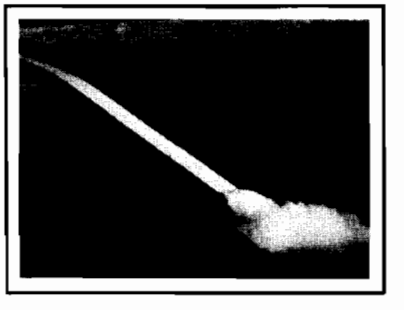
State of California
The Resources Agency

Department of
Water Resources

Management of the California State Water Project

Bulletin 132-83
November 1983



ON THE COVER: Spillway at Lake Oroville flowing at 45,000 cubic feet per second (cfs). Continuing storms passing through California during the winter of 1982-83 filled the lake to overflowing. Spillway operation began on December 21, 1982 and reached a peak flow of 45,600 cfs on March 14, 1983.

Department of
Water Resources

Bulletin 132-83

Management of the California State Water Project

November 1983

Gordon K. Van Vleck
Secretary for Resources

The Resources
Agency

George Deukmejian
Governor

State of
California

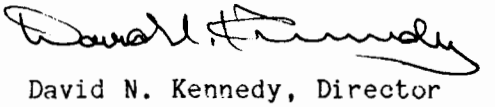
David N. Kennedy
Director

Department of
Water Resources

On June 22, 1983, David N. Kennedy (right) became Director of the Department of Water Resources. Gordon K. Van Vleck, Secretary for Resources, administered the oath of office of the new Director. Kennedy was employed as an engineer with the Department from 1962 through 1968, when he left the Department to join The Metropolitan Water District of Southern California. Prior to his appointment as Director, he had been Assistant General Manager for The Metropolitan Water District.

FOREWORD

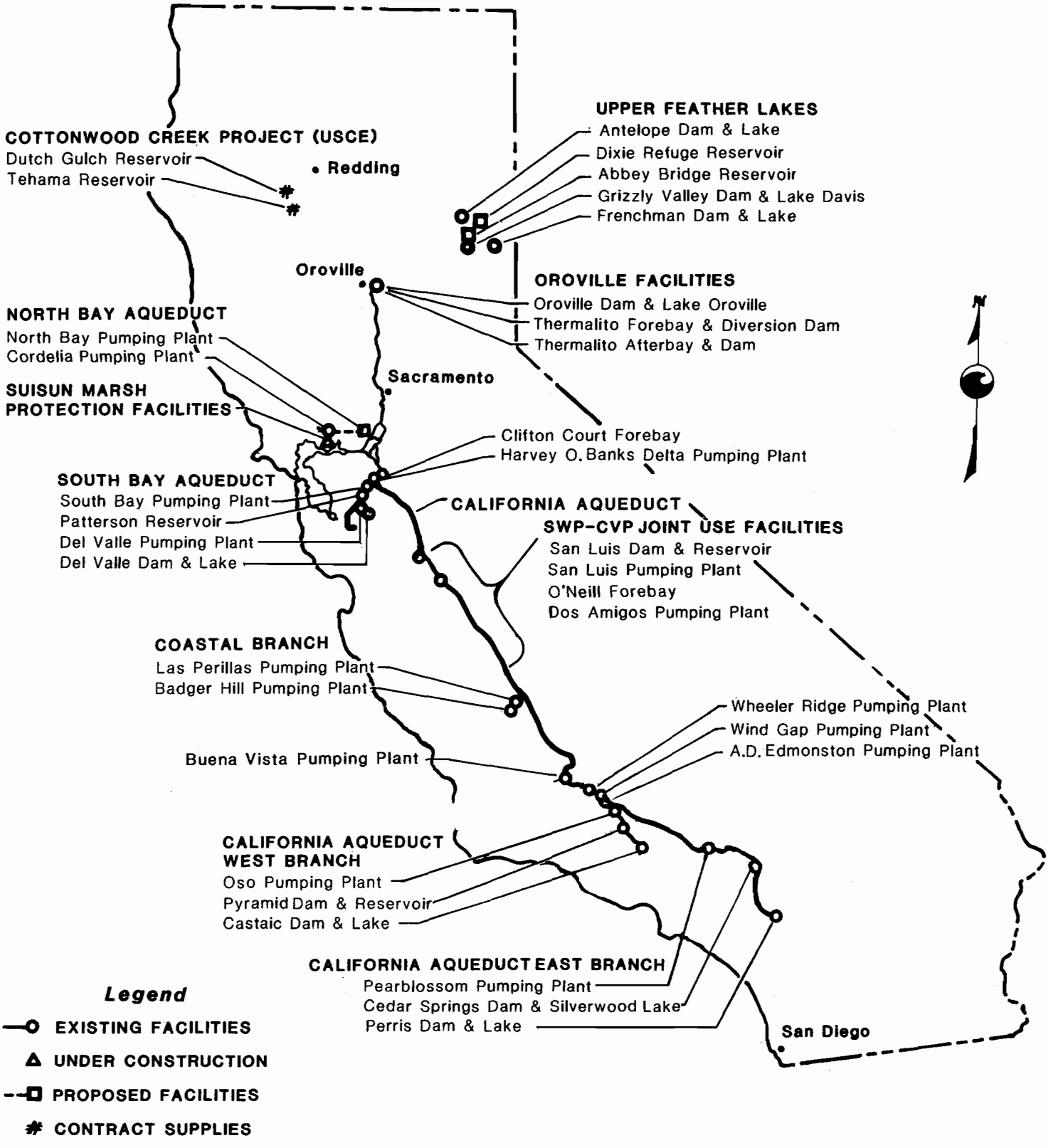
This is the twenty-first bulletin of the 132 series. This report is published annually by the Department to document activities, operational data, costs and management plans of the State Water Project. The bulletin concentrates on project management actions between July 1, 1982 and June 30, 1983. For continuity, a summary of the major actions reported in previous bulletins and discussions of future plans that are expected to influence operation of the State Water Project are also included. In addition, this publication provides information on water contract activities, power contract activities, project operations data for calendar year 1982, and Appendix B supporting the water contractors' Statements of Charges for 1984.



David N. Kennedy, Director
Department of Water Resources
The Resources Agency
State of California

