,362,855	9,535	7,462	437,171	4,642,483
1976	113,153	172,288	10,572	23,062	465,076	3,625,126	9,570	8,428	306,322	4,733,597
1977	122,824	169,385	10,572	24,836	467,782	3,972,097	9,613	7,720	290,388	5,075,217
1978	122,824	181,086	10,572	27,201	469,602	4,415,320	9,635	8,138	311,054	5,555,432
1979	122,824	214,763	10,572	28,975	470,943	4,848,212	9,661	8,346	351,544	6,065,840
1980	122,824	228,447	10,572	30,749	472,654	5,290,496	9,700	11,894	352,387	6,529,723
1981	122,824	216,189	10,572	33,114	475,602	5,790,060	9,753	8,972	373,053	7,040,139
1982	122,824	228,447	10,572	34,888	489,952	6,251,123	10,125	9,390	393,719	7,551,040
1983	122,824	239,034	10,572	36,662	513,730	6,776,041	10,708	9,598	414,385	8,133,554
1984	122,824	251,292	10,572	38,436	539,297	7,249,312	11,258	10,016	435,052	8,668,059
1985	122,824	262,993	10,572	40,802	565,803	7,710,376	11,837	10,224	455,718	9,191,149
1986	122,824	274,694	10,572	42,576	591,538	8,167,684	12,455	10,642	476,914	9,709,899
1987	122,824	286,395	10,572	44,350	623,982	8,633,443	13,363	10,850	497,580	10,243,359
1988	122,824	298,096	10,572	46,124	659,121	9,068,214	14,377	11,268	518,247	10,748,843
1989	122,824	309,797	10,572	48,489	685,560	9,381,850	15,154	11,685	538,913	11,124,844
1990	122,824	321,498	10,572	50,263	698,650	9,707,693	15,585	11,894	582,895	11,521,874
1991	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1992	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1993	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1994	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1995	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1996	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1997	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1998	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
1999	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2000	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2001	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2002	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2003	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2004	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2005	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2006	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2007	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2008	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2009	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2010	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2011	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2012	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2013	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2014	122,824	321,498	10,572	50,263	701,786	9,707,693	15,689	11,894	582,895	11,525,114
2015	122,824	321,498	10,572	50,263	637,499	9,707,693	15,689	11,894	582,895	11,460,827
2016	122,824	321,498	10,572	50,263	581,513	9,707,693	15,689	11,894	582,895	11,404,841
2017	122,824	321,498	10,572	50,263	468,489	9,707,693	15,689	11,894	582,895	11,291,817
2018	122,824	321,498	10,572	50,263	365,918	9,707,693	7,191	11,894	582,895	11,180,748
2019	122,824	321,498	10,572	50,263	309,561	9,707,693	6,684	11,894	582,895	11,123,884
2020	122,824	321,498	10,572	50,263	278,078	9,707,693	6,435	11,894	582,895	11,092,152
2021	122,824	321,498	10,572	50,263	256,897	9,707,693	6,294	11,894	582,895	11,070,830
2022	122,824	321,498	10,572	50,263	247,163	9,707,693	6,227	11,894	582,895	11,061,029
2023	122,824	321,498	10,572	50,263	242,930	9,707,693	6,196	11,894	582,895	11,056,765
2024	122,824	321,498	10,572	50,263	240,888	9,707,693	6,179	11,894	582,895	11,054,706
2025	122,824	321,498	10,572	50,263	238,570	9,707,693	6,154	11,894	582,895	11,052,363
2026	122,824	321,498	10,572	50,263	236,710	9,707,693	6,119	11,894	582,895	11,050,468
2027	122,824	321,498	10,572	50,263	234,004	9,707,693	6,076	11,894	582,895	11,047,719
2028	122,824	321,498	10,572	50,263	232,184	9,707,693	6,054	11,894	582,895	11,045,877
2029	122,824	321,498	10,572	50,263	230,842	9,707,693	6,028	11,894	582,895	11,044,509
2030	122,824	321,498	10,572	50,263	229,132	9,707,693	5,989	11,894	582,895	11,042,760
2031	122,824	321,498	10,572	50,263	226,183	9,707,693	5,936	11,894	582,895	11,039,758
2032	122,824	321,498	10,572	50,263	211,834	9,707,693	5,564	11,894	582,895	11,025,037
2033	122,824	321,498	10,572	50,263	188,055	9,707,693	4,981	11,894	582,895	11,000,675
2034	122,824	321,498	10,572	50,263	162,489	9,707,693	4,431	11,894	582,895	10,974,559
2035	122,712	321,535	10,452	50,262	136,001	9,707,573	3,836	11,877	582,840	10,947,088
TOTAL	7,919,620	19,114,595	711,728	2,929,197	34,839,232	552,465,744	776,924	737,930	34,776,993	654,271,963

c) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

Table B-15A: Capital Cost Component of

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1963	33,375	0	0	0	0	0	0	0	51,756	0
1964	62,940	20,137	14,434	4,367	37,183	1,144	28,462	8,215	82,745	34,986
1965	118,739	38,224	25,112	7,193	40,799	2,085	50,365	15,239	135,048	35,348
1966	216,049	72,294	44,770	12,483	73,219	3,758	90,493	27,712	232,577	61,495
1967	418,021	148,698	86,205	23,488	141,553	7,293	175,367	54,090	433,621	115,659
1968	672,044	292,406	141,176	38,590	232,210	11,800	286,711	87,430	730,521	194,724
1969	974,591	444,155	210,107	57,374	345,892	17,281	426,446	127,457	1,137,641	303,000
1970	1,272,066	566,796	296,339	84,903	488,108	23,474	592,612	171,647	1,693,235	444,217
1971	1,529,192	699,449	400,894	120,338	660,544	28,904	790,066	209,267	2,396,190	620,389
1972	1,660,907	788,369	455,527	137,595	750,647	31,373	896,498	226,998	2,810,773	721,646
1973	1,710,650	804,280	472,448	142,291	778,554	32,350	930,600	233,861	2,947,850	757,200
1974	1,728,765	844,478	480,534	146,479	791,889	32,673	942,747	236,218	3,037,521	777,759
1975	1,751,836	856,423	493,742	150,255	813,672	33,089	969,170	239,240	3,119,918	799,458
1976	1,764,784	866,378	503,606	152,946	829,940	33,342	989,146	240,976	3,198,017	820,231
1977	1,776,906	876,179	510,572	154,843	841,429	33,558	1,003,297	242,558	3,247,021	833,263
1978	1,786,918	888,182	515,193	156,151	849,048	33,747	1,012,578	243,906	3,276,985	841,141
1979	1,796,110	905,116	517,898	156,955	853,509	33,910	1,017,933	245,096	3,293,031	845,241
1980	1,811,860	941,253	521,538	157,932	859,513	34,172	1,025,345	247,048	3,311,231	850,116
1981	1,852,207	992,040	531,656	160,817	876,199	34,907	1,045,618	252,435	3,363,949	863,976
1982	1,967,813	1,053,259	554,125	166,866	913,255	36,845	1,091,687	266,963	3,472,073	893,357
1983	2,238,004	1,113,794	606,322	181,882	999,337	41,365	1,197,852	300,887	3,738,582	966,178
1984	2,461,703	1,172,229	651,889	196,331	1,074,486	45,108	1,289,354	328,974	3,994,380	1,036,308
1985	2,633,423	1,227,981	688,077	207,549	1,134,168	47,981	1,362,300	350,538	4,192,824	1,090,762
1986	2,759,055	1,275,451	713,553	214,161	1,176,182	50,011	1,414,844	365,773	4,309,762	1,122,859
1987	2,934,444	1,310,777	734,085	219,356	1,210,044	51,686	1,457,358	378,344	4,401,651	1,148,090
1988	3,183,186	1,341,814	753,650	224,304	1,242,309	53,296	1,497,883	390,423	4,489,178	1,172,126
1989	3,712,396	1,363,395	767,215	227,736	1,264,681	54,418	1,525,991	398,848	4,549,879	1,188,797
1990	4,312,685	1,367,843	769,865	228,406	1,269,052	54,663	1,531,511	400,683	4,561,732	1,192,058
1991	4,444,615	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1992	4,447,573	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1993	4,448,424	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1994	4,448,746	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1995	4,448,962	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1996	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1997	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1998	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
1999	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2000	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2001	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2002	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2003	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2004	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2005	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2006	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2007	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2008	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2009	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2010	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2011	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2012	4,449,181	1,368,861	770,470	228,559	1,270,048	54,719	1,532,770	401,105	4,564,434	1,192,802
2013	4,415,805	1,368,861	770,470	228,559	1,256,669	54,719	1,532,770	401,105	4,512,679	1,179,693
2014	4,386,240	1,348,724	756,036	224,192	1,246,861	53,574	1,504,308	392,891	4,481,689	1,171,530
2015	4,330,442	1,330,637	745,357	221,365	1,229,249	52,634	1,482,405	385,867	4,429,386	1,157,454
2016	4,233,132	1,296,568	725,699	216,076	1,196,830	50,961	1,442,277	373,393	4,331,858	1,131,307
2017	4,031,159	1,220,163	684,264	205,071	1,128,495	47,426	1,357,403	347,015	4,130,813	1,077,144
2018	3,777,136	1,076,455	629,294	189,968	1,037,838	42,919	1,246,059	313,675	3,833,913	998,078
2019	3,474,590	924,707	560,362	171,184	924,156	37,438	1,106,324	273,648	3,426,793	889,802
2020	3,177,115	802,065	474,130	143,656	781,940	31,245	940,158	229,459	2,871,199	748,586
2021	2,919,988	669,412	369,576	108,221	609,504	25,815	742,704	191,838	2,168,245	572,413
2022	2,788,273	580,492	314,943	90,964	519,402	23,346	636,272	174,108	1,753,661	471,156
2023	2,738,530	564,581	298,021	86,268	491,495	22,368	602,170	167,244	1,616,584	435,602
2024	2,720,415	524,383	289,936	82,080	478,159	22,046	590,023	164,888	1,526,914	415,043
2025	2,697,344	512,438	276,728	78,303	456,376	21,630	563,600	161,866	1,444,516	393,344
2026	2,684,397	502,484	266,863	75,613	440,108	21,377	543,624	160,129	1,366,417	372,571
2027	2,672,274	492,682	259,897	73,716	428,620	21,161	529,472	158,547	1,317,414	359,539
2028	2,662,263	480,679	255,277	72,408	421,000	20,972	520,191	157,200	1,287,449	351,661
2029	2,653,070	463,745	252,572	71,604	416,539	20,809	514,837	156,009	1,271,403	347,561
2030	2,637,320	427,608	248,932	70,627	410,536	20,547	507,425	154,057	1,253,203	342,686
2031	2,596,974	376,821	238,814	67,742	393,849	19,812	487,152	148,671	1,200,486	328,826
2032	2,481,367	315,603	216,345	61,693	356,793	17,874	441,083	134,142	1,092,361	299,445
2033	2,211,176	255,067	164,148	46,677	270,711	13,353	334,918	100,218	825,852	226,624
2034	1,987,477	196,632	118,581	32,228	195,562	9,611	243,416	72,131	570,055	156,494
2035	1,815,820	140,931	82,395	21,022	135,875	6,728	170,485	50,582	371,709	102,075
TOTAL	217,107,373	68,258,080	38,409,512	11,399,126	63,315,045	2,726,416	76,402,250	19,983,819	227,711,838	59,500,662

Transportation Charge for Each Contractor (a (b

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1963	0	691,938	0	777,069	0	0	0	0	46,224	1,396,348
1964	21,733	1,261,870	9,399	1,587,615	0	0	0	0	83,475	2,511,440
1965	21,867	2,183,414	17,804	2,691,237	0	0	404	404	139,144	4,219,376
1966	37,981	3,906,029	33,497	4,812,357	0	0	564	564	163,096	6,684,423
1967	71,333	7,706,951	68,308	9,450,587	0	0	562	562	204,532	11,731,483
1968	120,213	14,382,158	133,740	17,323,723	0	0	564	564	281,452	20,744,234
1969	187,272	21,924,032	203,399	26,358,647	0	0	3,189	3,189	346,038	30,793,035
1970	275,319	29,081,169	258,912	35,248,797	0	0	15,111	15,111	368,092	39,969,139
1971	385,395	37,354,184	317,642	45,512,454	0	0	15,937	15,937	372,081	50,670,827
1972	448,457	44,186,871	355,442	53,471,103	0	0	17,322	17,322	372,911	59,850,911
1973	470,590	46,419,605	358,793	56,059,072	0	0	17,322	17,322	373,634	62,462,570
1974	483,667	48,446,052	373,613	58,322,395	0	0	17,323	17,323	374,129	65,264,182
1975	497,134	49,409,016	378,018	59,510,971	0	0	17,326	17,326	375,920	67,154,937
1976	510,061	50,262,679	382,315	60,554,421	0	0	17,327	17,327	376,351	68,658,499
1977	518,150	50,954,059	386,646	61,378,481	0	0	17,329	17,329	377,282	69,850,247
1978	523,039	51,554,900	392,322	62,074,110	0	0	17,331	17,331	378,449	71,066,937
1979	525,583	52,261,021	400,314	62,851,717	0	0	17,333	17,333	379,735	72,382,624
1980	528,591	53,637,251	417,558	64,343,408	0	0	17,334	17,334	380,994	74,378,517
1981	537,162	55,757,729	441,503	66,710,198	0	0	17,335	17,335	382,094	77,298,415
1982	555,222	58,493,580	470,901	69,935,946	0	0	17,335	17,335	384,242	81,187,313
1983	599,977	62,047,872	500,020	74,532,072	0	0	17,335	17,335	387,552	86,562,089
1984	643,072	65,466,330	528,075	78,888,239	0	0	17,335	17,335	391,438	92,217,354
1985	676,527	68,487,705	554,562	82,654,397	0	0	17,335	17,335	398,783	98,002,093
1986	696,242	70,785,041	576,781	85,459,715	0	0	17,335	17,335	405,593	102,261,107
1987	711,734	72,519,763	593,445	87,670,777	0	0	17,335	17,335	409,361	105,741,475
1988	726,490	74,077,260	608,403	89,760,322	0	0	17,335	17,335	412,569	110,495,917
1989	736,724	75,159,439	618,802	91,568,321	0	0	17,335	17,335	414,240	115,493,493
1990	738,722	75,379,098	620,946	92,427,264	0	0	17,335	17,335	414,261	118,772,561
1991	739,178	75,429,334	621,437	92,618,332	0	0	17,335	17,335	414,261	119,194,522
1992	739,178	75,429,334	621,437	92,621,290	0	0	17,335	17,335	414,261	119,293,016
1993	739,178	75,429,334	621,437	92,622,141	0	0	17,335	17,335	414,261	119,297,587
1994	739,178	75,429,334	621,437	92,622,463	0	0	17,335	17,335	414,261	119,299,947
1995	739,178	75,429,334	621,437	92,622,679	0	0	17,335	17,335	414,261	119,300,812
1996	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
1997	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
1998	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
1999	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2000	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2001	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2002	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2003	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2004	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2005	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2006	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2007	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2008	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2009	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2010	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2011	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2012	739,178	75,429,334	621,437	92,622,898	0	0	17,335	17,335	414,261	119,301,031
2013	731,022	74,737,396	621,437	91,811,185	0	0	17,335	17,335	368,038	117,864,091
2014	725,977	74,167,464	612,038	91,071,524	0	0	17,335	17,335	330,787	116,803,014
2015	717,311	73,245,920	603,633	89,931,660	0	0	16,931	16,931	275,117	115,053,361
2016	701,197	71,523,305	587,940	87,810,543	0	0	16,771	16,771	251,165	112,585,691
2017	667,845	67,722,383	553,129	83,172,310	0	0	16,773	16,773	209,730	107,534,530
2018	618,965	61,047,176	487,696	75,299,172	0	0	16,771	16,771	132,809	99,142,828
2019	551,906	53,505,302	418,038	66,264,250	0	0	14,146	14,146	68,224	89,752,852
2020	463,859	46,348,165	362,525	57,374,102	0	0	2,224	2,224	46,169	80,720,376
2021	353,783	38,075,150	303,795	47,110,444	0	0	1,398	1,398	42,180	70,410,948
2022	290,721	31,242,463	265,995	39,151,796	0	0	13	13	41,351	62,429,922
2023	268,588	29,009,730	262,644	36,563,825	0	0	13	13	40,627	59,801,998
2024	255,511	26,983,282	247,824	34,300,504	0	0	12	12	40,133	57,527,310
2025	242,044	26,020,319	243,419	33,111,927	0	0	9	9	38,341	56,315,825
2026	229,117	25,166,655	239,122	32,068,477	0	0	8	8	37,911	54,901,485
2027	221,028	24,475,276	234,791	31,244,417	0	0	6	6	36,980	54,048,606
2028	216,139	23,874,434	229,115	30,548,788	0	0	4	4	35,812	53,310,289
2029	213,595	23,168,314	221,123	29,771,181	0	0	2	2	34,526	52,503,643
2030	210,587	21,792,083	203,879	28,279,490	0	0	4	4	33,268	50,969,887
2031	202,016	19,671,606	179,934	25,912,703	0	0	0	0	32,167	48,557,404
2032	183,956	16,935,754	150,536	22,686,952	0	0	0	0	30,020	45,164,681
2033	139,201	13,381,462	121,417	18,090,824	0	0	0	0	26,709	40,348,056
2034	96,106	9,963,004	93,362	13,734,659	0	0	0	0	22,824	35,201,182
2035	62,658	6,943,137	66,859	9,970,276	0	0	0	0	15,504	29,914,020
TOTAL	36,873,305	3,762,242,144	30,983,025	4,614,912,595	0	0	866,753	866,753	20,697,806	6,003,186,956

TABLE B-15B: CAPITAL COST COMPONENT OF

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	263	67	330	406	371	885	1,662	606	1,414	2,020
1981	4,689	1,201	5,890	7,248	6,627	15,797	29,672	10,814	25,245	36,059
1982	17,245	4,417	21,662	26,656	24,370	58,093	109,119	39,766	92,837	132,603
1983	31,318	8,021	39,339	48,409	44,257	105,500	198,166	72,218	168,599	240,817
1984	33,579	8,600	42,179	51,904	47,453	113,118	212,475	77,432	180,772	258,204
1985	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1986	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1987	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1988	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1989	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1990	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1991	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1992	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1993	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1994	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1995	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1996	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1997	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1998	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
1999	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
2000	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
2001	33,592	8,604	42,196	51,925	47,472	113,163	212,560	77,463	180,844	258,307
2002	33,330	8,536	41,866	51,519	47,101	112,278	210,898	76,858	179,431	256,289
2003	28,903	7,403	36,306	44,676	40,845	97,366	182,887	66,650	155,599	222,249
2004	16,348	4,187	20,535	25,269	23,102	55,070	103,441	37,697	88,007	125,704
2005	2,275	583	2,858	3,516	3,214	7,663	14,393	5,245	12,246	17,491
2006	11	5	16	20	26	50	96	35	68	103
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	739,025	189,288	928,313	1,142,348	1,044,390	2,489,591	4,676,329	1,704,192	3,978,566	5,682,758

a) Unadjusted for prior overpayments or underpayments of charges.
b) Determined at the current project interest rate of 4.606 percent per annum.

REID GARDNER UNIT 4 CHARGE FOR EACH CONTRACTOR[a] [b]

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[c]	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1968	1,779	4,695	238	0	0	25,248	0	449	3,933	36,342
1969	2,404	4,703	714	836	0	51,850	0	488	14,109	75,104
1970	2,741	5,155	714	871	0	63,065	0	508	10,208	83,262
1971	3,222	5,877	714	801	0	83,762	0	547	10,979	105,902
1972	3,702	6,567	714	906	0	125,426	0	1,048	35,312	173,675
1973	4,183	7,223	714	1,010	0	144,660	0	605	13,050	171,445
1974	4,664	10,963	714	1,150	0	161,997	0	678	22,147	202,313
1975	5,145	13,315	714	1,309	0	194,028	0	698	26,484	241,693
1976	5,626	10,152	714	1,359	0	209,160	0	789	18,557	246,357
1977	6,107	9,981	714	1,463	0	229,180	0	722	17,592	265,759
1978	6,107	10,671	714	1,603	0	254,752	0	761	18,844	293,452
1979	6,107	12,655	714	1,707	0	279,729	0	781	21,297	322,990
1980	6,107	13,461	714	1,812	790	305,248	16	1,113	21,348	350,609
1981	6,107	12,739	714	1,951	14,100	334,071	286	839	22,600	393,407
1982	6,107	13,461	714	2,056	51,852	360,674	1,053	878	23,852	460,647
1983	6,107	14,085	714	2,160	94,166	390,960	1,913	898	25,104	536,107
1984	6,107	14,808	714	2,265	100,966	418,267	2,051	937	26,356	572,471
1985	6,107	15,497	714	2,404	101,006	444,869	2,052	957	27,608	601,214
1986	6,107	16,186	714	2,509	101,006	471,254	2,052	996	28,892	629,716
1987	6,107	16,876	714	2,613	101,006	498,127	2,052	1,015	30,144	658,654
1988	6,107	17,565	714	2,718	101,006	523,212	2,052	1,054	31,396	685,824
1989	6,107	18,255	714	2,857	101,006	541,308	2,052	1,093	32,648	706,040
1990	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1991	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1992	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1993	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1994	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1995	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1996	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1997	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1998	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
1999	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
2000	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
2001	6,107	18,944	714	2,962	101,006	560,109	2,052	1,113	35,312	728,319
2002	6,107	18,944	714	2,962	100,216	560,109	2,036	1,113	35,312	727,513
2003	6,107	18,944	714	2,962	86,906	560,109	1,765	1,113	35,312	713,932
2004	6,107	18,944	714	2,962	49,154	560,109	999	1,113	35,312	675,414
2005	6,107	18,944	714	2,962	6,840	560,109	139	1,113	35,312	632,240
2006	6,088	18,958	771	2,914	42	560,057	-1	1,169	35,367	625,365
2007	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2008	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2009	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2010	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2011	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2012	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2013	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2014	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2015	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2016	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2017	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2018	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2019	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2020	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2021	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2022	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2023	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2024	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2025	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2026	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2027	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2028	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2029	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2030	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2031	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2032	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2033	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2034	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
2035	6,107	18,944	714	2,962	0	560,109	0	1,113	35,312	625,261
TOTAL	393,760	1,126,328	48,133	172,564	2,222,134	31,875,809	45,141	69,108	2,106,867	38,059,844

c) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-15B: CAPITAL COST COMPONENT OF

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0
1980	4,843	1,597	1,026	259	1,692	81	2,121	608	4,587	1,259
1981	86,482	28,518	18,317	4,632	30,207	1,447	37,873	10,862	81,915	22,482
1982	318,032	104,872	67,358	17,034	111,085	5,322	139,274	39,944	301,234	82,675
1983	577,568	190,456	122,326	30,936	201,739	9,665	252,932	72,541	547,063	150,144
1984	619,273	204,208	131,159	33,169	216,305	10,363	271,196	77,779	586,564	160,985
1985	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1986	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1987	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1988	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1989	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1990	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1991	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1992	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1993	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1994	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1995	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1996	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1997	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1998	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
1999	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
2000	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
2001	619,519	204,289	131,211	33,183	216,391	10,367	271,304	77,810	586,797	161,050
2002	614,676	202,692	130,185	32,923	214,700	10,286	269,183	77,202	582,210	159,791
2003	533,036	175,771	112,894	28,550	186,184	8,920	233,431	66,948	504,883	138,568
2004	301,487	99,417	63,853	16,148	105,306	5,045	132,029	37,866	285,563	78,374
2005	41,951	13,833	8,885	2,247	14,653	702	18,371	5,269	39,735	10,905
2006	244	80	50	15	87	10	108	33	236	61
2007	0	0	0	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0	0	0	0
2011	0	0	0	0	0	0	0	0	0	0
2012	0	0	0	0	0	0	0	0	0	0
2013	0	0	0	0	0	0	0	0	0	0
2014	0	0	0	0	0	0	0	0	0	0
2015	0	0	0	0	0	0	0	0	0	0
2016	0	0	0	0	0	0	0	0	0	0
2017	0	0	0	0	0	0	0	0	0	0
2018	0	0	0	0	0	0	0	0	0	0
2019	0	0	0	0	0	0	0	0	0	0
2020	0	0	0	0	0	0	0	0	0	0
2021	0	0	0	0	0	0	0	0	0	0
2022	0	0	0	0	0	0	0	0	0	0
2023	0	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0	0
TOTAL	13,629,415	4,494,357	2,886,640	730,024	4,760,605	228,080	5,968,686	1,711,822	12,909,539	3,543,094

REID GARDNER UNIT 4 CHARGE FOR EACH CONTRACTOR[a (b

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1968	0	0	0	0	0	0	0	0	0	36,342
1969	0	0	0	0	0	0	0	0	0	75,104
1970	0	0	0	0	0	0	0	0	0	83,262
1971	0	0	0	0	0	0	0	0	0	105,902
1972	0	0	0	0	0	0	0	0	0	173,675
1973	0	0	0	0	0	0	0	0	0	171,445
1974	0	0	0	0	0	0	0	0	0	202,313
1975	0	0	0	0	0	0	0	0	0	241,693
1976	0	0	0	0	0	0	0	0	0	246,357
1977	0	0	0	0	0	0	0	0	0	265,759
1978	0	0	0	0	0	0	0	0	0	293,452
1979	0	0	0	0	0	0	0	0	0	322,990
1980	773	80,562	770	100,178	0	0	0	0	142	454,941
1981	13,811	1,438,593	13,744	1,788,883	0	0	0	0	2,531	2,256,442
1982	50,789	5,290,296	50,541	6,578,456	0	0	0	0	9,308	7,311,795
1983	92,237	9,607,556	91,786	11,946,949	0	0	0	0	16,903	12,978,281
1984	98,897	10,301,287	98,413	12,809,598	0	0	0	0	18,124	13,913,051
1985	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	13,947,099
1986	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	13,975,601
1987	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,004,539
1988	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,031,709
1989	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,051,925
1990	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1991	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1992	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1993	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1994	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1995	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1996	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1997	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1998	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
1999	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
2000	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
2001	98,936	10,305,382	98,452	12,814,691	0	0	0	0	18,131	14,074,204
2002	98,163	10,224,820	97,683	12,714,514	0	0	0	0	17,989	13,969,069
2003	85,125	8,866,789	84,709	11,025,808	0	0	0	0	15,600	12,196,782
2004	48,147	5,015,086	47,912	6,236,233	0	0	0	0	8,823	7,170,150
2005	6,699	697,825	6,667	867,742	0	0	0	0	1,228	1,535,952
2006	45	4,101	42	5,112	0	0	0	0	2	630,694
2007	0	0	0	0	0	0	0	0	0	625,261
2008	0	0	0	0	0	0	0	0	0	625,261
2009	0	0	0	0	0	0	0	0	0	625,261
2010	0	0	0	0	0	0	0	0	0	625,261
2011	0	0	0	0	0	0	0	0	0	625,261
2012	0	0	0	0	0	0	0	0	0	625,261
2013	0	0	0	0	0	0	0	0	0	625,261
2014	0	0	0	0	0	0	0	0	0	625,261
2015	0	0	0	0	0	0	0	0	0	625,261
2016	0	0	0	0	0	0	0	0	0	625,261
2017	0	0	0	0	0	0	0	0	0	625,261
2018	0	0	0	0	0	0	0	0	0	625,261
2019	0	0	0	0	0	0	0	0	0	625,261
2020	0	0	0	0	0	0	0	0	0	625,261
2021	0	0	0	0	0	0	0	0	0	625,261
2022	0	0	0	0	0	0	0	0	0	625,261
2023	0	0	0	0	0	0	0	0	0	625,261
2024	0	0	0	0	0	0	0	0	0	625,261
2025	0	0	0	0	0	0	0	0	0	625,261
2026	0	0	0	0	0	0	0	0	0	625,261
2027	0	0	0	0	0	0	0	0	0	625,261
2028	0	0	0	0	0	0	0	0	0	625,261
2029	0	0	0	0	0	0	0	0	0	625,261
2030	0	0	0	0	0	0	0	0	0	625,261
2031	0	0	0	0	0	0	0	0	0	625,261
2032	0	0	0	0	0	0	0	0	0	625,261
2033	0	0	0	0	0	0	0	0	0	625,261
2034	0	0	0	0	0	0	0	0	0	625,261
2035	0	0	0	0	0	0	0	0	0	625,261
TOTAL	2,176,598	226,718,409	2,165,951	281,923,220	0	0	0	0	398,877	331,669,341

TABLE B-16: MINIMUM OMP&R COMPONENT OF

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	9,699	8,868	0	18,567	0	0	0
1963	0	0	0	38,048	34,788	82,896	155,732	0	0	0
1964	0	0	0	41,148	38,323	91,320	170,791	0	0	0
1965	0	0	0	78,529	75,616	195,792	349,937	0	0	0
1966	0	0	0	79,753	78,779	218,544	377,076	0	0	0
1967	0	0	0	127,896	123,666	335,224	586,786	0	0	0
1968	130	0	130	126,058	120,563	333,506	580,127	11,759	27,450	39,209
1969	80,875	0	80,875	145,410	138,051	372,584	656,045	62,888	146,817	209,705
1970	94,872	0	94,872	128,993	120,246	320,663	569,902	73,922	172,581	246,503
1971	45,579	0	45,579	113,071	108,346	296,004	517,421	73,788	172,265	246,053
1972	37,895	0	37,895	122,407	117,483	334,366	574,256	78,963	184,346	263,309
1973	32,993	0	32,993	122,738	116,785	325,727	565,250	75,523	176,314	251,837
1974	46,498	0	46,498	154,434	146,929	403,081	704,444	76,452	178,480	254,932
1975	37,707	0	37,707	189,176	182,087	513,823	885,086	92,535	216,029	308,564
1976	60,930	0	60,930	203,071	193,441	524,829	921,341	94,701	221,091	315,792
1977	79,971	0	79,971	180,093	169,269	500,590	849,952	102,745	239,871	342,616
1978	59,717	0	59,717	245,655	234,662	661,686	1,142,003	106,738	249,189	355,927
1979	75,755	0	75,755	236,944	232,052	666,539	1,135,535	101,160	236,167	337,327
1980	80,877	0	80,877	368,518	351,818	953,170	1,673,506	122,972	287,087	410,059
1981	107,137	0	107,137	337,218	323,071	872,163	1,532,452	170,692	398,493	569,185
1982	135,502	0	135,502	422,803	407,903	1,092,893	1,923,599	194,165	453,293	647,458
1983	158,199	0	158,199	532,401	514,279	1,362,017	2,408,697	221,304	516,650	737,954
1984	159,114	0	159,114	558,550	539,005	1,426,177	2,523,732	226,007	527,636	753,643
1985	336,348	236,141	572,489	554,333	535,358	1,416,380	2,506,071	227,851	531,937	759,788
1986	326,999	228,780	555,779	554,436	535,353	1,416,155	2,505,944	228,780	534,108	762,888
1987	321,470	222,678	544,148	550,796	531,734	1,405,962	2,488,492	227,590	531,334	758,924
1988	319,868	221,642	541,510	545,404	526,651	1,393,088	2,465,143	226,530	528,848	755,378
1989	322,905	223,605	546,510	547,809	528,992	1,399,391	2,476,192	227,861	531,966	759,827
1990	319,448	221,613	541,061	539,718	521,214	1,378,938	2,439,870	348,467	839,216	1,187,683
1991	322,433	223,749	546,182	547,778	528,868	1,398,594	2,475,240	355,634	856,894	1,212,528
1992	323,125	223,506	546,631	545,648	526,890	1,393,731	2,466,269	354,644	853,876	1,208,520
1993	324,151	224,258	548,409	548,794	529,862	1,401,295	2,479,951	358,503	863,350	1,221,853
1994	326,217	225,027	551,244	550,839	531,834	1,406,486	2,489,159	361,704	871,123	1,232,827
1995	329,378	226,872	556,250	554,726	535,553	1,416,171	2,506,450	366,037	881,077	1,247,114
1996	331,648	228,155	559,803	556,357	537,293	1,421,565	2,515,215	367,074	883,335	1,250,409
1997	332,171	228,154	560,325	556,388	537,242	1,421,031	2,514,661	371,767	894,715	1,266,482
1998	332,033	227,725	559,758	554,751	535,766	1,417,640	2,508,157	370,669	891,875	1,262,544
1999	331,573	227,738	559,311	553,992	534,994	1,415,399	2,504,385	373,829	899,566	1,273,395
2000	332,499	228,072	560,571	553,953	535,081	1,416,231	2,505,265	374,557	901,324	1,275,881
2001	333,316	227,950	561,266	553,274	534,442	1,414,627	2,502,343	375,089	902,562	1,277,651
2002	332,864	227,986	560,850	554,026	535,051	1,415,673	2,504,750	378,773	911,906	1,290,679
2003	332,327	227,597	559,924	551,742	532,914	1,410,321	2,494,977	377,180	907,838	1,285,018
2004	334,227	228,235	562,462	552,516	533,707	1,412,635	2,498,858	378,027	909,800	1,287,827
2005	334,232	228,245	562,477	551,951	533,190	1,411,399	2,496,540	377,880	909,497	1,287,377
2006	333,632	228,848	562,480	551,244	532,544	1,409,866	2,493,654	377,011	907,431	1,284,442
2007	345,650	239,985	585,635	588,655	568,666	1,508,529	2,665,850	385,768	928,103	1,313,871
2008	345,247	239,376	584,623	587,317	567,445	1,505,584	2,660,346	383,895	923,607	1,307,502
2009	345,266	239,405	584,671	587,110	567,257	1,505,168	2,659,535	383,477	923,154	1,306,631
2010	345,274	239,418	584,692	586,314	566,529	1,503,438	2,656,281	381,768	918,865	1,300,633
2011	345,534	239,615	585,149	586,193	566,445	1,503,362	2,656,000	381,377	918,466	1,299,843
2012	345,537	239,621	585,158	585,923	566,197	1,502,772	2,654,892	382,491	920,809	1,303,300
2013	344,607	239,725	584,332	585,342	565,675	1,501,555	2,652,572	381,215	918,743	1,299,958
2014	345,084	240,446	585,530	585,360	565,699	1,501,635	2,652,694	382,173	922,062	1,304,235
2015	344,744	239,932	584,676	584,556	564,973	1,499,921	2,649,450	381,223	920,603	1,301,826
2016	345,178	240,587	585,765	584,846	565,240	1,500,565	2,650,651	381,801	922,374	1,304,175
2017	345,200	240,622	585,822	584,751	565,157	1,500,380	2,650,288	381,746	922,489	1,304,235
2018	345,685	241,353	587,038	585,236	565,610	1,501,497	2,652,343	383,606	927,971	1,311,577
2019	346,671	241,333	588,004	585,422	565,778	1,501,891	2,653,091	383,117	926,599	1,309,716
2020	346,692	241,364	588,056	586,749	566,972	1,505,036	2,658,757	382,291	924,896	1,307,187
2021	346,687	241,359	588,046	585,971	566,277	1,503,159	2,655,407	383,183	926,884	1,310,067
2022	333,382	228,693	562,075	538,306	520,359	1,378,383	2,437,048	379,382	918,135	1,297,517
2023	333,380	228,692	562,072	538,997	520,994	1,379,855	2,439,846	379,852	919,127	1,298,979
2024	333,393	228,712	562,105	538,559	520,590	1,378,935	2,438,084	379,142	917,577	1,296,719
2025	333,812	229,346	563,158	539,233	521,211	1,380,415	2,440,859	379,648	918,984	1,298,632
2026	333,808	229,340	563,148	538,820	520,831	1,379,510	2,439,161	379,355	918,182	1,297,537
2027	329,722	226,861	556,583	533,173	515,402	1,364,806	2,413,381	363,950	882,210	1,246,160
2028	330,700	226,828	557,528	532,953	515,196	1,364,304	2,412,453	364,073	882,196	1,246,269
2029	329,728	226,868	556,596	533,603	515,793	1,365,741	2,415,137	364,375	883,249	1,247,624
2030	330,718	226,853	557,571	533,211	515,435	1,364,880	2,413,526	364,360	883,072	1,247,432
2031	330,718	226,853	557,571	533,615	515,803	1,365,759	2,415,177	364,461	883,309	1,247,770
2032	330,705	226,835	557,540	533,635	515,820	1,365,794	2,415,249	361,250	875,596	1,236,846
2033	329,351	226,300	555,651	533,274	515,494	1,365,037	2,413,805	361,045	875,691	1,236,736
2034	330,693	226,816	557,509	533,411	515,614	1,365,292	2,414,317	361,285	875,496	1,236,781
2035	329,351	226,300	555,651	533,159	515,389	1,364,785	2,413,333	361,291	876,267	1,237,558
TOTAL	18,349,132	11,776,014	30,125,146	32,976,782	31,828,414	84,604,160	149,409,356	20,194,371	48,502,053	68,696,424

a) Unadjusted for prior overpayments or underpayments of charges.

TRANSPORTATION CHARGE FOR EACH CONTRACTOR[a]

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[b]	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	8,363	37,806	1,963	5,569	60,702	678,085	2,007	2,073	72,021	868,589
1969	44,176	45,479	2,237	6,699	80,553	1,197,127	2,286	2,086	84,072	1,464,715
1970	51,905	46,969	2,292	6,920	96,672	1,381,493	2,345	2,158	86,488	1,677,242
1971	51,813	47,997	2,315	7,071	106,654	1,642,996	2,366	2,288	87,803	1,951,303
1972	55,444	49,867	2,414	7,346	122,312	1,728,973	2,470	2,254	91,430	2,062,510
1973	53,035	50,005	2,386	7,367	125,553	1,719,558	2,439	2,310	90,964	2,053,617
1974	53,696	52,816	2,557	7,780	135,661	1,822,283	2,615	2,529	96,829	2,176,766
1975	65,000	66,962	3,242	9,864	162,739	2,234,197	3,317	3,191	122,798	2,671,310
1976	66,516	66,508	3,327	9,798	159,316	2,215,717	3,405	2,919	124,154	2,651,660
1977	72,182	75,866	3,820	11,176	190,242	2,528,050	3,910	3,724	142,143	3,031,113
1978	74,971	75,004	3,724	11,048	186,634	2,541,188	3,810	3,916	139,396	3,039,691
1979	71,047	68,889	3,432	10,149	173,954	2,381,893	3,511	3,479	128,270	2,844,624
1980	86,390	90,931	4,482	13,395	225,951	3,033,619	4,583	4,547	168,337	3,632,235
1981	119,984	147,924	7,396	21,792	338,093	4,345,563	7,564	7,937	276,002	5,272,255
1982	136,466	159,337	7,939	23,471	372,456	4,838,774	8,119	7,258	296,745	5,850,565
1983	155,510	174,912	8,715	25,766	433,816	5,455,491	8,915	8,816	325,756	6,597,697
1984	158,787	171,339	8,513	25,240	437,242	5,501,370	8,707	9,204	318,591	6,638,993
1985	160,083	173,643	8,630	25,580	441,918	5,558,762	8,825	9,280	322,903	6,709,624
1986	160,748	177,643	8,834	26,168	447,842	5,625,650	9,037	9,638	330,520	6,796,080
1987	159,918	177,391	8,826	26,132	451,685	5,637,746	9,029	9,569	330,107	6,810,403
1988	159,176	178,169	8,867	26,247	452,204	5,640,712	9,070	9,653	331,593	6,815,691
1989	160,110	178,415	8,878	26,282	454,575	5,668,378	9,078	9,548	331,975	6,847,239
1990	167,785	175,701	8,740	25,882	448,203	5,538,393	8,938	9,484	326,915	6,710,041
1991	169,935	178,385	8,875	26,277	453,577	5,610,086	9,077	9,611	331,934	6,797,757
1992	170,070	176,131	8,753	25,946	450,914	5,581,600	8,953	9,493	327,546	6,759,406
1993	170,847	177,243	8,808	26,110	452,532	5,606,251	9,009	9,572	329,627	6,789,999
1994	171,267	177,239	8,806	26,111	453,133	5,614,834	9,007	9,533	329,588	6,799,518
1995	172,422	178,406	8,865	26,280	455,333	5,646,875	9,068	9,605	331,771	6,838,625
1996	173,293	179,040	8,897	26,375	456,838	5,669,291	9,100	9,641	332,925	6,865,400
1997	173,613	178,628	8,871	26,315	456,604	5,668,972	9,075	9,588	332,101	6,863,767
1998	173,379	178,164	8,848	26,247	456,163	5,661,143	9,049	9,554	331,217	6,853,764
1999	173,179	178,041	8,842	26,229	455,257	5,652,719	9,045	9,556	330,995	6,843,863
2000	173,582	178,204	8,849	26,250	455,899	5,661,975	9,052	9,559	331,273	6,854,643
2001	173,335	177,412	8,808	26,135	454,660	5,647,190	9,009	9,490	329,765	6,835,804
2002	173,720	179,194	8,901	26,398	456,836	5,674,642	9,104	9,665	333,158	6,871,618
2003	173,010	177,953	8,839	26,215	454,933	5,648,399	9,040	9,571	330,813	6,838,773
2004	173,350	177,914	8,833	26,210	455,049	5,652,520	9,036	9,553	330,720	6,843,185
2005	173,229	178,022	8,839	26,225	455,159	5,652,708	9,041	9,574	330,918	6,843,715
2006	173,055	177,564	8,815	26,159	454,605	5,645,012	9,016	9,531	330,047	6,833,804
2007	177,945	184,702	9,172	27,210	473,232	5,874,465	9,381	9,907	343,348	7,109,362
2008	177,741	184,128	9,142	27,124	472,393	5,863,731	9,350	9,864	342,252	7,095,725
2009	177,616	183,807	9,124	27,077	471,788	5,857,190	9,332	9,831	341,637	7,087,402
2010	177,400	183,502	9,109	27,032	471,273	5,850,161	9,317	9,809	341,056	7,078,659
2011	177,487	183,393	9,103	27,017	471,119	5,849,600	9,311	9,794	340,829	7,077,653
2012	178,001	183,006	9,080	26,958	471,248	5,854,106	9,288	9,746	340,024	7,081,457
2013	178,129	183,994	9,130	27,103	472,266	5,868,124	9,339	9,843	341,882	7,099,810
2014	178,272	183,692	9,113	27,060	472,148	5,867,841	9,321	9,772	341,270	7,098,489
2015	178,281	183,842	9,118	27,083	472,461	5,871,315	9,328	9,771	341,530	7,102,729
2016	178,477	183,946	9,123	27,098	472,623	5,875,040	9,331	9,767	341,714	7,107,119
2017	178,530	184,106	9,131	27,121	473,054	5,879,350	9,339	9,772	342,008	7,112,411
2018	178,857	184,601	9,155	27,194	474,450	5,894,944	9,362	9,773	342,916	7,131,252
2019	178,831	184,550	9,153	27,186	474,191	5,892,661	9,363	9,777	342,826	7,128,538
2020	178,772	184,547	9,152	27,186	474,487	5,894,194	9,361	9,768	342,814	7,130,281
2021	178,817	184,764	9,164	27,218	474,663	5,896,960	9,373	9,792	343,227	7,133,978
2022	176,695	175,125	8,664	25,798	454,682	5,664,838	8,861	9,162	324,860	6,848,685
2023	176,861	175,893	8,703	25,911	455,425	5,675,667	8,901	9,244	326,324	6,862,929
2024	176,725	175,235	8,668	25,816	454,982	5,667,778	8,866	9,166	325,066	6,852,302
2025	176,982	176,322	8,724	25,975	456,285	5,684,917	8,922	9,274	327,122	6,874,523
2026	176,830	175,659	8,691	25,878	455,445	5,674,310	8,889	9,207	325,865	6,860,774
2027	170,134	173,294	8,594	25,528	444,205	5,523,223	8,790	9,128	321,905	6,684,801
2028	169,951	172,564	8,557	25,420	443,075	5,509,982	8,752	9,064	320,530	6,667,895
2029	170,203	173,621	8,611	25,577	444,589	5,528,161	8,808	9,161	322,529	6,691,260
2030	170,051	172,973	8,578	25,481	443,726	5,517,434	8,773	9,099	321,302	6,677,417
2031	170,121	173,296	8,595	25,529	444,208	5,522,962	8,790	9,130	321,919	6,684,550
2032	168,782	172,811	8,576	25,456	442,044	5,491,640	8,772	9,102	321,131	6,648,314
2033	168,991	173,589	8,617	25,570	443,094	5,505,003	8,811	9,171	322,596	6,665,442
2034	168,688	172,430	8,559	25,403	441,339	5,483,924	8,752	9,071	320,410	6,638,576
2035	168,953	173,419	8,607	25,545	443,019	5,503,212	8,803	9,151	322,271	6,662,980
TOTAL	10,137,514	10,533,924	522,691	1,551,778	26,739,983	335,252,968	534,613	556,073	19,573,373	405,402,917

b) *Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.*

TABLE B–16: MINIMUM OMP&R COMPONENT OF

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley County Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	65,073	19,721	11,697	2,958	19,290	1,088	24,380	8,171	52,314	14,399
1969	86,340	26,169	15,522	3,924	25,595	1,444	32,346	10,843	69,418	19,106
1970	107,806	32,675	19,391	4,902	31,979	1,802	40,392	13,540	86,726	23,866
1971	178,822	54,193	32,230	8,152	53,149	2,991	66,998	22,459	144,137	39,636
1972	363,188	148,233	106,122	30,770	175,018	6,587	211,830	48,010	544,650	143,223
1973	403,572	172,797	119,511	34,093	197,099	7,303	239,771	53,695	710,908	186,675
1974	433,511	187,800	127,606	36,049	210,445	7,623	256,974	56,033	762,065	200,945
1975	503,161	232,535	146,832	41,798	242,157	9,008	295,041	65,172	872,649	230,472
1976	556,898	204,684	156,194	43,032	257,592	9,935	316,762	72,696	928,047	247,153
1977	675,531	272,680	181,156	46,721	298,757	11,841	373,767	87,125	1,039,957	281,974
1978	672,326	335,686	198,821	56,775	327,901	11,876	398,358	87,137	1,202,929	316,382
1979	657,808	287,755	190,414	50,603	314,026	11,986	389,603	86,335	1,069,885	291,548
1980	826,948	334,187	242,611	68,153	400,118	14,893	488,889	108,647	1,430,490	379,087
1981	1,060,943	476,686	285,507	75,969	470,853	18,833	584,397	137,580	1,573,583	423,785
1982	1,191,269	479,291	334,072	97,217	550,956	21,244	666,166	154,521	1,971,882	517,062
1983	1,768,356	731,798	468,753	124,117	773,064	31,245	960,056	228,721	2,465,732	664,931
1984	1,858,268	759,450	498,912	133,748	822,798	32,891	1,018,251	240,663	2,641,975	709,775
1985	1,868,248	775,687	514,868	148,783	849,124	33,118	1,027,017	242,222	2,909,863	762,625
1986	1,868,240	773,283	505,210	137,251	833,190	33,140	1,026,537	242,325	2,704,046	722,415
1987	1,935,728	750,125	537,801	163,398	886,957	34,250	1,055,695	250,698	3,166,147	817,414
1988	1,929,156	760,553	521,875	146,000	860,683	34,170	1,051,306	250,062	2,855,340	755,910
1989	1,951,805	815,976	516,336	132,863	851,537	34,618	1,064,918	253,226	2,623,019	713,011
1990	1,992,170	806,906	542,712	170,762	895,055	34,208	1,052,741	250,268	3,293,018	841,368
1991	1,998,037	777,600	515,830	134,114	850,702	34,426	1,060,917	251,797	2,644,277	716,401
1992	2,007,020	838,810	536,972	157,253	885,586	34,502	1,066,661	252,357	3,059,131	798,553
1993	2,003,027	759,842	525,390	143,241	866,470	34,462	1,066,370	251,983	2,811,040	750,165
1994	2,008,480	900,317	525,206	141,314	866,161	34,566	1,070,006	252,730	2,777,767	744,369
1995	2,010,528	698,111	544,704	163,750	898,337	34,605	1,072,980	252,996	3,178,061	823,089
1996	2,012,207	872,883	535,294	152,840	882,816	34,633	1,071,753	253,202	2,986,666	785,713
1997	2,014,770	752,006	523,540	137,592	863,417	34,686	1,073,642	253,584	2,714,835	732,948
1998	2,018,399	884,876	536,942	153,815	885,532	34,739	1,073,965	253,995	3,003,376	789,314
1999	2,009,640	736,027	529,454	146,265	873,177	34,601	1,070,545	252,940	2,868,413	762,338
2000	2,012,213	879,109	542,155	161,561	894,126	34,650	1,071,012	253,289	3,141,535	815,790
2001	2,011,841	806,556	544,274	164,312	897,628	34,645	1,070,674	253,250	3,190,165	825,205
2002	2,006,489	783,232	510,587	125,575	842,053	34,576	1,065,525	252,686	2,501,070	689,825
2003	2,007,527	851,227	531,013	150,848	875,752	34,586	1,064,830	252,775	2,949,681	777,194
2004	2,007,794	799,600	531,179	150,954	876,024	34,596	1,065,038	252,828	2,952,372	777,813
2005	2,007,264	801,277	549,972	174,181	907,029	34,590	1,064,457	252,776	3,365,182	858,252
2006	2,009,196	868,027	522,836	141,382	862,262	34,625	1,063,724	253,018	2,782,270	744,401
2007	2,091,461	769,171	561,233	169,417	925,596	35,804	1,104,106	261,719	3,290,684	851,222
2008	2,092,014	889,005	541,884	146,396	893,679	35,809	1,102,800	261,769	2,881,556	771,182
2009	2,089,920	846,199	543,498	148,777	896,339	35,788	1,101,925	261,567	2,923,870	779,283
2010	2,089,129	850,451	557,949	166,590	920,177	35,773	1,101,572	261,464	3,240,485	840,995
2011	2,088,536	857,393	567,861	178,623	936,535	35,773	1,101,738	261,442	3,454,511	882,792
2012	2,092,472	855,387	532,428	135,114	878,075	35,840	1,102,220	261,948	2,681,326	732,033
2013	2,085,206	840,836	553,492	161,160	912,831	35,753	1,101,539	261,210	3,144,278	822,238
2014	2,088,677	809,294	562,588	170,290	927,830	35,848	1,105,769	261,846	3,306,386	854,588
2015	2,089,242	1,002,843	527,876	126,994	870,563	35,890	1,107,680	262,067	2,536,930	704,801
2016	2,088,781	767,428	568,991	176,111	938,397	35,898	1,110,038	262,096	3,409,866	875,504
2017	2,091,378	859,897	534,583	133,403	881,631	35,953	1,111,493	262,475	2,650,769	727,663
2018	2,099,497	888,450	592,039	200,428	976,421	36,134	1,118,236	263,706	3,841,890	961,200
2019	2,097,179	720,608	549,617	149,230	906,430	36,089	1,116,895	263,381	2,932,091	783,477
2020	2,101,412	1,040,832	558,417	159,268	920,946	36,169	1,118,425	263,962	3,110,375	818,519
2021	2,099,309	803,467	571,546	175,639	942,607	36,134	1,117,708	263,694	3,401,364	875,169
2022	2,051,479	1,015,583	556,607	165,428	917,965	35,351	1,100,482	257,807	3,220,038	836,833
2023	2,045,687	713,059	537,954	143,865	887,191	35,253	1,097,875	257,075	2,836,880	761,634
2024	2,053,247	992,554	553,631	161,533	913,056	35,381	1,101,040	258,047	3,150,827	823,425
2025	2,048,382	762,987	539,965	145,357	890,510	35,311	1,099,939	257,488	2,863,357	767,151
2026	2,050,553	813,056	556,213	164,921	917,312	35,343	1,100,534	257,743	3,211,070	835,091
2027	1,952,915	865,272	529,843	158,326	873,831	34,078	1,045,737	248,502	3,074,850	797,820
2028	1,952,800	859,984	534,364	164,295	881,287	34,064	1,044,780	248,430	3,180,927	818,353
2029	1,951,832	771,545	517,881	143,829	854,086	34,062	1,045,494	248,373	2,817,160	747,506
2030	1,953,551	802,189	542,399	173,519	894,543	34,082	1,046,040	248,561	3,344,843	850,550
2031	1,953,643	850,388	518,257	144,369	854,708	34,084	1,045,315	248,563	2,826,800	749,356
2032	1,945,778	743,012	505,491	130,185	833,649	33,946	1,042,308	247,533	2,574,712	699,661
2033	1,943,631	932,275	526,564	155,913	868,415	33,928	1,042,324	247,362	3,032,009	788,876
2034	1,943,784	678,268	526,362	156,400	868,086	33,900	1,040,768	247,236	3,040,621	790,286
2035	1,945,953	1,019,926	521,846	149,897	860,632	33,964	1,042,867	247,637	2,925,068	768,107
TOTAL	114,277,047	47,069,729	30,570,880	8,712,312	50,417,743	1,980,984	61,251,941	14,471,058	170,950,164	45,009,447

TRANSPORTATION CHARGE FOR EACH CONTRACTOR[a]

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	18,567
1963	0	0	0	0	0	0	0	0	12,626	168,358
1964	0	0	0	0	0	0	0	0	13,938	184,729
1965	0	0	0	0	0	0	0	0	28,937	378,874
1966	0	0	0	0	0	0	0	0	31,321	408,397
1967	0	0	0	0	0	0	0	0	47,719	634,505
1968	8,819	972,746	9,504	1,210,160	0	0	0	0	46,945	2,745,160
1969	11,706	1,295,613	12,610	1,610,636	0	0	0	0	52,963	4,074,939
1970	14,621	1,624,573	15,745	2,018,018	0	0	0	0	69,745	4,676,282
1971	24,302	2,716,583	26,120	3,369,772	0	0	54	54	55,532	6,185,714
1972	88,578	8,057,910	68,808	9,992,927	0	0	40	40	80,412	13,011,349
1973	115,612	9,927,515	79,625	12,248,176	0	0	1	1	54,219	15,206,093
1974	124,375	11,623,546	86,023	14,112,995	0	0	143	143	76,783	17,372,561
1975	142,681	13,642,467	105,170	16,529,143	0	0	1,069	1,069	84,546	20,517,425
1976	152,798	12,928,474	98,608	15,972,873	0	0	139	139	106,720	20,029,455
1977	173,926	16,305,753	125,764	19,874,952	0	0	892	892	98,692	24,278,188
1978	195,970	19,202,471	146,891	23,153,523	0	0	39	39	103,164	27,854,064
1979	179,904	16,529,129	130,617	20,189,613	0	0	3,235	3,235	119,376	24,705,465
1980	234,548	20,546,555	155,341	25,230,467	0	0	577	577	164,321	31,192,042
1981	261,458	26,642,250	213,313	32,225,157	0	0	200	200	174,176	39,880,562
1982	320,325	27,811,818	220,860	34,336,683	0	0	200	200	217,164	43,111,171
1983	409,927	40,978,102	337,563	49,942,365	0	0	200	200	270,087	60,115,199
1984	437,828	42,923,770	351,083	52,429,412	0	0	200	200	283,509	62,788,603
1985	472,373	44,668,769	356,979	54,629,676	0	0	200	200	265,220	65,443,068
1986	446,034	41,725,418	356,153	51,373,242	0	0	200	200	267,570	62,261,703
1987	507,589	49,077,754	351,985	59,535,541	0	0	200	200	265,294	70,403,002
1988	467,411	43,084,038	355,066	53,071,570	0	0	200	200	263,486	63,912,978
1989	438,957	44,778,861	374,363	54,549,490	0	0	200	200	265,612	65,445,070
1990	523,396	47,949,744	370,206	58,722,554	0	0	200	200	261,248	69,862,657
1991	441,288	43,817,216	361,138	53,603,743	0	0	200	200	265,360	64,901,010
1992	494,949	48,486,316	381,552	58,999,662	0	0	200	200	264,289	70,244,977
1993	463,240	43,619,379	355,499	53,650,108	0	0	200	200	265,817	64,956,337
1994	459,347	49,476,558	401,751	59,658,572	0	0	200	200	266,879	70,998,399
1995	510,843	43,212,838	335,641	53,736,483	0	0	200	200	268,689	65,153,811
1996	486,358	49,724,215	393,052	60,191,632	0	0	200	200	270,017	71,652,676
1997	451,747	43,230,023	353,559	53,136,349	0	0	200	200	269,866	64,611,650
1998	488,670	50,716,753	397,279	61,237,655	0	0	200	200	269,321	72,691,399
1999	471,088	42,972,108	348,082	53,074,678	0	0	200	200	268,927	64,524,759
2000	506,087	49,336,036	395,102	60,042,665	0	0	200	200	269,398	71,508,623
2001	512,267	48,693,260	371,342	59,375,419	0	0	200	200	269,091	70,821,774
2002	423,689	43,980,211	363,504	53,579,022	0	0	200	200	269,364	65,076,483
2003	480,956	48,722,585	385,838	59,084,812	0	0	200	200	268,309	70,532,013
2004	481,353	46,712,507	368,995	57,011,053	0	0	200	200	268,848	68,472,433
2005	534,079	47,658,098	369,542	58,576,699	0	0	200	200	268,644	70,035,652
2006	459,494	47,451,121	391,535	57,583,891	0	0	200	200	268,383	69,026,854
2007	528,411	46,584,738	363,501	57,537,063	0	0	200	200	286,039	69,498,020
2008	475,996	50,785,562	402,798	61,280,450	0	0	200	200	285,154	73,214,000
2009	481,326	47,387,143	388,707	57,884,342	0	0	200	200	285,536	69,808,317
2010	521,771	49,974,939	390,054	60,951,349	0	0	200	200	285,269	72,857,083
2011	549,155	50,673,518	392,308	61,980,185	0	0	200	200	285,396	73,884,426
2012	450,359	47,192,947	391,867	57,342,016	0	0	200	200	285,295	69,252,318
2013	509,480	49,861,978	386,694	60,676,695	0	0	200	200	285,494	72,599,061
2014	530,577	46,482,956	376,517	57,513,166	0	0	200	200	285,778	69,440,092
2015	432,382	53,928,741	439,881	64,065,890	0	0	200	200	285,636	75,990,407
2016	544,180	47,816,833	362,754	58,956,877	0	0	200	200	285,859	70,890,646
2017	447,271	49,521,985	393,157	59,651,658	0	0	200	200	286,020	71,590,634
2018	600,134	52,386,115	402,857	64,367,107	0	0	200	200	286,594	76,336,111
2019	483,711	45,596,628	347,810	55,983,146	0	0	200	200	286,544	67,949,239
2020	506,633	56,414,560	452,852	67,502,370	0	0	200	200	290,717	79,477,568
2021	543,771	46,841,980	375,048	58,047,436	0	0	200	200	287,771	70,022,905
2022	519,080	57,348,792	441,225	68,466,670	0	0	200	200	265,603	79,877,798
2023	469,867	42,924,447	341,916	53,052,703	0	0	200	200	265,304	64,482,033
2024	510,280	54,629,627	433,786	65,616,434	0	0	200	200	265,674	77,031,518
2025	473,435	46,755,045	358,376	56,997,303	0	0	200	200	266,008	68,440,683
2026	517,936	48,467,552	374,887	59,302,211	0	0	200	200	265,791	70,728,822
2027	495,006	49,985,869	387,906	60,449,955	0	0	200	200	263,262	71,614,342
2028	508,485	48,164,383	386,189	58,778,341	0	0	200	200	263,041	69,925,727
2029	462,048	46,535,364	357,163	56,486,343	0	0	200	200	263,429	67,660,589
2030	529,552	48,629,370	367,290	59,416,489	0	0	200	200	263,226	70,575,861
2031	463,262	46,336,766	383,083	56,408,594	0	0	200	200	263,364	67,577,226
2032	430,770	44,484,819	347,575	54,019,439	0	0	200	200	263,283	65,140,871
2033	489,231	52,739,163	409,388	63,209,079	0	0	200	200	263,431	74,344,344
2034	490,195	41,160,226	326,294	51,302,426	0	0	200	200	263,123	62,412,932
2035	475,607	55,570,737	438,201	66,000,442	0	0	200	200	263,390	77,133,554
TOTAL	27,858,504	2,718,005,866	21,541,892	3,312,117,567	0	0	17,189	17,189	16,063,558	3,981,832,157

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)[b]

Calendar Year	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT				California Aqueduct	
	Reach 1 North Bay Pumping Plant		Reach 3 Cordelia Pumping Plant[c]		Reach 1 South Bay and Del Valle Pumping Plant[d]		Reach 1 Harvey O. Banks Delta Pumping Plant		Reach 4 Dos Amigos Pumping Plant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	0	4.1511341	4.1511341	0	0	0	0
1963	0	0	0	0	4.5639383	4.5639383	0	0	0	0
1964	0	0	0	0	3.5452154	3.5452154	0	0	0	0
1965	0	0	0	0	4.1911773	4.1911773	0	0	0	0
1966	0	0	0	0	3.5074573	3.5074573	0	0	0	0
1967	0	0	0	0	3.9306767	5.1337448	1.2030681	1.2030681	0	0
1968	0	0	5.7570016	5.7570016	3.3315620	4.8750942	1.5435322	1.5435322	1.0732031	2.6167353
1969	0	0	3.1823595	3.1823595	3.6949019	4.8016170	1.1067151	1.1067151	.7028165	1.8095316
1970	0	0	3.7584301	3.7584301	4.4256141	5.3721490	.9465349	.9465349	.7813430	1.7278779
1971	0	0	4.2082507	4.2082507	3.8714396	4.7522833	.8808437	.8808437	.4125312	1.2933749
1972	0	0	3.9577735	3.9577735	4.3250690	5.2281686	.9030996	.9030996	.5554925	1.4585921
1973	0	0	3.8103903	3.8103903	5.2455409	6.1841800	.9386391	.9386391	.5996892	1.5383283
1974	0	0	3.5878850	3.5878850	6.3321503	7.2293909	.8972406	.8972406	.5736894	1.4709300
1975	0	0	2.1606725	2.1606725	3.7365711	4.8327731	1.0962020	1.0962020	.4602594	1.5564614
1976	0	0	2.9283909	2.9283909	4.5191527	5.7132795	1.1941268	1.1941268	.5163827	1.7105095
1977	0	0	2.7456844	2.7456844	4.7519869	6.5139638	1.7619769	1.7619769	.5958898	2.3578667
1978	0	0	3.5982764	3.5982764	5.2120561	6.8243445	1.6122884	1.6122884	.4195185	2.0318069
1979	0	0	2.9265356	2.9265356	4.6349128	7.0050454	2.3701326	2.3701326	.7619637	3.1320963
1980	0	0	2.9794245	2.9794245	4.4063579	5.8920205	1.4856626	1.4856626	.7773586	2.2630212
1981	0	0	3.7779238	3.7779238	4.6657058	6.3525125	1.6868067	1.6868067	.7662144	2.4530211
1982	0	0	3.8374718	3.8374718	4.8511873	6.3796376	1.5284503	1.5284503	.8469403	2.3753906
1983	0	0	9.4594595	9.4594595	13.8648676	19.2954085	5.4305409	5.4305409	2.3867668	7.8173077
1984	0	0	10.6077348	10.6077348	17.0194938	23.8725696	6.8530758	6.8530758	3.1730470	10.0261228
1985	6.7599042	6.7599042	14.2231947	20.9830989	19.8640643	27.8120900	7.9480257	7.9480257	3.6620673	11.6100930
1986	7.2024468	7.2024468	14.8867314	22.0891782	20.9143446	29.2732712	8.3589266	8.3589266	3.8412251	12.2001517
1987	6.9147047	6.9147047	14.6652497	21.5799544	20.5818249	28.8328714	8.2510465	8.2510465	3.7981542	12.0492007
1988	7.5712144	7.5712144	15.9269484	23.4981628	22.4347059	31.4147073	8.9800014	8.9800014	4.1239323	13.1039337
1989	8.4531416	8.4531416	17.6000000	26.0531416	24.9617017	34.9313756	9.9696739	9.9696739	4.5665482	14.5362221
1990	8.2971009	8.2971009	17.1962617	25.4933626	24.2880399	34.0022102	9.7141703	9.7141703	4.4538473	14.1680176
1991	8.6163650	8.6163650	17.8104575	26.4268225	25.2968949	35.4161343	10.1192394	10.1192394	4.6341453	14.7533847
1992	8.4036668	8.4036668	17.3104435	25.7141103	24.6220094	34.4782641	9.8562547	9.8562547	4.5148627	14.3711174
1993	8.6081167	8.6081167	17.6546392	26.2627559	25.2297843	35.3299235	10.1001392	10.1001392	4.6248307	14.7249699
1994	8.7090218	8.7090218	17.8447277	26.5537495	25.5607033	35.7930170	10.2323137	10.2323137	4.6863373	14.9186510
1995	8.6340614	8.6340614	17.6595745	26.2936359	25.3075493	35.4463552	10.1388059	10.1388059	4.6463101	14.7851160
1996	8.5162908	8.5162908	17.3095945	25.8258853	24.9171374	34.9027055	9.9855681	9.9855681	4.5839674	14.5695355
1997	8.6970784	8.6970784	17.7655678	26.4626462	25.5170888	35.7411159	10.2240271	10.2240271	4.7063240	14.9303511
1998	8.5769964	8.5769964	17.4548581	26.0318545	25.1376493	35.2071758	10.0695265	10.0695265	4.6269704	14.6964969
1999	8.7528210	8.7528210	17.7852733	26.5180943	25.5978155	35.8345528	10.2367373	10.2367373	4.7517578	14.9884951
2000	8.7301445	8.7301445	17.7186312	26.4487757	25.6136798	35.8582032	10.2445234	10.2445234	4.7718140	15.0163774
2001	8.7938889	8.7938889	17.8102190	26.6041079	25.6849840	35.9575514	10.2725674	10.2725674	4.8020613	15.0746287
2002	9.1470728	9.1470728	18.5263158	27.6733886	26.7596315	37.4546711	10.6950396	10.6950396	5.0065537	15.7015933
2003	9.0806286	9.0806286	18.3221477	27.4027763	26.5056549	37.0987578	10.5931029	10.5931029	4.9613755	15.5544784
2004	9.0710345	9.0710345	18.3818770	27.4529115	26.5309631	37.1318135	10.6008504	10.6008504	4.9658113	15.5666617
2005	9.1149333	9.1149333	18.4375000	27.5524333	26.5933292	37.2361598	10.6428306	10.6428306	4.9856551	15.6284857
2006	9.1214342	9.1214342	18.4520124	27.5734466	26.6630862	37.3145328	10.6524466	10.6524466	4.9896531	15.6420997
2007	9.2327157	9.2327157	18.5975610	27.8302767	26.9252837	37.6866161	10.7613324	10.7613324	5.0385228	15.7998552
2008	9.1985323	9.1985323	18.5454545	27.7439868	26.8337977	37.5548857	10.7210880	10.7210880	5.0211441	15.7422321
2009	9.3349512	9.3349512	18.7951807	28.1301319	27.1801202	38.0690137	10.8888935	10.8888935	5.0972016	15.9860951
2010	9.3950239	9.3950239	18.9221557	28.3171796	27.3125955	38.2207395	10.9081440	10.9081440	5.1052277	16.0133717
2011	9.4961610	9.4961610	19.1489362	28.6450972	27.7000770	38.7617367	11.0616597	11.0616597	5.1741636	16.2358233
2012	9.5238172	9.5238172	19.1901408	28.7139580	27.7849018	38.8712047	11.0967251	11.0967229	5.1868338	16.2770567
2013	10.0201307	10.0201307	20.1631702	30.1833009	29.1835939	40.8251518	11.6415579	11.6415579	5.4338000	17.0753579
2014	10.5864320	10.5864320	21.3541667	31.9405987	30.8178009	43.1006100	12.2828091	12.2828091	5.7202732	18.0030823
2015	11.0032391	11.0032391	22.1839080	33.1871471	32.0422414	44.8020135	12.7597721	12.7597721	5.9339027	18.6936748
2016	11.2581464	11.2581464	22.6614699	33.9196163	32.7364746	45.7671627	13.0306881	13.0306881	6.0549345	19.0856226
2017	11.4209624	11.4209624	22.9641694	34.3851318	33.2027762	46.4158247	13.2130485	13.2130485	6.1176473	19.3306958
2018	12.0368495	12.0368495	24.1525424	36.1893919	34.9732621	48.8215823	13.8983202	13.8983202	6.4087266	20.2070468
2019	11.9397123	11.9397123	23.9400207	35.8797330	34.7205081	48.5023852	13.7818771	13.7818771	6.3424897	20.1243668
2020	12.0876967	12.0876967	24.2713568	36.3590535	35.1744900	49.1192902	13.9448002	13.9448002	6.4109190	20.3557192
2021	12.0602083	12.0602083	24.2211055	36.2813138	35.0894218	49.0060375	13.9166157	13.9166157	6.3846964	20.3013121
2022	12.1634206	12.1634206	24.4221106	36.5855312	35.3543716	49.3730699	14.0186983	14.0186983	6.4175146	20.4362129
2023	12.1539852	12.1539852	24.3718593	36.5258445	35.3125747	49.3180886	14.0055139	14.0055139	6.4107443	20.4162582
2024	12.2493273	12.2493273	24.6000000	36.8493273	35.5572022	49.6568958	14.0996936	14.0996936	6.4538350	20.5535286
2025	12.3996409	12.3996409	24.9000000	37.2996409	35.9898124	50.2628871	14.2730747	14.2730747	6.5306697	20.8037444
2026	12.3700355	12.3700355	24.8000000	37.1700355	35.8799681	50.1073072	14.2273391	14.2273391	6.5127354	20.7400745
2027	12.4581560	12.4581560	25.0000000	37.4581560	36.1620745	50.4940804	14.3320059	14.3320059	6.5250535	20.8570594
2028	12.2995567	12.2995567	24.7000000	36.9995567	35.7023457	49.8321754	14.1298297	14.1298297	6.4060351	20.5358648
2029	12.4933865	12.4933865	25.0500000	37.5433865	36.2561170	50.5800111	14.3238941	14.3238941	6.4619278	20.7858219
2030	12.4229078	12.4229078	24.9500000	37.3729078	36.0575904	50.2774994	14.2199090	14.2199090	6.3983109	20.6182199
2031	12.4229078	12.4229078	24.9500000	37.3729078	36.0732660	50.2747506	14.2014846	14.2014846	6.3711627	20.5726473
2032	12.3348050	12.3348050	24.7500000	37.0848050	35.8120532	49.8843931	14.0723399	14.0723399	6.2938596	20.3661995
2033	12.6519858	12.6519858	25.3500000	38.0019858	36.6845000	51.1027393	14.4182393	14.4182393	6.4486716	20.8669109
2034	12.2467021	12.2467021	24.5500000	36.7967021	35.5351702	49.4980164	13.9628462	13.9628462	6.2447712	20.2076174
2035	12.6519858	12.6519858	25.3500000	38.0019858	36.6845000	51.1016953	14.4171953	14.4171953	6.4483893	20.8655846

a) *Unit rates as shown constitute the rate for the indicated pumping plants, powerplants, and reservoirs. Cumulative unit rates as shown constitute the total rate, cumulative from the Sacramento-San Joaquin Delta, applicable to deliveries from or downstream of the indicated pumping plants and powerplants. Excludes extra peaking service costs.*

b) *Metric conversion is dollars per acre-foot times .8107 equals dollars per cubic dekametre.*

c) *For the period 1968 through 1984, rates are for an interim facility.*

OF TRANSPORTATION CHARGE [a]

(in dollars per acre-foot)[b]