CALIFORNIA STATE WATER PROJECT

WATER FACILITIES



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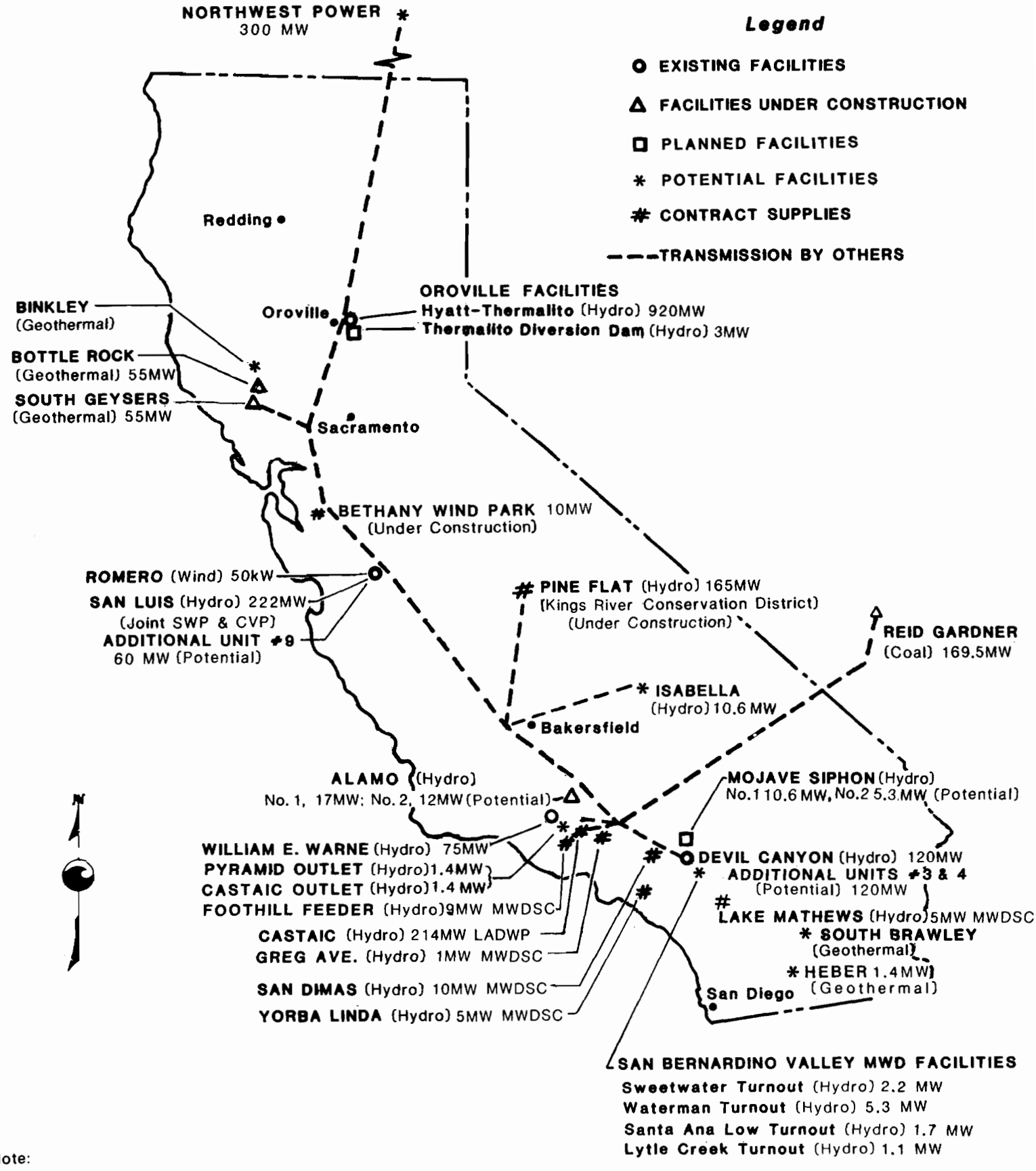

Note:

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	xi
CALIFORNIA WATER COMMISSION	xiii
ORGANIZATION OF DEPARTMENT OF WATER RESOURCES	xiv
CHAPTER I - STATE WATER PROJECT MANAGEMENT PLANS THROUGH YEAR 2000	1
Introduction	1
Impacts of Proposition 9 (June 1982) on SWP Programs	2
Effects of Terminating Programs	2
New Directions in Planning and Implementation Programs	2
Firm SWP Supply Compared to Projected Demands	3
Update of Estimated SWP Delivery Capability	4
Assumed SWP Facilities	5
Delivery Priorities	6
SWP Electrical Power Requirements	11
Future Costs of Water Service	20
CHAPTER II - PLANNING AND IMPLEMENTATION PROGRAMS	23
Long-Range Water Development Programs	23
Surface Water Development Programs	23
Water Transportation Facilities	24
Ground Water Storage Programs	25
Water Conservation and Reclamation Programs - Governor's Executive Order B-68-80	26
Waste Water Reclamation and Desalination-Los Banos Demonstration Desalting Facility	26
Delta Water Quality Under Present Conditions	28
Long-Range Energy Program	28
Introduction	28
New Energy Supplies	29
Transmission Service	30
Other Transmission	31
Power Costs	31
Local Water Supply Projects	35
Guidelines	35
Status of Contracts for Local Water Supply Projects	36
SWP Aqueduct Extensions	37
Construction of the North Bay Aqueduct - Phase II	37
Future Construction of the Coastal Branch	39
CHAPTER III - MAJOR MAINTENANCE AT SWP FACILITIES	41
San Luis Dam Repair	41
Sediment Removal from the California Aqueduct	43
CHAPTER IV - INTERAGENCY ACTIVITIES	47
CVP-SWP Coordinated Operation Agreement	47
Cooperative Study for Enlarging Shasta Lake	49
Colorado River Task Force Report	51
Cottonwood Creek Project	51
Federal Cost Sharing Proposal	52

TABLE OF CONTENTS

	Page
Interagency Drainage Program-San Joaquin Drainage Facilities	53
Long-Range Program	53
Discharge Requirements	53
Two-Agency Fish Agreement	53
CHAPTER V - DESIGN, RIGHT OF WAY AND CONSTRUCTION ACTIVITIES, JULY 1, 1982 - JUNE 30, 1983	55
Design Activity	55
Land Acquisition Activity	55
Construction Progress	59
Reid Gardner Unit No. 4	59
Bottle Rock Powerplant	59
South Geysers Powerplant	60
William E. Warne Powerplant	60
Alamo Powerplant	60
A.D. Edmonston Pumping Plant	60
Pastoria Siphon	61
Contract Status	63
Governor Edmund G. Brown California Aqueduct	63
Heber Powerplant Groundbreaking	63
Visitors to SWP Facilities	66
Safety of Department-Owned Dams	66
Upper Feather River Division	66
Oroville Division	66
South Bay Area	67
San Luis Division	67
Southern California Area	67
Review Under FERC Requirements	68
CHAPTER VI - PROJECT MANAGEMENT	71
Water Rights Management	71
Delta Water Quality Monitoring and Reporting	71
Water Entitlement Negotiations	72
Pyramid and Castaic Water Rights Application and Related Activities	75
Water Contracts Management	76
Water Deliveries in 1982	77
Wheeling of Federal Water	89
Future Project Water Delivery Plans	90
Surplus Water Deliveries April 1 - December 31, 1983	91
Contract Amendments	92
Project Purpose Cost Allocations	94
Power Contracts Management	94
Use of DWR Pacific Northwest Intertie Capacity	94
MWD Short-Term Exchange Program	94
Summary of Major Power Contracts	94
Administrative Procedure Related to Cost Allocation and Repayment of Off-Aqueduct Power Facilities	96
Water and Energy Conservation at SWP Facilities	96

TABLE OF CONTENTS

	Page
CHAPTER VII - PROJECT OPERATIONS	97
Water Operations in 1982	97
Water Conditions	97
Water Delivery Scheduling	103
Special SWP Operations During 1982	104
Other Activities	107
Power Operations in 1982	109
SWP Recovery Plants	109
Castaic Pumping-Generating Plant	112
Canadian Entitlement Power	112
California Suppliers' Energy	112
SWP Electrical Operations in 1983	112
Other Power Sources and Services	113
Recreation and Fish and Wildlife Activities	114
California Aqueduct Bikeway	116
Recreation Activity Within SWP Field Divisions	116
CHAPTER VIII - FUTURE CONSTRUCTION COSTS, OPERATING COSTS AND PROJECT FINANCING	119
Project Construction Expenditures	123
Financing of Capital Requirements	130
Project Revenues	134
Project Expenses	140
CHAPTER IX - LITIGATION	147
Control Over SWP Operation	147
Project Financial Feasibility	148
Corps of Engineers Permits for Delta Pumps	149
Sacramento-San Joaquin Delta Water Cases	150
Seepage Suits, Sacramento and Feather Rivers	152
Kern River Intertie	153
Construction Claims	153
Wild and Scenic River Cases	154
Federal-State Water Rights Relationships	155
Electrical Power Cases	156
CHAPTER X - STATE WATER CONTRACTORS ACTIVITIES	159
State Water Contractors Corporation	159
Profiles of SWP Contractors	162
Antelope Valley-East Kern Water Agency	162
Desert Water Agency	163
Devil's Den Water District	165
Oak Flat Water District	166
Plumas County Flood Control and Water Conservation District	167
Santa Clara Valley Water District	168
INDEX TO TABULAR MATERIAL IN BULLETIN	294
PROJECT STATISTICS	296
CONVERSION FACTORS	inside back cover