Calendar Year	CALIFORNIA AQUEDUCT (Continued)									
	Reach 14A Buena Vista Pumping Plant		Reach 15A Wheeler Ridge Pumping Plant		Reach 16A Wind Gap Pumping Plant		Reach 17E A.D. Edmonston Pumping Plant		Reach 18A Cottonwood Powerplant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	.3333333	2.0612112	0	0	0	0	0	0	0	0
1971	1.3594550	2.6528299	4.9729730	7.6258029	0	0	0	0	0	0
1972	1.0808850	2.5394771	1.1418280	3.6813051	2.2892599	5.9705650	7.3206022	13.2911672	0	0
1973	.9844807	2.5228090	1.2143719	3.7371809	2.1051633	5.8423442	7.4512435	13.2938877	0	0
1974	.9223291	2.3932591	1.0924098	3.4856689	1.9449022	5.4305711	6.9004732	12.3310443	0	0
1975	.8190849	2.3755463	.9574493	3.3329956	1.9610412	5.2940368	6.9962702	12.2903070	0	0
1976	.9626676	2.6731771	1.0211874	3.6943645	2.2275746	5.9219391	7.9384515	13.8603906	0	0
1977	1.0854735	3.4433402	1.3594453	4.8027855	2.9037849	7.7065704	9.9060173	17.6125877	0	0
1978	.9600954	2.9919023	1.0424324	4.0343347	1.9751489	6.0094836	7.0715228	13.0810064	0	0
1979	1.2412276	4.3733239	1.2196940	5.5930179	2.5809418	8.1739597	9.0590898	17.2330495	0	0
1980	1.4196584	3.6826796	1.6036588	5.2863384	3.4019888	8.6883272	11.7211349	20.4094621	0	0
1981	1.1323996	3.5854207	1.2465489	4.8319696	2.4590144	7.2909840	8.4530500	15.7440340	0	0
1982	1.4274372	3.8028278	1.3934311	5.1962589	3.0504364	8.2466953	10.5929660	18.8396613	0	0
1983	4.3208498	12.1381575	4.4609127	16.5990702	10.3446130	26.9436832	37.2573524	64.2010356	0	0
1984	5.5956986	15.6218214	5.8074228	21.4292442	13.5617365	34.9909807	49.7156608	84.7066415	-2.2329883	82.4736532
1985	6.4744491	18.0845421	6.7129928	24.7975349	15.7055074	40.5030423	57.6489209	98.1519632	-3.8437964	94.3081668
1986	6.7995309	18.9996826	7.0492401	26.0489227	16.5002746	42.5491973	60.5955346	103.1447319	-3.8398199	99.3049120
1987	6.7287869	18.7779876	6.9800755	25.7580631	16.3392775	42.0973406	59.9965249	102.0938655	-3.8746140	98.2192515
1988	7.3198907	20.4238244	7.5907174	28.0145418	17.7872488	45.8017906	65.3472708	111.1490614	-3.8742342	107.2748272
1989	8.1231533	22.6593754	8.4224078	31.0817832	19.7566098	50.8383930	72.6383639	123.4767569	-3.8737989	119.6029580
1990	7.9109412	22.0789588	8.2025868	30.2815456	19.2362154	49.5177610	70.6983953	120.2161563	-3.8746435	116.3415128
1991	8.2373965	22.9907812	8.5397180	31.5304992	20.0351038	51.5656030	73.6453923	125.2109953	-3.8744475	121.3365478
1992	8.0242314	22.3953488	8.3191555	30.7145043	19.5120168	50.2265211	71.7147504	121.9412715	-3.8738533	118.0674182
1993	8.2218269	22.9467968	8.5237664	31.4705632	19.9963798	51.4669430	73.5186908	124.9856338	-3.8744820	121.1111518
1994	8.3248443	23.2434953	8.6298400	31.8733353	20.2501007	52.1234360	74.4659328	126.5893688	-3.8706566	122.7187122
1995	8.2491035	23.0342195	8.5512899	31.5855094	20.0687440	51.6542534	73.7905293	125.4447827	-3.8749876	121.5697951
1996	8.1309444	22.7004799	8.4286861	31.1291660	19.7680900	50.8972560	72.6815539	123.5788099	-3.8748071	119.7040028
1997	8.3322634	23.2626145	8.6356846	31.8982991	20.2680211	52.1663202	74.4344388	126.6007590	-3.8742603	122.7264987
1998	8.2208923	22.9173892	8.5131291	31.4305183	20.0133996	51.4439179	73.3868898	124.8308077	-3.8745867	120.9562210
1999	8.3666841	23.3551792	8.6660582	32.0212374	20.3887564	52.4099938	74.6217519	127.0317457	-3.8652586	123.1664871
2000	8.3888269	23.4051643	8.6949953	32.1001596	20.4712345	52.5713941	74.7607266	127.3321207	-3.8749700	123.4571507
2001	8.4326258	23.5072545	8.7356942	32.2429487	20.5655280	52.8084767	74.9904453	127.7989220	-3.8745227	123.9243993
2002	8.7951495	24.4967428	9.1157507	33.6124935	21.4451872	55.0576807	78.0717174	133.1293981	-3.8736585	129.2557396
2003	8.7420592	24.2965376	9.0660891	33.3626267	21.2615017	54.6241284	77.3720562	131.9961846	-3.8743577	128.1218269
2004	8.7791690	24.3458307	9.1105732	33.4564039	21.2897845	54.7461884	77.4578692	132.2040576	-3.8740113	128.3300463
2005	8.8458994	24.4743851	9.1863621	33.6607472	21.3840056	55.0447528	77.7729469	132.8176997	-3.8748505	128.9428492
2006	8.8843332	24.5264329	9.2339894	33.7604223	21.4114946	55.1719169	77.8194275	132.9913444	-3.8738309	129.1175135
2007	8.9544936	24.7543488	9.3027657	34.0571145	21.6210619	55.6781764	78.6046759	134.2828523	-3.8748594	130.4079929
2008	8.9210021	24.6632342	9.2683472	33.9315814	21.5367385	55.4683199	78.2911466	133.7594665	-3.8739258	129.8855407
2009	9.0661458	25.0522409	9.4224622	34.4747031	21.9035209	56.3782240	79.6439701	136.0221941	-3.8737592	132.1484349
2010	9.0719122	25.0852839	9.4246835	34.5099674	21.9068334	56.4168008	79.7034359	136.1202367	-3.8748385	132.2453982
2011	9.1928672	25.4286905	9.5504856	34.9791761	22.2043779	57.1835540	80.9193807	138.1029347	-3.8744252	134.2285095
2012	9.2195861	25.4966428	9.5782859	35.0749287	22.2697748	57.3447035	81.2942953	138.6389988	-3.8745157	134.7644831
2013	9.6660446	26.7414025	10.0402219	36.7816244	23.3644511	60.1460755	85.4947515	145.6408270	-3.8741733	141.7666537
2014	10.1844693	28.1875516	10.5766017	38.7641533	24.6343524	63.3985057	90.3501674	153.7486731	-3.8725176	149.8761555
2015	10.5691266	29.2628014	10.9747604	40.2375618	25.5772680	65.8148298	93.9307139	159.7455437	-3.8688715	155.8766722
2016	10.7876532	29.8732758	11.2008721	41.0741479	26.1134512	67.1875991	96.0008154	163.1884145	-3.8680317	159.3203828
2017	10.9349107	30.2656065	11.3533650	41.6189715	26.4745096	68.0934811	97.3427831	165.4362642	-3.8663609	161.5699033
2018	11.4986253	31.8056721	11.9369397	43.7426118	27.8568579	71.5994697	102.4708253	174.0702950	-3.8677389	170.2025561
2019	11.4174650	31.5418318	11.8532172	43.3950490	27.6413566	71.0364056	101.7393127	172.7757183	-3.8682833	168.9074350
2020	11.5630630	31.9187822	12.0043151	43.9230973	27.9809553	71.9040526	103.0475214	174.9515740	-3.8696554	171.0819186
2021	11.5192006	31.8205127	11.9591926	43.7797053	27.8958273	71.6755326	102.8222468	174.4977794	-3.8701287	170.6276507
2022	11.5790656	32.0152785	12.0230982	44.0383767	28.0332192	72.0715959	103.5305175	175.6021134	-3.8717133	171.7304001
2023	11.5680106	31.9842688	12.0118902	43.9961590	27.9233118	71.9194708	103.3724446	175.2919154	-3.8725744	171.4193410
2024	11.6452820	32.1988106	12.0920962	44.2909068	28.0262251	72.3171319	104.0540446	176.3711765	-3.8733927	172.4977838
2025	11.7852613	32.5890057	12.2370106	44.8260163	28.2786131	73.1046294	105.3206215	178.4252509	-3.8750225	174.5502284
2026	11.7522465	32.4923210	12.2035859	44.6959069	28.1335325	72.8294394	105.0158854	177.8453248	-3.8752895	173.9700353
2027	11.8408394	32.6978988	12.2951068	44.9930056	28.2819682	73.2749738	105.8195670	179.0945408	-3.8759399	175.2186009
2028	11.6754978	32.2113626	12.1441879	44.3555505	27.9247715	72.2803220	104.4954244	176.7757464	-3.8749511	172.9007953
2029	11.8302002	32.6160221	12.2950881	44.9111102	28.3534876	73.2645978	106.0860376	179.3506354	-3.8754047	175.4752307
2030	11.7445797	32.3627996	12.1963919	44.5591915	28.1967428	72.7559343	105.4047058	178.1606401	-3.8756167	174.2850234
2031	11.7106464	32.2832937	12.1686198	44.4519135	28.2104011	72.6623146	105.2532769	177.9155915	-3.8750948	174.0404967
2032	11.5862981	31.9524976	12.0312792	43.9837758	27.9957025	71.9794783	104.2905277	176.2700060	-3.8756677	172.3943383
2033	11.8221981	32.6891090	12.2660091	44.9551181	28.6672964	73.6224145	106.6049900	180.2274045	-3.8755199	176.3518846
2034	11.4077661	31.6153835	11.8273623	43.4427458	27.7513174	71.1940632	103.0211878	174.2152510	-3.8758124	170.3394386
2035	11.7265633	32.5921479	12.1472680	44.7394159	28.6376652	73.3770811	106.2289478	179.6060289	-3.8757686	175.7302603

d) The relatively minor estimated costs of the Del Valle Pumping Plant have been combined with those of the South Bay Pumping Plant to simplify the allocation procedure.

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)[b]

CALIFORNIA AQUEDUCT (Continued)

Calendar Year	Reach 22B Pearblossom Pumping Plant		Reach 23 Mojave Siphon		Reach 26A Devil Canyon Powerplant		Reach 29A Oso Pumping Plant		Reach 29G William E. Warne Powerplant (Pyramid)	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	14.2519509	27.5431181	0	0	-2.3717647	25.1713534	1.4212193	14.7123865	0	0
1973	4.4326545	17.7262422	0	0	-8.4298618	9.2963804	1.0210537	14.3146414	0	0
1974	3.4431782	15.7742225	0	0	-5.1043660	10.6698565	.9241725	13.2552168	0	0
1975	3.1739313	15.4642383	0	0	-5.6510611	9.8131772	.9362286	13.2265356	0	0
1976	3.9391330	17.7995236	0	0	-6.4449941	11.3545295	.8622774	14.7226680	0	0
1977	3.4837676	21.0963553	0	0	-11.6274558	9.4688995	.9062860	18.5188737	0	0
1978	4.1396284	17.2206348	0	0	-8.1314274	9.0892074	.7302719	13.8112783	0	0
1979	4.9420707	22.1751202	0	0	-9.9919939	12.1831263	.9659817	18.1990312	0	0
1980	4.5079060	24.9173681	0	0	-8.4655496	16.4518185	1.8023757	22.2118378	0	0
1981	3.7957695	19.5398035	0	0	-5.1207599	14.4190436	1.3462984	17.0903324	0	0
1982	4.2276167	23.0672780	0	0	-6.9266067	16.1406713	1.3334002	20.1730615	-3.7325696	16.4404919
1983	12.0803685	76.2814041	0	0	-26.1984060	50.0829981	4.8718457	69.0728813	-12.8331451	56.2397362
1984	15.2038892	97.6775424	-.8023414	96.8752010	-31.5826014	65.2925996	6.4510310	91.1576725	-14.5107618	76.6469107
1985	17.5641754	111.8723422	-1.6106985	110.2616437	-30.3086657	79.9529780	7.4494412	105.6014044	-14.5204282	91.0809762
1986	18.4526182	117.7575302	-1.5638095	116.1937207	-30.2798913	85.9138294	7.8135486	110.9582805	-14.5184010	96.4398795
1987	18.3386338	116.5578853	-1.7533064	114.8045789	-30.5752633	84.2293156	7.6982778	109.7921433	-14.5071544	95.2849889
1988	19.9696347	127.2444619	-1.7801162	125.4643457	-30.5725516	94.8917941	8.3475613	119.4966227	-14.5069586	104.9896641
1989	22.1900800	141.7930380	-1.7794597	140.0135783	-30.5727163	109.4408620	9.2307216	132.7074785	-14.5085750	118.1989035
1990	21.6006262	137.9421390	-1.7945473	136.1475917	-30.5734548	105.5741369	8.9954670	129.2116233	-14.5084758	114.7031475
1991	22.4983410	143.8348888	-1.8008864	142.0340024	-30.5731973	111.4608051	9.3520542	134.5630495	-14.5150406	120.0480089
1992	21.9170428	139.9844610	-1.7960955	138.1883655	-30.5733298	107.6150357	9.1144332	131.0557047	-14.5121391	116.5435656
1993	22.4720468	143.5831986	-1.8004177	141.7827809	-30.5732693	111.2095116	9.3291025	134.3147363	-14.5123102	119.8024261
1994	22.7650772	145.4837894	-1.7974249	143.6863645	-30.5739174	113.1124471	9.4447915	136.0341603	-14.5163203	121.5178400
1995	22.5417414	144.1115365	-1.7954973	142.3160392	-30.5740582	111.7419810	9.3562636	134.8010463	-14.5167108	120.2843355
1996	22.1962171	141.9002199	-1.7890847	140.1111352	-30.5734266	109.5377086	9.2187253	132.7975352	-14.5109469	118.2865883
1997	22.7236870	145.4501857	-1.7934317	143.6567540	-30.5740243	113.0827297	9.4284013	136.0291603	-14.5157421	121.5134182
1998	22.3961119	143.3523329	-1.7889005	141.5634324	-30.5744853	110.9889471	9.3097061	134.1405138	-14.5098242	119.6306896
1999	22.7963514	145.9628385	-1.7935481	144.1692904	-30.5735833	113.5957071	9.4885708	136.5203165	-14.5165225	122.0037940
2000	22.8071899	146.2643406	-1.7920068	144.4723338	-30.5727862	113.8995476	9.5031390	136.8352597	-14.5098111	122.3254486
2001	22.8732700	146.7976693	-1.7420499	145.0556194	-30.5735478	114.4820716	9.5421684	137.3410904	-14.5098023	122.8312881
2002	23.8819117	153.1376513	-1.5708072	151.5668441	-30.5682481	120.9985960	9.9258488	143.0552469	-14.4977385	128.5575084
2003	23.7219567	151.8437836	-1.5741069	150.2696767	-30.5695238	119.7001529	9.8635113	141.8596959	-14.5102173	127.3494786
2004	23.8501522	152.1801985	-1.5753172	150.6048813	-30.5688719	120.0360094	9.9424675	142.1465251	-14.5104217	127.6361034
2005	24.0614204	153.0042696	-1.5749737	151.4292959	-30.5688912	120.8604047	10.0627097	142.8804094	-14.5099243	128.3704851
2006	24.2065682	153.3240817	-1.5736838	151.7503979	-30.5686504	121.1817475	10.0611879	143.0525323	-14.5082529	128.5442794
2007	24.4122534	154.8202463	-1.5751092	153.2451371	-30.5697397	122.6753974	10.1512313	144.4340836	-14.5103346	129.9237490
2008	24.3155677	154.2011084	-1.5749956	152.6261128	-30.5704032	122.0557096	10.1157329	143.8751994	-14.5074053	129.3677941
2009	24.6176416	156.7660765	-1.5734447	155.1926318	-30.5693969	124.6232349	10.3195229	146.3417170	-14.6358002	131.7059168
2010	24.7384730	156.9838712	-1.5757953	155.4080759	-30.5698673	124.8382086	10.2834434	146.4036801	-14.5084739	131.8952062
2011	25.0747190	159.3032285	-1.5775945	157.7256340	-30.5701170	127.1555170	10.4174614	148.5203961	-14.5083261	134.0120700
2012	25.2063905	159.9708736	-1.5728780	158.3979956	-30.5693155	127.8286801	10.4691256	149.1081244	-14.5084219	134.5997025
2013	26.5042741	168.2709278	-1.5758007	166.6951271	-30.5704338	136.1246933	10.9791758	156.6200028	-14.5096977	142.1103051
2014	27.9250857	177.8012412	-1.5742327	176.2270085	-30.5705632	145.6564453	11.5454247	165.2940978	-14.5116691	150.7824287
2015	28.9721146	184.8487868	-1.5775430	183.2712438	-30.5718048	152.6994390	11.9740584	171.7196021	-14.5122915	157.2073106
2016	29.5715083	188.8918911	-1.5811243	187.3107668	-30.5728715	156.7378953	12.2170712	175.4054857	-14.5129154	160.8925703
2017	29.9709587	191.5408620	-1.5808259	189.9600361	-30.5731480	159.3868881	12.3816583	177.8179225	-14.5138215	163.3041010
2018	31.5393880	201.7419441	-1.5815701	200.1603740	-30.5732415	169.5871325	13.0023217	187.0726167	-14.5152729	172.5573438
2019	31.3226201	200.2300551	-1.5814052	198.6486499	-30.5737575	168.0748924	12.9123364	185.6880547	-14.5148016	171.1779531
2020	31.7318799	202.8137985	-1.5814663	201.2323322	-30.5735494	170.6587828	13.0723478	188.0239218	-14.5146815	173.5092403
2021	31.6756933	202.3033440	-1.5814065	200.7219375	-30.5720739	170.1498636	13.0470241	187.5448035	-14.5146895	173.0301140
2022	31.9170914	203.6474915	-1.5830482	202.0644433	-30.5737773	171.4906660	13.1382154	188.7403288	-14.5149220	174.2254068
2023	31.8933687	203.3127097	-1.5811182	201.7315915	-30.5733708	171.1582207	13.1260312	188.4179466	-14.5151768	173.9027698
2024	32.1175524	204.6153362	-1.5808640	203.0344722	-30.5733922	172.4610800	13.2106522	189.5818287	-14.5147017	175.0671270
2025	32.5148607	207.0650891	-1.5814297	205.4836594	-30.5736934	174.9099660	13.3642030	191.7894539	-14.5152835	177.2741704
2026	32.4304216	206.4004569	-1.5817690	204.8186879	-30.5738740	174.2448139	13.3278223	191.1731471	-14.5152059	176.6579412
2027	32.6751859	207.8937868	-1.5827454	206.3110414	-30.5737174	175.7373240	13.4254982	192.5200390	-14.5153374	178.0047016
2028	32.2712868	205.1720821	-1.5825952	203.5894869	-30.5734969	173.0159900	13.1557996	189.9315460	-14.5145926	175.4169534
2029	32.7568846	208.2321153	-1.5830277	206.6490876	-30.5738283	176.0752593	13.2340695	192.5847049	-14.5151365	178.0695684
2030	32.5792710	206.8642944	-1.5837801	205.2805143	-30.5734003	174.7071140	13.1273323	191.2879724	-14.5151569	176.7728155
2031	32.5941106	206.6346073	-1.5810684	205.0535389	-30.5728823	174.4806566	13.0959020	191.0114935	-14.5152599	176.4962336
2032	32.1990608	204.5933991	-1.5821730	203.0112261	-30.5738466	172.4373795	12.9288525	189.1988585	-14.5147617	174.6840968
2033	32.7965553	209.1484399	-1.5807200	207.5677199	-30.5731289	176.9945910	13.1552112	193.3826157	-14.5155577	178.8670580
2034	31.6360413	201.9754799	-1.5821199	200.3933600	-30.5735647	169.8197953	12.6059388	186.8211898	-14.5147407	172.3064491
2035	32.5031859	208.2334462	-1.5809479	206.6524983	-30.5739823	176.0785160	12.8591368	192.4651657	-14.5150926	177.9500731

OF TRANSPORTATION CHARGE (a

(in dollars per acre-foot)[b]

Calendar Year	CALIFORNIA AQUEDUCT (Continued)					
	Reach 29J Castaic Powerplant		Reach 31A Las Perillas and Badger Hill Pumping Plants		Reach 33A Devil's Den, Sawtooth, and Polonio Pumping Plants and San Luis Obispo Powerplant	
	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate	Unit Rate	Cumulative Unit Rate
	(31)	(32)	(33)	(34)	(35)	(36)
1962	0	0	0	0	0	0
1963	0	0	0	0	0	0
1964	0	0	0	0	0	0
1965	0	0	0	0	0	0
1966	0	0	0	0	0	0
1967	0	0	0	0	0	0
1968	0	0	1.5014866	4.1182219	0	0
1969	0	0	1.2624065	3.0719381	0	0
1970	0	0	1.6309699	3.3588478	0	0
1971	0	0	1.4985537	2.7919286	0	0
1972	-2.9350830	11.7773035	1.7489056	3.2074977	0	0
1973	-6.8099448	7.5046966	1.4609575	2.9992858	0	0
1974	-7.4013274	5.8538894	1.4255635	2.8964935	0	0
1975	-6.5604921	6.6660435	1.0379624	2.5944238	0	0
1976	-6.7213324	8.0013356	1.5465478	3.2570573	0	0
1977	-26.6745694	-8.1556957	1.5460460	3.9039127	0	0
1978	-8.0386119	5.7726664	1.9042158	3.9360227	0	0
1979	-18.5776728	-.3786416	1.7164468	4.8485431	0	0
1980	-20.0223527	2.1894851	1.5360077	3.7990289	0	0
1981	-12.4256329	4.6646995	1.8986807	4.3517018	0	0
1982	-10.1470605	6.2934314	1.8864776	4.2618682	0	0
1983	-24.7578386	31.4818976	4.7008245	12.5181322	0	0
1984	-27.8762939	48.7706168	5.8064006	15.8325234	0	0
1985	-27.6438281	63.4371481	6.7767886	18.3868816	0	0
1986	-27.3228079	69.1170716	7.1280888	19.3282405	0	0
1987	-25.9839885	69.3010004	7.0161660	19.0653667	0	0
1988	-25.7601911	79.2294730	7.6802645	20.7841982	0	0
1989	-25.5206709	92.6782326	8.5415297	23.0777518	0	0
1990	-25.3686800	89.3344675	8.4260236	22.5940412	55.7426280	78.3366692
1991	-25.4197071	94.6283018	8.8443006	23.5976853	61.5406925	85.1383778
1992	-25.2725762	91.2709894	8.6267660	22.9978834	59.4042845	82.4021679
1993	-25.2957036	94.5067225	8.8454473	23.5704172	61.4112377	84.9816549
1994	-25.3656138	96.1522262	8.9779473	23.8965983	62.6145570	86.5111553
1995	-25.3691036	94.9152319	8.8875029	23.6726189	61.4424507	85.1150696
1996	-25.2983101	92.9882782	8.7564322	23.3259677	60.0521429	83.3781106
1997	-25.2436958	96.2697224	8.9808788	23.9112299	62.2002506	86.1114805
1998	-25.2032445	94.4274451	8.8564550	23.5529519	60.8143689	84.3673208
1999	-25.1941256	96.8096684	9.0273268	24.0158219	62.4800922	86.4959141
2000	-25.1653030	97.1601456	9.0393050	24.0556424	62.4648578	86.5205002
2001	-25.1227586	97.7085295	9.0537834	24.1284121	62.4141474	86.5425595
2002	-25.0071900	103.5503184	9.4348544	25.1364477	66.1352245	91.2716722
2003	-24.9746223	102.3748563	9.3164783	24.8709567	64.4444531	89.3154098
2004	-24.9109491	102.7251543	9.3077150	24.8743767	64.1006591	88.9750358
2005	-24.8262670	103.5442181	9.3344918	24.9629775	64.2380510	89.2010285
2006	-24.8030833	103.7411961	9.3361854	24.9782851	64.0214440	88.9997291
2007	-24.7436333	105.1801157	9.4194079	25.2192631	64.5623393	89.7816024
2008	-24.6812234	104.6865707	9.3702546	25.1124867	63.9439115	89.0563982
2009	-24.8523169	106.8535999	9.5550794	25.5411745	66.6487906	92.1899651
2010	-24.5855925	107.3096137	9.5146987	25.5280704	64.8839236	90.4119940
2011	-24.5503065	109.4617635	9.7042129	25.9400362	67.5329255	93.4729617
2012	-24.5032628	110.0964397	9.6515000	25.9285567	65.8312048	91.7597615
2013	-24.4642132	117.6460919	10.1283611	27.2037190	70.1441952	97.3479142
2014	-24.4304262	126.3520025	10.6892393	28.6923216	75.1648294	103.8571510
2015	-24.3666955	132.8406151	11.0933300	29.7870048	78.7216129	108.5086177
2016	-24.4075623	136.4850080	11.3270704	30.4126930	80.6538071	111.0665001
2017	-24.3468529	138.9572481	11.4697642	30.8004600	81.7514646	112.5519246
2018	-24.3056292	148.2517146	12.0663860	32.3734328	87.0822987	119.4557315
2019	-24.3379941	146.8352590	11.9697296	32.0940964	85.9983445	118.0924409
2020	-24.2481587	149.2610816	12.1109650	32.4666842	86.9909318	119.4576160
2021	-24.2688492	148.7612648	12.0691359	32.3704480	86.4913765	118.8618245
2022	-24.2184754	150.0069314	12.1514321	32.5876450	87.0106446	119.5982896
2023	-24.2598811	149.6428887	12.1185102	32.5347684	86.4710691	119.0058375
2024	-24.1793742	150.8877528	12.1857043	32.7392329	86.9536885	119.6929214
2025	-24.1984007	153.0757697	12.3208449	33.1245893	87.8577162	120.9823055
2026	-24.1703540	152.4875872	12.2741212	33.0141957	87.2683252	120.2825209
2027	-24.1578233	153.8468783	12.3728649	33.2299243	88.1224878	121.3524121
2028	-24.1643902	151.2525632	12.2148709	32.7507357	86.7203902	119.4711259
2029	-24.1785017	153.8910667	12.4024876	33.1883095	88.4125691	121.6008786
2030	-24.1676265	152.6051890	12.3284310	32.9466509	87.8001626	120.7468135
2031	-24.1604500	152.3357836	12.3383019	32.9109492	87.8485041	120.7594533
2032	-24.1800629	150.5040339	12.2494340	32.6156335	87.0588293	119.6744628
2033	-24.1423911	154.7246669	12.5506058	33.4175167	89.7340813	123.1515980
2034	-24.2037272	148.1027219	12.1556256	32.3632430	86.1885528	118.5517958
2035	-24.1230797	153.8269934	12.5506058	33.4161904	89.7340813	123.1502717

TABLE B-18: VARIABLE OMP&R COMPONENT OF

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	2,051	34,919	0	36,970	0	0	0
1963	0	0	0	7,900	49,811	0	57,711	0	0	0
1964	0	0	0	5,931	68,203	0	74,134	0	0	0
1965	0	0	0	10,918	68,765	62,926	142,609	0	0	0
1966	0	0	0	19,330	52,135	121,140	192,605	0	0	0
1967	0	0	0	19,399	56,949	160,650	236,998	0	0	0
1968	6,989	0	6,989	29,898	120,985	341,769	492,652	0	0	0
1969	8,551	0	8,551	31,859	3,904	298,968	334,731	0	0	0
1970	13,598	0	13,598	49,688	0	431,442	481,130	0	0	0
1971	10,609	0	10,609	23,842	28,329	416,328	468,499	0	0	0
1972	14,434	0	14,434	54,839	144,669	524,207	723,715	0	0	0
1973	14,449	0	14,449	18,397	15,590	547,808	581,795	0	0	0
1974	17,473	0	17,473	9,499	29	636,187	645,715	0	0	0
1975	14,779	0	14,779	22,317	4,765	425,285	452,367	0	0	0
1976	20,856	0	20,856	97,875	121,693	502,768	722,336	0	0	0
1977	22,586	0	22,586	82,362	122,723	496,495	701,580	0	0	0
1978	21,712	0	21,712	74,958	40,011	653,275	768,244	0	0	0
1979	19,201	0	19,201	135,373	76,173	644,401	855,947	0	0	0
1980	19,983	0	19,983	98,927	65,013	518,497	682,437	0	0	0
1981	23,000	0	23,000	144,203	164,530	550,762	859,495	0	0	0
1982	17,000	0	17,000	148,008	172,250	544,821	865,079	0	0	0
1983	42,000	0	42,000	461,160	540,271	1,622,744	2,624,175	0	0	0
1984	48,000	0	48,000	582,491	694,692	1,976,649	3,253,832	0	0	0
1985	95,893	53,741	149,634	698,083	839,925	2,266,685	3,804,693	0	0	0
1986	102,383	46,096	148,479	708,413	919,180	2,347,717	3,975,310	0	0	0
1987	101,534	57,046	158,580	706,406	937,068	2,274,914	3,918,388	0	0	0
1988	110,653	100,697	211,350	782,226	1,052,393	2,437,781	4,272,400	0	0	0
1989	130,266	148,775	279,041	880,271	1,208,626	2,735,126	4,824,023	0	0	0
1990	136,389	181,707	318,096	870,457	1,213,879	2,686,174	4,770,510	437,118	1,613,735	2,050,853
1991	161,732	185,252	346,984	949,153	1,317,480	2,854,541	5,121,174	451,574	1,864,530	2,316,104
1992	179,742	177,317	357,059	965,391	1,330,861	2,834,113	5,130,365	496,721	1,903,489	2,400,210
1993	203,799	178,188	381,987	1,028,101	1,416,730	2,960,648	5,405,479	582,294	2,073,552	2,655,846
1994	229,159	176,793	405,952	1,084,528	1,456,776	3,056,724	5,598,028	655,409	2,223,336	2,878,745
1995	247,160	171,818	418,978	1,116,560	1,439,123	3,012,940	5,568,623	723,479	2,298,107	3,021,586
1996	261,100	166,919	428,019	1,141,318	1,417,050	2,952,769	5,511,137	792,092	2,359,601	3,151,693
1997	288,972	166,984	455,956	1,211,624	1,451,090	3,009,402	5,672,116	895,560	2,540,289	3,435,849
1998	302,750	161,248	463,998	1,161,836	1,429,412	2,950,361	5,541,609	877,419	2,598,514	3,475,933
1999	329,885	161,052	490,937	1,153,873	1,451,300	2,988,601	5,593,774	977,404	2,776,518	3,753,922
2000	347,801	157,143	504,944	1,125,948	1,452,257	2,976,230	5,554,435	1,064,202	2,889,785	3,953,987
2001	364,476	164,446	528,922	1,150,641	1,459,876	3,009,648	5,620,165	1,194,286	2,916,485	4,110,771
2002	394,346	177,453	571,799	1,217,277	1,520,660	3,157,429	5,895,366	1,369,075	3,103,237	4,472,312
2003	408,301	182,521	590,822	1,227,969	1,509,919	3,153,395	5,891,283	1,509,429	3,063,518	4,572,947
2004	424,147	188,678	612,825	1,247,629	1,511,265	3,178,484	5,937,378	1,646,039	3,078,536	4,724,575
2005	440,839	195,971	636,810	1,284,648	1,519,235	3,213,480	6,017,363	1,784,021	3,113,116	4,897,137
2006	445,311	202,496	647,807	1,298,546	1,522,433	3,242,633	6,063,612	1,797,794	3,132,791	4,930,585
2007	456,417	212,352	668,769	1,330,338	1,545,152	3,301,347	6,176,837	1,840,523	3,187,247	5,027,770
2008	457,776	218,005	675,781	1,348,220	1,539,751	3,312,341	6,200,312	1,843,468	3,188,219	5,031,687
2009	466,960	227,773	694,733	1,389,519	1,560,830	3,384,336	6,334,685	1,779,267	3,328,057	5,107,324
2010	472,897	235,815	708,712	1,414,167	1,570,873	3,420,756	6,405,796	1,916,735	3,290,996	5,207,731
2011	484,675	245,001	729,676	1,457,441	1,593,107	3,496,309	6,546,857	1,869,459	3,402,415	5,271,874
2012	489,286	252,381	741,667	1,480,992	1,601,493	3,529,506	6,611,991	1,991,187	3,340,056	5,331,243
2013	517,945	272,548	790,493	1,579,933	1,681,996	3,735,502	6,997,431	2,131,919	3,553,199	5,685,118
2014	551,934	295,361	847,295	1,693,854	1,780,055	3,973,876	7,447,785	2,295,243	3,790,786	6,086,029
2015	577,456	314,693	892,149	1,783,120	1,854,804	4,157,627	7,795,551	2,430,593	3,960,565	6,391,158
2016	609,196	329,864	939,060	1,848,994	1,894,760	4,279,229	8,022,983	2,510,104	4,053,927	6,564,031
2017	633,374	342,629	976,003	1,898,408	1,926,257	4,367,729	8,192,394	2,577,440	4,108,144	6,685,584
2018	683,256	369,531	1,052,787	2,028,170	2,028,170	4,633,027	8,689,367	2,759,428	4,360,135	7,119,563
2019	693,914	374,907	1,068,821	2,041,950	2,017,699	4,627,128	8,686,777	2,751,554	4,310,375	7,061,929
2020	723,545	389,224	1,112,769	2,092,481	2,048,274	4,720,364	8,861,119	2,819,200	4,360,203	7,179,403
2021	721,998	396,781	1,118,779	2,117,061	2,043,552	4,738,884	8,899,497	2,828,911	4,338,455	7,167,366
2022	728,052	408,691	1,136,743	2,162,540	2,063,795	4,808,937	9,035,272	2,870,358	4,365,337	7,235,695
2023	726,864	416,882	1,143,746	2,184,791	2,061,496	4,833,172	9,079,459	2,891,842	4,343,713	7,235,555
2024	736,987	428,726	1,165,713	2,229,594	2,080,624	4,901,136	9,211,354	2,932,476	4,368,792	7,301,268
2025	745,993	442,667	1,188,660	2,281,935	2,106,015	4,991,105	9,379,055	3,000,361	4,415,854	7,416,215
2026	743,401	450,269	1,193,670	2,304,937	2,104,507	5,010,730	9,420,174	3,007,062	4,390,312	7,397,374
2027	749,163	453,477	1,202,640	2,322,727	2,120,751	5,049,409	9,492,887	3,033,810	4,429,363	7,463,173
2028	739,991	447,704	1,187,695	2,292,280	2,092,952	4,983,217	9,368,449	2,986,779	4,360,696	7,347,475
2029	750,868	454,759	1,205,627	2,326,680	2,124,361	5,058,001	9,509,042	3,040,021	4,438,432	7,478,453
2030	747,458	452,194	1,199,652	2,312,765	2,111,655	5,027,750	9,452,170	3,018,671	4,407,259	7,425,930
2031	747,458	452,194	1,199,652	2,312,638	2,111,539	5,027,475	9,451,652	3,018,987	4,407,719	7,426,706
2032	741,696	448,987	1,190,683	2,294,682	2,095,144	4,988,440	9,378,266	2,991,861	4,368,117	7,359,978
2033	760,040	460,532	1,220,572	2,350,726	2,146,315	5,110,274	9,607,315	3,078,790	4,495,034	7,573,824
2034	735,934	445,780	1,181,714	2,276,909	2,078,917	4,949,802	9,305,628	2,963,795	4,327,140	7,290,935
2035	760,040	460,532	1,220,572	2,350,678	2,146,271	5,110,170	9,607,119	3,078,757	4,494,985	7,573,742
TOTAL	24,996,432	14,102,600	39,099,032	82,650,653	88,154,062	204,304,496	375,109,211	93,512,517	161,734,671	255,247,188