TABLES

		Page
1.	First Year Project Water Demands Exceed Supplies	6
2.	Estimated Delivery Capability Year 1985	7
3.	Estimated Delivery Capability Year 1990	8
4.	Estimated Delivery Capability Year 1995	9
5.	Estimated Delivery Capability Year 2000	10
6.	Estimated Total Unit Water Rates	21
7.	Estimated Energy Requirements and Costs	33
8.	SWP Design Activities in Progress	56
9.	Acquisition of Land Parcels	58
10.	SWP Construction Activities in Progress during the Period July 1982 - June 1983	64
11.	Annual Entitlements and Water Demands	78
12.	Summary of 1982 Entitlement and Surplus Water Service to Long-Term Contractors	80
13.	Water Deliveries in 1982	82
14.	Water Contractors Total Requests for Entitlement Water 1982 through 1988	90
15.	Comparison of Actual Storage with Plan of Operations	103
16.	Water Quality Measurements at Selected Stations in 1982	108
17.	SWP Benefits through 1982	109
18.	Monthly Power Operations in 1982	110
19.	Recreation Use at SWP Facilities in 1981 and 1982	115
20.	Fish Planted by Department of Fish and Game - SWP Facilities During 1982	116
21.	Project Financial Analysis, June 30, 1983	120
22.	Project Capital Expenditures	124
23.	Application of Revenue Bond Proceeds	128
24.	Revenue Bond Proceeds Affecting the Project Interest Rates	136
25.	Actual Bond Sales and Project Interest Rates	137
26.	Projected Bond Sales	138
27.	Project Operating Costs	141
28.	Annual Service on Bonds Sold as of July 1, 1983	144

FIGURES

		Page
1.	Projected Entitlement Requests Compared to SWP Firm Supply	4
2.	SWP Entitlement Demand vs. Supply	5
3.	1985 Energy Requirements - Resources	12
4.	1990 Energy Requirements - Resources	13
5.	1995 Energy Requirements - Resources	14
6.	2000 Energy Requirements - Resources	16
7.	1990 SWP Electrical Onpeak Capacity Loads and Resources	17
8.	1990 SWP Electrical Offpeak Capacity Loads and Resources	18
9.	Estimated Electrical Energy Loads and Resources	19
10.	SWP Desalting Facility	27
11.	North Bay Aqueduct Phase II Alignment	38
12.	Shasta Lake Enlargement Plan	50
13.	State Water Project Construction Divisions	57
14.	Schedule for Review of Department Owned Dams	69
15.	Sacramento - San Joaquin Delta Agencies	74
16.	Water Supply Contract Amendments as of June 30, 1983	93
17.	Summary of Major Electric Power Contracts for the California State Water Project	95
18.	Statewide Precipitation 1981-1982 Water Year	99
19.	Summary of Project Water Operations, 1982	100
20.	Accumulative Natural Runoff to Selected Reservoirs	102
21.	Monthly Reservoir Storage During 1982 for Lake Oroville and San Luis Reservoirs	102
22.	Aqueduct Recreation Developments	114
23.	Generalized Construction Schedule	125
24.	Local Projects Under the Davis-Grunsky Act Program	129
25.	Long-Term Water Supply Contracting Agencies	160

APPENDICES

A	1982 Annual Financial Report	(bound separately)
B	Data and Computations Used in Determining Water Charges	171
C		(discontinued)
D	Costs of Recreation and Fish and Wildlife Enhancement	(bound separately)
E	Water Operations in the Sacramento-San Joaquin Delta	(bound separately)

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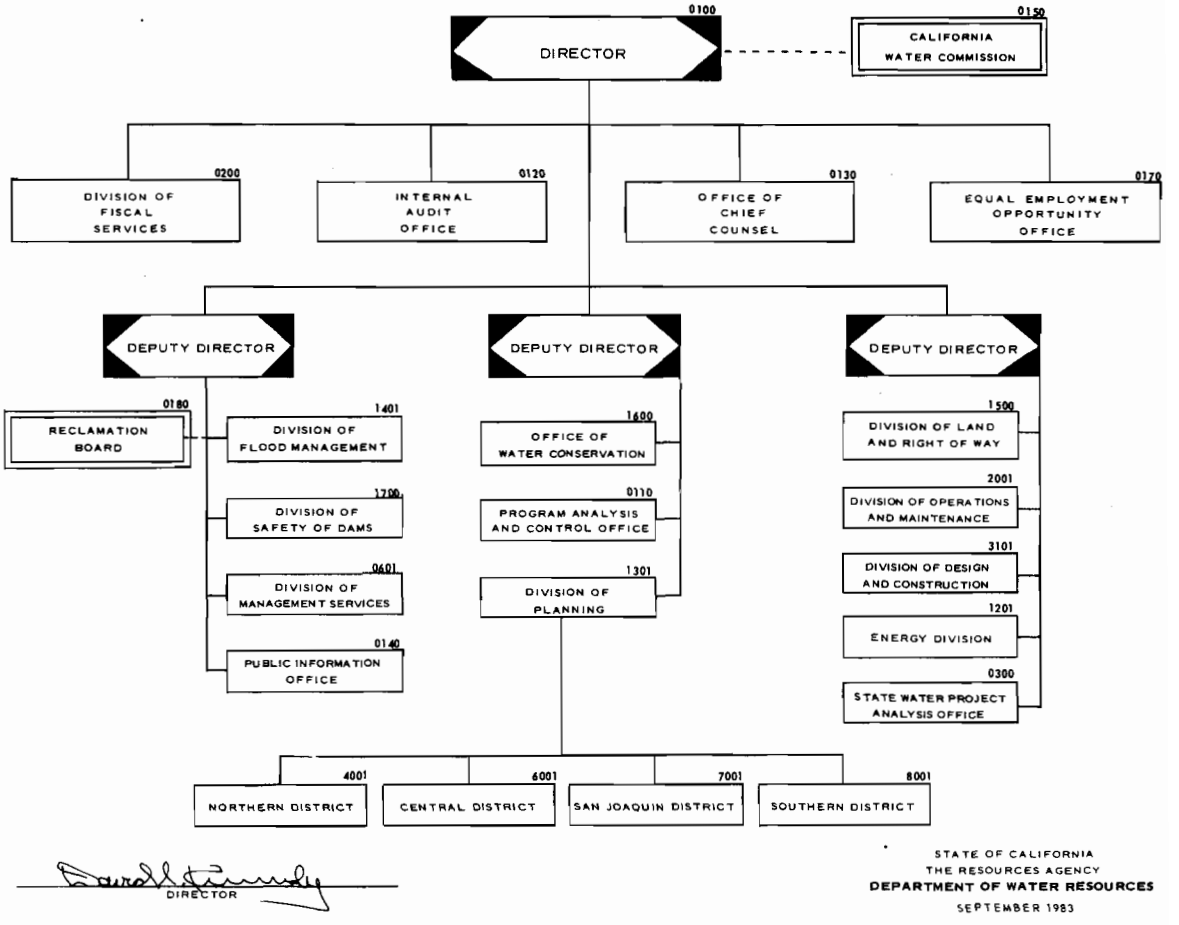
The California Water Commission serves as a policy advisory body to the Director of Water Resources on all California water resources matters. The nine member citizen Commission provides a water resources forum for the people of the State, acts as a liaison between the legislative and executive branches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



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SEPTEMBER 1983

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Page	
Cover	Department of Water Resources, 6272-2
ii	Department of Water Resources, 6245-4
22	Department of Water Resources, 6243-16
41	U. S. Bureau of Reclamation
42	Department of Water Resources (upper)
42	Department of Water Resources (lower)
46	Department of Water Resources, 6111-1
59	Department of Water Resources, 6124-1
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98	Department of Water Resources
158	Department of Water Resources, TEH#23837
162	Department of Water Resources, WR-AMY-C OB-4
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165	Department of Water Resources (right)
166	Department of Water Resources, 4356-6
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CHAPTER I
STATE WATER PROJECT MANAGEMENT PLANS THROUGH 2000

Introduction

When the Burns-Porter Act was approved by the Legislature in 1959 and ratified by the people in 1960, a new water era began in California. After years of planning, the State Water Project (SWP) --the largest such project ever constructed by a state--began to take shape from one end of California to the other. Commitments were made and contracts were signed for the eventual delivery of 4.23 million acre-feet annually of SWP water to 31 contracting agencies. (In 1981, the merger of Hacienda Water District and the Tulare Lake Basin Water Storage District reduced the number of SWP contractors to 30.)

The 1959 legislation authorized initial SWP facilities, including (1) an aqueduct system; (2) specific initial water storage facilities; (3) additional, but unspecified, future storage facilities for local needs and to augment water supplies in the Delta as necessary; (4) facilities in the Sacramento-San Joaquin Delta to transfer water across the Delta; (5) facilities for removal of drainage water from the San Joaquin Valley; (6) facilities for generation and transmission of electrical energy and (7) provisions for local water development facilities.

The first SWP water deliveries were made to contractors in the South San Francisco Bay area in 1962. Since then, more than 21.6 million acre-feet have been delivered through SWP facilities. These deliveries have been made to areas in California ranging from (1) Plumas County in the north, to (2) Alameda and Santa Clara Counties located south of San Francisco Bay, to (3) San Joaquin Valley agricultural areas, and (4) to agencies in various Southern California counties, including Ventura, Los Angeles, Orange, San Diego, San Bernardino, and Riverside.

In the late 1960s, construction of the California Aqueduct in the San Joaquin Valley was completed and the first water deliveries were made to Kern County in 1968. Finally, in 1973 water was delivered to Lake Perris, the southern terminus of the California Aqueduct. With these deliveries, the period of construction of the SWP initial facilities came to an end.

In the mid 1970s, the Department of Water Resources (Department) began looking for ways to obtain additional water supplies and to make more effective use of existing supplies. The additional supplies were needed to provide continuing service through the aqueduct system and meet the increasing demand by contractors for water from the SWP. Then, in June 1982, the Department's plans for augmenting SWP water supplies were set back when Proposition 9 was decisively rejected by the California Electorate. Voter affirmation of the proposition would have mandated that the Department proceed with the Peripheral Canal and other elements of Senate Bill 200. In response to wishes of the Electorate, the Department suspended planning on all SB 200 features. With inauguration of a new State administration in early 1983, the Department has begun work on new planning and operational concepts in an effort to provide continuing water service to all SWP service areas.

In another vital area of the SWP, the Department has developed a comprehensive long-range energy program to serve the needs of the SWP. This program is designed to meet the energy requirements for pumping SWP water supplies to delivery points along the California Aqueduct.

On March 31, 1983, the Department's contracts for purchase of power from electrical suppliers expired. These contracts had been in effect since the 1960s. Upon expiration of these contracts, the SWP became a bulk power agency. The SWP produces and markets power to operate the SWP under contracts with many electrical utilities. These contracts are discussed further in Chapters II and VI.

Bulletin 132-83 reports on the current status of the SWP, the progress of planning studies for future water supply and energy producing facilities, SWP construction progress, SWP operations and maintenance in 1982, the status of interagency agreements affecting the SWP, financial requirements, litigation, and other areas of special interest.

Impacts of Proposition 9 (June 1982) on SWP Programs

Effects of Terminating Programs

In response to voter rejection of Proposition 9 (1982) and nullification of SB 200 in July 1982, the Department terminated work on the following programs.

1. Peripheral Canal: Studies specifically directed toward the canal were terminated in December 1982. Results of these studies have been documented to make them useful for possible future planning efforts. Studies directed towards Delta and San Francisco Bay impacts from State Water Project and Central Valley Project operations will continue and will provide information for:

   - o rehearing of Decision 1485 before the State Water Resources Control Board (SWRCB);
   - o Two-Agency Fish Agreement (Department of Water Resources and the Department of Fish and Game).

     Negotiations have been resumed between the Department and Department of Fish and Game to develop a new agreement for preservation of fish in the vicinity of the Banks Delta Pumping Plant.

2. Los Vaqueros Unit: Studies were completed in April 1983 and preserved for future reference.

3. Thomes-Newville Unit: Studies were completed in December 1982 and preserved for future reference.

4. Relocation of Contra Costa Canal Intake: Studies and negotiations were discontinued.

5. South Delta Water Quality Improvements: Studies were discontinued.

New Directions in Planning and Implementation Programs

Continuing studies were limited to those outside the scope of planning for SB 200 facilities. These continuing planning programs include:

1. Surface water development studies of (a) Shasta Lake enlargement; (b) central Sierra streams; (c) Sacramento River tributary streams; (d) offstream storage sites south of the Delta; and (e) review of Cottonwood Creek Project planning reports prepared by the U. S. Corps of Engineers.

2. Additional aqueduct facilities which include (a) enlargement of the East Branch of the California Aqueduct; (b) Coastal Aqueduct sizing; and (c) San Joaquin Valley conveyance alternatives.

3. Ground water basin storage under control of the local agency overlying the ground water basin. Implementation of this type of ground water program will result in a reduction in the need for SWP water supplies by participating contractors during dry periods.

4. Local projects to augment SWP supplies.

5. Water purchase or transfer studies.

6. Power planning and development to meet future energy needs of the SWP.

7. Suisun Marsh activities and environmental and fisheries studies in the Delta estuary and San Francisco Bay, which were mandated in SWP water rights issued by the SWRCB.

These programs are discussed in greater detail in Chapter II.

Firm SWP Supply Compared to Projected Demands

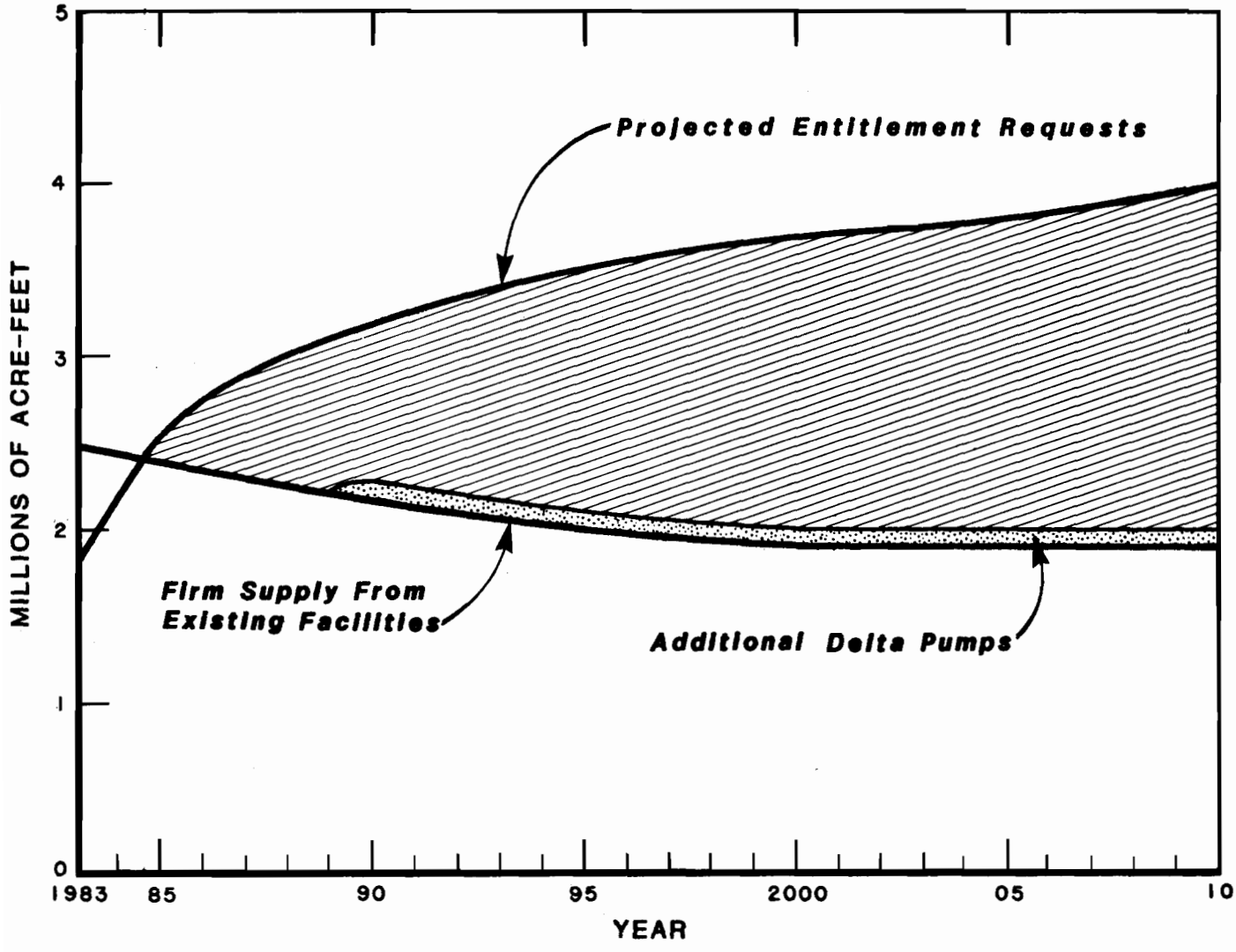
Initial conservation facilities of the SWP include Lake Oroville and San Luis Reservoir and are operated to store water for subsequent delivery during the year. The facilities provide for an annual SWP supply (yield) of slightly more than one-half of the maximum annual entitlement of 4.23 million acre-feet under contract between the Department and its 30 water contractors. Results of recent Department studies indicate that the minimum yield of the SWP is presently 2.5 million acre-feet per year. This yield is the annual quantity of water available for delivery to SWP contractors, assuming that a sequence of less-than-normal precipitation years of record were to occur. This SWP yield has been sufficient to allow the Project to deliver full requests for entitlement water in all past years except 1977. In 1982, entitlement deliveries to contractors from SWP facilities totaled about 1.76 million acre-feet.