a) *Unadjusted for prior overpayments or underpayments of charges.*

TRANSPORTATION CHARGE FOR EACH CONTRACTOR(a

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District(b	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	30,400	68,978	5,176	0	0	440,923	2,355	4,760	65,680	618,272
1969	30,627	56,774	101	5,142	0	321,387	181	3,338	12,814	430,364
1970	39,429	69,819	6,811	16,550	0	470,866	0	5,595	0	609,070
1971	34,872	53,097	7,747	8,613	0	769,053	4,785	6,353	149,807	1,034,327
1972	44,601	61,907	8,452	8,544	0	1,123,600	2,042	7,375	368,356	1,624,877
1973	28,247	33,931	4,615	4,461	0	764,825	2,308	3,017	73,169	914,573
1974	28,096	49,114	4,413	4,854	46,752	671,406	2,207	3,114	101,478	911,434
1975	27,760	63,122	4,670	5,850	34,574	842,482	2,490	3,920	128,408	1,113,276
1976	38,108	70,851	5,131	6,671	94,653	965,096	2,737	4,910	93,926	1,282,083
1977	19,812	26,297	1,740	3,961	84,034	486,728	3,608	2,594	38,671	667,445
1978	44,722	107,226	922	5,120	188,013	1,594,647	4,248	6,298	19,369	1,970,565
1979	92,791	120,723	5,447	26,623	215,233	2,631,329	6,264	14,574	459,231	3,572,215
1980	52,738	92,784	2,023	14,031	127,440	1,809,542	4,978	8,468	156,700	2,268,704
1981	55,266	100,574	13,247	13,737	204,357	1,983,824	5,642	7,253	197,669	2,581,569
1982	54,125	97,391	11,402	14,015	220,502	2,187,633	5,938	6,878	176,492	2,774,376
1983	158,980	335,362	23,452	48,467	744,798	7,528,080	21,889	24,980	611,313	9,497,321
1984	201,073	452,178	30,078	65,170	924,144	10,360,610	31,081	32,895	823,145	12,920,374
1985	233,513	547,997	34,830	80,109	1,122,288	12,714,699	39,474	38,945	998,468	15,810,323
1986	245,469	601,467	36,601	87,841	1,414,649	13,957,254	45,141	42,631	1,098,013	17,529,066
1987	242,130	619,329	36,147	90,369	1,469,183	14,696,437	48,197	42,905	1,131,420	18,376,117
1988	263,959	701,060	39,312	102,211	1,790,424	16,795,503	52,416	48,492	1,281,565	21,074,942
1989	293,087	808,214	43,609	119,197	2,085,554	19,334,647	58,145	55,830	1,478,334	24,276,617
1990	286,944	817,495	42,505	120,428	2,124,633	19,584,264	56,672	55,371	1,558,482	24,646,794
1991	299,691	851,270	44,260	125,404	2,191,026	20,402,229	59,014	57,680	1,622,872	25,653,446
1992	292,073	829,214	43,114	122,154	2,116,849	19,875,051	57,484	56,181	1,580,823	24,972,943
1993	299,344	849,631	44,174	125,162	2,141,143	20,365,369	58,900	57,571	1,619,746	25,561,040
1994	303,486	860,807	44,756	126,809	2,150,946	20,632,970	59,674	58,324	1,641,052	25,878,824
1995	300,642	853,101	44,355	125,674	2,108,644	20,446,548	59,140	57,791	1,626,363	25,622,258
1996	296,240	840,662	43,709	123,841	2,058,787	20,148,663	58,278	56,918	1,602,648	25,229,746
1997	303,672	861,481	44,791	126,908	2,090,426	20,648,863	59,721	58,277	1,642,339	25,836,478
1998	299,123	847,988	44,090	124,920	2,041,674	20,336,412	58,786	57,396	1,616,615	25,427,004
1999	305,001	864,836	44,965	127,402	2,062,858	20,732,681	59,954	58,349	1,648,734	25,904,780
2000	305,506	866,443	45,049	127,638	2,050,384	20,775,397	60,065	58,394	1,651,798	25,940,674
2001	306,431	869,806	45,224	128,135	2,073,113	20,857,692	60,298	58,554	1,658,209	26,057,462
2002	319,233	905,982	47,105	133,464	2,175,919	21,731,488	62,806	60,962	1,727,175	27,164,134
2003	315,860	897,493	46,663	132,213	2,171,776	21,535,986	62,218	60,381	1,710,992	26,933,582
2004	315,905	898,196	46,700	132,316	2,190,580	21,562,905	62,266	60,425	1,712,333	26,981,626
2005	317,030	901,763	46,885	132,842	2,215,593	21,659,900	62,514	60,664	1,719,133	27,116,324
2006	317,225	902,549	46,926	132,958	2,234,665	21,690,267	62,569	60,719	1,720,631	27,168,509
2007	320,284	911,652	47,400	134,298	2,277,644	21,899,874	63,199	61,340	1,737,985	27,453,676
2008	318,929	908,327	47,226	133,809	2,285,067	21,817,626	62,969	61,110	1,731,646	27,366,709
2009	324,373	922,398	47,959	135,882	2,337,665	22,164,866	63,945	62,067	1,758,470	27,817,625
2010	324,206	923,972	48,040	136,113	2,359,863	22,190,170	64,054	62,176	1,761,471	27,870,065
2011	329,439	936,807	48,707	138,004	2,404,827	22,503,603	64,944	63,051	1,785,941	28,275,323
2012	329,293	939,186	48,832	138,355	2,427,010	22,552,522	65,108	63,214	1,790,477	28,353,997
2013	345,487	985,248	51,226	145,140	2,563,437	23,656,884	68,301	66,357	1,878,289	29,760,369
2014	364,392	1,038,778	54,009	153,026	2,718,141	24,940,896	72,012	70,012	1,980,339	31,391,605
2015	378,295	1,078,625	56,081	158,896	2,847,758	25,894,455	74,775	72,731	2,056,304	32,617,920
2016	386,242	1,101,241	57,257	162,228	2,935,283	26,436,325	76,343	74,275	2,099,419	33,328,613
2017	391,166	1,115,381	57,992	164,311	2,993,437	26,779,652	77,323	75,314	2,126,376	33,780,952
2018	411,143	1,171,717	60,921	172,610	3,166,684	28,140,306	81,228	79,220	2,233,775	35,517,604
2019	407,596	1,161,176	60,373	171,057	3,159,221	27,898,305	80,498	78,557	2,213,680	35,230,463
2020	412,327	1,174,525	61,067	173,024	3,215,271	28,225,622	81,423	79,485	2,239,129	35,661,873
2021	411,105	1,171,386	60,904	172,561	3,225,422	28,143,858	81,205	79,325	2,233,145	35,578,911
2022	413,862	1,179,170	61,309	173,708	3,266,077	28,323,235	81,745	79,907	2,247,984	35,826,997
2023	413,191	1,178,018	61,249	173,538	3,296,362	28,289,616	81,665	79,831	2,245,789	35,819,259
2024	415,788	1,185,938	61,661	174,705	3,339,844	28,474,323	82,214	80,368	2,260,888	36,075,729
2025	420,683	1,200,376	62,411	176,832	3,396,639	28,814,933	83,215	81,357	2,288,412	36,524,858
2026	419,280	1,196,702	62,220	176,290	3,406,337	28,724,385	82,960	81,096	2,281,408	36,430,678
2027	422,019	1,203,453	62,571	177,285	3,426,753	28,897,839	83,428	81,692	2,294,277	36,649,317
2028	415,935	1,184,919	61,607	174,555	3,377,011	28,468,355	82,143	80,540	2,258,945	36,104,010
2029	421,491	1,199,342	62,358	176,679	3,420,636	28,827,134	83,144	81,646	2,286,440	36,558,870
2030	418,423	1,189,672	61,855	175,255	3,394,882	28,603,610	82,473	81,053	2,268,004	36,275,227
2031	417,969	1,187,042	61,717	174,868	3,388,616	28,546,030	82,291	80,948	2,262,991	36,202,472
2032	414,219	1,175,130	61,099	173,113	3,355,527	28,263,569	81,464	80,212	2,240,282	35,844,615
2033	424,403	1,204,020	62,601	177,369	3,434,954	28,938,908	83,468	82,184	2,295,360	36,703,267
2034	411,013	1,165,979	60,623	171,765	3,323,909	28,008,598	80,830	79,588	2,222,838	35,525,143
2035	424,386	1,203,944	62,597	177,357	3,429,100	28,899,532	83,463	82,178	2,295,214	36,657,771
TOTAL	18,750,150	52,051,036	2,765,069	7,642,437	135,138,991	1,238,762,287	3,598,315	3,549,916	98,899,251	1,561,157,452

b) *Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.*

TABLE B–18: VARIABLE OMP&R COMPONENT OF

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley County Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	779	0	0	12,781	0	4,492	1,516	0	32,093	0
1973	286	0	102,811	6,895	159,535	3,854	0	0	301,444	0
1974	15,558	0	100,954	9,891	157,742	4,932	221	0	177,172	6,529
1975	99,182	0	108,250	12,758	170,106	6,391	0	0	136,060	53,482
1976	385,090	0	135,276	17,835	213,595	8,163	0	0	139,356	68,933
1977	197,296	0	0	23,396	0	1,955	1,688	0	235,141	85,183
1978	579,679	0	173,652	20,819	263,475	2,721	0	0	36,856	70,633
1979	1,042,479	−2	223,149	27,940	332,625	2,291	88,701	0	219	3,532
1980	1,477,787	2,650	271,201	30,872	423,594	3,898	99,671	0	0	17,849
1981	1,385,002	37,783	234,574	29,311	367,347	19,837	78,159	0	315,776	180,239
1982	1,672,020	57,271	302,781	42,813	475,186	25,999	242,207	0	501,976	298,602
1983	3,688,991	321,116	1,086,781	167,819	1,716,331	96,301	0	19,259	2,013,337	926,535
1984	4,824,296	551,108	1,501,107	271,252	2,373,564	132,782	0	247,420	3,225,455	1,207,913
1985	5,642,929	780,278	1,844,664	340,267	2,919,868	163,153	11,187	471,541	4,685,245	1,479,129
1986	6,085,404	946,906	2,061,935	408,420	3,285,435	183,714	35,328	546,177	6,254,528	1,589,405
1987	6,558,592	970,214	2,171,589	417,315	3,520,048	192,509	4,778,873	608,958	6,991,034	1,558,244
1988	7,753,288	1,140,904	2,513,332	471,118	4,148,168	222,060	5,484,235	729,468	8,170,184	1,755,499
1989	9,303,316	1,353,103	2,973,825	542,553	4,948,578	261,931	6,409,046	885,062	9,773,069	2,024,656
1990	9,689,503	1,313,215	2,827,813	544,591	5,007,300	255,951	6,524,663	930,733	9,807,836	1,953,121
1991	10,058,193	1,428,888	2,747,245	576,658	5,206,823	265,727	6,702,707	1,067,761	10,377,001	2,093,232
1992	10,142,583	1,414,701	2,673,704	569,337	5,039,441	257,387	6,495,279	1,133,448	9,943,629	2,051,141
1993	10,780,709	1,502,656	2,771,156	592,652	5,154,636	262,811	6,662,260	1,259,554	10,186,790	2,150,792
1994	11,391,365	1,567,281	2,807,837	609,230	5,208,319	265,071	6,735,900	1,374,449	10,281,920	2,219,267
1995	11,565,542	1,585,085	2,795,764	611,959	5,130,370	261,376	6,672,365	1,458,837	10,079,126	2,223,667
1996	11,760,320	1,580,801	2,752,865	610,886	5,037,458	256,167	6,555,790	1,508,270	9,803,624	2,212,660
1997	12,438,944	1,655,839	2,836,279	634,964	5,148,937	261,407	6,705,255	1,619,990	10,030,438	2,318,198
1998	12,624,201	1,643,038	2,809,706	634,205	5,060,336	256,426	6,608,543	1,669,195	9,767,026	2,308,571
1999	13,484,882	1,703,851	2,875,469	654,529	5,123,295	259,881	6,699,695	1,773,596	9,905,546	2,396,869
2000	13,642,014	1,729,451	2,881,407	664,573	5,119,251	259,261	6,713,533	1,851,857	9,852,311	2,437,451
2001	13,829,963	1,807,607	2,906,594	675,958	5,152,598	260,242	6,767,374	1,920,829	9,971,389	2,486,550
2002	14,554,196	1,988,166	3,062,753	715,396	5,390,444	271,438	7,090,273	2,068,091	10,611,578	2,666,809
2003	14,567,452	2,047,498	3,052,058	718,289	5,375,271	269,056	7,060,736	2,114,010	10,581,494	2,676,494
2004	14,732,290	2,126,411	3,074,040	728,928	5,402,395	269,494	7,106,815	2,181,611	10,683,205	2,722,416
2005	14,944,476	2,215,847	3,121,287	742,004	5,446,952	270,779	7,160,599	2,230,711	10,829,092	2,779,790
2006	15,093,837	2,271,931	3,143,144	752,683	5,473,669	271,146	7,206,233	2,233,733	10,930,594	2,830,805
2007	15,388,143	2,366,552	3,189,297	769,291	5,542,565	286,897	7,307,516	2,256,058	11,138,927	2,909,862
2008	15,469,368	2,407,791	3,191,964	775,340	5,551,239	285,748	7,309,132	2,247,020	11,168,099	2,939,103
2009	15,884,242	2,511,060	3,276,411	797,690	5,659,255	290,728	7,462,066	2,286,169	11,477,801	3,045,793
2010	16,028,143	2,575,430	3,296,661	808,122	5,682,816	290,940	7,503,829	2,287,844	11,572,501	3,095,986
2011	16,416,146	2,714,652	3,361,298	829,637	5,782,707	295,303	7,646,556	2,322,153	11,863,608	3,201,774
2012	16,629,937	2,807,459	3,407,379	842,677	5,822,941	296,481	7,710,595	2,331,425	12,003,113	3,267,299
2013	17,635,773	3,082,328	3,600,997	896,820	6,141,889	311,885	8,127,485	2,452,564	12,863,784	3,531,075
2014	18,809,458	3,398,870	3,822,727	958,675	6,525,306	329,728	8,623,360	2,592,857	13,866,491	3,833,677
2015	19,733,986	3,666,402	4,011,218	1,007,992	6,802,436	342,928	9,002,136	2,696,667	14,628,605	4,077,075
2016	20,345,212	3,876,174	4,117,844	1,041,449	6,970,110	350,506	9,236,814	2,756,242	15,109,534	4,184,901
2017	20,794,045	4,043,657	4,194,746	1,067,575	7,087,013	355,454	9,404,656	2,795,159	15,460,528	4,389,514
2018	22,092,292	4,417,901	4,458,497	1,136,911	7,484,626	374,445	9,945,877	2,944,504	16,551,705	4,741,656
2019	22,109,984	4,478,475	4,445,107	1,140,243	7,468,581	371,595	9,911,388	2,922,098	16,521,763	4,769,967
2020	22,582,813	4,671,871	4,522,747	1,167,148	7,585,236	393,488	10,079,845	2,959,718	16,878,154	4,914,973
2021	22,693,479	4,760,360	4,531,595	1,164,186	7,586,375	392,443	10,094,937	2,951,858	16,929,911	4,900,316
2022	23,029,046	4,905,226	4,602,434	1,171,974	7,657,146	394,979	10,182,375	2,970,936	17,166,215	4,938,931
2023	23,175,896	5,013,037	4,615,198	1,170,043	7,664,889	394,265	10,206,298	2,965,554	17,235,632	4,929,356
2024	23,511,448	5,175,450	4,665,229	1,177,599	7,754,919	396,744	10,312,614	2,984,211	17,487,554	4,966,877
2025	23,965,746	5,357,651	4,762,496	1,191,807	7,868,473	401,465	10,477,494	3,019,719	17,840,817	5,037,408
2026	24,077,454	5,459,055	4,767,852	1,187,948	7,863,858	400,131	10,485,142	3,009,681	17,877,518	5,018,250
2027	24,250,254	5,600,027	4,802,346	1,196,604	7,920,755	403,004	10,561,004	3,031,282	18,030,650	5,061,236
2028	23,929,470	5,596,346	4,739,475	1,180,818	7,817,057	397,673	10,422,741	2,991,183	17,751,442	4,982,859
2029	24,285,773	5,801,693	4,810,163	1,198,565	7,933,643	403,593	10,578,191	3,035,719	18,065,321	5,070,968
2030	24,121,047	5,844,778	4,778,566	1,190,626	7,881,530	400,857	10,508,707	3,015,131	17,924,951	5,031,564
2031	24,087,205	5,925,861	4,773,259	1,189,311	7,872,779	400,293	10,497,037	3,010,901	17,901,713	5,025,042
2032	23,859,377	5,959,961	4,726,107	1,177,465	7,795,008	396,506	10,393,345	2,982,422	17,692,074	4,966,195
2033	24,407,101	6,219,932	4,831,328	1,203,893	7,968,556	405,609	10,624,742	3,050,888	18,159,647	5,097,444
2034	23,574,978	6,042,591	4,665,633	1,162,283	7,695,266	391,782	10,260,355	2,946,872	17,423,511	4,890,810
2035	24,321,068	6,383,820	4,810,194	1,198,585	7,933,694	404,181	10,578,259	3,040,134	18,065,655	5,071,062
TOTAL	883,221,328	166,808,007	188,723,770	44,892,174	321,273,360	16,370,254	408,153,348	112,761,529	673,288,768	179,745,169

TRANSPORTATION CHARGE FOR EACH CONTRACTOR[a]

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	36,970
1963	0	0	0	0	0	0	0	0	0	57,711
1964	0	0	0	0	0	0	0	0	0	74,134
1965	0	0	0	0	0	0	0	0	0	142,609
1966	0	0	0	0	0	0	0	0	0	192,605
1967	0	0	0	0	0	0	0	0	0	236,998
1968	0	0	0	0	0	0	0	0	0	1,117,913
1969	0	0	0	0	0	0	0	0	0	773,646
1970	0	0	0	0	0	0	0	0	0	1,103,798
1971	0	0	0	0	0	0	0	0	0	1,513,435
1972	0	847,235	0	898,896	0	0	0	0	0	3,261,922
1973	0	1,083,333	0	1,658,158	0	0	0	0	0	3,168,975
1974	0	1,872,299	0	2,345,298	0	0	0	0	0	3,919,920
1975	0	3,886,920	0	4,473,149	0	0	0	0	0	6,053,571
1976	0	5,485,263	0	6,453,511	0	0	0	0	0	8,478,786
1977	0	-361,308	0	183,351	0	0	0	0	0	1,574,962
1978	0	3,839,367	0	4,987,202	0	0	0	0	0	7,747,723
1979	0	3,732,945	0	5,453,879	0	0	0	0	0	9,901,242
1980	0	6,162,520	0	8,490,042	0	0	0	0	0	11,461,166
1981	0	8,187,225	17,090	10,852,343	0	0	0	0	0	14,316,407
1982	0	10,149,425	4,110	13,772,390	0	0	0	0	0	17,428,845
1983	0	39,014,395	28,118	49,078,983	0	0	0	0	0	61,242,479
1984	0	58,599,293	57,486	72,991,676	0	0	0	0	0	89,213,882
1985	543,679	74,292,297	91,081	93,265,318	0	0	0	0	0	113,029,968
1986	670,127	84,089,283	120,550	106,277,212	0	0	0	0	0	127,930,067
1987	741,218	82,168,204	194,903	110,871,701	0	0	0	0	0	133,324,786
1988	929,940	95,255,802	328,824	128,902,822	0	0	0	0	0	154,461,514
1989	1,181,961	114,552,019	504,022	154,713,141	0	0	0	0	0	184,092,822
1990	1,245,773	110,797,805	640,789	151,539,093	0	0	0	0	0	183,325,346
1991	1,404,405	115,927,708	751,015	158,607,363	0	0	0	0	0	192,045,071
1992	1,452,803	113,500,299	876,893	155,550,645	0	0	0	0	0	188,411,222
1993	1,590,295	117,105,989	1,010,310	161,030,610	0	0	0	0	0	195,034,962
1994	1,719,309	113,903,393	1,122,150	159,205,491	0	0	0	0	0	193,967,040
1995	1,787,872	114,216,310	1,298,304	159,686,577	0	0	0	0	0	194,318,022
1996	1,719,741	113,059,189	1,447,062	158,304,833	0	0	0	0	0	192,625,428
1997	1,752,782	118,155,994	1,747,830	165,306,857	0	0	0	0	0	200,707,256
1998	1,687,034	117,076,242	1,679,599	163,824,122	0	0	0	0	0	198,732,666
1999	1,703,934	121,192,099	1,683,953	169,457,599	0	0	0	0	0	205,201,012
2000	1,674,324	122,801,934	1,653,122	171,280,489	0	0	0	0	0	207,234,529
2001	1,694,335	127,594,678	1,674,440	176,742,557	0	0	0	0	0	213,059,877
2002	1,802,879	139,629,919	1,797,514	191,649,456	0	0	0	0	0	229,753,067
2003	1,795,503	142,290,372	1,790,323	194,338,556	0	0	0	0	0	232,327,190
2004	1,812,544	147,075,378	1,808,914	199,724,441	0	0	0	0	0	237,980,845
2005	1,837,079	152,566,911	1,848,415	205,993,942	0	0	0	0	0	244,661,576
2006	1,854,080	157,277,389	1,864,624	211,203,868	0	0	0	0	0	250,014,381
2007	1,889,201	163,823,244	1,902,512	218,770,065	0	0	0	0	0	258,097,117
2008	1,891,864	167,432,296	1,906,656	222,575,620	0	0	0	0	0	261,850,109
2009	1,944,121	174,398,056	1,971,581	231,004,973	0	0	0	0	0	270,959,340
2010	1,959,960	180,588,180	1,992,141	237,682,553	0	0	0	0	0	277,874,857
2011	2,009,057	188,219,961	2,043,963	246,706,815	0	0	0	0	0	287,530,545
2012	2,032,476	193,387,508	2,082,165	252,621,455	0	0	0	0	0	293,660,353
2013	2,177,995	210,913,039	2,233,657	273,969,291	0	0	0	0	0	317,202,702
2014	2,345,068	231,409,705	2,407,940	298,923,862	0	0	0	0	0	344,696,576
2015	2,473,731	248,666,824	2,558,556	319,668,556	0	0	0	0	0	367,365,334
2016	2,554,827	259,898,349	2,642,577	333,084,539	0	0	0	0	0	381,939,226
2017	2,613,945	269,052,667	2,704,913	343,963,872	0	0	0	0	0	393,598,805
2018	2,798,188	289,274,019	2,914,006	369,134,627	0	0	0	0	0	421,513,948
2019	2,790,043	288,870,987	2,904,340	368,704,571	0	0	0	0	0	420,752,561
2020	2,850,002	295,944,793	2,967,655	377,518,443	0	0	0	0	0	430,333,607
2021	2,858,518	297,351,828	2,975,448	379,191,254	0	0	0	0	0	431,955,807
2022	2,898,191	302,194,842	3,034,119	385,146,414	0	0	0	0	0	438,381,121
2023	2,909,690	303,887,142	3,044,597	387,211,597	0	0	0	0	0	440,489,616
2024	2,949,084	308,746,895	3,086,132	393,214,756	0	0	0	0	0	446,968,820
2025	3,008,452	315,656,331	3,164,780	401,752,639	0	0	0	0	0	456,261,427
2026	3,014,434	316,868,754	3,170,605	403,200,682	0	0	0	0	0	457,642,578
2027	3,040,257	319,677,050	3,197,726	406,772,195	0	0	0	0	0	461,580,212
2028	2,993,176	314,387,925	3,145,873	400,336,038	0	0	0	0	0	454,343,667
2029	3,046,100	319,929,390	3,198,714	407,357,833	0	0	0	0	0	462,109,825
2030	3,022,433	317,297,034	3,172,943	404,190,167	0	0	0	0	0	458,543,146
2031	3,018,516	316,779,233	3,167,518	403,648,668	0	0	0	0	0	457,929,150
2032	2,983,166	312,976,827	3,130,982	399,039,435	0	0	0	0	0	452,812,977
2033	3,062,007	321,654,061	3,215,205	409,900,413	0	0	0	0	0	465,005,391
2034	2,937,882	308,026,250	3,083,072	393,101,285	0	0	0	0	0	446,404,705
2035	3,046,159	319,838,083	3,197,155	407,888,049	0	0	0	0	0	462,947,253
TOTAL	109,720,160	10,594,179,399	106,258,972	13,805,396,238	0	0	0	0	0	16,036,009,121

TABLE B–19: TOTAL TRANSPORTATION

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	11,750	43,787	0	55,537	0	0	0
1963	0	0	0	150,889	187,069	448,540	786,498	0	0	0
1964	0	0	0	170,408	263,859	622,069	1,056,336	8,301	20,638	28,939
1965	0	0	0	245,231	365,034	1,158,568	1,768,833	13,971	34,047	48,018
1966	19,051	0	19,051	271,298	375,393	1,413,323	2,060,014	23,122	55,627	78,749
1967	42,863	0	42,863	346,503	453,711	1,683,790	2,484,004	41,264	98,158	139,422
1968	130,118	0	130,118	391,461	553,942	1,985,442	2,930,845	67,168	158,821	225,989
1969	256,556	0	256,556	446,314	489,029	2,083,409	3,018,752	121,960	286,872	408,832
1970	279,731	0	279,731	460,009	480,459	2,202,897	3,143,365	134,925	317,235	452,160
1971	229,992	0	229,992	420,913	499,782	2,170,024	3,090,719	136,053	319,951	456,004
1972	227,625	0	227,625	508,634	625,991	2,320,545	3,455,170	142,165	334,339	476,504
1973	223,827	27,797	251,624	473,149	496,811	2,338,745	3,308,705	139,195	327,455	466,650
1974	243,348	29,252	272,600	496,481	511,930	2,506,482	3,514,893	140,495	330,541	471,036
1975	240,673	32,234	272,907	544,841	552,728	2,410,044	3,507,613	157,030	369,190	526,220
1976	275,023	36,400	311,423	635,146	681,803	2,500,640	3,817,589	265,773	623,273	889,046
1977	299,049	40,309	339,358	598,385	660,332	2,475,706	3,734,423	276,373	648,489	924,862
1978	281,417	43,816	325,233	658,881	645,201	2,800,338	4,104,420	286,731	672,834	959,565
1979	298,601	47,296	345,897	713,677	681,607	2,804,056	4,199,340	282,785	663,742	946,527
1980	316,092	59,650	375,742	811,223	792,470	2,970,643	4,574,336	307,133	720,721	1,027,854
1981	362,520	74,534	437,054	833,777	871,130	2,941,167	4,646,074	367,245	861,166	1,228,411
1982	443,566	135,591	579,157	947,892	986,353	3,210,558	5,144,803	426,680	1,000,132	1,426,812
1983	561,140	203,749	764,889	1,400,754	1,488,324	4,623,778	7,512,856	497,526	1,165,652	1,663,178
1984	850,503	563,211	1,413,714	1,562,449	1,680,472	5,072,924	8,315,845	529,654	1,244,249	1,773,903
1985	1,651,064	1,553,213	3,204,277	1,687,328	1,834,392	5,382,858	8,904,578	573,489	1,363,823	1,937,312
1986	1,892,322	1,852,127	3,744,449	1,710,366	1,925,150	5,491,294	9,126,810	652,576	1,606,193	2,258,769
1987	1,906,714	1,882,839	3,789,553	1,715,399	1,949,183	5,431,570	9,096,152	825,726	2,070,807	2,896,533
1988	1,921,925	1,932,262	3,854,187	1,794,929	2,067,747	5,601,397	9,464,073	1,381,283	3,616,149	4,997,432
1989	1,948,354	1,984,824	3,933,178	1,900,141	2,230,674	5,915,423	10,046,238	2,120,066	5,667,927	7,787,993
1990	1,951,432	2,016,338	3,967,770	1,882,298	2,228,206	5,846,153	9,956,657	3,226,803	9,061,733	12,288,536
1991	1,979,844	2,022,146	4,001,990	1,969,054	2,339,461	6,034,176	10,342,691	3,313,639	9,492,435	12,806,074
1992	1,998,546	2,013,968	4,012,514	1,983,162	2,350,864	6,008,885	10,342,911	3,382,844	9,598,864	12,981,708
1993	2,023,629	2,015,591	4,039,220	2,049,018	2,439,705	6,142,984	10,631,707	3,473,120	9,781,277	13,254,397
1994	2,051,055	2,014,965	4,066,020	2,107,490	2,481,723	6,244,251	10,833,464	3,549,892	9,940,416	13,490,308
1995	2,072,217	2,011,835	4,084,052	2,143,409	2,467,789	6,210,152	10,821,350	3,622,432	10,025,653	13,648,085
1996	2,088,427	2,008,219	4,096,646	2,169,798	2,447,456	6,155,375	10,772,629	3,692,082	10,089,405	13,781,487
1997	2,116,822	2,008,283	4,125,105	2,240,135	2,481,445	6,211,474	10,933,054	3,800,243	10,281,473	14,081,716
1998	2,130,462	2,002,118	4,132,580	2,188,710	2,458,291	6,149,042	10,796,043	3,781,004	10,336,858	14,117,862
1999	2,157,137	2,001,935	4,159,072	2,179,988	2,479,407	6,185,041	10,844,436	3,884,149	10,522,553	14,406,702
2000	2,175,979	1,998,360	4,174,339	2,152,024	2,480,451	6,173,502	10,805,977	3,971,675	10,637,578	14,609,253
2001	2,193,471	2,005,541	4,199,012	2,176,038	2,487,431	6,205,316	10,868,785	4,102,291	10,665,516	14,767,807
2002	2,222,627	2,018,516	4,241,143	2,243,020	2,548,453	6,353,258	11,144,731	4,280,159	10,860,199	15,140,358
2003	2,231,618	2,022,062	4,253,680	2,244,585	2,529,319	6,328,960	11,102,864	4,408,712	10,792,580	15,201,292
2004	2,236,809	2,025,641	4,262,450	2,245,612	2,513,715	6,314,067	11,073,394	4,517,216	10,741,968	15,259,184
2005	2,239,433	2,029,340	4,268,773	2,260,313	2,501,280	6,300,420	11,062,013	4,622,599	10,700,484	15,323,083
2006	2,241,041	2,035,890	4,276,931	2,270,008	2,500,644	6,320,427	11,091,079	4,630,293	10,705,915	15,336,208
2007	2,264,154	2,056,878	4,321,032	2,339,191	2,559,459	6,477,754	11,376,404	4,681,744	10,780,975	15,462,719
2008	2,265,110	2,061,922	4,327,032	2,355,735	2,552,837	6,485,803	11,394,375	4,682,816	10,777,451	15,460,267
2009	2,274,313	2,071,719	4,346,032	2,396,827	2,573,728	6,557,382	11,527,937	4,618,197	10,916,836	15,535,033
2010	2,280,258	2,079,774	4,360,032	2,420,679	2,583,043	6,592,072	11,595,794	4,753,956	10,875,486	15,629,442
2011	2,292,296	2,089,157	4,381,453	2,463,832	2,605,193	6,667,549	11,736,574	4,706,289	10,986,506	15,692,795
2012	2,296,910	2,096,543	4,393,453	2,487,113	2,613,331	6,700,156	11,800,600	4,829,131	10,926,490	15,755,621
2013	2,324,639	2,116,814	4,441,453	2,474,583	2,590,842	6,539,291	11,604,716	4,968,587	11,137,567	16,106,154
2014	2,359,105	2,140,348	4,499,453	2,553,262	2,634,063	6,612,641	11,799,966	5,124,568	11,357,835	16,482,403
2015	2,384,287	2,159,166	4,543,453	2,603,798	2,644,765	6,425,576	11,674,139	5,253,298	11,512,746	16,766,044
2016	2,397,410	2,174,992	4,572,402	2,650,904	2,661,162	6,374,033	11,686,099	5,324,236	11,586,299	16,910,535
2017	2,397,798	2,187,792	4,585,590	2,669,131	2,663,959	6,348,071	11,681,161	5,373,375	11,598,100	16,971,475
2018	2,368,028	2,215,425	4,583,453	2,757,849	2,727,027	6,492,236	11,977,112	5,543,078	11,822,360	17,365,438
2019	2,335,542	2,220,781	4,556,323	2,733,681	2,682,045	6,385,040	11,800,766	5,531,053	11,762,544	17,293,597
2020	2,361,062	2,235,129	4,596,191	2,771,658	2,700,674	6,442,487	11,914,819	5,595,941	11,806,069	17,402,010
2021	2,356,968	2,242,681	4,599,649	2,792,457	2,692,363	6,452,229	11,937,049	5,605,282	11,783,278	17,388,560
2022	2,348,225	2,241,925	4,590,150	2,789,656	2,665,956	6,393,226	11,848,838	5,641,991	11,799,104	17,441,095
2023	2,345,946	2,222,318	4,568,264	2,811,972	2,663,695	6,415,696	11,891,363	5,663,475	11,777,323	17,440,798
2024	2,353,089	2,232,726	4,585,815	2,855,803	2,681,884	6,480,735	12,018,422	5,703,028	11,799,933	17,502,961
2025	2,353,705	2,244,319	4,598,024	2,908,018	2,706,991	6,568,462	12,183,471	5,770,967	11,847,302	17,618,269
2026	2,346,059	2,247,750	4,593,809	2,929,756	2,704,310	6,585,075	12,219,141	5,670,798	11,571,937	17,242,735
2027	2,344,479	2,244,570	4,589,049	2,940,168	2,713,454	6,603,472	12,257,094	5,679,585	11,568,580	17,248,165
2028	2,332,790	2,235,257	4,568,047	2,907,163	2,683,261	6,530,022	12,120,446	5,626,312	11,484,872	17,111,184
2029	2,339,038	2,238,871	4,577,909	2,939,121	2,712,413	6,598,505	12,250,039	5,678,225	11,559,731	17,237,956
2030	2,325,293	2,224,005	4,549,298	2,922,802	2,697,463	6,562,418	12,182,683	5,654,929	11,523,736	17,178,665
2031	2,312,569	2,210,255	4,522,824	2,921,343	2,696,082	6,558,668	12,176,093	5,653,162	11,519,225	17,172,387
2032	2,260,668	2,149,189	4,409,857	2,898,090	2,674,775	6,507,361	12,080,226	5,615,815	11,455,336	17,071,151
2033	2,221,855	2,095,645	4,317,500	2,945,414	2,717,933	6,609,672	12,273,019	5,691,285	11,555,947	17,247,232
2034	1,918,904	1,722,525	3,641,429	2,861,014	2,640,850	6,425,992	11,927,856	5,554,319	11,332,420	16,886,739
2035	1,366,250	1,036,666	2,402,916	2,921,032	2,695,709	6,556,258	12,172,999	5,627,308	11,385,904	17,013,212
TOTAL	117,139,373	106,244,994	223,384,367	137,434,942	143,269,270	374,697,595	655,401,807	232,000,592	530,624,830	762,625,422

a) *Unadjusted for prior overpayments or underpayments of charges.*

CHARGE FOR EACH CONTRACTOR[a]

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[b]	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	64,286	0	0	0	0	64,286
1966	0	0	0	0	120,273	0	0	0	0	120,273
1967	0	0	0	0	233,297	0	0	0	0	233,297
1968	76,325	191,157	10,901	5,569	396,569	1,581,844	12,860	12,081	206,547	2,493,853
1969	125,563	186,773	13,624	26,869	472,778	2,469,016	11,472	11,128	343,888	3,661,111
1970	149,201	209,422	20,389	39,124	520,380	3,008,455	11,599	13,686	265,206	4,237,462
1971	154,704	206,708	21,348	30,086	551,543	3,947,552	16,546	15,030	429,816	5,373,333
1972	178,215	229,779	22,152	32,171	576,934	5,151,854	13,975	21,874	1,077,993	7,304,947
1973	169,605	213,741	18,287	29,987	584,409	5,136,253	14,240	12,400	392,600	6,571,522
1974	180,267	298,938	18,256	33,298	643,310	5,463,386	14,332	13,564	586,030	7,251,381
1975	201,387	369,367	19,198	39,245	660,529	6,633,562	15,342	15,271	714,861	8,668,762
1976	223,403	319,799	19,744	40,890	719,045	7,015,099	15,712	17,046	542,959	8,913,697
1977	220,925	281,529	16,846	41,436	742,058	7,216,055	17,131	14,760	488,794	9,039,534
1978	248,624	373,987	15,932	44,972	844,249	8,805,907	17,693	19,113	488,663	10,859,140
1979	292,769	417,030	20,165	67,454	860,130	10,141,163	19,436	27,180	960,342	12,805,669
1980	268,059	425,623	17,791	59,987	826,835	10,438,905	19,277	26,022	698,772	12,781,271
1981	304,181	477,426	31,929	70,594	1,032,152	12,453,518	23,245	25,001	869,324	15,287,370
1982	319,522	498,636	30,627	74,430	1,134,762	13,638,204	25,235	24,404	890,808	16,636,628
1983	443,421	763,393	43,453	113,055	1,786,510	20,150,572	43,425	44,292	1,376,558	24,764,679
1984	488,791	889,617	49,877	131,111	2,001,649	23,529,559	53,097	53,052	1,603,144	28,799,897
1985	522,527	1,000,130	54,746	148,895	2,231,015	26,428,706	62,188	59,406	1,804,697	32,312,310
1986	535,148	1,069,990	56,721	159,094	2,555,035	28,221,842	68,685	63,907	1,934,339	34,664,761
1987	530,979	1,099,991	56,259	163,464	2,645,856	29,465,753	72,641	64,339	1,989,251	36,088,533
1988	552,066	1,194,890	59,465	177,300	3,002,755	32,027,641	77,915	70,467	2,162,801	39,325,300
1989	582,128	1,314,681	63,773	196,825	3,326,695	34,926,183	84,429	78,156	2,381,870	42,954,740
1990	583,660	1,333,638	62,531	199,535	3,372,492	35,390,459	83,247	77,862	2,503,604	43,607,028
1991	598,557	1,370,097	64,421	204,906	3,447,395	36,280,117	85,832	80,298	2,573,013	44,704,636
1992	591,074	1,345,787	63,153	201,325	3,370,555	35,724,453	84,178	78,681	2,526,576	43,985,782
1993	599,122	1,367,316	64,268	204,497	3,396,467	36,239,422	85,650	80,150	2,567,580	44,604,472
1994	603,684	1,378,488	64,848	206,145	3,406,871	36,515,606	86,422	80,864	2,588,847	44,931,775
1995	601,995	1,371,949	64,506	205,179	3,366,769	36,361,225	85,949	80,403	2,576,341	44,714,316
1996	598,464	1,360,144	63,892	203,441	3,318,417	36,085,756	85,119	79,566	2,553,780	44,348,579
1997	606,216	1,380,551	64,948	206,448	3,349,822	36,585,637	86,537	80,872	2,592,647	44,953,678
1998	601,433	1,366,594	64,224	204,392	3,300,629	36,265,357	85,576	79,957	2,566,039	44,534,201
1999	607,111	1,383,319	65,093	206,856	3,320,907	36,653,202	86,740	80,912	2,597,936	45,002,076
2000	608,019	1,385,089	65,184	207,113	3,309,075	36,705,174	86,858	80,960	2,601,278	45,048,750
2001	608,697	1,387,660	65,318	207,495	3,330,565	36,772,684	87,048	81,051	2,606,181	45,146,699
2002	621,884	1,425,618	67,292	213,087	3,434,757	37,673,932	89,635	83,634	2,678,540	46,288,379
2003	617,801	1,415,888	66,788	211,653	3,415,401	37,452,187	88,712	82,959	2,660,012	46,011,401
2004	618,186	1,416,552	66,819	211,751	3,396,569	37,483,227	87,990	82,985	2,661,260	46,025,339
2005	619,190	1,420,227	67,010	212,292	3,379,378	37,580,410	87,383	83,245	2,668,258	46,117,393
2006	619,192	1,420,569	67,084	212,294	3,391,098	37,603,029	87,273	83,313	2,668,940	46,152,792
2007	627,160	1,436,796	67,858	214,733	3,452,662	38,042,141	88,269	84,254	2,699,540	46,713,413
2008	625,601	1,432,897	67,654	214,158	3,459,246	37,949,159	88,008	83,981	2,692,105	46,612,809
2009	630,920	1,446,647	68,369	216,184	3,511,239	38,289,858	88,966	84,905	2,718,314	47,055,402
2010	630,537	1,447,916	68,435	216,370	3,532,922	38,308,133	89,060	84,992	2,720,734	47,099,099
2011	635,857	1,460,642	69,096	218,246	3,577,732	38,621,005	89,944	85,852	2,744,977	47,503,351
2012	636,225	1,462,634	69,198	218,538	3,600,044	38,674,430	90,085	85,967	2,748,708	47,585,829
2013	652,547	1,509,684	71,642	225,468	3,737,489	39,792,810	93,329	89,207	2,838,378	49,010,554
2014	671,595	1,562,912	74,408	233,311	3,892,075	41,076,539	97,022	92,791	2,939,816	50,640,469
2015	685,507	1,602,909	76,485	239,204	3,957,718	42,033,572	99,792	95,509	3,016,041	51,806,737
2016	693,650	1,625,629	77,666	242,551	3,989,419	42,579,167	101,363	97,049	3,059,340	52,465,834
2017	698,627	1,639,929	78,409	244,657	3,934,980	42,926,804	102,351	98,093	3,086,591	52,810,441
2018	718,931	1,696,760	81,362	253,029	4,007,052	44,303,052	97,781	102,000	3,194,898	54,454,865
2019	715,358	1,686,168	80,812	251,468	3,942,973	44,058,768	96,545	101,341	3,174,713	54,108,146
2020	720,030	1,699,514	81,505	253,435	3,967,836	44,387,618	97,219	102,260	3,200,150	54,509,567
2021	718,853	1,696,592	81,354	253,004	3,956,982	44,308,620	96,872	102,124	3,194,579	54,408,980
2022	719,488	1,694,737	81,259	252,731	3,967,922	44,255,875	96,833	102,076	3,191,051	54,361,972
2023	718,983	1,694,353	81,238	252,674	3,994,717	44,233,085	96,762	102,082	3,190,320	54,364,214
2024	721,444	1,701,615	81,615	253,746	4,035,714	44,409,903	97,259	102,541	3,204,161	54,607,998
2025	726,596	1,717,140	82,421	256,032	4,091,494	44,767,652	98,291	103,638	3,233,741	55,077,005
2026	725,041	1,712,803	82,197	255,393	4,098,492	44,666,497	97,968	103,310	3,225,480	54,967,181
2027	721,084	1,717,189	82,451	256,038	4,104,962	44,688,864	98,294	103,827	3,234,389	55,007,098
2028	714,817	1,697,925	81,450	253,200	4,052,270	44,246,139	96,949	102,611	3,197,682	54,443,043
2029	720,625	1,713,405	82,255	255,481	4,096,067	44,623,097	97,980	103,814	3,227,176	54,919,900
2030	717,405	1,703,087	81,719	253,961	4,067,740	44,388,846	97,235	103,159	3,207,513	54,620,665
2031	717,021	1,700,780	81,598	253,622	4,059,007	44,336,794	97,017	103,085	3,203,117	54,552,041
2032	711,932	1,688,383	80,961	251,794	4,009,405	44,023,011	95,800	102,321	3,179,620	54,143,227
2033	722,325	1,718,051	82,504	256,164	4,066,103	44,711,713	97,260	104,362	3,236,163	54,994,645
2034	708,632	1,678,851	80,468	250,393	3,927,737	43,760,324	94,013	101,666	3,161,455	53,763,539
2035	722,158	1,717,842	82,370	256,126	4,008,120	44,670,426	96,102	104,319	3,235,637	54,893,100
TOTAL	37,201,044	82,825,883	4,047,621	12,295,976	198,940,340	2,158,356,808	4,954,993	4,913,027	155,356,484	2,658,892,176

b) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-19: TOTAL TRANSPORTATION

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley County Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	33,375	0	0	0	0	0	0	0	51,756	0
1964	62,940	20,137	14,434	4,367	37,183	1,144	28,462	8,215	82,745	34,986
1965	118,739	38,224	25,112	7,193	40,799	2,085	50,365	15,239	135,048	35,348
1966	216,049	72,294	44,770	12,483	73,219	3,758	90,493	27,712	232,577	61,495
1967	418,021	148,698	86,205	23,488	141,553	7,293	175,367	54,090	433,621	115,659
1968	737,117	312,127	152,873	41,548	251,500	12,888	311,091	95,601	782,835	209,123
1969	1,060,931	470,324	225,629	61,298	371,487	18,725	458,792	138,300	1,207,059	322,106
1970	1,379,872	599,471	315,730	89,805	520,087	25,276	633,004	185,187	1,779,961	468,083
1971	1,708,014	753,642	433,124	128,490	713,693	31,895	857,064	231,726	2,540,327	660,025
1972	2,024,874	936,602	561,649	181,146	925,665	42,452	1,109,844	275,008	3,387,516	864,869
1973	2,114,508	977,077	694,770	183,279	1,135,188	43,507	1,170,371	287,556	3,960,202	943,875
1974	2,177,834	1,032,278	709,094	192,419	1,160,076	45,228	1,199,942	292,251	3,976,758	985,233
1975	2,354,179	1,088,958	748,824	204,811	1,225,935	48,488	1,264,211	304,412	4,128,627	1,083,412
1976	2,706,772	1,071,062	795,076	213,813	1,301,127	51,440	1,305,908	313,672	4,265,420	1,136,317
1977	2,649,733	1,148,859	691,728	224,960	1,140,186	47,354	1,378,752	329,683	4,522,119	1,200,420
1978	3,038,923	1,223,868	887,666	233,745	1,440,424	48,344	1,410,936	331,043	4,516,770	1,228,156
1979	3,496,397	1,192,869	931,461	235,498	1,500,160	48,187	1,496,237	331,431	4,363,135	1,140,321
1980	4,121,438	1,279,687	1,036,376	257,216	1,684,917	53,044	1,616,026	356,303	4,746,308	1,248,311
1981	4,384,634	1,535,027	1,070,054	270,729	1,744,606	75,024	1,746,047	400,877	5,335,223	1,490,482
1982	5,149,134	1,694,693	1,258,336	323,930	2,050,482	89,410	2,139,334	461,428	6,247,165	1,791,696
1983	8,272,919	2,357,164	2,284,182	504,754	3,690,471	178,576	2,410,840	621,408	8,764,714	2,707,788
1984	9,763,540	2,686,995	2,783,067	634,500	4,487,153	221,144	2,578,801	894,836	10,448,374	3,114,981
1985	10,764,119	2,988,235	3,178,820	729,782	5,119,551	254,619	2,671,808	1,142,111	12,374,729	3,493,566
1986	11,332,218	3,199,929	3,411,909	793,015	5,511,198	277,232	2,748,013	1,232,085	13,855,133	3,595,729
1987	12,048,283	3,235,405	3,574,686	833,252	5,833,440	288,812	7,563,230	1,315,810	15,145,629	3,684,798
1988	13,485,149	3,447,560	3,920,068	874,605	6,467,551	319,893	8,304,728	1,447,763	16,101,499	3,844,585
1989	15,587,036	3,736,763	4,388,587	936,335	7,281,187	361,334	9,271,259	1,614,946	17,532,764	4,087,514
1990	16,613,877	3,692,253	4,271,601	976,942	7,387,798	355,189	9,380,219	1,659,494	18,249,383	4,147,597
1991	17,120,364	3,779,638	4,164,756	972,514	7,543,964	365,239	9,567,698	1,798,473	18,172,509	4,163,485
1992	17,216,695	3,826,661	4,112,357	988,332	7,411,466	356,975	9,366,014	1,864,720	18,153,991	4,203,546
1993	17,851,679	3,835,648	4,198,227	997,635	7,507,545	362,359	9,532,704	1,990,452	18,149,061	4,254,809
1994	18,468,110	4,040,748	4,234,724	1,012,286	7,560,919	364,723	9,609,980	2,106,094	18,210,918	4,317,488
1995	18,644,551	3,856,346	4,242,149	1,037,451	7,515,146	361,067	9,549,419	2,190,748	18,408,418	4,400,608
1996	18,841,227	4,026,834	4,189,840	1,025,468	7,406,713	355,886	9,431,617	2,240,387	17,941,521	4,352,225
1997	19,522,414	3,980,995	4,261,500	1,034,298	7,498,793	361,179	9,582,971	2,352,489	17,896,504	4,404,998
1998	19,711,300	4,101,064	4,248,329	1,049,762	7,432,307	356,251	9,486,582	2,402,105	17,921,633	4,451,737
1999	20,563,222	4,013,028	4,306,604	1,062,536	7,482,911	359,568	9,574,314	2,505,451	17,925,190	4,513,059
2000	20,722,927	4,181,710	4,325,243	1,087,876	7,499,816	358,997	9,588,619	2,584,061	18,145,077	4,607,093
2001	20,910,504	4,187,313	4,352,549	1,102,012	7,536,665	359,973	9,642,122	2,652,994	18,312,785	4,665,607
2002	21,624,542	4,342,951	4,473,995	1,102,453	7,717,245	371,019	9,957,751	2,799,084	18,259,292	4,709,227
2003	21,557,196	4,443,357	4,466,435	1,126,246	7,707,255	367,281	9,891,767	2,834,838	18,600,492	4,785,058
2004	21,490,752	4,394,289	4,439,542	1,124,589	7,653,773	363,854	9,836,652	2,873,410	18,485,574	4,771,405
2005	21,442,872	4,399,818	4,450,614	1,146,991	7,638,682	360,790	9,776,197	2,889,861	18,798,443	4,841,749
2006	21,552,458	4,508,899	4,436,500	1,122,639	7,606,066	360,500	9,802,835	2,887,889	18,277,534	4,768,069
2007	21,928,785	4,504,584	4,521,000	1,167,267	7,738,209	377,420	9,944,392	2,918,882	18,994,045	4,953,886
2008	22,010,563	4,665,657	4,504,318	1,150,295	7,714,966	376,276	9,944,702	2,909,894	18,614,089	4,903,087
2009	22,423,343	4,726,120	4,590,379	1,175,026	7,825,642	381,235	10,096,761	2,948,841	18,966,105	5,017,878
2010	22,566,453	4,794,742	4,625,080	1,203,271	7,873,041	381,432	10,138,171	2,950,413	19,377,420	5,129,783
2011	22,953,863	4,940,906	4,699,629	1,236,819	7,989,290	385,795	10,281,064	2,984,700	19,882,553	5,277,368
2012	23,171,590	5,031,707	4,710,277	1,206,350	7,971,064	387,040	10,345,585	2,994,478	19,248,873	5,192,134
2013	24,136,784	5,292,025	4,924,959	1,286,539	8,311,389	402,357	10,761,794	3,114,879	20,520,741	5,533,006
2014	25,284,375	5,556,888	5,141,351	1,353,157	8,699,997	419,150	11,233,437	3,247,594	21,654,566	5,859,795
2015	26,153,670	5,999,882	5,284,451	1,356,351	8,902,248	431,452	11,592,221	3,344,601	21,594,921	5,939,330
2016	26,667,125	5,940,170	5,412,534	1,433,636	9,105,337	437,365	11,789,129	3,391,731	22,851,258	6,191,712
2017	26,916,582	6,123,717	5,413,593	1,406,049	9,097,139	438,833	11,873,552	3,404,649	22,242,110	6,194,321
2018	27,968,925	6,382,806	5,679,830	1,527,307	9,498,885	453,498	12,310,172	3,521,885	24,227,508	6,700,934
2019	27,681,753	6,123,790	5,555,086	1,460,657	9,299,167	445,122	12,134,607	3,459,127	22,880,647	6,443,246
2020	27,861,340	6,514,768	5,555,294	1,470,072	9,288,122	460,902	12,138,428	3,453,139	22,859,728	6,482,078
2021	27,712,776	6,233,239	5,472,717	1,448,046	9,138,486	454,392	11,955,349	3,407,390	22,499,520	6,347,898
2022	27,868,798	6,501,301	5,473,984	1,428,366	9,094,513	453,676	11,919,129	3,402,851	22,139,914	6,246,920
2023	27,960,113	6,290,677	5,451,173	1,400,176	9,043,575	451,886	11,906,343	3,389,873	21,689,096	6,126,592
2024	28,285,110	6,692,387	5,508,796	1,421,212	9,146,134	454,171	12,003,677	3,407,146	22,165,295	6,205,345
2025	28,711,472	6,633,076	5,579,189	1,415,467	9,215,359	458,406	12,141,033	3,439,073	22,148,690	6,197,903
2026	28,812,404	6,774,595	5,590,928	1,428,482	9,221,278	456,851	12,129,300	3,427,553	22,455,005	6,225,912
2027	28,875,443	6,957,981	5,592,086	1,428,646	9,223,206	458,243	12,136,213	3,438,331	22,422,914	6,218,595
2028	28,544,533	6,937,009	5,529,116	1,417,521	9,119,344	452,709	11,987,712	3,396,813	22,219,818	6,152,873
2029	28,890,675	7,036,983	5,580,616	1,413,998	9,204,268	458,464	12,138,522	3,440,101	22,153,884	6,166,035
2030	28,711,918	7,074,575	5,569,897	1,434,772	9,186,609	455,486	12,062,172	3,417,749	22,522,997	6,224,800
2031	28,637,822	7,153,070	5,530,330	1,401,422	9,121,336	454,189	12,029,504	3,408,135	21,928,999	6,103,224
2032	28,286,522	7,018,576	5,447,943	1,369,343	8,985,450	448,326	11,876,736	3,364,097	21,359,147	5,965,301
2033	28,561,908	7,407,274	5,522,040	1,406,483	9,107,682	452,890	12,001,984	3,398,468	22,017,508	6,112,944
2034	27,506,239	6,917,491	5,310,576	1,350,911	8,758,914	435,293	11,544,539	3,266,239	21,034,187	5,837,590
2035	28,082,841	7,544,677	5,414,435	1,369,504	8,930,201	444,873	11,791,611	3,338,353	21,362,432	5,941,244
TOTAL	1,228,235,163	286,630,173	260,590,802	65,733,636	439,766,753	21,305,734	551,776,225	148,928,228	1,084,860,309	287,798,372

CHARGE FOR EACH CONTRACTOR (a

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	55,537
1963	0	691,938	0	777,069	0	0	0	0	58,850	1,622,417
1964	21,733	1,261,870	9,399	1,587,615	0	0	0	0	97,413	2,770,303
1965	21,867	2,183,414	17,804	2,691,237	0	0	404	404	168,081	4,740,859
1966	37,981	3,906,029	33,497	4,812,357	0	0	564	564	194,417	7,285,425
1967	71,333	7,706,951	68,308	9,450,587	0	0	562	562	252,251	12,602,986
1968	129,032	15,354,904	143,244	18,533,883	0	0	564	564	328,397	24,643,649
1969	198,978	23,219,645	216,009	27,969,283	0	0	3,189	3,189	399,001	35,716,724
1970	289,940	30,705,742	274,657	37,266,815	0	0	15,111	15,111	437,837	45,832,481
1971	409,697	40,070,767	343,762	48,882,226	0	0	15,991	15,991	427,613	58,475,878
1972	537,035	53,092,016	424,250	64,362,926	0	0	17,362	17,362	453,323	76,297,857
1973	586,202	57,430,453	438,418	69,965,406	0	0	17,323	17,323	427,853	81,009,083
1974	608,042	61,941,897	459,636	74,780,688	0	0	17,466	17,466	450,912	86,758,976
1975	639,815	66,938,403	483,188	80,513,263	0	0	18,395	18,395	460,466	93,967,626
1976	662,859	68,676,416	480,923	82,980,805	0	0	17,466	17,466	483,071	97,413,097
1977	692,076	66,898,504	512,410	81,436,784	0	0	18,221	18,221	475,974	95,969,156
1978	719,009	74,596,738	539,213	90,214,835	0	0	17,370	17,370	481,613	106,962,176
1979	705,487	72,523,095	530,931	88,495,209	0	0	20,568	20,568	499,111	107,312,321
1980	763,912	80,426,888	573,669	98,164,095	0	0	17,911	17,911	545,457	117,486,666
1981	812,431	92,025,797	685,650	111,576,581	0	0	17,535	17,535	558,801	133,751,826
1982	926,336	101,745,119	746,412	124,623,475	0	0	17,535	17,535	610,714	149,039,124
1983	1,102,141	151,647,925	957,487	185,500,369	0	0	17,535	17,535	674,542	220,898,048
1984	1,179,797	177,290,680	1,035,057	217,118,925	0	0	17,535	17,535	693,071	258,132,890
1985	1,791,515	197,754,153	1,101,074	243,364,082	0	0	17,535	17,535	682,134	290,422,228
1986	1,911,339	206,905,124	1,151,936	255,924,860	0	0	17,535	17,535	691,294	306,428,478
1987	2,059,477	214,071,103	1,238,785	270,892,710	0	0	17,535	17,535	692,786	323,473,802
1988	2,222,777	222,722,482	1,390,745	284,549,405	0	0	17,535	17,535	694,186	342,902,118
1989	2,456,578	244,795,701	1,595,639	313,645,643	0	0	17,535	17,535	697,983	379,083,310
1990	2,606,827	244,432,029	1,730,393	315,503,602	0	0	17,535	17,535	693,640	386,034,768
1991	2,683,807	245,479,640	1,832,042	317,644,129	0	0	17,535	17,535	697,752	390,214,807
1992	2,785,866	247,721,331	1,978,334	319,986,288	0	0	17,535	17,535	696,681	392,023,419
1993	2,891,649	246,460,084	2,085,698	320,117,550	0	0	17,535	17,535	698,209	393,363,090
1994	3,016,770	249,114,667	2,243,790	324,301,217	0	0	17,535	17,535	699,271	398,339,590
1995	3,136,829	243,163,864	2,353,834	318,860,430	0	0	17,535	17,535	701,081	392,846,849
1996	3,044,213	248,518,120	2,560,003	323,934,054	0	0	17,535	17,535	702,409	397,653,339
1997	3,042,643	247,120,733	2,821,278	323,880,795	0	0	17,535	17,535	702,258	398,694,141
1998	3,013,818	253,527,711	2,796,767	330,499,366	0	0	17,535	17,535	701,713	404,799,300
1999	3,013,136	249,898,923	2,751,924	327,969,866	0	0	17,535	17,535	701,319	403,101,006
2000	3,018,525	257,872,686	2,768,113	336,760,743	0	0	17,535	17,535	701,790	412,118,387
2001	3,044,716	262,022,654	2,765,671	341,555,565	0	0	17,535	17,535	701,483	417,256,886
2002	3,063,909	269,264,284	2,880,138	350,565,890	0	0	17,535	17,535	701,614	428,099,650
2003	3,100,762	275,309,080	2,882,307	357,072,074	0	0	17,535	17,535	698,170	434,357,016
2004	3,081,222	274,232,305	2,847,258	355,594,625	0	0	17,535	17,535	691,932	432,924,459
2005	3,117,035	276,352,168	2,846,061	358,061,281	0	0	17,535	17,535	684,133	435,534,211
2006	3,052,797	280,161,945	2,877,638	361,415,769	0	0	17,535	17,535	682,646	438,972,960
2007	3,156,790	285,837,316	2,887,450	368,930,026	0	0	17,535	17,535	700,300	447,521,429
2008	3,107,038	293,647,192	2,930,891	376,478,968	0	0	17,535	17,535	699,415	454,990,401
2009	3,164,625	297,214,533	2,981,725	381,512,213	0	0	17,535	17,535	699,797	460,693,949
2010	3,220,909	305,992,453	3,003,632	391,256,800	0	0	17,535	17,535	699,530	470,658,232
2011	3,297,390	314,322,813	3,057,708	401,309,898	0	0	17,535	17,535	699,657	481,341,263
2012	3,222,013	316,009,789	3,095,469	402,586,369	0	0	17,535	17,535	699,556	482,838,963
2013	3,418,497	335,512,413	3,241,788	426,457,171	0	0	17,535	17,535	653,532	508,291,115
2014	3,601,622	352,060,125	3,396,495	447,508,552	0	0	17,535	17,535	616,565	531,564,943
2015	3,623,424	375,841,485	3,602,070	473,666,106	0	0	17,131	17,131	560,753	559,034,363
2016	3,800,204	379,238,487	3,593,271	479,851,959	0	0	16,971	16,971	537,024	566,040,824
2017	3,729,061	386,297,035	3,651,199	486,787,840	0	0	16,973	16,973	495,750	573,349,230
2018	4,017,287	402,707,310	3,804,559	508,800,906	0	0	16,971	16,971	419,403	597,618,148
2019	3,825,660	387,972,917	3,670,188	490,951,967	0	0	14,346	14,346	354,768	579,079,913
2020	3,820,494	398,707,518	3,783,032	502,394,915	0	0	2,424	2,424	336,886	591,156,812
2021	3,756,072	382,268,958	3,654,291	484,349,134	0	0	1,598	1,598	329,951	573,014,921
2022	3,707,992	390,786,097	3,741,339	492,764,880	0	0	213	213	306,954	581,314,102
2023	3,648,145	375,821,319	3,649,157	476,828,125	0	0	213	213	305,931	565,398,908
2024	3,714,875	390,359,804	3,767,742	493,131,694	0	0	212	212	305,807	582,152,909
2025	3,723,931	388,431,695	3,766,575	491,861,869	0	0	209	209	304,349	581,643,196
2026	3,761,487	390,502,961	3,784,614	494,571,370	0	0	208	208	303,702	583,898,146
2027	3,756,291	394,138,195	3,820,423	498,466,567	0	0	206	206	300,242	587,868,421
2028	3,717,800	386,426,742	3,761,177	489,663,167	0	0	204	204	298,853	578,204,944
2029	3,721,743	389,633,068	3,777,000	493,615,357	0	0	202	202	297,955	582,899,318
2030	3,762,572	387,718,487	3,744,112	491,886,146	0	0	204	204	296,494	580,714,155
2031	3,683,794	382,787,605	3,730,535	485,969,965	0	0	200	200	295,531	574,689,041
2032	3,597,892	374,397,400	3,629,093	475,745,826	0	0	200	200	293,303	563,743,790
2033	3,690,439	387,774,686	3,746,010	491,200,316	0	0	200	200	290,140	580,323,052
2034	3,524,183	359,149,480	3,502,728	458,138,370	0	0	200	200	285,947	544,644,080
2035	3,584,424	382,351,957	3,702,215	483,858,767	0	0	200	200	278,894	570,620,088
TOTAL	176,628,567	17,301,145,818	160,949,840	22,014,349,620	0	0	883,942	883,942	37,160,241	26,352,697,575

TABLE B-20A: CALCULATION OF DELTA WATER RATES

[values in millions of dollars ($) or millions of acre-feet (AF)[a] discounted to 1981 at 4.606 percent per annum]

Procedure	Capital Cost Component	Minimum Operation Maintenance, Power and Replacement Component (b	Total Delta Water Rate[c]
In accordance with amendment to Articles 22(e) and 22(g)[d] (for all contractors except Solano County Flood Control and Water Conservation District)			
Commencing in 1982:			
Total costs of "initial conservation facilities" to be reimbursed, and project water entitlements during the project repayment period	$1,784.76[e] 98.05 AF	$642.96[f] 98.05 AF	$2,427.72 98.05 AF
less, project power revenues to be realized during the project repayment period	565.54	167.95	733.49
less, Delta Water Charges paid, and project water entitlements, prior to 1982 (g	166.86 20.83 AF	54.06 20.83 AF	220.92 20.83 AF
Subtotal	$1,052.36 77.22 AF	$420.95 77.22 AF	$1,473.31 77.22 AF
Rate applicable 1982 through 1983	$13.63 per acre-foot	$5.45 per acre-foot	$19.08 per acre-foot
Commencing in 1984:			
Additional costs to be reimbursed during the project repayment period for ground water storage facilities	$ 253.16	$ 61.73	$ 314.89
less, Delta Water Charges paid, and project water entitlements during the period 1982-1983	68.28 5.01 AF	27.31 5.01 AF	95.59 5.01 AF
Cumulative Subtotal	$1,237.24 72.21 AF	$455.37 72.21 AF	$1,692.61 72.21 AF
Rate applicable 1984 through 1986	$17.13 per acre-foot	$6.31 per acre-foot	$23.44 per acre-foot
Commencing in 1987:			
Additional costs to be reimbursed during the project repayment period for Los Vaqueros Reservoir facilities	$ 583.57	$167.38	$ 750.95
less, Delta Water Charges paid, and project water entitlements during the period 1984-1986	137.15 8.01 AF	50.48 8.01 AF	187.63 8.01 AF
Cumulative Subtotal	$1,683.66 64.20 AF	$572.27 64.20 AF	$2,255.93 64.20 AF
Rate applicable 1987 through 1989	$26.22 per acre-foot	$8.91 per acre-foot	$35.13 per acre-foot
Commencing in 1990:			
Additional costs to be reimbursed during the project repayment period for Cottonwood Creek Project	$ 434.58	$ 20.35	$ 454.93
Additional costs to be reimbursed during the project repayment period for Thomes-Newville Project	276.07	99.95	376.02
less, Delta Water Charges paid, and project water entitlements during the period 1987-1989	218.00 8.31 AF	74.10 8.31 AF	292.10 8.31 AF
Cumulative Subtotal	$2,176.31 55.89 AF	$618.47 55.89 AF	$2,794.78 55.89 AF
Rate applicable 1990 through 2035	$38.94 per acre-foot	$11.07 per acre-foot	$50.01 per acre-foot
Calculation Under Original Provisions of Article 22(e) and 22(g)[d] (for Solano County Flood Control and Water Conservation District)			
Commencing in 1982:			
Total costs of "initial" and "additional" project conservation facilities to be reimbursed and project water entitlements during the project repayment period	$3,332.13[e] 98.05 AF	$992.37[f] 98.05 AF	$4,324.50 98.05 AF
less, project power revenues to be realized during the project repayment period	565.54	167.95	733.49
less, Delta Water Charges paid, and project water entitlements, prior to 1982 (g	166.86 20.83 AF	54.06 20.83 AF	220.92 20.83 AF
TOTAL	$2,599.73 77.22 AF	$770.36 77.22 AF	$3,370.09 77.22 AF
Rate applicable 1982 through 2035	$33.67 per acre-foot	$9.98 per acre-foot	$43.65 per acre-foot

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Considering that all operating costs of project conservation facilities will not vary with annual amounts of project water delivered, and therefore are properly classified as "minimum" OMP&R costs.
c) Metric conversion is dollars per acre-foot times .8107 equals dollars per cubic dekametre.
d) Additional conservation facilities shown in 1984 and after are assumed needed to meet project water requirements through year 2000. Costs of additional facilities required after 2000 to meet the full State Water Project yield have not been identified and are not included.
e) Including net credits of $4,850,000 for settlements as to the magnitude of project capital costs incurred prior to December 31, 1960, and net credits of $6,331,928 for settlement as to the magnitude of project capital costs incurred during the 1961 through 1976 period.
f) Includes conservation power costs and credits at San Luis.
g) Applying all Delta Water Charges paid prior to 1970 to reimburse capital costs (the Charge is not divided into components until 1970).

TABLE B-20B: DELTA WATER RATES BY FACILITY[a]

Item	Capital Cost Component	Minimum Operation, Maintenance, Power and Replacement Component	Total Delta Water Rate
Initial Conservation Facilities			
Oroville Facilities			
Water Supply and Power Costs	$12.35 per acre-foot	$ 3.59 per acre-foot	$15.94 per acre-foot
Less, Oroville Power Revenues	-7.32	-2.17	-9.49
Subtotal	$ 5.03	$ 1.42	$ 6.45
Delta Facilities	$ 7.26	$ 1.59	$ 8.85
Reaches 1, 2A, 2B and 3	1.50	0.96	2.46
San Luis Facilities	2.15	2.19	4.34
Upper Feather Facilities	0.03	-0.01[b]	0.02
Planning and Preoperating Costs Through 1980	0.14	0.00	0.14
Less, Capital Cost Credits	-0.32	0.00	-0.32
Less, Delta Water Charges Paid Prior to 1982	-2.16	-0.70	-2.86
Rate applicable 1982 through 1983	$13.63 per acre-foot	$ 5.45 per acre-foot	$19.08 per acre-foot

a) Delta water rates applicable to all contractors except Solano County Flood Control and Water Conservation District. (See Table B-20A).
b) Includes Revenue received from non-contractors.

TABLE B-21: TOTAL DELTA WATER

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1967	0	0	0	14,000	50,050	177,100	241,150	0	0	0
1968	0	0	0	19,156	29,701	193,245	242,102	0	0	0
1969	0	0	0	30,324	44,096	215,483	289,903	0	0	0
1970	0	0	0	80,908	107,730	585,200	773,838	0	0	0
1971	0	0	0	57,320	123,080	637,120	817,520	0	0	0
1972	0	0	0	99,668	143,877	707,328	950,873	0	0	0
1973	0	0	0	120,880	167,099	782,167	1,070,146	0	0	0
1974	0	0	0	137,684	182,339	818,664	1,138,687	0	0	0
1975	0	0	0	146,204	187,324	804,123	1,137,651	0	0	0
1976	0	0	0	168,489	208,652	862,036	1,239,177	0	0	0
1977	0	0	0	172,931	208,645	827,062	1,208,638	0	0	0
1978	0	0	0	206,378	243,231	926,594	1,376,203	0	0	0
1979	0	0	0	237,771	273,208	1,005,955	1,516,934	0	0	0
1980	0	18,325	18,325	272,717	307,426	1,090,867	1,671,010	12,396	14,875	27,271
1981	0	25,440	25,440	415,564	469,768	1,589,984	2,475,316	18,068	41,556	59,624
1982	0	34,915	34,915	457,915	518,970	1,679,021	2,655,906	38,160	87,767	125,927
1983	0	41,462	41,462	476,995	541,866	1,679,021	2,697,882	57,239	131,651	188,890
1984	410,211	528,089	938,300	609,456	693,843	2,062,775	3,366,074	105,483	243,783	349,266
1985	439,512	611,012	1,050,524	632,897	721,971	2,062,775	3,417,643	175,805	405,523	581,328
1986	468,813	720,122	1,188,935	656,338	752,444	2,062,775	3,471,557	234,406	541,478	775,884
1987	746,662	872,875	1,619,537	1,018,974	1,170,064	3,092,060	5,281,098	439,213	1,011,947	1,451,160
1988	790,584	1,178,381	1,968,965	1,054,112	1,212,228	3,092,060	5,358,400	544,624	1,257,906	1,802,530
1989	834,505	1,505,709	2,340,214	1,089,249	1,254,393	3,162,335	5,505,977	702,741	1,619,818	2,322,559
1990	1,250,105	1,833,037	3,083,142	1,600,135	1,845,155	4,600,387	8,045,677	1,250,105	2,885,243	4,135,348
1991	1,250,105	1,833,037	3,083,142	1,700,143	1,920,162	4,700,395	8,320,700	1,250,105	2,885,243	4,135,348
1992	1,250,105	1,833,037	3,083,142	1,800,151	1,995,168	4,800,404	8,595,723	1,250,105	2,885,243	4,135,348
1993	1,250,105	1,833,037	3,083,142	1,900,160	2,070,174	4,900,412	8,870,746	1,250,105	2,885,243	4,135,348
1994	1,250,105	1,833,037	3,083,142	2,000,168	2,100,177	5,000,421	9,100,766	1,250,105	2,885,243	4,135,348
1995	1,250,105	1,833,037	3,083,142	2,100,177	2,100,177	5,000,421	9,200,775	1,250,105	2,885,243	4,135,348
1996	1,250,105	1,833,037	3,083,142	2,200,185	2,100,177	5,000,421	9,300,783	1,250,105	2,885,243	4,135,348
1997	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
1998	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
1999	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2000	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2001	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2002	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2003	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2004	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2005	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2006	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2007	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2008	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2009	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2010	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2011	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2012	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2013	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2014	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2015	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2016	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2017	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2018	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2019	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2020	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2021	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2022	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2023	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2024	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2025	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2026	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2027	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2028	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2029	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2030	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2031	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2032	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2033	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2034	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
2035	1,250,105	1,833,037	3,083,142	2,300,194	2,100,177	5,000,421	9,400,792	1,250,105	2,885,243	4,135,348
TOTAL	61,195,117	89,856,032	151,051,149	111,184,615	105,650,098	259,135,030	475,969,743	59,832,965	138,077,482	197,910,447

CHARGE FOR EACH CONTRACTOR

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District[a]	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1967	0	0	0	0	0	0	0	0	0	0
1968	13,060	40,695	10,469	4,511	0	165,522	3,177	8,073	94,097	339,604
1969	17,804	61,267	3,281	3,744	0	337,686	4,200	8,805	98,734	535,521
1970	37,905	104,405	19,950	16,625	0	964,915	8,645	17,290	211,470	1,381,205
1971	48,508	129,596	21,720	16,652	0	1,377,772	9,412	20,272	247,608	1,871,540
1972	61,891	160,756	24,113	20,898	0	2,175,835	11,253	43,131	884,159	3,382,036
1973	77,328	195,541	26,664	25,776	386,638	2,373,167	13,333	27,553	347,531	3,473,531
1974	90,239	224,202	27,909	30,700	446,545	2,781,595	13,954	29,770	414,438	4,059,352
1975	97,774	329,688	27,413	32,896	481,560	3,041,048	14,620	33,702	794,695	4,853,396
1976	114,612	414,245	29,388	39,712	549,549	3,931,785	15,673	35,966	837,439	5,968,369
1977	119,360	312,532	28,195	39,473	569,545	4,071,218	15,977	40,289	586,737	5,783,326
1978	119,636	342,208	0	48,436	674,939	4,950,959	20,006	41,065	618,080	6,815,329
1979	145,178	395,523	34,294	56,013	772,757	5,901,986	22,863	45,725	715,600	8,089,939
1980	157,432	555,341	37,679	64,460	881,371	6,984,026	27,272	70,658	869,021	9,647,260
1981	229,464	701,038	54,204	101,181	1,351,487	11,140,730	41,556	77,692	1,271,987	14,969,339
1982	242,313	782,271	57,239	112,571	1,518,751	12,701,412	47,699	85,859	1,417,628	16,965,743
1983	242,313	818,523	57,239	118,295	1,593,162	13,767,972	53,423	87,767	1,492,039	18,230,733
1984	297,696	1,057,172	70,322	152,364	2,076,840	18,096,164	72,666	112,515	1,924,475	23,860,214
1985	297,696	1,106,398	70,322	161,740	2,201,075	19,247,099	79,698	114,859	2,015,894	25,294,781
1986	297,696	1,155,623	70,322	168,773	2,306,558	20,388,658	86,730	119,547	2,109,656	26,703,563
1987	446,241	1,806,044	105,411	263,528	3,657,767	32,305,005	140,548	182,713	3,299,369	42,206,626
1988	446,241	1,879,832	105,411	274,069	3,826,425	33,931,850	140,548	189,740	3,436,404	44,230,520
1989	446,241	1,953,620	105,411	288,124	3,977,514	35,105,428	140,548	196,767	3,573,438	45,787,091
1990	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1991	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1992	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1993	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1994	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1995	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1996	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1997	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1998	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
1999	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2000	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2001	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2002	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2003	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2004	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2005	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2006	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2007	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2008	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2009	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2010	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2011	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2012	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2013	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2014	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2015	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2016	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2017	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2018	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2019	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2020	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2021	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2022	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2023	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2024	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2025	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2026	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2027	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2028	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2029	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2030	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2031	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2032	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2033	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2034	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
2035	635,053	2,885,243	150,013	425,036	5,980,503	51,694,349	200,017	285,024	5,500,463	67,755,701
TOTAL	33,259,066	147,247,698	7,887,554	21,592,197	302,375,621	2,613,681,886	10,184,583	14,700,862	280,281,797	3,431,211,264

a) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-21: TOTAL DELTA WATER

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley County Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1967	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0
1972	160,756	12,860	41,797	4,662	64,303	1,367	67,518	13,021	369,739	85,202
1973	222,207	29,835	51,552	7,279	79,994	2,577	95,104	26,131	54,908	14,338
1974	279,090	53,027	59,539	10,791	93,030	3,721	121,869	39,631	465,150	114,427
1975	319,822	68,533	63,964	13,250	100,515	4,752	140,722	50,989	479,733	119,705
1976	431,018	93,061	74,449	17,045	117,550	6,269	174,366	67,591	538,772	137,142
1977	469,922	107,142	79,144	19,079	122,180	6,861	189,848	77,255	540,410	139,097
1978	600,180	141,095	97,313	24,428	147,413	9,687	236,913	98,345	631,768	165,313
1979	720,173	174,899	115,033	29,836	171,470	11,889	284,640	117,285	714,457	189,760
1980	857,818	219,413	134,920	35,949	210,736	14,256	337,177	138,590	811,952	215,694
1981	1,355,100	363,167	218,713	57,637	343,292	22,946	534,813	211,396	1,237,658	330,644
1982	1,551,186	421,663	254,257	66,398	400,675	26,330	608,645	235,063	1,364,205	364,424
1983	1,673,297	469,363	277,554	71,931	438,835	28,620	654,437	246,892	1,421,444	379,688
1984	2,203,419	630,553	369,612	95,169	586,016	37,739	860,271	317,855	1,828,369	485,221
1985	2,353,439	682,122	398,233	101,967	632,897	40,552	914,184	332,388	1,910,411	511,006
1986	2,501,115	724,315	426,854	108,765	679,778	43,131	970,442	346,921	1,992,453	543,823
1987	3,970,487	1,156,009	682,748	173,226	1,106,817	68,869	1,535,489	541,813	3,127,198	864,371
1988	4,195,364	1,240,338	725,650	183,415	1,194,660	72,734	1,616,304	563,598	3,267,746	913,563
1989	4,416,727	1,314,126	768,553	193,605	1,282,502	76,950	1,704,147	585,383	3,408,294	962,755
1990	6,605,556	1,965,165	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,075,427	1,440,121
1991	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1992	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1993	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1994	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1995	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1996	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1997	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1998	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
1999	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2000	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2001	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2002	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2003	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2004	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2005	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2006	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2007	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2008	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2009	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2010	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2011	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2012	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2013	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2014	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2015	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2016	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2017	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2018	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2019	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2020	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2021	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2022	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2023	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2024	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2025	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2026	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2027	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2028	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2029	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2030	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2031	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2032	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2033	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2034	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
2035	6,920,582	2,075,175	1,155,097	290,024	1,905,160	115,010	2,540,214	865,073	5,130,432	1,440,121
TOTAL	346,312,866	103,249,561	57,974,347	14,555,536	95,410,023	5,769,710	127,896,733	43,803,505	260,109,534	72,781,739

CHARGE FOR EACH CONTRACTOR

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1967	0	0	0	0	0	0	0	0	0	241,150
1968	0	0	0	0	0	1,050	875	1,925	0	583,631
1969	0	0	0	0	0	1,225	929	2,154	0	827,578
1970	0	0	0	0	0	3,848	1,995	5,843	0	2,160,886
1971	0	0	0	0	0	4,546	3,186	7,732	0	2,696,792
1972	0	2,043,211	0	2,864,436	0	4,929	3,778	8,707	0	7,206,052
1973	0	2,317,893	0	2,901,818	0	7,059	4,444	11,503	0	7,456,998
1974	0	4,231,933	0	5,472,208	0	8,336	4,931	13,267	0	10,683,514
1975	0	5,073,286	0	6,435,271	0	9,416	5,117	14,533	0	12,440,851
1976	0	6,422,167	0	8,079,430	0	7,004	5,780	12,784	0	15,299,760
1977	0	7,104,278	0	8,855,216	0	16,917	5,827	22,744	0	15,869,924
1978	0	9,016,389	0	11,168,844	0	12,635	6,844	19,479	0	19,379,855
1979	0	10,935,192	0	13,464,634	0	16,575	7,773	24,348	0	23,095,855
1980	84,294	13,102,796	12,396	16,175,991	0	19,834	8,801	28,635	0	27,568,492
1981	140,930	20,910,099	36,136	25,762,531	0	21,682	13,370	35,052	0	43,327,302
1982	167,902	23,994,736	57,239	29,512,723	0	22,896	14,691	37,587	0	49,332,801
1983	186,982	25,910,346	76,319	31,835,708	0	22,896	15,264	38,160	0	53,032,835
1984	253,159	34,183,467	117,203	41,968,053	37,505	28,129	19,456	85,090	0	70,566,997
1985	276,599	36,536,906	140,644	44,831,348	39,849	28,129	20,159	88,137	0	75,263,761
1986	302,384	38,895,033	187,525	47,722,539	49,225	28,129	20,862	98,216	0	79,960,694
1987	491,919	61,834,182	351,371	75,904,499	87,843	42,164	32,326	162,333	0	126,625,253
1988	530,569	65,368,970	456,782	80,329,693	101,897	42,164	33,732	177,793	0	133,867,901
1989	569,220	68,903,757	562,193	84,748,212	115,952	42,164	35,137	193,253	0	140,897,306
1990	865,073	100,583,463	1,000,084	124,405,467	190,016	60,005	52,004	302,025	0	207,727,360
1991	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	54,005	1,909,161	0	210,089,560
1992	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	56,005	1,911,161	0	210,366,583
1993	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	58,005	1,913,161	0	210,643,606
1994	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	60,005	1,915,161	0	210,875,626
1995	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	62,505	1,917,661	0	210,978,135
1996	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	65,005	1,920,161	0	211,080,643
1997	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	67,506	1,922,662	0	211,183,153
1998	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	70,006	1,925,162	0	211,185,653
1999	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	72,506	1,927,662	0	211,188,153
2000	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	75,506	1,930,662	0	211,191,153
2001	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	78,507	1,933,663	0	211,194,154
2002	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	81,507	1,936,663	0	211,197,154
2003	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	84,507	1,939,663	0	211,200,154
2004	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	87,507	1,942,663	0	211,203,154
2005	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	90,508	1,945,664	0	211,206,155
2006	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	94,008	1,949,164	0	211,209,655
2007	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	97,508	1,952,664	0	211,213,155
2008	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	101,008	1,956,164	0	211,216,655
2009	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	104,509	1,959,665	0	211,220,156
2010	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	108,009	1,963,165	0	211,223,656
2011	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	112,009	1,967,165	0	211,227,656
2012	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	116,010	1,971,166	0	211,231,657
2013	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	120,510	1,975,666	0	211,236,157
2014	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	125,011	1,980,167	0	211,240,658
2015	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	130,011	1,985,167	0	211,245,658
2016	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2017	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2018	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2019	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2020	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2021	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2022	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2023	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2024	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2025	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2026	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2027	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2028	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2029	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2030	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2031	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2032	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2033	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2034	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
2035	865,073	100,583,463	1,000,084	124,885,508	480,040	1,375,116	135,011	1,990,167	0	211,250,658
TOTAL	42,797,316	5,063,623,939	48,001,672	6,282,286,481	22,224,087	62,331,952	5,189,684	89,745,723	0	10,628,174,807

TABLE B-22: TOTAL TRANSPORTATION[a] AND

(in dollars)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA				CENTRAL COASTAL AREA		
	Napa County FC & WCD	Solano County FC & WCD	Total	Alameda County FC & WCD, Zone 7	Alameda County Water District	Santa Clara Valley Water District	Total	San Luis Obispo County FC & WCD	Santa Barbara County FC & WCD	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1962	0	0	0	11,750	43,787	0	55,537	0	0	0
1963	0	0	0	150,889	187,069	448,540	786,498	0	0	0
1964	0	0	0	170,408	263,859	622,069	1,056,336	8,301	20,638	28,939
1965	0	0	0	245,231	365,034	1,158,568	1,768,833	13,971	34,047	48,018
1966	19,051	0	19,051	271,298	375,393	1,413,323	2,060,014	23,122	55,627	78,749
1967	42,863	0	42,863	360,503	503,761	1,860,890	2,725,154	41,264	98,158	139,422
1968	130,118	0	130,118	410,617	583,643	2,178,687	3,172,947	67,168	158,821	225,989
1969	256,556	0	256,556	476,638	533,125	2,298,892	3,308,655	121,960	286,872	408,832
1970	279,731	0	279,731	540,917	588,189	2,788,097	3,917,203	134,925	317,235	452,160
1971	229,992	0	229,992	478,233	622,862	2,807,144	3,908,239	136,053	319,951	456,004
1972	227,625	0	227,625	608,302	769,868	3,027,873	4,406,043	142,165	334,339	476,504
1973	223,827	27,797	251,624	594,029	663,910	3,120,912	4,378,851	139,195	327,455	466,650
1974	243,348	29,252	272,600	634,165	694,269	3,325,146	4,653,580	140,495	330,541	471,036
1975	240,673	32,234	272,907	691,045	740,052	3,214,167	4,645,264	157,030	369,190	526,220
1976	275,023	36,400	311,423	803,635	890,455	3,362,676	5,056,766	265,773	623,273	889,046
1977	299,049	40,309	339,358	771,316	868,977	3,302,768	4,943,061	276,373	648,489	924,862
1978	281,417	43,816	325,233	865,259	888,432	3,726,932	5,480,623	286,731	672,834	959,565
1979	298,601	47,296	345,897	951,448	954,815	3,810,011	5,716,274	282,785	663,742	946,527
1980	316,092	77,975	394,067	1,083,940	1,099,896	4,061,510	6,245,346	319,529	735,596	1,055,125
1981	362,520	99,974	462,494	1,249,341	1,340,898	4,531,151	7,121,390	385,313	902,722	1,288,035
1982	443,566	170,506	614,072	1,405,807	1,505,323	4,889,579	7,800,709	464,840	1,087,899	1,552,739
1983	561,140	245,211	806,351	1,877,749	2,030,190	6,302,799	10,210,738	554,765	1,297,303	1,852,068
1984	1,260,714	1,091,300	2,352,014	2,171,905	2,374,315	7,135,699	11,681,919	635,137	1,488,032	2,123,169
1985	2,090,576	2,164,225	4,254,801	2,320,225	2,556,363	7,445,633	12,322,221	749,294	1,769,346	2,518,640
1986	2,361,135	2,572,249	4,933,384	2,366,704	2,677,594	7,554,069	12,598,367	886,982	2,147,671	3,034,653
1987	2,653,376	2,755,714	5,409,090	2,734,373	3,119,247	8,523,630	14,377,250	1,264,939	3,082,754	4,347,693
1988	2,712,509	3,110,643	5,823,152	2,849,041	3,279,975	8,693,457	14,822,473	1,925,907	4,874,055	6,799,962
1989	2,782,859	3,490,533	6,273,392	2,989,390	3,485,067	9,077,758	15,552,215	2,822,807	7,287,745	10,110,552
1990	3,201,537	3,849,375	7,050,912	3,482,433	4,073,361	10,446,540	18,002,334	4,476,908	11,946,976	16,423,884
1991	3,229,949	3,855,183	7,085,132	3,669,197	4,259,623	10,734,571	18,663,391	4,563,744	12,377,678	16,941,422
1992	3,248,651	3,847,005	7,095,656	3,783,313	4,346,032	10,809,289	18,938,634	4,632,949	12,484,107	17,117,056
1993	3,273,734	3,848,628	7,122,362	3,949,178	4,509,879	11,043,396	19,502,453	4,723,225	12,666,520	17,389,745
1994	3,301,160	3,848,002	7,149,162	4,107,658	4,581,900	11,244,672	19,934,230	4,799,997	12,825,659	17,625,656
1995	3,322,322	3,844,872	7,167,194	4,243,586	4,567,966	11,210,573	20,022,125	4,872,537	12,910,896	17,783,433
1996	3,338,532	3,841,256	7,179,788	4,369,983	4,547,633	11,155,796	20,073,412	4,942,187	12,974,648	17,916,835
1997	3,366,927	3,841,320	7,208,247	4,540,329	4,581,622	11,211,895	20,333,846	5,050,348	13,166,716	18,217,064
1998	3,380,567	3,835,155	7,215,722	4,488,904	4,558,468	11,149,463	20,196,835	5,031,109	13,222,101	18,253,210
1999	3,407,242	3,834,972	7,242,214	4,480,182	4,579,584	11,185,462	20,245,228	5,134,254	13,407,796	18,542,050
2000	3,426,084	3,831,397	7,257,481	4,452,218	4,580,628	11,173,923	20,206,769	5,221,780	13,522,821	18,744,601
2001	3,443,576	3,838,578	7,282,154	4,476,232	4,587,608	11,205,737	20,269,577	5,352,396	13,550,759	18,903,155
2002	3,472,732	3,851,553	7,324,285	4,543,214	4,648,630	11,353,679	20,545,523	5,530,264	13,745,442	19,275,706
2003	3,481,723	3,855,099	7,336,822	4,544,779	4,629,496	11,329,381	20,503,656	5,658,817	13,677,823	19,336,640
2004	3,486,914	3,858,678	7,345,592	4,545,806	4,613,892	11,314,488	20,474,186	5,767,321	13,627,211	19,394,532
2005	3,489,538	3,862,377	7,351,915	4,560,507	4,601,457	11,300,841	20,462,805	5,872,704	13,585,727	19,458,431
2006	3,491,146	3,868,927	7,360,073	4,570,202	4,600,821	11,320,848	20,491,871	5,880,398	13,591,158	19,471,556
2007	3,514,259	3,889,915	7,404,174	4,639,385	4,659,636	11,478,175	20,777,196	5,931,849	13,666,218	19,598,067
2008	3,515,215	3,894,959	7,410,174	4,655,929	4,653,014	11,486,224	20,795,167	5,932,921	13,662,694	19,595,615
2009	3,524,418	3,904,756	7,429,174	4,697,021	4,673,905	11,557,803	20,928,729	5,868,302	13,802,079	19,670,381
2010	3,530,363	3,912,811	7,443,174	4,720,873	4,683,220	11,592,493	20,996,586	6,004,061	13,760,729	19,764,790
2011	3,542,401	3,922,194	7,464,595	4,764,026	4,705,370	11,667,970	21,137,366	5,956,394	13,871,749	19,828,143
2012	3,547,015	3,929,580	7,476,595	4,787,307	4,713,508	11,700,577	21,201,392	6,079,236	13,811,733	19,890,969
2013	3,574,744	3,949,851	7,524,595	4,774,777	4,691,019	11,539,712	21,005,508	6,218,692	14,022,810	20,241,502
2014	3,609,210	3,973,385	7,582,595	4,853,456	4,734,240	11,613,062	21,200,758	6,374,673	14,243,078	20,617,751
2015	3,634,392	3,992,203	7,626,595	4,903,992	4,744,942	11,425,997	21,074,931	6,503,403	14,397,989	20,901,392
2016	3,647,515	4,008,029	7,655,544	4,951,098	4,761,339	11,374,454	21,086,891	6,574,341	14,471,542	21,045,883
2017	3,647,903	4,020,829	7,668,732	4,969,325	4,764,136	11,348,492	21,081,953	6,623,480	14,483,343	21,106,823
2018	3,618,133	4,048,462	7,666,595	5,058,043	4,827,204	11,492,657	21,377,904	6,793,183	14,707,603	21,500,786
2019	3,585,647	4,053,818	7,639,465	5,033,875	4,782,222	11,385,461	21,201,558	6,781,158	14,647,787	21,428,945
2020	3,611,167	4,068,166	7,679,333	5,071,852	4,800,851	11,442,908	21,315,611	6,846,046	14,691,312	21,537,358
2021	3,607,073	4,075,718	7,682,791	5,092,651	4,792,540	11,452,650	21,337,841	6,855,387	14,668,521	21,523,908
2022	3,598,330	4,074,962	7,673,292	5,089,850	4,766,133	11,393,647	21,249,630	6,892,096	14,684,347	21,576,443
2023	3,596,051	4,055,355	7,651,406	5,112,166	4,763,872	11,416,117	21,292,155	6,913,580	14,662,566	21,576,146
2024	3,603,194	4,065,763	7,668,957	5,155,997	4,782,061	11,481,156	21,419,214	6,953,133	14,685,176	21,638,309
2025	3,603,810	4,077,356	7,681,166	5,208,212	4,807,168	11,568,883	21,584,263	7,021,072	14,732,545	21,753,617
2026	3,596,164	4,080,787	7,676,951	5,229,950	4,804,487	11,585,496	21,619,933	6,920,903	14,457,180	21,378,083
2027	3,594,584	4,077,607	7,672,191	5,240,362	4,813,631	11,603,893	21,657,886	6,929,690	14,453,823	21,383,513
2028	3,582,895	4,068,294	7,651,189	5,207,357	4,783,438	11,530,443	21,521,238	6,876,417	14,370,115	21,246,532
2029	3,589,143	4,071,908	7,661,051	5,239,315	4,812,590	11,598,926	21,650,831	6,928,330	14,444,974	21,373,304
2030	3,575,398	4,057,042	7,632,440	5,222,996	4,797,640	11,562,839	21,583,475	6,905,034	14,408,979	21,314,013
2031	3,562,674	4,043,292	7,605,966	5,221,537	4,796,259	11,559,089	21,576,885	6,903,267	14,404,468	21,307,735
2032	3,510,773	3,982,226	7,492,999	5,198,284	4,774,952	11,507,782	21,481,018	6,865,920	14,340,579	21,206,499
2033	3,471,960	3,928,682	7,400,642	5,245,608	4,818,110	11,610,093	21,673,811	6,941,390	14,441,190	21,382,580
2034	3,169,009	3,555,562	6,724,571	5,161,208	4,741,027	11,426,413	21,328,648	6,804,424	14,217,663	21,022,087
2035	2,616,355	2,869,703	5,486,058	5,221,226	4,795,886	11,556,679	21,573,791	6,877,413	14,271,147	21,148,560
TOTAL	178,334,490	196,101,026	374,435,516	248,619,557	248,919,368	633,832,625	1,131,371,550	291,833,557	668,702,312	960,535,869

a) *Unadjusted for prior overpayments or underpayments of charges. See Table B-19 for total Transportation Charge for each contractor.*

b) *See Table B-21 for total Delta Water Charge for each contractor.*

c) *Includes capital cost component for Reid Gardner Unit No. 4.*

DELTA WATER [b] CHARGE FOR EACH CONTRACTOR [c]

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Hacienda Water District [d]	Kern County Water Agency		County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
					Municipal and Industrial	Agricultural				
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1962	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	64,286	0	0	0	0	64,286
1966	0	0	0	0	120,273	0	0	0	0	120,273
1967	0	0	0	0	233,297	0	0	0	0	233,297
1968	89,385	231,852	21,370	10,080	396,569	1,747,366	16,037	20,154	300,644	2,833,457
1969	143,367	248,040	16,905	30,613	472,778	2,806,702	15,672	19,933	442,622	4,196,632
1970	187,106	313,827	40,339	55,749	520,380	3,973,370	20,244	30,976	476,676	5,618,667
1971	203,212	336,304	43,068	46,738	551,543	5,325,324	25,958	35,302	677,424	7,244,873
1972	240,106	390,535	46,265	53,069	576,934	7,327,689	25,228	65,005	1,962,152	10,686,983
1973	246,933	409,282	44,951	55,763	971,047	7,509,420	27,573	39,953	740,131	10,045,053
1974	270,506	523,140	46,165	63,998	1,089,855	8,244,981	28,286	43,334	1,000,468	11,310,733
1975	299,161	699,055	46,611	72,141	1,142,089	9,674,610	29,962	48,973	1,509,556	13,522,158
1976	338,015	734,044	49,132	80,602	1,268,594	10,946,884	31,385	53,012	1,380,398	14,882,066
1977	340,285	594,061	45,041	80,909	1,311,603	11,287,273	33,108	55,049	1,075,531	14,822,860
1978	368,260	716,195	15,932	93,408	1,519,188	13,756,866	37,699	60,178	1,106,743	17,674,469
1979	437,947	812,553	54,459	123,467	1,632,887	16,043,149	42,299	72,905	1,675,942	20,895,608
1980	425,491	980,964	55,470	124,447	1,708,206	17,422,931	46,549	96,680	1,567,793	22,428,531
1981	533,645	1,178,464	86,133	171,775	2,383,639	23,594,248	64,801	102,693	2,141,311	30,256,709
1982	561,835	1,280,907	87,866	187,001	2,653,513	26,339,616	72,934	110,263	2,308,436	33,602,371
1983	685,734	1,581,916	100,692	231,350	3,379,672	33,918,544	96,848	132,059	2,868,597	42,995,412
1984	786,487	1,946,789	120,199	283,475	4,078,489	41,625,723	125,763	165,567	3,527,619	52,660,111
1985	820,223	2,106,528	125,068	310,635	4,432,090	45,675,805	141,886	174,265	3,820,591	57,607,091
1986	832,844	2,225,613	127,043	327,867	4,861,593	48,610,500	155,415	183,454	4,043,995	61,368,324
1987	977,220	2,906,035	161,670	426,992	6,303,623	61,770,758	213,189	247,052	5,288,620	78,295,159
1988	998,307	3,074,722	164,876	451,369	6,829,180	65,959,491	218,463	260,207	5,599,205	83,555,820
1989	1,028,369	3,268,301	169,184	484,949	7,304,209	70,031,611	224,977	274,923	5,955,308	88,741,831
1990	1,218,713	4,218,881	212,544	624,571	9,352,995	87,084,808	283,264	362,886	8,004,067	111,362,729
1991	1,233,610	4,255,340	214,434	629,942	9,427,898	87,974,466	285,849	365,322	8,073,476	112,460,337
1992	1,226,127	4,231,030	213,166	626,361	9,351,058	87,418,802	284,195	363,705	8,027,039	111,741,483
1993	1,234,175	4,252,559	214,281	629,533	9,376,970	87,933,771	285,667	365,174	8,068,043	112,360,173
1994	1,238,737	4,263,731	214,861	631,181	9,387,374	88,209,955	286,439	365,888	8,089,310	112,687,476
1995	1,237,048	4,257,192	214,519	630,215	9,347,272	88,055,574	285,966	365,427	8,076,804	112,470,017
1996	1,233,517	4,245,387	213,905	628,477	9,298,920	87,780,105	285,136	364,590	8,054,243	112,104,280
1997	1,241,269	4,265,794	214,961	631,484	9,330,325	88,279,986	286,554	365,896	8,093,110	112,709,379
1998	1,236,486	4,251,837	214,237	629,428	9,281,132	87,959,706	285,593	364,981	8,066,502	112,289,902
1999	1,242,164	4,268,562	215,106	631,892	9,301,410	88,347,551	286,757	365,936	8,098,399	112,757,777
2000	1,243,072	4,270,332	215,197	632,149	9,289,578	88,399,523	286,875	365,984	8,101,741	112,804,451
2001	1,243,750	4,272,903	215,331	632,531	9,311,068	88,467,033	287,065	366,075	8,106,644	112,902,400
2002	1,256,937	4,310,861	217,305	638,123	9,415,260	89,368,281	289,652	368,658	8,179,003	114,044,080
2003	1,252,854	4,301,131	216,801	636,689	9,395,904	89,146,536	288,729	367,983	8,160,475	113,767,102
2004	1,253,239	4,301,795	216,832	636,787	9,377,072	89,177,576	288,007	368,009	8,161,723	113,781,040
2005	1,254,243	4,305,470	217,023	637,328	9,359,881	89,274,759	287,400	368,269	8,168,721	113,873,094
2006	1,254,245	4,305,812	217,097	637,330	9,371,601	89,297,378	287,290	368,337	8,169,403	113,908,493
2007	1,262,213	4,322,039	217,871	639,769	9,433,165	89,736,490	288,286	369,278	8,200,003	114,469,114
2008	1,260,654	4,318,140	217,667	639,194	9,439,749	89,643,508	288,025	369,005	8,192,568	114,368,510
2009	1,265,973	4,331,890	218,382	641,220	9,491,742	89,984,207	288,983	369,929	8,218,777	114,811,103
2010	1,265,590	4,333,159	218,448	641,406	9,513,425	90,002,482	289,077	370,016	8,221,197	114,854,800
2011	1,270,910	4,345,885	219,109	643,282	9,558,235	90,315,354	289,961	370,876	8,245,440	115,259,052
2012	1,271,278	4,347,877	219,211	643,574	9,580,547	90,368,779	290,102	370,991	8,249,171	115,341,530
2013	1,287,600	4,394,927	221,655	650,504	9,717,992	91,487,159	293,346	374,231	8,338,841	116,766,255
2014	1,306,648	4,448,155	224,421	658,347	9,872,578	92,770,888	297,039	377,815	8,440,279	118,396,170
2015	1,320,560	4,488,152	226,498	664,240	9,938,221	93,727,921	299,809	380,533	8,516,504	119,562,438
2016	1,328,703	4,510,872	227,679	667,587	9,969,922	94,273,516	301,380	382,073	8,559,803	120,221,535
2017	1,333,680	4,525,172	228,422	669,693	9,915,483	94,621,153	302,368	383,117	8,587,054	120,566,142
2018	1,353,984	4,582,003	231,375	678,065	9,987,555	95,997,401	297,798	387,024	8,695,361	122,210,566
2019	1,350,411	4,571,411	230,825	676,504	9,923,476	95,753,117	296,562	386,365	8,675,176	121,863,847
2020	1,355,083	4,584,757	231,518	678,471	9,948,339	96,081,967	297,236	387,284	8,700,613	122,265,268
2021	1,353,906	4,581,835	231,367	678,040	9,937,485	96,002,969	296,889	387,148	8,695,042	122,164,681
2022	1,354,541	4,579,980	231,272	677,767	9,948,425	95,950,224	296,850	387,100	8,691,514	122,117,673
2023	1,354,036	4,579,596	231,251	677,710	9,975,220	95,927,434	296,779	387,106	8,690,783	122,119,915
2024	1,356,497	4,586,858	231,628	678,782	10,016,217	96,104,252	297,276	387,565	8,704,624	122,363,699
2025	1,361,649	4,602,383	232,434	681,068	10,071,997	96,462,001	298,308	388,662	8,734,204	122,832,706
2026	1,360,094	4,598,046	232,210	680,429	10,078,995	96,360,846	297,985	388,334	8,725,943	122,722,882
2027	1,356,137	4,602,432	232,464	681,074	10,085,465	96,383,213	298,311	388,851	8,734,852	122,762,799
2028	1,349,870	4,583,168	231,463	678,236	10,032,773	95,940,488	296,966	387,635	8,698,145	122,198,744
2029	1,355,678	4,598,648	232,268	680,517	10,076,570	96,317,446	297,997	388,838	8,727,639	122,675,601
2030	1,352,458	4,588,330	231,732	678,997	10,048,243	96,083,195	297,252	388,183	8,707,976	122,376,366
2031	1,352,074	4,586,023	231,611	678,658	10,039,510	96,031,143	297,034	388,109	8,703,580	122,307,742
2032	1,346,985	4,573,626	230,974	676,830	9,989,908	95,717,360	295,817	387,345	8,680,083	121,898,928
2033	1,357,378	4,603,294	232,517	681,200	10,046,606	96,406,062	297,277	389,386	8,736,626	122,750,346
2034	1,343,685	4,564,094	230,481	675,429	9,908,240	95,454,673	294,030	386,690	8,661,918	121,519,240
2035	1,357,211	4,603,085	232,383	681,162	9,988,623	96,364,775	296,119	389,343	8,736,100	122,648,801
TOTAL	70,460,110	230,073,581	11,935,175	33,888,173	501,315,961	4,772,038,694	15,139,576	19,613,889	435,638,281	6,090,103,440

d) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B–22: TOTAL TRANSPORTATION [a] AND

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
1962	0	0	0	0	0	0	0	0	0	0
1963	33,375	0	0	0	0	0	0	0	51,756	0
1964	62,940	20,137	14,434	4,367	37,183	1,144	28,462	8,215	82,745	34,986
1965	118,739	38,224	25,112	7,193	40,799	2,085	50,365	15,239	135,048	35,348
1966	216,049	72,294	44,770	12,483	73,219	3,758	90,493	27,712	232,577	61,495
1967	418,021	148,698	86,205	23,488	141,553	7,293	175,367	54,090	433,621	115,659
1968	737,117	312,127	152,873	41,548	251,500	12,888	311,091	95,601	782,835	209,123
1969	1,060,931	470,324	225,629	61,298	371,487	18,725	458,792	138,300	1,207,059	322,106
1970	1,379,872	599,471	315,730	89,805	520,087	25,276	633,004	185,187	1,779,961	468,083
1971	1,708,014	753,642	433,124	128,490	713,693	31,895	857,064	231,726	2,540,327	660,025
1972	2,185,630	949,462	603,446	185,808	989,968	43,819	1,177,362	288,029	3,757,255	950,071
1973	2,336,715	1,006,912	746,322	190,558	1,215,182	46,084	1,265,475	313,687	4,015,110	958,213
1974	2,456,924	1,085,305	768,633	203,210	1,253,106	48,949	1,321,811	331,882	4,441,908	1,099,660
1975	2,674,001	1,157,491	812,788	218,061	1,326,450	53,240	1,404,933	355,401	4,608,360	1,203,117
1976	3,137,790	1,164,123	869,525	230,858	1,418,677	57,709	1,480,274	381,263	4,804,192	1,273,459
1977	3,119,655	1,256,001	770,872	244,039	1,262,366	54,215	1,568,600	406,938	5,062,529	1,339,517
1978	3,639,103	1,364,963	984,979	258,173	1,587,837	58,031	1,647,849	429,388	5,148,538	1,393,469
1979	4,216,570	1,367,768	1,046,494	265,334	1,671,630	60,076	1,780,877	448,716	5,077,592	1,330,081
1980	4,979,256	1,499,100	1,171,296	293,165	1,895,653	67,300	1,953,203	494,893	5,558,260	1,464,005
1981	5,739,734	1,898,194	1,288,767	328,366	2,087,898	97,970	2,280,860	612,273	6,572,881	1,821,126
1982	6,700,320	2,116,356	1,512,593	390,328	2,451,157	115,740	2,747,979	696,491	7,611,370	2,156,120
1983	9,946,216	2,826,527	2,561,736	576,685	4,129,306	207,196	3,065,277	868,300	10,186,158	3,087,476
1984	11,966,959	3,317,548	3,152,679	729,669	5,073,169	258,883	3,439,072	1,212,691	12,276,743	3,600,202
1985	13,117,558	3,670,357	3,577,053	831,749	5,752,448	295,171	3,585,992	1,474,499	14,285,140	4,004,572
1986	13,833,333	3,924,244	3,838,763	901,780	6,190,976	320,363	3,718,455	1,579,006	15,847,586	4,139,552
1987	16,018,770	4,391,414	4,257,434	1,006,478	6,940,257	357,681	9,098,719	1,857,623	18,272,827	4,549,169
1988	17,680,513	4,687,898	4,645,718	1,058,020	7,662,211	392,627	9,921,032	2,011,361	19,369,245	4,758,148
1989	20,003,763	5,050,889	5,157,140	1,129,940	8,563,689	438,284	10,975,406	2,200,329	20,941,058	5,050,269
1990	23,219,433	5,657,418	5,426,698	1,266,966	9,292,958	470,199	11,920,433	2,524,567	23,324,810	5,587,718
1991	24,040,946	5,854,813	5,319,853	1,262,538	9,449,124	480,249	12,107,912	2,663,546	23,302,941	5,603,606
1992	24,137,277	5,901,836	5,267,454	1,278,356	9,316,626	471,985	11,906,228	2,729,793	23,284,423	5,643,667
1993	24,772,261	5,910,823	5,353,324	1,287,659	9,412,705	477,369	12,072,918	2,855,525	23,279,493	5,694,930
1994	25,388,692	6,115,923	5,389,821	1,302,310	9,466,079	479,733	12,150,194	2,971,167	23,341,350	5,757,609
1995	25,565,133	5,931,521	5,397,246	1,327,475	9,420,306	476,077	12,089,633	3,055,821	23,538,850	5,840,729
1996	25,761,809	6,102,009	5,344,937	1,315,492	9,311,873	470,896	11,971,831	3,105,460	23,071,953	5,792,346
1997	26,442,996	6,056,170	5,416,597	1,324,322	9,403,953	476,189	12,123,185	3,217,562	23,026,936	5,845,119
1998	26,631,882	6,176,239	5,403,426	1,339,786	9,337,467	471,261	12,026,796	3,267,178	23,052,065	5,891,858
1999	27,483,804	6,088,203	5,461,701	1,352,560	9,388,071	474,578	12,114,528	3,370,524	23,055,622	5,953,180
2000	27,643,509	6,256,885	5,480,340	1,377,900	9,404,976	474,007	12,128,833	3,449,134	23,275,509	6,047,214
2001	27,831,086	6,262,488	5,507,646	1,392,036	9,441,825	474,983	12,182,336	3,518,067	23,443,217	6,105,728
2002	28,545,124	6,418,126	5,629,092	1,392,477	9,622,405	486,029	12,497,965	3,664,157	23,389,724	6,149,348
2003	28,477,778	6,518,532	5,621,532	1,416,270	9,612,415	482,291	12,431,981	3,699,911	23,730,924	6,225,179
2004	28,411,334	6,469,464	5,594,639	1,414,613	9,558,933	478,864	12,376,866	3,738,483	23,616,006	6,211,526
2005	28,363,454	6,474,993	5,605,711	1,437,015	9,543,842	475,800	12,316,411	3,754,934	23,928,875	6,281,870
2006	28,473,040	6,584,074	5,591,597	1,412,663	9,511,226	475,510	12,343,049	3,752,962	23,407,966	6,208,190
2007	28,849,367	6,579,759	5,676,097	1,457,291	9,643,369	492,430	12,484,606	3,783,955	24,124,477	6,394,007
2008	28,931,145	6,740,832	5,659,415	1,440,319	9,620,126	491,286	12,484,916	3,774,967	23,744,521	6,343,208
2009	29,343,925	6,801,295	5,745,476	1,465,050	9,730,802	496,245	12,636,975	3,813,914	24,096,537	6,457,999
2010	29,487,035	6,869,917	5,780,177	1,493,295	9,778,201	496,442	12,678,385	3,815,486	24,507,852	6,569,904
2011	29,874,445	7,016,081	5,854,726	1,526,843	9,894,450	500,805	12,821,278	3,849,773	25,012,985	6,717,489
2012	30,092,172	7,106,882	5,865,374	1,496,374	9,876,224	502,050	12,885,799	3,859,551	24,379,305	6,632,255
2013	31,057,366	7,367,200	6,080,056	1,576,563	10,216,549	517,367	13,302,008	3,979,952	25,651,173	6,973,127
2014	32,204,957	7,632,063	6,296,448	1,643,181	10,605,157	534,160	13,773,651	4,112,667	26,784,998	7,299,916
2015	33,074,252	8,075,057	6,439,548	1,646,375	10,807,408	546,462	14,132,435	4,209,674	26,725,353	7,379,451
2016	33,587,707	8,015,345	6,567,631	1,723,660	11,010,497	552,375	14,329,343	4,256,804	27,981,690	7,631,833
2017	33,837,164	8,198,892	6,568,690	1,696,073	11,002,299	553,843	14,413,766	4,269,722	27,372,542	7,634,442
2018	34,889,507	8,457,981	6,834,927	1,817,331	11,404,045	568,508	14,850,386	4,386,958	29,357,940	8,141,055
2019	34,602,335	8,198,965	6,710,183	1,750,681	11,204,327	560,132	14,674,821	4,324,200	28,011,079	7,883,367
2020	34,781,922	8,589,943	6,710,391	1,760,096	11,193,282	575,912	14,678,642	4,318,212	27,990,160	7,922,199
2021	34,633,358	8,308,414	6,627,814	1,738,070	11,043,646	569,402	14,495,563	4,272,463	27,629,952	7,788,019
2022	34,789,380	8,576,476	6,629,081	1,718,390	10,999,673	568,686	14,459,343	4,267,924	27,270,346	7,687,041
2023	34,880,695	8,365,852	6,606,270	1,690,200	10,948,735	566,896	14,446,557	4,254,946	26,819,528	7,566,713
2024	35,205,692	8,767,562	6,663,893	1,711,236	11,051,294	569,181	14,543,891	4,272,219	27,295,727	7,645,466
2025	35,632,054	8,708,251	6,734,286	1,705,491	11,120,519	573,416	14,681,247	4,304,146	27,279,122	7,638,024
2026	35,732,986	8,849,770	6,746,025	1,718,506	11,126,438	571,861	14,669,514	4,292,626	27,585,437	7,666,033
2027	35,796,025	9,033,156	6,747,183	1,718,670	11,128,366	573,253	14,676,427	4,303,404	27,553,346	7,658,716
2028	35,465,115	9,012,184	6,684,213	1,707,545	11,024,504	567,719	14,527,926	4,261,886	27,350,250	7,592,994
2029	35,811,257	9,112,158	6,735,713	1,704,022	11,109,428	573,474	14,678,736	4,305,174	27,284,316	7,606,156
2030	35,632,500	9,149,750	6,724,994	1,724,796	11,091,769	570,496	14,602,386	4,282,822	27,653,429	7,664,921
2031	35,558,404	9,228,245	6,685,427	1,691,446	11,026,496	569,199	14,569,718	4,273,208	27,059,431	7,543,345
2032	35,207,104	9,093,751	6,603,040	1,659,367	10,890,610	563,336	14,416,950	4,229,170	26,489,579	7,405,422
2033	35,482,490	9,482,449	6,677,137	1,696,507	11,012,842	567,900	14,542,198	4,263,541	27,147,940	7,553,065
2034	34,426,821	8,992,666	6,465,673	1,640,935	10,664,074	550,303	14,084,753	4,131,312	26,164,619	7,277,711
2035	35,003,423	9,619,852	6,569,532	1,659,528	10,835,361	559,883	14,331,825	4,203,426	26,492,864	7,381,365
TOTAL	1,574,548,029	389,879,734	318,565,149	80,289,172	535,176,776	27,075,444	679,672,958	192,731,733	1,344,969,843	360,580,111

DELTA WATER [b] CHARGE FOR EACH CONTRACTOR [c]

(in dollars)