The projection of minimum SWP yield is an increase over the previous estimates of 2.3 million acre-feet per year. The new projection was the outcome of water operation studies developed during negotiations with the U. S. Bureau of Reclamation (USBR). These studies analyzed SWP and CVP operations and resulted in an agreement between the two agencies for coordinated operation of both water projects. Two primary reasons for the increase in SWP minimum yield are: (1) After April 1, 1983, Lake Oroville operation is no longer constrained by a power sales contract; therefore, additional water can be released from this major SWP water conservation facility during critical periods; and (2) Estimates of future available water supply in the Delta have been increased as the result of revised USBR studies.

The SWP minimum yield is expected to decrease from the existing level of 2.5 million acre-feet to about 2.0 million acre-feet per year by about 2000 as: (1) water use in areas of origin increases (resulting in less surface water runoff into the Sacramento River watershed); (2) Central Valley Project (CVP) contractual obligations increase; and,(3) use of water associated with other prior rights to Northern California water supplies materializes.

By year 2000, the need for water within SWP service areas is expected to grow to about 3.7 million acre-feet per year. This will occur even after SWP contractors have fully implemented their own water conservation programs, and future waste water reclamation projects have been developed. By year 2000, without new supplies, the potential water shortfall in SWP service areas during a dry period (similar to

Figure 1. PROJECTED ENTITLEMENT REQUESTS COMPARED TO SWP FIRM SUPPLY



the historical dry period that California experienced between 1928 and 1934) could be as much as 1.7 million acre-feet.

Update of Estimated SWP Delivery Capability.

In June 1982, the Department initiated studies to re-examine the capability of existing State Water Project facilities to meet contractors' entitlement water requests to the year 2000. The following update of those studies indicates that without additional Project conservation facilities, the SWP in a "dry" water year will not provide sufficient water supplies to meet contractors' requests beginning in 1985.

Figure 1 shows the relationship between requests for SWP water and the firm water supplies developed by existing SWP facilities. The graph shows water supplies available during a period of subnormal rainfall, similar to the historical dry period of 1928 through 1934. The shaded area shows potential shortages in water supplies in future years under these dry-period conditions.

Figure 2 shows relationships between SWP water demand and supply in dry, average, or wet water-year conditions. The figure illustrates that under wet-year (high rainfall and runoff) conditions, the SWP will be able to meet entitlement water requests and will

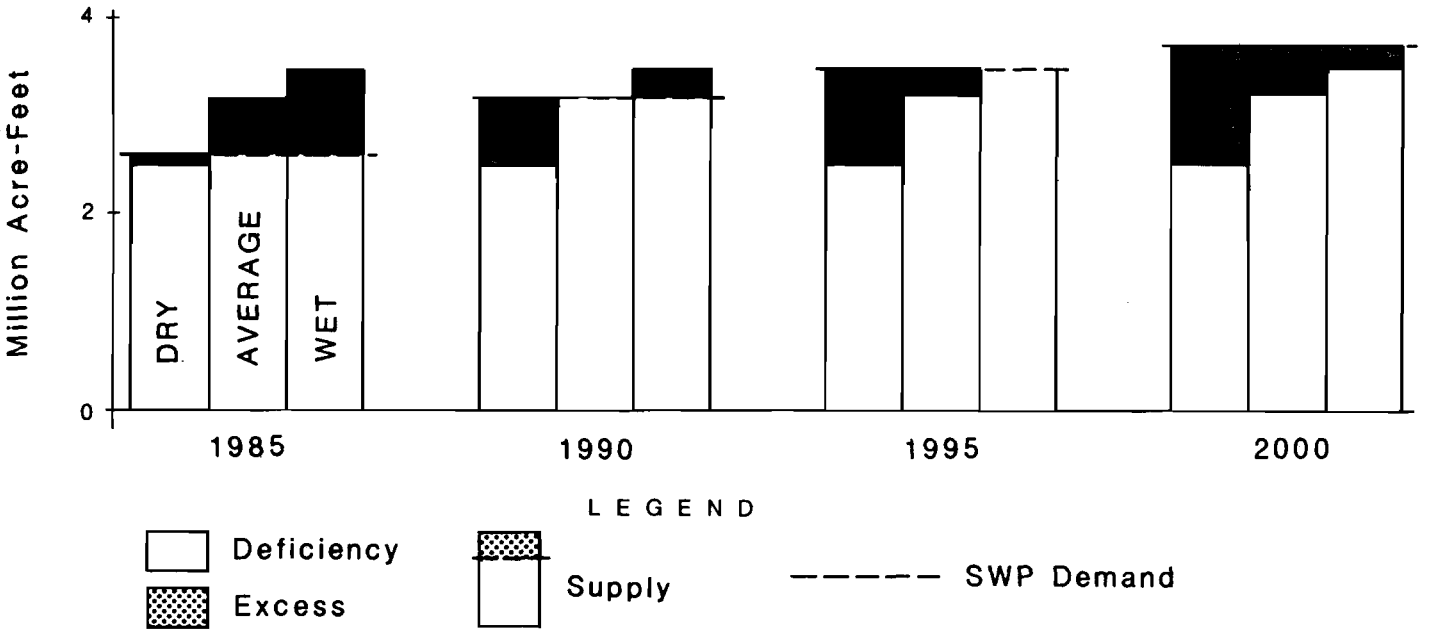


Figure 2

provide some surplus water until year 1995. However, in years of average rainfall, water supply from the SWP will be deficient after 1990; and in dry years, water supplies will be critically short by 1985.

Table 1 is an alternative presentation of the information in Figure 1. The Table shows the first year that Project entitlement water demands will exceed water supplies. The Table also shows the water supply (yield) available from the SWP in dry, average and wet year conditions.

To illustrate the extent to which deliveries will fall below water contractors' entitlement requests if no new SWP conservation facilities are built, the Department has developed Tables 2 through 5. These tables update the information shown in Tables 3 through 6 in Bulletin 132-82. The tables show the actual amounts the SWP is capable of delivering to each water contractor through existing SWP facilities in dry, average and wet years for 1985, 1990, 1995, and 2000. Tables 2 through 5 are based on water contractors' requests for future SWP deliveries submitted to the Department in the fall of 1982.

The delivery capability of the SWP shown in the tables assumes that a repetitive sequence of similar water-years occurs; i.e., a series of "dry" years or, alternatively, "average" or "wet" years. Actual year-to-year differences in rainfall amounts will, of course, affect Project delivery capabilities.

Assumed SWP Facilities

Information in Tables 2 through 5 was developed assuming that; (1) only existing SWP facilities would be available, operated to provide maximum water deliveries to contractors, (2) additional pumps at the Banks Delta Pumping Plant would be operational in the late 1980s to provide additional SWP yield, and (3) the East Branch enlargement will be operational in year 1990 -- a requirement in order for a locally managed ground water program

TABLE 1: FIRST YEAR PROJECT WATER DEMANDS EXCEED SUPPLIES

Water Supply [a]		Water Demand	
		Table A	Contractor Requests
Present Min. Project Yield	(2.5 MAF)	1982	1985
"Dry" Year	(2.47 MAF)	1982	1985
"Average" Year	(3.19 MAF)	1986	1990
"Wet" Year	(3.49 MAF)	1987	1995

(a) Water supply amounts exclude operational water losses.

for Southern California to be physically feasible.

Ground water management programs are currently being contemplated in the Santa Clara Valley (50,000 acre-feet) and in Southern California where approximately 1.7 million acre-feet could be stored by SWP contractors in the Chino and San Bernardino ground water basins. These programs could produce the equivalent of 150,000 to 200,000 acre-feet of local yield annually. Similar programs may be developed in the San Joaquin Valley, based on the same concepts employed for the Santa Clara Valley and Southern California programs.

There are two operational constraints limiting the speed with which this ground water storage can be accomplished:

- Conveyance Capability - Conveyance of water to Santa Clara Valley ground water basins will be a function of available South Bay Aqueduct pipeline capacity. Conveyance capability to Southern California basins will be limited to 150,000 acre-feet annually through 1990 due to limited capacity of existing SWP transportation facilities. Enlargement of the East Branch of the California Aqueduct will eliminate this constraint.
- Spreading Grounds Percolation Capability - The percolation capability of the spreading grounds used for filling ground water basins (and recharge after initial fill is accomplished) is limited to about 10,000 acre-feet annually for the Santa Clara Valley basin and about 200,000 acre-feet annually for Southern California basins. The initial filling of Santa Clara Valley ground water basins is projected to take five years (beginning in the late 1980s), and the filling of Southern California basins is projected to extend through year 1997.

The Department supports development of ground water programs at the regional and local level. However, if a local agency desires, the Department will consider SWP development of some ground water management programs within SWP service areas. Water supplies developed under a SWP ground water storage program would become part of yield of the SWP.

Delivery Priorities

For purposes of allocating water deliveries by contractor in Tables 2 through 5, it was necessary to assume priorities in delivery of Project water -- especially when Project water supplies

TABLE 2: ESTIMATED DELIVERY CAPABILITY YEAR 1985

(in acre-feet)

AGENCY NAME (a	TABLE A ENTITLEMENT	CONTRACTOR ENTITLEMENT REQUEST	CONTRACTOR SURPLUS REQUEST	REDUCED ENTITLEMENT BASED ON REDUCED MIN. PROJECT YIELD (b	DELIVERY CAPABILITY (c (d		
					CLASSIFICATION OF WATER YEAR (e		
					DRY	AVERAGE	WET
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Feather River Area							
City of Yuba City	1,700	1,500	-	1,005	1,500	1,500	1,500
County of Butte	1,200	1,200	-	709	1,081	1,200	1,200
Plumas County FC&WCD	860	860	-	508	773	860	860
Subtotal	3,760	3,560	-	2,222	3,354	3,560	3,560
North Bay Area							
Napa County FC&WCD (h	-	-	-	-	-	-	-
Solano County FC&WCD	14,000	1,250	-	8,274	1,250	1,250	1,250
Subtotal	14,000	1,250	-	8,274	1,250	1,250	1,250
South Bay Area							
Alameda County FC&WCD, Zone 7	27,000	27,000	-	15,957	24,322	27,000	27,000
Alameda County WD	30,800	30,800	11,200	18,203	27,746	40,418	42,000
Santa Clara Valley WD	88,000	88,000	16,000	52,009	79,274	94,550	104,000
Subtotal	145,800	145,800	27,200	86,169	131,342	161,968	173,000
San Joaquin Valley Area							
Devil's Den WD	12,700	12,700	7,300	7,506	11,440	19,731	20,000
Dudley Ridge WD	47,200	47,200	23,629	27,896	42,518	70,829	70,829
Empire West Side ID	3,000	3,000	3,000	1,773	2,704	4,661	6,000
Kern County WA - AG	821,000	835,450	391,500	485,284	744,724	1,226,950	1,226,950
- M&I	93,900	79,550	-	55,497	79,550	79,550	79,550
County of Kings	3,400	3,400	-	2,009	3,062	3,400	3,400
Oak Flat WD	4,900	4,900	3,600	2,896	4,416	7,040	8,500
Tulare Lake Basin WSD	92,900	92,900	135,800	54,905	83,685	144,331	228,700
Subtotal	1,079,100	1,079,100	564,829	637,766	972,099	1,556,492	1,643,929
Southern California Area							
Antelope Valley-East Kern WA	100,400	28,140	-	59,338	28,140	28,140	28,140
Castaic Lake WA	29,100	13,000	-	17,199	13,000	13,000	13,000
Coachella Valley WD	16,989	16,989	-	10,041	15,304	16,989	16,989
Crestline-Lake Arrowhead WA	4,350	2,000	-	2,571	2,000	2,000	2,000
Desert WA	27,000	27,000	-	15,957	24,322	27,000	27,000
Littlerock Creek ID	1,730	1,730	240	1,022	1,558	1,970	1,970
Mojave WA	39,000	100	-	23,050	100	100	100
Palmdale WD	14,180	-	-	8,381	-	-	-
San Bernardino Valley MWD	81,500	68,820 (f	-	48,168	28,820 (g	68,820	68,820
San Gabriel Valley MWD	21,800	16,000	-	12,884	16,000	16,000	16,000
San Gorgonio Pass WA	11,800	-	-	6,974	-	-	-
The Metropolitan Water District of Southern California	1,558,700	1,292,711 (f	-	921,218	1,232,711 (g	1,292,711	1,292,711
Ventura County FCD	6,000	-	-	3,546	-	-	-
Subtotal	1,912,549	1,366,490	240	1,130,349	1,361,955	1,466,730	1,466,730
UNALLOCATED	-	-	-	-	-	-	201,531
TOTAL	3,155,209	2,596,200	592,269	1,864,780	2,470,000	3,190,000	3,490,000

a) Central Coastal Area contractors not shown because date for extension of Coastal Branch is indefinite.
b) Reduced Annual Entitlements are Table A Annual Entitlements multiplied by the ratio of year 1985 Minimum Project Yield (2.5 MAF) to ultimate Minimum Project Yield (4.23 MAF).
c) Shaded delivery capabilities are less than the Contractor Entitlement Request.
d) Any available water supply in excess of Column 4 is allocated to all contractors in proportion to their current annual entitlement, up to their annual requests. In addition, surplus water is assumed to be available in the 1985 average and wet year scenarios, and is allocated as specified in the Surplus Water Amendment.
e) Dry year deliveries are based on a recurring sequence of water year 1961, which is the 16th driest in the 62 year record (1922-1983) of unimpaired runoff from Four-Basin Index data. Average year deliveries are based on water year 1936, while wet year deliveries correspond to water year 1943 (representing the maximum amount of winter runoff that can be captured in wet years without a Delta transfer facility).
f) Includes 40,000 acre-feet (San Bernardino) and 60,000 acre-feet (MWD) for ground water fill in the average and wet years only as part of a long-term ground water management program, shown on this Table as locally managed (part of contractors entitlement request).
g) The Table does not include long-term ground water recharge during the dry water year scenario in which contractors are taking deficiencies. This allocation procedure during deficient years is subject to future discussions between the Department and the water contractors.
h) Napa County FC&WCD is to receive it's first deliveries of SWP water in 1986.