Calendar Year	SOUTHERN CALIFORNIA AREA (continued)				FEATHER RIVER AREA				FUTURE CONTRACTOR	GRAND TOTAL
	San Gorgonio Pass Water Agency	The Metropolitan Water District of Southern California	Ventura County Flood Control District	Total	City of Yuba City	County of Butte	Plumas County FC & WCD	Total	South Bay	
	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)
1962	0	0	0	0	0	0	0	0	0	55,537
1963	0	691,938	0	777,069	0	0	0	0	58,850	1,622,417
1964	21,733	1,261,870	9,399	1,587,615	0	0	0	0	97,413	2,770,303
1965	21,867	2,183,414	17,804	2,691,237	0	0	404	404	168,081	4,740,859
1966	37,981	3,906,029	33,497	4,812,357	0	0	564	564	194,417	7,285,425
1967	71,333	7,706,951	68,308	9,450,587	0	0	562	562	252,251	12,844,136
1968	129,032	15,354,904	143,244	18,533,883	0	1,050	1,439	2,489	328,397	25,227,280
1969	198,978	23,219,645	216,009	27,969,283	0	1,225	4,118	5,343	399,001	36,544,302
1970	289,940	30,705,742	274,657	37,266,815	0	3,848	17,106	20,954	437,837	47,993,367
1971	409,697	40,070,767	343,762	48,882,226	0	4,546	19,177	23,723	427,613	61,172,670
1972	537,035	55,135,227	424,250	67,227,362	0	4,929	21,140	26,069	453,323	83,503,909
1973	586,202	59,748,346	438,418	72,867,224	0	7,059	21,767	28,826	427,853	88,466,081
1974	608,042	66,173,830	459,636	80,252,896	0	8,336	22,397	30,733	450,912	97,442,490
1975	639,815	72,011,689	483,188	86,948,534	0	9,416	23,512	32,928	460,466	106,408,477
1976	662,859	75,098,583	480,923	91,060,235	0	7,004	23,246	30,250	483,071	112,712,857
1977	692,076	74,002,782	512,410	90,292,000	0	16,917	24,048	40,965	475,974	111,839,080
1978	719,009	83,613,127	539,213	101,383,679	0	12,635	24,214	36,849	481,613	126,342,031
1979	705,487	83,458,287	530,931	101,959,843	0	16,575	28,341	44,916	499,111	130,408,176
1980	848,206	93,529,684	586,065	114,340,086	0	19,834	26,712	46,546	545,457	145,055,158
1981	953,361	112,935,896	721,786	137,339,112	0	21,682	30,905	52,587	558,801	177,079,128
1982	1,094,238	125,739,855	803,651	154,136,198	0	22,896	32,226	55,122	610,714	198,371,925
1983	1,289,123	177,558,271	1,033,806	217,336,077	0	22,896	32,799	55,695	674,542	273,930,883
1984	1,432,956	211,474,147	1,152,260	259,086,978	37,505	28,129	36,991	102,625	693,071	328,699,887
1985	2,068,114	234,291,059	1,241,718	288,195,430	39,849	28,129	37,694	105,672	682,134	365,685,989
1986	2,213,723	245,800,157	1,339,461	303,647,399	49,225	28,129	38,397	115,751	691,294	386,389,172
1987	2,551,396	275,905,285	1,590,156	346,797,209	87,843	42,164	49,861	179,868	692,786	450,099,055
1988	2,753,346	288,091,452	1,847,527	364,879,098	101,897	42,164	51,267	195,328	694,186	476,770,019
1989	3,025,798	313,699,458	2,157,832	398,393,855	115,952	42,164	52,672	210,788	697,983	519,980,616
1990	3,471,900	345,015,492	2,730,477	439,909,069	190,016	60,005	69,539	319,560	693,640	593,762,128
1991	3,548,880	346,063,103	2,832,126	442,529,637	480,040	1,375,116	71,540	1,926,696	697,752	600,304,367
1992	3,650,939	348,304,794	2,978,418	444,871,796	480,040	1,375,116	73,540	1,928,696	696,681	602,390,002
1993	3,756,722	347,043,547	3,085,782	445,003,058	480,040	1,375,116	75,540	1,930,696	698,209	604,006,696
1994	3,881,843	349,698,130	3,243,874	449,186,725	480,040	1,375,116	77,540	1,932,696	699,271	609,215,216
1995	4,001,902	343,747,327	3,353,918	443,745,938	480,040	1,375,116	80,040	1,935,196	701,081	603,824,984
1996	3,909,286	349,101,583	3,560,087	448,819,562	480,040	1,375,116	82,540	1,937,696	702,409	608,733,982
1997	3,907,716	347,704,196	3,821,362	448,766,303	480,040	1,375,116	85,041	1,940,197	702,258	609,877,294
1998	3,878,891	354,111,174	3,796,851	455,384,874	480,040	1,375,116	87,541	1,942,697	701,713	615,984,953
1999	3,878,209	350,482,386	3,752,008	452,855,374	480,040	1,375,116	90,041	1,945,197	701,319	614,289,159
2000	3,883,598	358,456,149	3,768,197	461,646,251	480,040	1,375,116	93,041	1,948,197	701,790	623,309,540
2001	3,909,789	362,606,117	3,765,755	466,441,073	480,040	1,375,116	96,042	1,951,198	701,483	628,451,040
2002	3,928,982	369,847,747	3,880,222	475,451,398	480,040	1,375,116	99,042	1,954,198	701,614	639,296,804
2003	3,965,835	375,892,543	3,882,391	481,957,582	480,040	1,375,116	102,042	1,957,198	698,170	645,557,170
2004	3,946,295	374,815,768	3,847,342	480,480,133	480,040	1,375,116	105,042	1,960,198	691,932	644,127,613
2005	3,982,108	376,935,631	3,846,145	482,946,789	480,040	1,375,116	108,043	1,963,199	684,133	646,740,366
2006	3,917,870	380,745,408	3,877,722	486,301,277	480,040	1,375,116	111,543	1,966,699	682,646	650,182,615
2007	4,021,863	386,420,779	3,887,534	493,815,534	480,040	1,375,116	115,043	1,970,199	700,300	658,734,584
2008	3,972,111	394,230,655	3,930,975	501,364,476	480,040	1,375,116	118,543	1,973,699	699,415	666,207,056
2009	4,029,698	397,797,996	3,981,809	506,397,721	480,040	1,375,116	122,044	1,977,200	699,797	671,914,105
2010	4,085,982	406,575,916	4,003,716	516,142,308	480,040	1,375,116	125,544	1,980,700	699,530	681,881,888
2011	4,162,463	414,906,276	4,057,792	526,195,406	480,040	1,375,116	129,544	1,984,700	699,657	692,568,919
2012	4,087,086	416,593,252	4,095,553	527,471,877	480,040	1,375,116	133,545	1,988,701	699,556	694,070,620
2013	4,283,570	436,095,876	4,241,872	551,342,679	480,040	1,375,116	138,045	1,993,201	653,532	719,527,272
2014	4,466,695	452,643,588	4,396,579	572,394,060	480,040	1,375,116	142,546	1,997,702	616,565	742,805,601
2015	4,488,497	476,424,948	4,602,154	598,551,614	480,040	1,375,116	147,142	2,002,298	560,753	770,280,021
2016	4,665,277	479,821,950	4,593,355	604,737,467	480,040	1,375,116	151,982	2,007,138	537,024	777,291,482
2017	4,594,134	486,880,498	4,651,283	611,673,348	480,040	1,375,116	151,984	2,007,140	495,750	784,599,888
2018	4,882,360	503,290,773	4,804,643	633,686,414	480,040	1,375,116	151,982	2,007,138	419,403	808,868,806
2019	4,690,733	488,556,380	4,670,272	615,837,475	480,040	1,375,116	149,357	2,004,513	354,768	790,330,571
2020	4,685,567	499,290,981	4,783,116	627,280,423	480,040	1,375,116	137,435	1,992,591	336,886	802,407,470
2021	4,621,145	482,852,421	4,654,375	609,234,642	480,040	1,375,116	136,609	1,991,765	329,951	784,265,579
2022	4,573,065	491,369,560	4,741,423	617,650,388	480,040	1,375,116	135,224	1,990,380	306,954	792,564,760
2023	4,513,218	476,404,782	4,649,241	601,713,633	480,040	1,375,116	135,224	1,990,380	305,931	776,649,566
2024	4,579,948	490,943,267	4,767,826	618,017,202	480,040	1,375,116	135,223	1,990,379	305,807	793,403,567
2025	4,589,004	489,015,158	4,766,659	616,747,377	480,040	1,375,116	135,220	1,990,376	304,349	792,893,854
2026	4,626,560	491,086,424	4,784,698	619,456,878	480,040	1,375,116	135,219	1,990,375	303,702	795,148,804
2027	4,621,364	494,721,658	4,820,507	623,352,075	480,040	1,375,116	135,217	1,990,373	300,242	799,119,079
2028	4,582,873	487,010,205	4,761,261	614,548,675	480,040	1,375,116	135,215	1,990,371	298,853	789,455,602
2029	4,586,816	490,216,531	4,777,084	618,500,865	480,040	1,375,116	135,213	1,990,369	297,955	794,149,976
2030	4,627,645	488,301,950	4,744,196	616,771,654	480,040	1,375,116	135,215	1,990,371	296,494	791,964,813
2031	4,548,867	483,371,068	4,730,619	610,855,473	480,040	1,375,116	135,211	1,990,367	295,531	785,939,699
2032	4,462,965	474,980,863	4,629,177	600,631,334	480,040	1,375,116	135,211	1,990,367	293,303	774,994,448
2033	4,555,512	488,358,149	4,746,094	616,085,824	480,040	1,375,116	135,211	1,990,367	290,140	791,573,710
2034	4,389,256	459,732,943	4,502,812	583,023,878	480,040	1,375,116	135,211	1,990,367	285,947	755,894,738
2035	4,449,497	482,935,420	4,702,299	608,744,275	480,040	1,375,116	135,211	1,990,367	278,894	781,870,746
TOTAL	219,425,883	22,364,769,757	208,951,512	28,296,636,101	22,224,087	62,331,952	6,073,626	90,629,665	37,160,241	36,980,872,382

TABLE B-23: EQUIVALENT UNIT CHARGE FOR WATER SUPPLY FOR EACH CONTRACTOR[a]

(in dollars per acre-foot)[b]

Project Service Area and Water Supply Contractor	Transportation Charge				Delta Water Charge	Total Equivalent Unit Charge
	Capital Cost Component	Minimum OMP&R Component	Variable OMP&R Component	Total		
	(1)	(2)	(3)	(4)	(5)	(6)
FEATHER RIVER AREA						
City of Yuba City	0	0	0	0	64.11	64.11
County of Butte	0	0	0	0	54.69	54.69
Plumas County Flood Control and Water Conservation District	18.53	0.36	0	18.89	47.09	65.98
Feather River Area	1.24	0.02	0	1.26	56.28	57.54
NORTH BAY AREA						
Napa County Flood Control and Water Conservation District	97.47	23.95	20.84	142.26	66.88	209.14
Solano County Flood Control and Water Conservation District	78.66	10.93	9.66	99.25	82.22	181.47
North Bay Area	87.23	16.86	14.75	118.84	75.23	194.07
SOUTH BAY AREA						
Alameda County Flood Control and Water Conservation District, Zone 7	18.21	17.94	28.18	64.33	44.38	108.71
Alameda County Water District	15.28	12.99	25.06	53.33	33.51	86.84
Santa Clara Valley Water District	18.87	11.14	19.81	49.82	28.12	77.94
South Bay Area	18.03	12.57	22.18	52.78	31.74	84.52
SAN JOAQUIN VALLEY AREA						
County of Kings	4.53	2.28	11.12	17.93	34.85	52.78
Devil's Den Water District	9.23	9.56	13.96	32.75	27.04	59.79
Dudley Ridge Water District	5.31	2.67	9.72	17.70	30.17	47.87
Empire Westside Irrigation District	3.69	2.02	8.24	13.95	26.28	40.23
Hacienda Water District[c]	5.65	2.85	10.20	18.70	31.62	50.32
Kern County Water Agency	9.41	5.62	15.29	30.32	35.93	66.25
Oak Flat Water District	2.06	1.25	6.08	9.39	27.83	37.22
Tulare Lake Basin Water Storage District	5.19	2.62	9.66	17.47	30.31	47.78
San Joaquin Valley Area	8.69	5.18	14.32	28.19	34.87	63.06
CENTRAL COASTAL AREA						
San Luis Obispo County Flood Control and Water Conservation District	191.40	39.28	99.30	329.98	93.24	423.22
Santa Barbara County Flood Control and Water Conservation District	248.63	45.35	95.72	389.70	104.30	494.00
Central Coastal Area	229.94	43.37	96.89	370.20	100.69	470.89
SOUTHERN CALIFORNIA AREA						
Antelope Valley-East Kern Water Agency	49.37	20.63	108.32	178.32	52.87	231.19
Castaic Lake Water Agency	108.19	49.64	102.08	259.91	91.52	351.43
Coachella Valley Water District	50.69	26.97	122.79	200.45	43.25	243.70
Crestline-Lake Arrowhead Water Agency	72.65	37.00	132.95	242.60	52.74	295.34
Desert Water Agency	49.57	26.38	125.10	201.05	42.03	243.08
Littlerock Creek Irrigation District	36.87	17.93	110.24	165.04	43.96	209.00
Mojave Water Agency	62.72	33.74	152.86	249.32	59.65	308.97
Palmdale Water District	55.79	27.11	133.80	216.70	70.27	286.97
San Bernardino Valley Municipal Water District	77.48	38.90	107.37	223.75	51.27	275.02
San Gabriel Valley Municipal Water District	76.23	38.79	103.57	218.59	53.76	272.35
San Gorgonio Pass Water Agency	95.41	48.44	124.48	268.33	60.80	329.13
The Metropolitan Water District of Southern California	74.87	35.94	90.54	201.35	57.49	258.84
Ventura County Flood Control District	86.82	40.37	117.40	244.59	70.37	314.96
Southern California Area	72.83	35.03	95.70	203.56	56.92	260.48
ALL AREAS	42.27	20.30	54.28	116.85	46.15	163.00

a) Hypothetical charges which, if assessed on all entitlement water delivered to date, all surplus water delivered prior to May 1, 1973 and all entitlement water now estimated to be delivered during the remainder of the project repayment period (Table B5-B), would provide a sum at the end of the period financially equivalent to all Transportation Charge and Delta Water Charge payments required under a water supply contract, considering interest at the project interest rate; 4.606 percent per annum.

b) Metric conversion is dollars per acre-foot times .8107 giving dollars per cubic dekametre.

c) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-24: EQUIVALENT UNIT TRANSPORTATION COSTS OF WATER DELIVERED FROM OR THRU EACH AQUEDUCT REACH[a]

(in dollars per acre-foot)[b]

Aqueduct Reach	Unit Costs of Reach (c				Cumulative Unit Costs from the Delta			
	Capital Costs	Minimum OMP&R	Variable OMP&R	Total	Capital Costs	Minimum OMP&R	Variable OMP&R	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
NORTH BAY AQUEDUCT								
1	45.36	8.06	8.15	61.57	45.36	8.06	8.15	61.57
2	26.19	1.77	.00	27.96	71.55	9.83	8.15	89.53
3	35.70	15.31	14.39	65.40	107.25	25.14	22.54	154.93
SOUTH BAY AQUEDUCT								
1	6.77	8.28	16.06	31.11	8.83	9.86	24.35	43.04
2	.56	.90	.00	1.46	9.39	10.76	24.35	44.50
4	1.88	1.61	.00	3.49	11.27	12.37	24.35	47.99
5	4.17	.96	.00	5.13	15.44	13.33	24.35	53.12
6	.23	.53	.00	.76	15.67	13.86	24.35	53.88
7	1.85	.19	.00	2.04	17.52	14.05	24.35	55.92
8	2.76	.18	.00	2.94	20.28	14.23	24.35	58.86
9	5.39	1.06	.00	6.45	25.67	15.29	24.35	65.31
CALIFORNIA AQUEDUCT								
1	2.06	1.58	8.29	11.93	2.06	1.58	8.29	11.93
2A	1.05	.29	.00	1.34	3.11	1.87	8.29	13.27
2B	.51	.15	.00	.66	3.62	2.02	8.29	13.93
3	.42	.14	.00	.56	4.04	2.16	8.29	14.49
4	1.13	.82	3.88	5.83	5.17	2.98	12.17	20.32
5	.79	.15	.00	.94	5.96	3.13	12.17	21.26
6	.23	.10	.00	.33	6.19	3.23	12.17	21.59
7	.58	.11	.00	.69	6.77	3.34	12.17	22.28
8C	.02	.04	.00	.06	6.79	3.38	12.17	22.34
8D	.34	.16	.00	.50	7.13	3.54	12.17	22.84
9	.25	.14	.00	.39	7.38	3.68	12.17	23.23
10A	.29	.17	.00	.46	7.67	3.85	12.17	23.69
11B	.43	.12	.00	.55	8.10	3.97	12.17	24.24
12D	.41	.11	.00	.52	8.51	4.08	12.17	24.76
12E	.28	.18	.00	.46	8.79	4.26	12.17	25.22
13B	.61	.23	.00	.84	9.40	4.49	12.17	26.06
14A	2.81	1.90	7.33	12.04	12.21	6.39	19.50	38.10
14B	.35	.20	.00	.55	12.56	6.59	19.50	38.65
14C	.31	.18	.00	.49	12.87	6.77	19.50	39.14
15A	2.26	1.90	7.71	11.87	15.13	8.67	27.21	51.01
16A	4.19	2.89	18.04	25.12	19.32	11.56	45.25	76.13
17E	15.58	8.68	66.16	90.42	34.90	20.24	111.41	166.55
17F	2.55	.05	.00	2.60	37.45	20.29	111.41	169.15
18A	2.62	.19	-2.95	-.14	40.07	20.48	108.46	169.01
19	1.74	.73	.00	2.47	41.81	21.21	108.46	171.48
19C	.00	.00	.00	.00	41.81	21.21	108.46	171.48
20A	1.38	.69	.00	2.07	43.19	21.90	108.46	173.55
20B	1.89	.53	.00	2.42	45.08	22.43	108.46	175.97
21	.95	.47	.00	1.42	46.03	22.90	108.46	177.39
22A	.63	.33	.00	.96	46.66	23.23	108.46	178.35
22B	8.77	6.57	19.42	34.76	55.43	29.80	127.88	213.11
23	1.47	.20	-1.25	.42	56.90	30.00	126.63	213.53
24	4.93	2.05	.00	6.98	61.83	32.05	126.63	220.51
25	2.62	.14	.00	2.76	64.45	32.19	126.63	223.27
26A	3.55	2.76	-25.79	-19.48	68.00	34.95	100.84	203.79
28G	6.65	.98	.00	7.63	74.65	35.93	100.84	211.42
28H	6.35	.54	.00	6.89	81.00	36.47	100.84	218.31
28J	14.92	8.97	.00	23.89	95.92	45.44	100.84	242.20
WEST BRANCH								
29A	3.90	4.30	8.87	17.07	41.35	24.59	120.28	186.22
29F	2.10	.84	.00	2.94	43.45	25.43	120.28	189.16
29G	6.76	.92	-12.34	-4.66	50.21	26.35	107.94	184.50
29H	4.12	2.27	.00	6.39	54.33	28.62	107.94	190.89
29J	7.63	.97	-22.75	-14.15	61.96	29.59	85.19	176.74
30	12.34	3.68	.00	16.02	74.30	33.27	85.19	192.76
COASTAL BRANCH								
31A	6.10	9.66	6.40	22.16	13.23	13.20	18.57	45.00
33A	151.96	8.07	70.06	230.09	165.19	21.27	88.63	275.09
34	13.71	.51	.00	14.22	178.90	21.78	88.63	289.31
35	44.17	1.13	.00	45.30	223.07	22.91	88.63	334.61

a) Representative of transportation unit costs only; does not include a unit cost for conservation. The Delta Water Rate should be added to these values in order to approximate total unit costs at canalside. Includes surplus water prior to May 1, 1973.

b) Metric conversion is dollars per acre-foot times .8107 equals dollars per cubic dekametre.

c) Hypothetical charges which, if assessed on all entitlement water delivered to date, all surplus water delivered prior to May 1, 1973, and all entitlement water now estimated to be delivered during the remainder of the project repayment period (Table B-5B), would provide a sum at the end of the period financially equivalent to all Transportation Charges required under the water supply contract, considering interest at the project interest rate; 4.606 percent per annum.

TABLE B–25: ANNUAL SURPLUS WATER DELIVERIES

(in acre-feet)[a]

Area/Agency	Calendar Year							
	1973[b]	1974	1975	1976	1977	1978	1979	1980
SOUTH BAY AREA								
Alameda County Flood Control and Water Conservation District, Zone 7	0	0	0	3,636	0	0	0	0
Alameda County Water District	0	0	0	4,147	0	0	0	0
Santa Clara Valley Water District	2,499	2,934	18,470	24,705	0	0	15,998	14,278
Total	2,499	2,934	18,470	32,488	0	0	15,998	14,278
SAN JOAQUIN VALLEY AREA								
Devil's Den Water District	4,104	4,128	7,495	5,727	0	0	0	6,092
Dudley Ridge Water District	13,192	33,391	40,555	30,922	0	7,586	38,545	39,079
Empire West Side Irrigation District	2,814	1,539	3,448	3,457	0	0	0	0
Hacienda Water District[c]	5,600	1,972	3,759	3,720	0	0	1,000	0
Kern County Water Agency	163,774	299,433	410,820	442,150	0	8,623[d]	524,247	327,233
Oak Flat Water District	1,013	3,471	3,576	3,840	0	6[d]	698	718
Tulare Lake Basin Water Storage District	63,988	68,989	132,206	57,806	0	0	66,342	14,817
Total	254,485	412,923	601,859	547,622	0	16,215	630,832	387,939
SOUTHERN CALIFORNIA AREA								
Littlerock Creek Irrigation District	80	67	356	0	0	0	0	0
Total	80	67	356	0	0	0	0	0
GRAND TOTAL	257,064	415,924	620,685	580,110	0	16,215	646,830	402,217

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) May through December only.
c) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.
d) Delivered from Delta during periods when deliveries did not adversely affect project operational efficiency or the quality of Delta outflows.

TABLE B–26: POWER COSTS FOR PUMPING SURPLUS WATER

(in dollars)

Area/Pumping Plant	Calendar Year													
	1974		1975		1976		1977		1978		1979		1980	
	Capacity	Energy	Capacity	Energy	Capacity	Energy	Capacity	Energy	Capacity	Energy	Capacity	Energy	Capacity	Energy
SOUTH BAY AQUEDUCT														
Reach 1														
South Bay and Del Valle Pumping Plants	21,773	7,561	32,288	47,597	41,897	83,722	0	0	0	0	25,323	39,516	22,826	35,268
CALIFORNIA AQUEDUCT														
Reach 1														
Harvey O. Banks Delta P.P.	0	374,506	298,709	617,396	60,502	597,636	0	0	9,595	15,039	382,507	599,883	240,235	373,025
Reach 4														
Dos Amigos Pumping Plant	81,328	181,827	126,806	264,000	63,788	225,126	0	0	4,210	6,592	163,537	256,187	101,501	157,430
Reach 14A														
Buena Vista Pumping Plant	69,381	95,596	99,676	99,745	85,415	103,213	0	0	0	0	32,301	51,045	46,925	73,422
Reach 15A														
Wheeler Ridge Pumping Plant	62,301	22,550	30,049	313	8,579	4,885	0	0	0	0	5,194	8,205	7,321	11,451
Reach 16A														
Wind Gap Pumping Plant	0	5,599	0	661	0	5,385	0	0	0	0	2,653	4,191	6,234	9,753
Reach 17E														
A. D. Edmonston (Tehachapi Pumping Plant)	0	450	0	2,391	0	0	0	0	0	0	0	0	0	0
Reach 31A														
Las Perillas & Badger Hill Pumping Plants	31,511	33,406	32,231	49,501	30,449	45,101	0	0	0	0	7,563	11,807	17,941	27,733
TOTAL	266,294	721,495	619,759	1,081,604	290,630	1,065,068	0	0	13,805	21,631	619,078	970,834	442,983	688,082
COMBINED TOTAL	987,789		1,701,363		1,355,698		0		35,436		1,589,912		1,131,065	

TABLE B-27: POWER, REPLACEMENT, AND ADMINISTRATIVE CHARGE FOR SURPLUS WATER DELIVERIES

(in dollars)

Area/Agency	Calendar Year						
	1974	1975	1976	1977	1978[a]	1979	1980
SOUTH BAY AREA							
Alameda County FC&WCD, Zone 7							
Capacity	0	0	5,873	0	0	0	0
Energy	0	0	13,116	0	0	0	0
Replacement	0	0	252	0	0	0	0
Administrative	0	0	1,640	0	0	0	0
Total	0	0	20,881	0	0	0	0
Alameda County Water District							
Capacity	0	0	6,126	0	0	0	0
Energy	0	0	14,959	0	0	0	0
Replacement	0	0	286	0	0	0	0
Administrative	0	0	1,758	0	0	0	0
Total	0	0	23,129	0	0	0	0
Santa Clara Valley Water District							
Capacity	21,773	42,153	32,954	0	5,847	36,730	38,623
Energy	10,203	65,969	89,116	0	0	54,353	48,510
Replacement	-	1,216	1,703	0	0	3,873	2,669
Administrative	3,451	5,023	7,675	0	0	7,999	7,139
Total	35,427	114,361	131,448	0	5,847	102,955	96,941
SAN JOAQUIN VALLEY AREA							
Devil's Den Water District							
Capacity	3,308	7,972	4,473	0	0	0	8,454
Energy	9,105	17,011	13,047	0	0	0	13,102
Replacement	0	259	288	0	0	0	2,346
Administrative	1,187	2,038	1,779	0	0	0	3,046
Total	13,600	27,280	19,587	0	0	0	26,948
Dudley Ridge Water District							
Capacity	6,394	23,216	6,629	0	13,407	38,023	42,243
Energy	44,892	58,225	44,658	0	10,120	51,418	52,131
Replacement	-	1,052	1,273	0	248	16,966	15,048
Administrative	10,006	11,029	10,804	0	3,793	19,273	19,540
Total	61,292	93,522	63,364	0	27,568	125,680	128,962
Empire West Side Irrigation District							
Capacity	324	2,333	685	0	0	0	0
Energy	2,069	4,950	4,993	0	0	0	0
Replacement	-	89	143	0	0	0	0
Administrative	460	938	1,074	0	0	0	0
Total	2,853	8,310	6,895	0	0	0	0
Hacienda Water District [b]							
Capacity	654	2,665	1,588	0	882	851	1,151
Energy	2,652	5,397	5,373	0	0	1,335	0
Replacement	-	97	153	0	0	440	0
Administrative	953	1,022	2,197	0	0	500	0
Total	4,259	9,181	9,311	0	882	3,126	1,151
Kern County Water Agency							
Capacity	216,862	441,640	220,439	0	129,672	651,045	565,710
Energy	555,925	732,538	792,366	0	11,507	774,582	553,907
Replacement	-	15,889	24,127	0	281	246,765	149,573
Administrative	95,360	111,724	162,001	0	4,312	262,124	163,617
Total	868,147	1,301,791	1,198,933	0	145,772	1,934,516	1,432,807
Oak Flat Water District							
Capacity	0	1,644	424	0	2	413	429
Energy	3,125	3,557	3,956	0	4	647	666
Replacement	-	58	119	0	0	169	134
Administrative	998	972	1,216	0	3	349	359
Total	4,123	6,231	5,715	0	9	1,578	1,588
Tulare Lake Basin Water Storage District							
Capacity	16,713	97,316	11,425	0	13,541	87,616	57,809
Energy	92,750	189,808	83,484	0	0	88,499	19,766
Replacement	-	3,428	2,378	0	0	29,202	5,705
Administrative	40,687	35,954	19,750	0	0	33,171	7,409
Total	150,150	326,506	117,037	0	13,541	238,488	90,689
SOUTHERN CALIFORNIA AREA							
Littlerock Creek Irrigation District							
Capacity	266	820	14	0	0	0	0
Energy	774	4,149	0	0	0	0	0
Replacement	-	138	0	0	0	0	0
Administrative	47	97	6	0	0	0	0
Total	1,087	5,204	20	0	0	0	0
TOTAL, ALL CONTRACTORS							
Capacity	266,294	619,759	290,630	0	163,351	814,678	714,419
Energy	721,495	1,081,604	1,065,068	0	21,631	970,834	688,082
Replacement	-	22,226	30,722	0	529	297,415	175,475
Administrative	153,149	168,797	209,900	0	8,108	323,416	201,110
Total	1,140,938	1,892,386	1,596,320	0	193,619	2,406,343	1,779,086

a) Includes charges to cover costs of unused power (based on contractor requests and commitments to pay incurred costs) which had been ordered to pump surplus water.

b) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

TABLE B-28: PROJECTED ANNUAL SURPLUS WATER DELIVERIES

(in acre-feet) [a]

Area/Agency	Calendar Year					
	1981 [b]	1982 [c]	1983 [d]	1984 [d]	1985 [d]	1986 [d]
SOUTH BAY AREA						
Alameda County WD	1,450	14,800	13,600	12,400	7,434	2,079
Santa Clara Valley WD	12,000	12,000	12,000	12,000	8,506	2,247
Total	13,450	26,800	25,600	24,400	15,940	4,326
SAN JOAQUIN VALLEY AREA						
Devil's Den WD	7,300	7,300	7,300	7,300	4,719	1,239
Dudley Ridge WD	33,643	44,671	42,771	38,608	17,539	4,809
Empire West Side ID	1,500	1,200	3,000	2,569	1,115	293
Kern County WA	533,562	553,241	510,487	488,416	323,273	90,166
Oak Flat WD	3,900	3,700	3,600	3,600	1,654	455
Tulare Lake Basin WSD	62,362	164,430	160,230	75,847	34,520	9,482
Total	642,717	774,542	727,388	616,340	382,820	106,444
SOUTHERN CALIFORNIA AREA						
Antelope Valley-East Kern WA	0	0	0	0	0	0
Littlerock Creek ID	283	267	250	260	240	230
Total	283	267	250	260	240	230
GRAND TOTAL	656,000	801,609	753,238	641,000	399,000	111,000

a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Scheduled amounts as of April 1, 1981.
c) Contractors' September 1980 estimates.
d) Allocated amount based on Contractors' September 1980 estimates and the estimated water supply.

TABLE B-29: PROJECTED POWER COSTS FOR PUMPING SURPLUS WATER[a]

(in dollars)

Area/Pumping Plant	Calendar Year					
	1981	1982	1983[b]	1984[b]	1985[b]	1986[b]
SOUTH BAY AQUEDUCT						
Reach 1						
South Bay & Del Valle Pumping Plants	30,072	105,424	-	-	-	-
CALIFORNIA AQUEDUCT						
Reach 1						
Harvey O. Banks Delta P.P.	134,598	1,207,318	-	-	-	-
Reach 4						
Dos Amigos Pumping Plant	81,622	530,434	-	-	-	-
Reach 14A						
Buena Vista Pumping Plant	31,490	151,714	-	-	-	-
Reach 15A						
Wheeler Ridge Pumping Plant	5,907	13,512	-	-	-	-
Reach 16A						
Wind Gap Pumping Plant	8,417	12,713	-	-	-	-
Reach 17E						
A. D. Edmonston (Tehachapi) Pumping Plant	0	1,816	-	-	-	-
Reach 31A						
Las Perillas & Badger Hill Pumping Plant	6,800	42,643	-	-	-	-
TOTAL	298,906	2,065,574	-	-	-	-

a) Estimated costs for capacity and energy which would be incurred in delivering the annual amounts of surplus water shown in Table B-28.

b) Values for the years after 1982 are not available. The method for calculating surplus water costs after April 1, 1983 have not been determined.

TABLE B-30: PROJECTED UNIT POWER RATES FOR PUMPING SURPLUS WATER[a]

(in dollars per acre-foot)[b]

Area/Pumping Plant	Calendar Year					
	1981	1982	1983[c]	1984[c]	1985[c]	1986[c]
SOUTH BAY AQUEDUCT						
Reach 1						
South Bay & Del Valle Pumping Plants						
Unit Rate	4.776	3.934	-	-	-	-
Cumulative Rate	5.791	5.440	-	-	-	-
CALIFORNIA AQUEDUCT						
Reach 1						
Harvey O. Banks Delta P.P.						
Unit Rate	1.014	1.506	-	-	-	-
Cumulative Rate	1.014	1.506	-	-	-	-
Reach 4						
Dos Amigos Pumping Plant						
Unit Rate	0.649	0.688	-	-	-	-
Cumulative Rate	1.663	2.194	-	-	-	-
Reach 14A						
Buena Vista Pumping Plant						
Unit Rate	1.360	1.376	-	-	-	-
Cumulative Rate	3.023	3.570	-	-	-	-
Reach 15A						
Wheeler Ridge Pumping Plant						
Unit Rate	1.218	1.026	-	-	-	-
Cumulative Rate	4.242	4.596	-	-	-	-
Reach 16A						
Wind Gap Pumping Plant						
Unit Rate	3.803	2.369	-	-	-	-
Cumulative Rate	8.045	6.965	-	-	-	-
Reach 17E						
A. D. Edmonston (Tehachapi) Pumping Plant						
Unit Rate	-	6.801	-	-	-	-
Cumulative Rate	-	13.766	-	-	-	-
Reach 31A						
Las Perillas & Badger Hill Pumping Plants						
Unit Rate	1.026	1.308	-	-	-	-
Cumulative Rate	2.689	3.502	-	-	-	-

a) Rates are based on estimated costs of capacity and energy required to make the deliveries shown in Table B-28. Actual rates for a specific contractor may vary considerably from these mean rates due to the effect of surplus water power commitments and variations in delivery patterns. Does not include the effect of the costs of any of the firm capacity ordered for pumping surplus, shown in Table B-31 herein, which might not be used during the year.

b) Metric conversion is dollars per acre-foot times 0.8107 equals dollars per cubic dekametre.

c) Values for years after 1982 are not available. The method for calculating surplus water costs after April 1, 1983 has not been determined.

TABLE B-31: COMMITMENT FOR THE COST OF POWER FOR PUMPING SURPLUS WATER[a]

(in dollars)

Contractor	Year of Obligation					
	1981	1982	1983[b]	1984[c]	1985[c]	1986[c]
Antelope Valley-East Kern Water Agency						
Surplus Water Requested (acre-feet)	18,860	43,216	0	-	-	-
Obligation Incurred (dollars)	0	568,100	0	-	-	-
Devil's Den Water District						
Surplus Water Requested (acre-feet)	7,300	4,000	2,455	-	-	-
Obligation Incurred (dollars)	0	15,400	5,900	-	-	-
Dudley Ridge Water District						
Surplus Water Requested (acre-feet)	43,075	42,805	4,940	-	-	-
Obligation Incurred (dollars)	48,000	107,400	27,800	-	-	-
Empire Westside Irrigation District						
Surplus Water Requested (acre-feet)	1,500	3,000	700	-	-	-
Obligation Incurred (dollars)	0	7,600	1,900	-	-	-
Hacienda Water District[d]						
Surplus Water Requested (acre-feet)	16,400	5,900	100	-	-	-
Obligation Incurred (dollars)	6,700	15,100	4,100	-	-	-
Kern County Water Agency						
Surplus Water Requested (acre-feet)	579,529	777,073	76,620	-	-	-
Obligation Incurred (dollars)	802,500	2,433,700	238,300	-	-	-
Santa Clara Valley Water District						
Surplus Water Requested (acre-feet)	12,000	12,000	4,000	-	-	-
Obligation Incurred (dollars)	65,000	81,300	53,500	-	-	-
Tulare Lake Basin Water Storage District						
Surplus Water Requested (acre-feet)	172,700	154,800	19,400	-	-	-
Obligation Incurred (dollars)	98,000	384,700	93,600	-	-	-
Totals						
Surplus Water Requested (acre-feet)	851,364	1,042,794	108,215	-	-	-
Obligation Incurred (dollars)	1,020,200	3,613,300	425,100	-	-	-

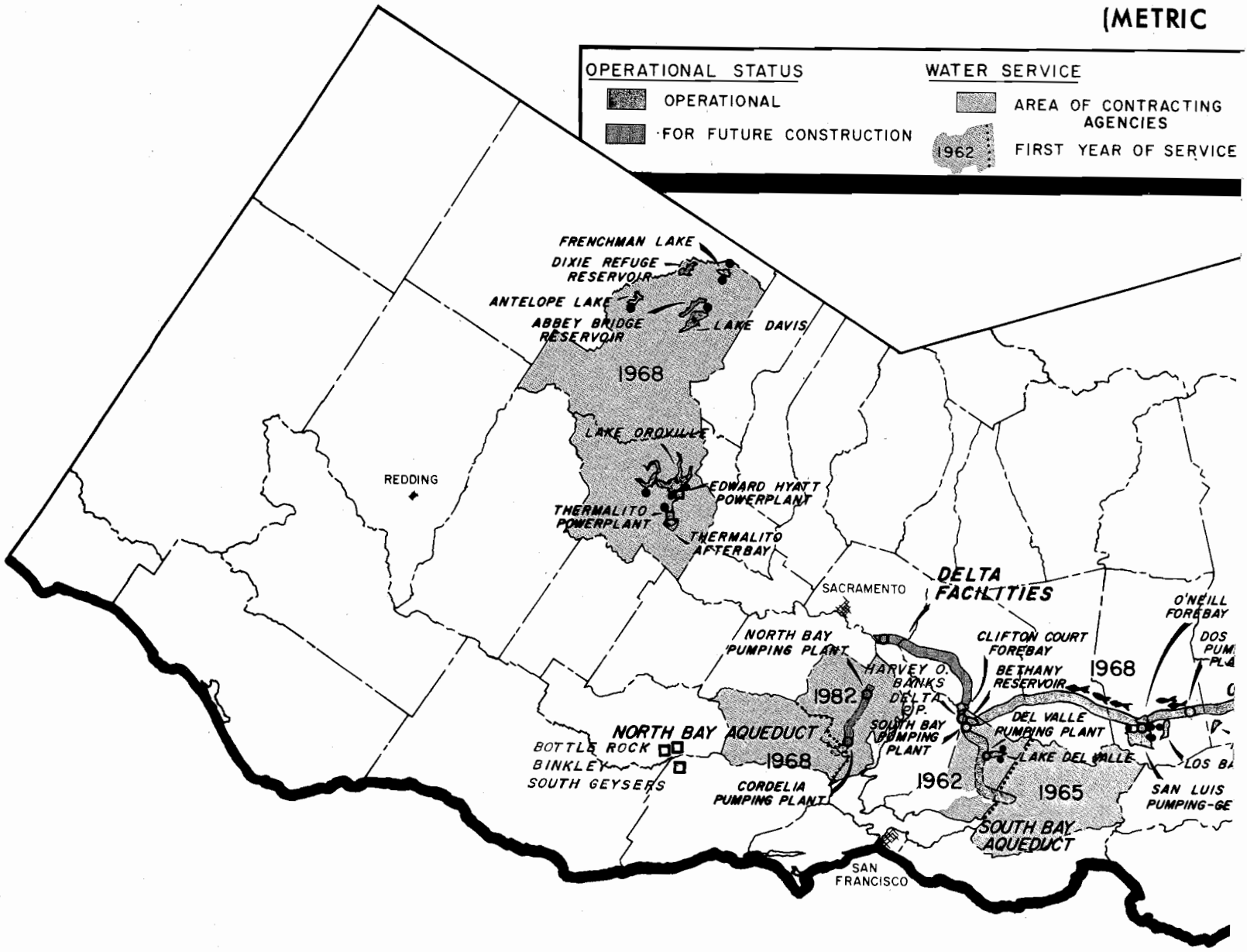
a) Metric conversion is acre-feet times 1.2335 equals cubic dekametres.
b) Commitments made for deliveries during first three months of year only as existing power contracts not applicable beyond that time.
c) Values for years 1984 thru 1986 not available.
d) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.