TABLE 3: ESTIMATED DELIVERY CAPABILITY YEAR 1990

(in acre-feet)

AGENCY NAME [a]	TABLE A ENTITLEMENT	CONTRACTOR ENTITLEMENT REQUEST	CONTRACTOR SURPLUS REQUEST	REDUCED ENTITLEMENT BASED ON REDUCED MIN. PROJECT YIELD [b]	DELIVERY CAPABILITY [c][d][a] CLASSIFICATION OF WATER YEAR [e]		
					DRY	AVERAGE	WET
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Feather River Area							
City of Yuba City	3,800	3,800	-	1,976	2,380	3,757	3,800
County of Butte	1,200	1,200	-	624	751	1,187	1,200
Plumas County FC&WCD	1,040	1,040	-	541	652	1,028	1,040
Subtotal	6,040	6,040	-	3,141	3,783	5,972	6,040
North Bay Area							
Napa County FC&WCD	6,745	5,600	-	3,508	4,227	5,600	5,600
Solano County FC&WCD	42,000	42,000	-	21,844	26,319	41,514	42,000
Subtotal	48,745	47,600	-	25,352	30,546	47,114	47,600
South Bay Area							
Alameda County FC&WCD, Zone 7	32,000	32,000	-	16,643	20,052	31,628	32,000
Alameda County WD	36,900	36,900 [f]	5,100	19,192	23,123	36,470	39,581
Santa Clara Valley WD	92,000	102,000 [f]	15,000	47,849	57,650 [g]	90,933	103,812
Subtotal	160,900	170,900	20,100	83,684	100,825	159,031	175,393
San Joaquin Valley Area							
Devil's Den WD	12,700	12,700	7,300	6,605	7,958	12,551	13,829
Dudley Ridge WD	57,700	57,700	18,300	30,009	36,156	57,032	62,821
Empire West Side ID	3,000	3,000	3,000	1,560	1,880	2,963	3,262
Kern County WA - AG	1,033,800	1,033,800	156,600	537,675	647,805	1,021,817	1,130,834
- M&I	119,600	119,600	-	62,203	74,944	118,214	119,600
County of Kings	4,000	4,000	-	2,080	2,506	3,952	4,000
Oak Flat WD	5,700	5,700	3,300	2,965	3,572	5,633	6,244
Tulare Lake Basin WSD	118,500	118,500	106,500	61,631	74,255	117,126	129,017
Subtotal	1,355,000	1,355,000	295,000	704,728	849,076	1,339,288	1,469,607
Southern California Area							
Antelope Valley-East Kern WA	132,100	28,500	-	68,705	28,500	28,500	28,500
Castaic Lake WA	39,300	19,000	-	20,440	19,000	19,000	19,000
Coachella Valley WD	23,100	23,100	-	12,014	14,475	22,831	23,100
Crestline-Lake Arrowhead WA	5,800	2,700	-	3,017	2,700	2,700	2,700
Desert WA	38,100	38,100	-	19,816	23,875	37,659	38,100
Littlerock Creek ID	2,300	2,300	260	1,196	1,441	2,273	2,560
Mojave WA	50 800	50 800	-	26,421	31,833	50,208	50,800
Palmdale WD	17,300	8,000	-	8,998	8,000	8,000	8,000
San Bernardino Valley MWD	101,500	161,500 [f]	-	52,790	63,603 [g]	100,324 [g]	161,500
San Gabriel Valley MWD	28,800	18,500	-	14,979	18,047	18,500	18,500
San Gorgonio Pass WA	17,300	11,800	-	8,998	10,841	11,800	11,800
The Metropolitan Water District of Southern California	2,011,500	1,423,800 [f]	-	1,046,171	1,260,455 [g]	1,333,800 [g]	1,423,800
Ventura County FCD	20,000	3,000	-	10,402	3,000	3,000	3,000
Subtotal	2,487,900	1,791,100	260	1,293,947	1,485,770	1,638,595	1,791,360
TOTAL	4,058,585	3,370,640	315,360	2,110,852	2,470,000	3,190,000	3,490,000

a) Central Coastal area contractors not shown because date for extension of Coastal Branch is indefinite.

b) Reduced Annual Entitlements are Table A Annual Entitlements multiplied by the ratio of year 1990 Minimum Project Yield (2.2 MAF) to ultimate Minimum Project Yield (4.23 MAF).

c) Shaded delivery capabilities are less than the Contractor Entitlement Request.

d) Any available water supply in excess of Column 4 is allocated to all contractors in proportion to their current annual entitlement, up to their annual requests. In addition, Surplus water is assumed to be available in the 1990 wet year scenario, and is allocated as specified in the Surplus Water Amendment.

e) Dry year deliveries are based on a recurring sequence of water year 1961, which is the 16th driest year in the 62-year record (1922-1983) of unimpaired runoff from Four-Basin Index data. Average year deliveries are based on water year 1936, while wet year deliveries correspond to water year 1943 (representing the maximum amount of winter runoff that can be captured in wet years without a Delta transfer facility).

f) Includes 10,000 acre-feet (Santa Clara), 60,000 acre-feet (San Bernardino) and 90,000 acre-feet (MWD) for ground water fill in the wet year only as part of a long-term ground water management program, shown on this table as locally managed (part of contractor's entitlement request). Contract amendments may be necessary to accommodate this program as locally managed to the extent ground water fill would exceed contractor's Table A Entitlement.

g) The table does not include long-term ground water recharge during dry and average water year scenarios in which contractors are taking deficiencies. This allocation procedure during deficient years is subject to future discussions between the Department and the water contractors.

TABLE 4: ESTIMATED DELIVERY CAPABILITY YEAR 1995

(in acre-feet)

AGENCY NAME [a]	TABLE A ENTITLEMENT	CONTRACTOR ENTITLEMENT REQUEST	CONTRACTOR SURPLUS REQUEST	REDUCED ENTITLEMENT BASED ON REDUCED MIN. PROJECT YIELD [b]	DELIVERY CAPABILITY [c][d] CLASSIFICATION OF WATER YEAR [e]		
					DRY	AVERAGE	WET
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Feather River Area							
City of Yuba City	9,600	5,800	-	4,539	5,800	5,800	5,800
County of Butte	27,500	27,500	-	13,002	16,807	23,657	27,500
Plumas County FC&WCD	1,250	1,250	-	591	763	1,074	1,250
Subtotal	38,350	34,550	-	18,132	23,370	30,531	34,550
North Bay Area							
Napa County FC&WCD	9,780	9,780	-	4,624	5,977	8,412	9,780
Solano County FC&WCD	42,000	42,000	-	19,858	25,669	36,131	42,000
Subtotal	51,780	51,780	-	24,482	31,646	44,543	51,780
South Bay Area							
Alameda County FC&WCD, Zone 7	42,000	42,000	-	19,858	25,669	36,131	42,000
Alameda County WD	42,000	42,000	-	19,858	25,669	36,131	42,000
Santa Clara Valley WD	100,000	100,000	-	47,281	61,117	86,026	100,000
Subtotal	184,000	184,000	-	86,997	112,455	158,288	184,000
San Joaquin Valley Area							
Devil's Den WD	12,700	12,700	-	6,005	7,763	10,925	12,700
Dudley Ridge WD	57,700	57,700	-	27,281	35,265	49,638	57,700
Empire West Side ID	3,000	3,000	-	1,418	1,833	2,581	3,000
Kern County WA - AG	1,033,800	1,033,800	-	488,794	631,842	889,351	1,033,800
- M&I	119,600	119,600	-	56,549	73,098	102,889	119,600
County of Kings	4,000	4,000	-	1,891	2,446	3,440	4,000
Oak Flat WD	5,700	5,700	-	2,695	3,484	4,903	5,700
Tulare Lake Basin WSD	118,500	118,500	-	56,028	72,424	101,940	118,500
Subtotal	1,355,000	1,355,000	-	640,661	828,153	1,165,667	1,355,000
Southern California Area							
Antelope Valley-East Kern WA	138,400	35,000	-	65,437	35,000	35,000	35,000
Castaic Lake WA	41,500	25,500	-	19,622	25,364	25,500	25,500
Coachella Valley WD	23,100	23,100	-	10,922	14,118	19,870	23,100
Crestline-Lake Arrowhead WA	5,800	3,300	-	2,742	3,300	3,300	3,300
Desert WA	38,100	38,100	-	18,014	23,286	32,775	38,100
Littlerock Creek ID	2,300	2,300	-	1,087	1,405	1,977	2,300
Mojave WA	50,800	50,800	-	24,019	31,048	43,702	50,800
Palmdale WD	17,300	12,000	-	8,180	10,574	12,000	12,000
San Bernardino Valley MWD	102,600	112,843 [f]	-	48,511	62,708 [g]	88,265 [g]	112,843
San Gabriel Valley MWD	28,800	19,900	-	13,617	17,602	19,900	19,900
San Gorgonio Pass WA	17,300	17,300	-	8,180	10,574	14,882	17,300
The Metropolitan Water District of Southern California	2,011,500	1,514,527 [f]	-	951,063	1,229,397 [g]	1,483,800 [g]	1,514,527
Ventura County FCD	20,000	10,000	-	9,456	10,000	10,000	10,000
Subtotal	2,497,500	1,823,700	-	1,180,850	1,474,376	1,790,971	1,864,670
TOTAL	4,126,630	3,490,000	-	1,951,122	2,470,000	3,190,000	3,490,000