INDEX TO TABULAR MATERIAL IN BULLETIN

SUBJECT MATTER	BULLETIN 132-81 TABLE NO.	TABLE TITLE	CORRESPONDING TABLE NOS. IN PREVIOUS BULLETINS 132 1980	1979	1978	1977	1976	1975	1974	1973	1972	1971
		MAIN TEXT (with allowance for future capital price escalation, for financial planning purposes)										
PROJECTED ANNUAL OPERATIONS	1	Annual Project Energy Loads and Resources	4	4	4	4	4	4	3	3	3	3
	2	Annual Water Requirements	1	1	1	1	1	1	1	1	1	1
ACTUAL OPERATIONS FOR PRIOR YEAR	3	Summary of 1980 Entitlement and Surplus Water Service to Long-term Contractors	2	2	2	2	2	2	none	none	none	none
	4	Water Deliveries in 1980	3	3	3	3	3	3	2	2	2	2
	5	Water Quality Measurements at Selected Stations in 1980	5	5	5	5	5	5	4	4	none	none
	6	Monthly Power Operations in 1980	6	6	6	6	6	6	5	5	7	7
PROJECTED ANNUAL FINANCING OF CAPITAL AND OPERATING EXPENDITURES	7	Project Financial Analysis, December 31, 1980	7	7	7	*	7	7	6	6	8	14-16
	8	Project Capital Expenditures	8	8	8	7	8	8	7	7	9	9,11
	9	Actual Bond Sales and Project Interest Rates	9	9	9	*	9	9	8	8	10	8
	9A	Projected Bond Sales and Interest Rates	9A	9A	none	none	none	none	none	none	none	none
	10	Project Operating Costs	10	10	10	8	10	10	9	9	11	12,13
	11	Annual Service on Bonds Sold as of December 31, 1980	11	11	11	*	11	11	10	10	12,13	none
	12	Annual Service on Assumed Future Bond Sales	12	12	12	*	12	12	11	11	12,13	18
		APPENDIX B (No allowance for future price escalation, for billing purposes)										
AQUEDUCT REACHES	B-1	Factors for Distributing Reach Capital Costs Among Contractors	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1	B-1
	B-2	Factors for Distributing Reach Minimum OMP&R Costs Among Contractors	B-2	B-2	B-2	B-2	B-2	B-2	B-2	B-2	B-2	B-2
VARIABLE COSTS	B-3	Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant	B-3	B-3	B-3	B-3	B-3	B-3	B-3	B-3	B-3	B-3
ANNUAL WATER DELIVERY QUANTITIES	B-4	Annual Entitlements to Project Water	B-4	B-4	B-4	B-4	B-4	B-4	B-4	B-4	B-4	B-4
	B-5A	Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor	B-5A	B-5A	B-5A	B-5A	B-5A	B-5	B-5	B-5	B-5	B-5
	B-5B	Annual Water Quantities Delivered to Each Contractor	B-5B	B-5B	B-5B	B-5B	B-5B	B-5	none	none	none	none
	B-5C	Annual Requests from Each Contractor For Water Deliveries	B-5C	B-5C	none	none	none	none	none	none	none	none
	B-6	Annual Water Quantities Conveyed thru Each Pumping and Power Recovery Plant of Project Transportation Facilities	B-6	B-6	B-6	B-6	B-6	B-6	B-6	B-6	B-6	B-6
RECONCILIATION OF CAPITAL EXPENDITURES	B-7	Reconciliation of Capital Costs Allocated to Water Supply and Power Generation	B-7	B-7	B-7	B-7	B-7	B-7	B-7	B-7	B-7	B-7
	B-8	Capital Costs of Requested Delivery Structures	B-8	B-8	B-8	B-8	B-8	B-8	B-8	B-8	B-8	B-8
	B-9	Capital Costs of Requested Excess Peaking Capacity	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9
COSTS PAID THRU: TRANSPORTATION CHARGE	B-10	Capital Costs of Each Aqueduct Reach to be Reimbursed thru Capital Cost Component of Transportation Charge	B-10	B-10	B-10	B-10	B-10	B-10	B-10	B-10	B-10	B-10
	B-11	Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed thru Minimum OMP&R Component of Transportation Charge	B-11	B-11	B-11	B-11	B-11	B-11	B-11	B-11	B-11	B-11
	B-12	Variable OMP&R Costs to be Reimbursed thru Variable OMP&R Component of Transportation Charge	B-12	B-12	B-12	B-12	B-12	B-12	B-12	B-12	B-12	B-12
DELTA WATER CHARGE	B-13	Capital and Operating Costs of Project Conservation Facilities to be Reimbursed Thru Delta Water Charge	B-13	B-13	B-13	B-13	B-13	B-13	B-13	B-13	B-13	B-13
RE-DETERMINED ANNUAL TRANSPORTATION CHARGE FOR EACH WATER CONTRACTOR	B-14	Capital Costs of Transportation Facilities Allocated to Each Contractor	B-14	B-14	B-14	B-14	B-14	B-14	B-14	B-14	B-14	B-14
	B-15A	Capital Cost Component of Transportation Charge for Each Contractor	B-15	B-15	B-15	B-15	B-15	B-15	B-15	B-15	B-15	B-15
	B-15B	Capital Cost Component of Reid Gardner Unit No. 4 Charge for Each Contractor	none	none	none	none	none	none	none	none	none	none
	B-16	Minimum OMP&R Component of Transportation Charge for Each Contractor	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16
	B-17	Unit Variable OMP&R Component of Transportation Charge	B-17	B-17	B-17	B-17	B-17	B-17	B-17	B-17	B-17	B-17
	B-18	Variable OMP&R Component of Transportation Charge For Each Contractor	B-18	B-18	B-18	B-18	B-18	B-18	B-18	B-18	B-18	B-18
	B-19	Total Transportation Charge for Each Contractor	B-19	B-19	B-19	B-19	B-19	B-19	B-19	B-19	B-19	B-19
FUTURE DELTA WATER RATES	B-20A	Calculation of Delta Water Rates	B-20	B-20	B-20	B-20	B-20	B-20	B-20	B-20	B-20	B-20
	B-20B	Delta Water Rates by Facility	none	none	none	none	none	none	none	none	none	none
TOTAL CHARGES	B-21	Total Delta Water Charge for Each Contractor	B-21	B-21	B-21	B-21*	B-21	none	none	none	none	none
	B-22	Total Transportation and Delta Water Charge for Each Contractor	B-22	B-22	B-22	B-22*	B-22	none	none	none	none	none
EQUIVALENT COSTS OF WATER	B-23	Equivalent Unit Charge for Water Supply for Each Contractor	B-23	B-23	B-23	B-23	B-23	B-21	B-21	B-21	B-21	B-21
	B-24	Equivalent Unit Transportation Costs of Water Delivered From or Thru Each Aqueduct Reach	B-24	B-24	B-24	B-24	B-24	B-22	B-21	B-22	B-22	B-22
SURPLUS WATER SERVICE AND CHARGES	B-25	Annual Surplus Water Deliveries	B-25	B-25	B-25	B-25	B-25	none	none	none	none	none
	B-26	Power Costs for Pumping Surplus Water	B-26	B-26	B-26	B-26	B-26	none	none	none	none	none
	B-27	Power, Replacement and Administrative Charge for Surplus Water Deliveries	B-27	B-27	B-27	B-27	B-27	none	none	none	none	none
	B-28	Projected Annual Surplus Water Deliveries	B-28	B-28	B-28	B-28*	B-28	none	none	none	none	none
	B-29	Projected Power Costs for Pumping Surplus Water	B-29	B-29	B-29	B-29*	B-29	none	none	none	none	none
	B-30	Projected Unit Power Rates for Pumping Surplus Water	B-30	B-30	B-30	B-30*	B-30	none	none	none	none	none
	B-31	Commitment for the Cost of Power for Pumping Surplus Water	B-31	B-31	B-31	B-31	B-31	none	none	none	none	none

* This table not included in Bulletin.

PROJECT
(METRIC



25 DAMS AND RESERVOIRS

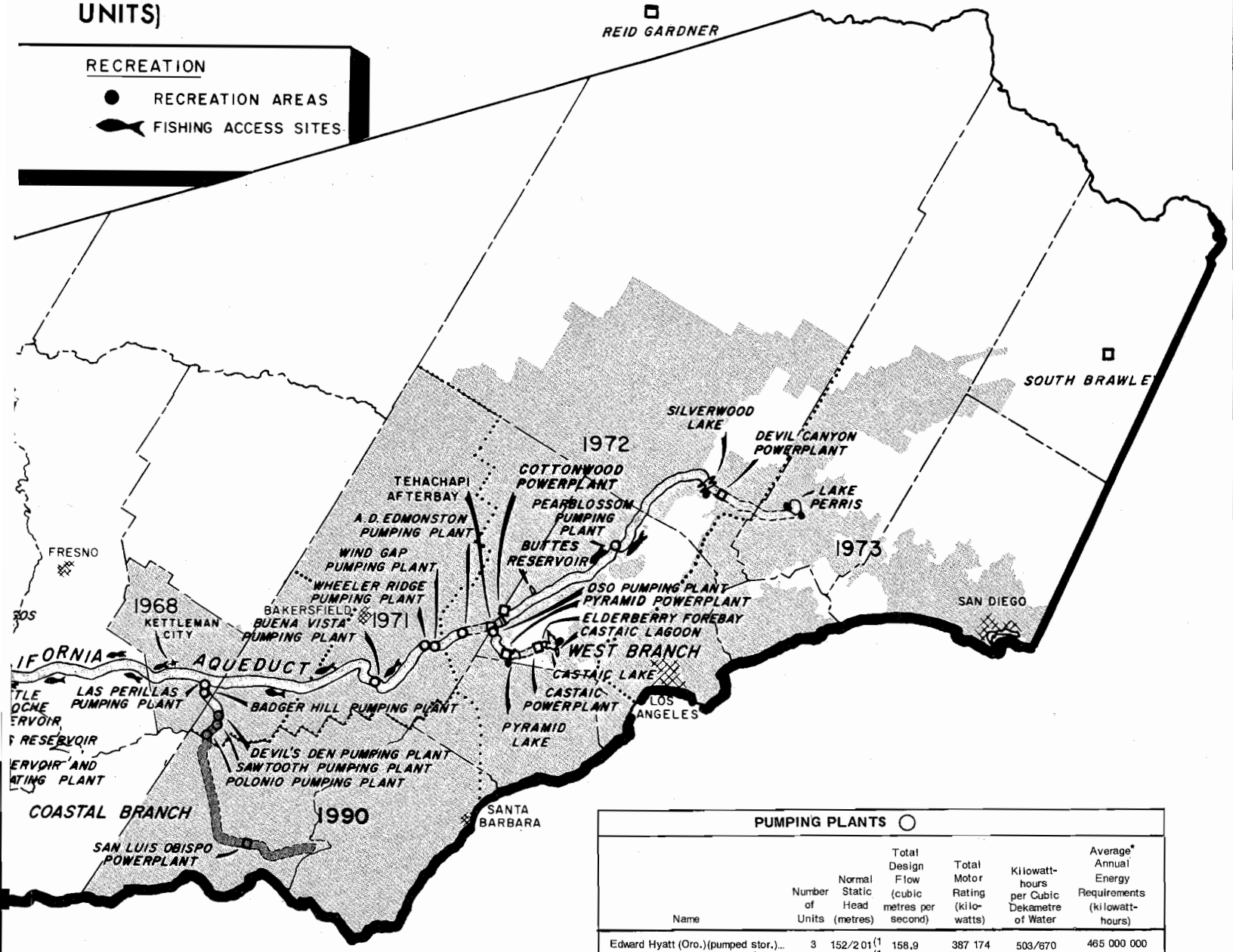
	Reservoirs			Dams			
	Capacity (millions of cubic metres)	Surface Area (hectares)	Shore-line (kilo-metres)	Crest Elevation[1] (metres)	Struc-tural Height (metres)	Crest Length (metres)	Volume (cubic metres)
Frenchman Lake	68.43	639	33.8	1 709	42	219	410 600
Antelope Lake	27.84	377	24.1	1 532	37	402	290 500
Lake Davis	104.07	1 629	51.5	1 763	40	244	193 400
Lake Oroville	4 363.60	6 396	268.8	281	235	2 109	61 164 000
Thermalito Diversion Pool	16.44	131	16.1	71	44	396	117 700
Fish Barrier Pool	0.72	21	1.6	55	28	183	8 000
Thermalito Forebay	14.52	255	16.1	70	28	4 846	1 406 800
Thermalito Afterbay	70.36	1 741	41.8	43	12	12 802	3 838 000
Clifton Court Forebay	35.34	853	12.9	4	9	11 125	1 865 500
Bethany	5.93	65	9.7	76	37	1 201	1 070 400
Lake Del Valle	95.11	429	25.7	236	72	268	3 172 900
San Luis	2 514.82[2]	5 140	104.6	169	117	5 669	59 363 500
O'Neill Forebay	69.60	1 093	19.3	71	27	4 374	2 293 700
Los Banos	42.63	252	19.3	117	51	418	1 605 600
Little Panoche	16.33	143	16.1	206	46	439	925 100
Buttes	26.89	235	9.7	850	58	680	2 393 000
Silverwood Lake	92.48	395	20.9	1 030	76	680	5 810 600
Lake Perris	162.15	938	16.1	488	39	3 536	15 291 000
Quail Lake	6.19	90	4.8	NA	12	–	–
Pyramid Lake	211.17	525	33.8	794	122	332	5 244 800
Elderberry Forebay	34.82	186	11.3	472	61	607	4 587 300
Castaic Lake	399.29	904	46.7	468	130	1 494	35 169 300
Castaic Lagoon	6.98	79	4.8	NA	8	–	–
Totals	8 385.71	22 516	809.5			52 024	206 221 700

1) Above sea level.
2) State share 1 317.26 million cubic metres.

AQUEDUCTS

Name	Length (kilometres) Total	Canal	Pipeline	Tunnel	Channel and Reservoir
North Bay Aqueduct	40.0	20.4	19.6	0	0
South Bay Aqueduct	69.1	13.5	53.0	2.6	0
Peripheral Canal	68.0	68.0	0	0	0
Subtotal	177.1	101.9	72.6	2.6	0
California Aqueduct (main line):					
Delta to O'Neill Forebay	110.1	107.8	0	0	2.3
O'Neill Forebay to Kettleman City	170.1	166.6	0	0	3.5
Kettleman City to A.D. Edmonston Pumping Plant	194.6	194.6	0	0	0
A. D. Edmonston Pumping Plant thru Tehachapi Afterbay	17.0	0.3	4.0	12.7	0
Tehachapi Afterbay thru Lake Perris	222.7	150.3	61.6	6.1	4.7
Subtotal, main line	714.5	619.6	65.6	18.8	10.5
California Aqueduct (branches)					
West Branch	51.3	14.6	10.3	11.6	14.8
Coastal Branch	154.8	23.8	131.0	0	0
Subtotal, branches	206.1	38.4	141.3	11.6	14.8
Totals	1 097.7	759.9	279.5	33.0	25.3

STATISTICS
UNITS)



POWERPLANTS □

Name	Number of Units	Normal Static Head (metres)	Total Design Flow (cubic metres per second)	Power Generator Output (kilowatts)	Kilowatt-Hours per Cubic Dekametre of Water	Average* Annual Energy Output (kilowatt-hours)
Edward Hyatt (Oro.)	6	125/206(1	412.0	678 750	371/491	2 475 000 000
Thermalito	4	26/30 (1	478.6	119 600	59/74	383 000 000
San Luis						
Total	8	30/100 (1	371.6	424 000	113/233	
State Share			194.6	222 100		165 000 000
Cottonwood	1	43	46.4	15 000	90	113 000 000
Devil Canyon	2	432	34.0	119 700	980	877 000 000
Pyramid	2	226	87.8	157 000	469	854 000 000
Castaic						
Total	7	324	521.0	1 250 000	765	
State Share (2			87.6	214 000		1 396 000 000
San Luis Obispo	1	223	3.1	5 900	390	24 000 000
Small Hydroelectric Powerplants	1			42 600		253 000 000
South Geysers	1			55 000		372 000 000
Bottle Rock	1			55 000		372 000 000
Reid Gardner Unit No. 4						
Total	1			250 000		
State Share				169 500		1 081 000 000
Binkley	1			55 000		372 000 000
Total, State Share						**8 737 000 000**

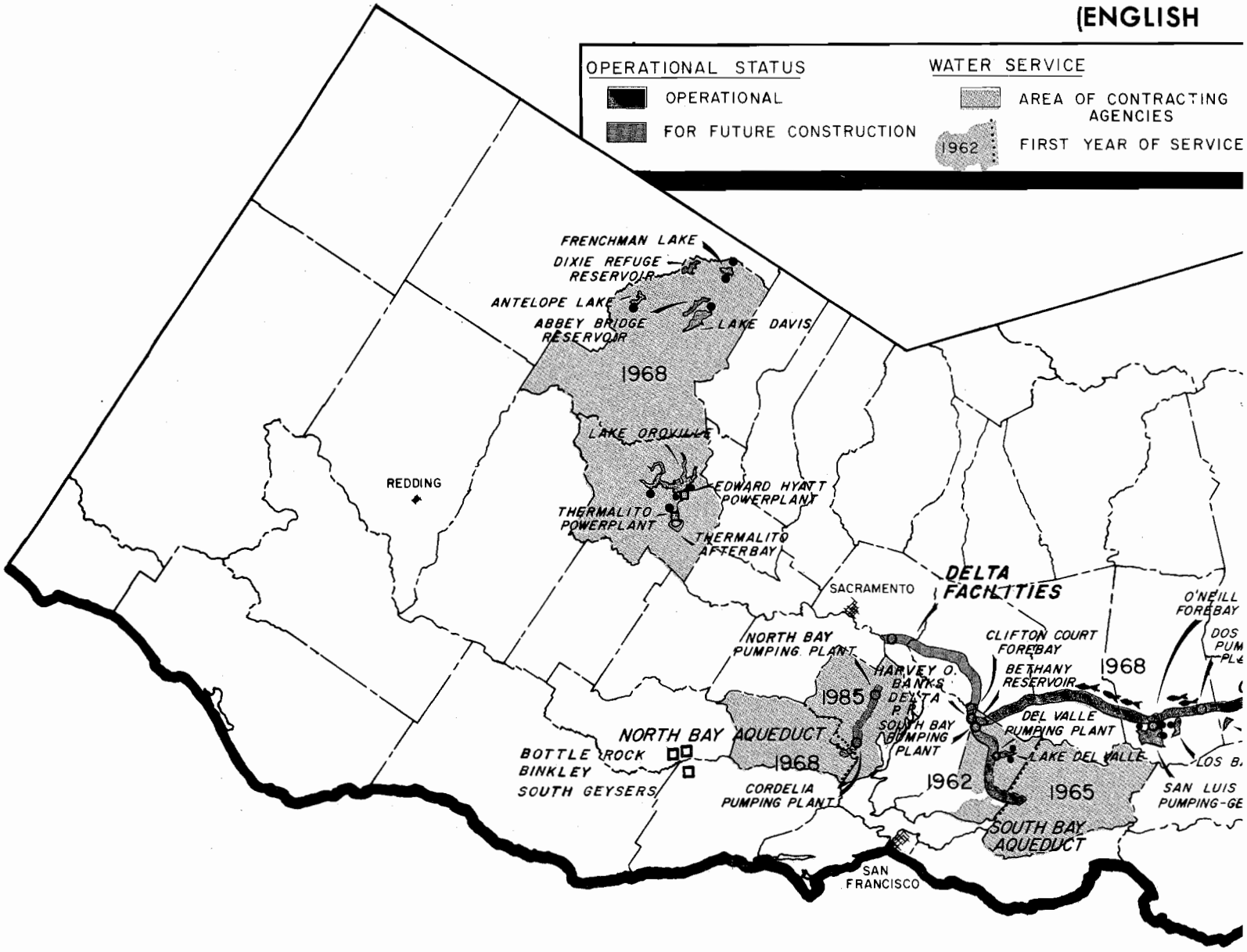
1) Minimum and maximum values.
2) The City of Los Angeles-Department of Water and Power constructed and operates a 1 250 000-kilowatt Castaic Powerplant and will supply the Project with electrical power and energy equivalent to the generation from a 213 984-kilowatt powerplant the State originally planned to construct.
* Under full development

PUMPING PLANTS ○

Name	Number of Units	Normal Static Head (metres)	Total Design Flow (cubic metres per second)	Total Motor Rating (kilowatts)	Kilowatt-hours per Cubic Dekametre of Water	Average* Annual Energy Requirements (kilowatt-hours)
Edward Hyatt (Oro.)(pumped stor.)	3	152/201(1	158.9	387 174	503/670	465 000 000
Thermalito (pumped storage)	3	26/31 (1	254.9	89 520	75/97	91 000 000
North Bay Aqueduct:						
North Bay	7	37	3	2 696	221	15 000 000
Cordelia	5	113	2	2 438	435	11 000 000
South Bay Aqueduct:						
South Bay	9	166	9.3	20 702	667	160 000 000
Del Valle	4	0/12(2	3.4	746	61	2 000 000
California Aqueduct (main line):						
Delta	11	74	291.8	248 418	251	1 374 000 000
San Luis						
Total	8	30/100(2	311.5	375 984	146/413	
State Share			163.2	196 944		304 000 000
Dos Amigos						
Total	6	34	373.8	179 040	110	
State Share			201.1	96 980		585 000 000
Buena Vista	10(3	62	143.0	101 456	204	748 000 000
Wheeler Ridge	9(3	71	130.2	104 440	212	726 000 000
Wind Gap	9(3	158	124.9	229 268	501	1 683 000 000
A. D. Edmonston (Tehachapi)	14(3	587	116.0	775 840	1 837	6 061 000 000
Pearblossom	6	165	39.1	84 447	561	633 000 000
California Aqueduct (branches):						
Oso	8	70	88.6	69 975	223	435 000 000
Las Perillas	6	17	12.7	3 021	70	18 000 000
Badger Hill	6	46	12.7	7 833	152	38 000 000
Devil's Den	4	125	3.6	5 968	445	36 000 000
Sawtooth	4	101	3.6	4 849	345	28 000 000
Polonio	4	247	3.6	11 936	930	76 000 000
Peripheral Canal	9(3	3	617.3	26 483	9	106 000 000
Total State Share						**13 595 000 000**

1) Minimum and maximum total pumping heads.
2) Minimum and maximum values.
3) Includes one spare unit.
* Under full development.

PROJECT (ENGLISH



25 DAMS AND RESERVOIRS

Name of Reservoir	Reservoirs: Capacity (Acre-feet)	Reservoirs: Surface Area (acres)	Reservoirs: Shore-line (miles)	Dams: Crest Elevation (1 (feet)	Dams: Structural Height (feet)	Dams: Crest Length (feet)	Dams: Volume (cubic yards)
Frenchman Lake	55,477	1,580	21	5,607	139	720	537,000
Antelope Lake	22,566	931	15	5,025	120	1,320	380,000
Lake Davis	84,371	4,026	32	5,785	132	800	253,000
Lake Oroville	3,537,577	15,805	167	922	770	6,920	80,000,000
Thermalito Diversion Pool	13,328	323	10	233	143	1,300	154,000
Fish Barrier Pool	580	52	1	181	91	600	10,500
Thermalito Forebay	11,768	630	10	231	91	15,900	1,840,000
Thermalito Afterbay	57,041	4,302	26	142	39	42,000	5,020,000
Clifton Court Forebay	28,653	2,109	8	14	30	36,500	2,440,000
Bethany	4,804	161	6	250	121	3,940	1,400,000
Lake Del Valle	77,106	1,060	16	773	235	880	4,150,000
San Luis	2,038,771(2	12,700	65	554	385	18,600	77,645,000
O'Neill Forebay	56,426	2,700	12	233	88	14,350	3,000,000
Los Banos	34,562	623	12	384	167	1,370	2,100,000
Little Panoche	13,236	354	10	676	152	1,440	1,210,000
Buttes	21,800	580	6	2,790	190	2,230	3,130,000
Silverwood Lake	74,970	976	13	3,378	249	2,230	7,600,000
Lake Perris	131,452	2,318	10	1,600	128	11,600	20,000,000
Quail Lake	5,020	223	3	NA	40	–	–
Pyramid Lake	171,196	1,297	21	2,606	400	1,090	6,860,000
Elderberry Forebay	28,231	460	7	1,550	200	1,990	6,000,000
Castaic Lake	323,702	2,235	29	1,535	425	4,900	46,000,000
Castaic Lagoon	5,662	196	3	NA	25	–	–
Totals	**6,798,299**	**55,641**	**503**			**170,680**	**269,729,500**

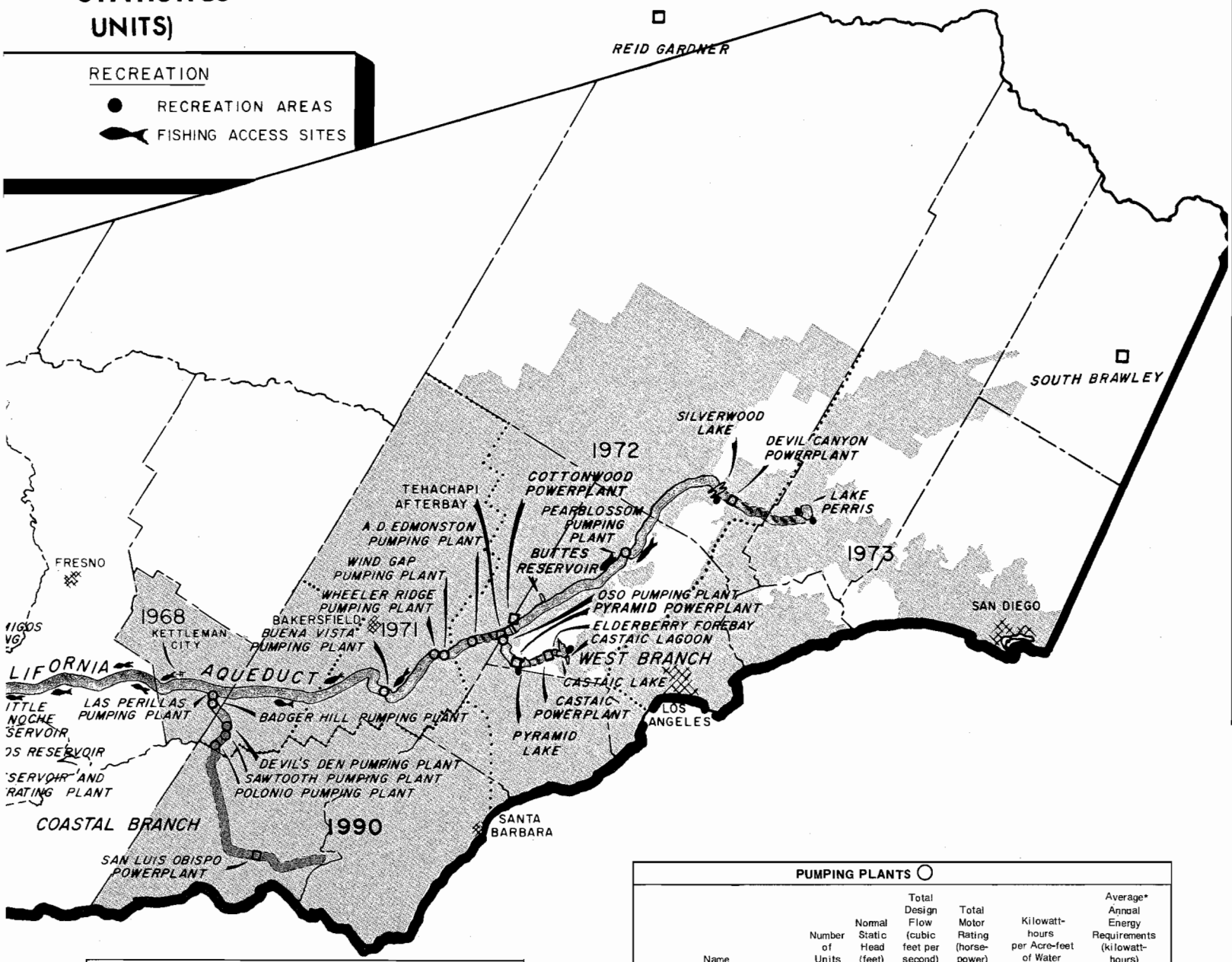
1) Above sea level.
2) State share 1,067,908 acre-feet.

AQUEDUCTS

Name	Length (miles): Total	Canal	Pipeline	Tunnel	Channel and Reservoir
North Bay Aqueduct	24.9	12.7	12.2	0	0
South Bay Aqueduct	42.9	8.4	32.9	1.6	0
Peripheral Canal	42.0	42.0	1.0	0	0
Subtotal	109.8	63.1	45.1	1.6	0
California Aqueduct (main line):					
Delta to O'Neill Forebay	68.4	67.0	0	0	1.4
O'Neill Forebay to Kettleman City	105.7	103.5	0	0	2.2
Kettleman City to A. D. Edmonston Pumping Plant	120.9	120.9	0	0	0
A. D. Edmonston Pumping Plant thru Tehachapi Afterbay	10.6	0.2	2.5	7.9	0
Tehachapi Afterbay thru Lake Perris	138.4	93.4	38.3	3.8	2.9
Subtotal, main line	444.0	385.0	40.8	11.7	6.5
California Aqueduct (branches):					
West Branch	31.9	9.1	6.4	7.2	9.2
Coastal Branch	96.2	14.8	81.4	0	0
Subtotal, branches	128.1	23.9	87.8	7.2	9.2
Totals	681.9	472.0	173.7	20.5	15.7

STATISTICS

UNITS)



POWERPLANTS □

Name	Number of Units	Normal Static Head (feet)	Total Design Flow (cubic feet per second)	Power Generator Rating (kilowatts)	Kilowatt-hours per Acre-feet of Water	Average* Annual Energy Output (kilowatt-hours)
Edward Hyatt (Oro)....	6	410/676[1]	14,550	678,750	458/606[1]	2,475,000,000
Thermalito	4	85/100[1]	16,900	119,600	73/91[1]	383,000,000
San Luis						
Total	8	99/327[1]	13,120	424,000	140/288[1]	
State Share			6,872	222,100		165,000,000
Cottonwood	1	140	1,637	15,000	111	113,000,000
Devil Canyon	2	1,418	1,200	119,700	1,209	877,000,000
Pyramid	2	740	3,100	157,000	578	854,000,000
Castaic						
Total	7	1,063	18,400	1,250,000	944	
State Share[2]			3,092	214,000		1,396,000,000
San Luis Obispo	1	730	111	5,900	481	24,000,000
Small Hydroelectric Powerplants	1			42,600		253,000,000
South Geysers	1			55,000		372,000,000
Bottle Rock	1			55,000		372,000,000
Reid Gardner Unit No. 4						
Total	1			250,000		
State Share				169,500		1,081,000,000
Binkley	1			55,000		372,000,000
Total, State Share						**8,737,000,000**

1) Minimum and maximum values.

2) The City of Los Angeles Department of Water and Power constructed and operates a 1,250,000-kilowatt Castaic Powerplant and will supply the Project with electrical power and energy equivalent to the generation from a 213,984-kilowatt powerplant the State originally planned to construct.

* Under full development.

PUMPING PLANTS ○

Name	Number of Units	Normal Static Head (feet)	Total Design Flow (cubic feet per second)	Total Motor Rating (horse-power)	Kilowatt-hours per Acre-feet of Water	Average* Annual Energy Requirements (kilowatt-hours)
Edward Hyatt (Oro.)(pumped stor.).	3	500/660[1]	5,610	519,000	621/826	465,000,000
Thermalito (pumped storage)	3	85/102[1]	9,000	120,000	93/120	91,000,000
North Bay Aqueduct:						
North Bay	7	120	120	3,600	272	15,000,000
Cordelia	5	372	55	3,300	537	11,000,000
South Bay Aqueduct:						
South Bay	9	545	330	27,750	823	160,000,000
Del Valle.....	4	0/38[2]	120	1,000	75	2,000,000
California Aqueduct (main line):						
Delta	11	244	10,303	333,000	309	1,374,000,000
San Luis						
Total	8	99/327[2]	11,000	504,000	180/510	
State Share			5,762	264,000		304,000,000
Dos Amigos						
Total.....	6	113	13,200	240,000	136	
State Share			7,100	130,000		585,000,000
Buena Vista	10[3]	205	5,049	136,000	252	748,000,000
Wheeler Ridge	9[3]	233	4,598	140,000	261	726,000,000
Wind Gap	9[3]	518	4,410	308,000	618	1,683,000,000
A. D. Edmonston (Tehachapi).....	14[3]	1,926	4,095	1,040,000	2,266	6,061,000,000
Pearblossom	6	540	1,380	113,200	692	633,000,000
California Aqueduct (branches):						
Oso.....	8	231	3,128	93,800	275	435,000,000
Las Perillas	6	55	450	4,050	86	18,000,000
Badger Hill	6	151	450	10,500	187	38,000,000
Devil's Den	4	409	126	8,000	549	36,000,000
Sawtooth	4	331	126	6,500	425	28,000,000
Polonio	4	810	126	16,000	1,147	76,000,000
Peripheral Canal	9[3]	10	21,800	35,500	11	106,000,000
Total, State Share						**13,595,000,000**

1) Minimum and maximum total pumping heads.

2) Minimum and maximum static heads.

3) Includes one spare unit.

* Under full development.

82066—950 3-81 2,500

CONVERSION FACTORS

Quantity	To Convert from Metric Unit	To Customary Unit	Multiply Metric Unit By	To Convert to Metric Unit Multiply Customary Unit By
Length	millimetres (mm)	inches (in)	0.03937	25.4
	centimetres (cm) for snow depth	inches (in)	0.3937	2.54
	metres (m)	feet (ft)	3.2808	0.3048
	kilometres (km)	miles (mi)	0.62139	1.6093
Area	square millimetres (mm^2)	square inches (in^2)	0.00155	645.16
	square metres (m^2)	square feet (ft^2)	10.764	0.092903
	hectares (ha)	acres (ac)	2.4710	0.40469
	square kilometres (km^2)	square miles (mi^2)	0.3861	2.590
Volume	litres (L)	gallons (gal)	0.26417	3.7854
	megalitres	million gallons (10^6 gal)	0.26417	3.7854
	cubic metres (m^3)	cubic feet (ft^3)	35.315	0.028317
	cubic metres (m^3)	cubic yards (yd^3)	1.308	0.76455
	cubic dekametres (dam^3)	acre-feet (ac-ft)	0.8107	1.2335
Flow	cubic metres per second (m^3/s)	cubic feet per second (ft^3/s)	35.315	0.028317
	litres per minute (L/min)	gallons per minute (gal/min)	0.26417	3.7854
	litres per day (L/day)	gallons per day (gal/day)	0.26417	3.7854
	megalitres per day (ML/day)	million gallons per day (mgd)	0.26417	3.7854
	cubic dekametres per day (dam^3/day)	acre-feet per day (ac-ft/day)	0.8107	1.2335
Mass	kilograms (kg)	pounds (lb)	2.2046	0.45359
	megagrams (Mg)	tons (short, 2,000 lb)	1.1023	0.90718
Velocity	metres per second (m/s)	feet per second (ft/s)	3.2808	0.3048
Power	kilowatts (kW)	horsepower (hp)	1.3405	0.746
Pressure	kilopascals (kPa)	pounds per square inch (psi)	0.14505	6.8948
	kilopascals (kPa)	feet head of water	0.33456	2.989
Specific Capacity	litres per minute per metre drawdown	gallons per minute per foot drawdown	0.08052	12.419
Concentration	milligrams per litre (mg/L)	parts per million (ppm)	1.0	1.0
Electrical Conductivity	microsiemens per centimetre (uS/cm)	micromhos per centimetre	1.0	1.0
Temperature	degrees Celsius (°C)	degrees Fahrenheit (°F)	(1.8 × °C)+32	(°F−32)/1.8

State of California—Resources Agency
Department of Water Resources
P.O. Box 388
Sacramento
95802