a) *Central Coastal area contractors not shown because date for extension of Coastal Branch is indefinite.*
b) *Reduced Annual Entitlements are Table A Annual Entitlements multiplied by the ratio of year 1995 Minimum Project Yield (2.0 MAF) to ultimate Minimum Project Yield (4.23 MAF).*
c) ***Shaded delivery capabilities** are less than the Contractor Entitlement Request.*
d) *Any available water supply in excess of Column 4 is allocated to all contractors in proportion to their current annual entitlement, up to their annual requests.*
e) *Dry year deliveries are based on a recurring sequence of water year 1961, which is the 16th driest year in the 62-year record (1922-1983) of unimpaired runoff from Four-Basin Index data. Average year deliveries are based on water year 1936, while wet year deliveries correspond to water year 1943 (representing the maximum amount of winter runoff that can be captured in wet years without a Delta transfer facility).*
f) *Includes 10,246 acre-feet (San Bernardino) and 30,727 acre-feet (MWD) for ground water fill in the wet water year only as part of a long-term ground water management program, shown as locally managed on this table (part of contractor's entitlement request). The ground water fill quantities shown for 1995 (wet) represent all water remaining within the available water supply after other entitlement requests are met.*
g) *The table does not include long-term ground water recharge during dry and average water year scenarios in which contractors are taking deficiencies. This allocation procedure during deficient years is subject to future discussions between the Department and the water contractors.*

TABLE 5: ESTIMATED DELIVERY CAPABILITY YEAR 2000

(in acre-feet)

AGENCY NAME[a]	TABLE A ENTITLEMENT	CONTRACTOR ENTITLEMENT REQUEST	CONTRACTOR SURPLUS REQUEST	REDUCED ENTITLEMENT BASED ON REDUCED MIN. PROJECT YIELD[b]	DELIVERY CAPABILITY[c,d] CLASSIFICATION OF WATER YEAR[e]		
					DRY	AVERAGE	WET
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Feather River Area							
City of Yuba City	9,600	8,000	-	4,539	5,826	7,562	8,000
County of Butte	27,500	27,500	-	13,002	16,689	21,663	25,594
Plumas County FC&WCD	1,510	1,510	-	714	917	1,190	1,404
Subtotal	38,610	37,010	-	18,255	23,432	30,415	34,998
North Bay Area							
Napa County FC&WCD	13,050	13,050	-	6,170	7,920	10,279	12,146
Solano County FC&WCD	42,000	42,000	-	19,858	25,489	33,085	39,089
Subtotal	55,050	55,050	-	26,028	33,409	43,364	51,235
South Bay Area							
Alameda County FC&WCD, Zone 7	46,000	46,000	-	21,749	27,917	36,236	42,811
Alameda County WD	42,000	42,000	-	19,858	25,489	33,085	39,089
Santa Clara Valley WD	100,000	100,000	-	47,281	60,689	78,774	93,072
Subtotal	188,000	188,000	-	88,888	114,095	148,095	174,972
San Joaquin Valley Area							
Devil's Den WD	12,700	12,700	-	6,005	7,708	10,005	11,820
Dudley Ridge WD	57,700	57,700	-	27,281	35,016	45,453	53,700
Empire West Side ID	3,000	3,000	-	1,418	1,820	2,363	2,792
Kern County WA - AG	1,033,800	1,033,800	-	488,794	627,409	814,375	962,170
- M&I	119,600	119,600	-	56,549	72,585	94,215	111,313
County of Kings	4,000	4,000	-	1,891	2,427	3,150	3,722
Oak Flat WD	5,700	5,700	-	2,695	3,460	4,489	5,305
Tulare Lake Basin WSD	118,500	118,500	-	56,028	71,917	93,346	110,290
Subtotal	1,355,000	1,355,000	-	640,661	822,342	1,067,396	1,261,112
Southern California Area							
Antelope Valley-East Kern WA	138,400	45,000	-	65,437	45,000	45,000	45,000
Castaic Lake WA	41,500	32,000	-	19,622	25,186	32,000	32,000
Coachella Valley WD	23,100	23,100	-	10,922	14,019	18,198	21,499
Crestline-Lake Arrowhead WA	5,800	3,900	-	2,742	3,520	3,900	3,900
Desert WA	38,100	38,100	-	18,014	23,122	30,013	35,460
Littlerock Creek ID	2,300	2,300	-	1,087	1,395	1,811	2,140
Mojave WA	50,800	50,800	-	24,019	30,829	40,018	47,279
Palmdale WD	17,300	15,000	-	8,180	10,500	13,628	15,000
San Bernardino Valley MWD	102,600	102,600[f]	-	48,511	62,267	80,823	95,490
San Gabriel Valley MWD	28,800	21,400	-	13,617	17,478	21,400	21,400
San Gorgonio Pass WA	17,300	17,300	-	8,180	10,500	13,628	16,101
The Metropolitan Water District of Southern California	2,011,500	1,613,800[f]	-	951,063	1,220,768	1,584,556	1,613,800
Ventura County FCD	20,000	20,000	-	9,456	12,138	15,755	18,614
Subtotal	2,447,500	1,985,300	-	1,180,850	1,476,722	1,900,730	1,967,683
TOTAL	4,134,160	3,620,360	-	1,954,682	2,470,000	3,190,000	3,490,000

a) Central Coastal Area contractors not shown because date for extension of Coastal Branch is indefinite.

b) Reduced Annual Entitlements are Table A Annual Entitlements multiplied by the ratio of year 2000 Minimum Project Yield (2.0 MAF) to ultimate Minimum Project Yield (4.23 MAF).

*c) **Shaded delivery capabilities** are less than the Contractor Entitlement Request.*

d) Any available water supply in excess of Column 4 is allocated to all contractors in proportion to their current annual entitlement, up to their annual requests.

e) Dry year deliveries are based on a recurring sequence of water year 1961, which is the 16th driest in the 62 year record (1922-1983) of unimpaired runoff from Four-Basin Index data. Average year deliveries are based on water year 1936, while wet year deliveries correspond to water year 1943 (representing the maximum amount of winter runoff that can be captured in wet years without a Delta transfer facility).

f) The Initial Ground Water fill of 1.7 MAF for ground water basins in Southern California is assumed to be accomplished prior to year 2000 (i.e. by 1996 if there are no withdrawals).

were projected to fall short of entitlement requests. The assumed priorities are as follows:

a. First Priority: Delivery of contractors' reduced annual entitlements, or their requests, which ever is less. The reduced annual entitlements in a particular year were computed by multiplying each contractor's Table A annual entitlement amount by the ratio of the reduced minimum Project yield in that year to the original minimum Project Yield (4.23 million acre-feet). This procedure is in accordance with Standard Provisions for Water Supply Contract, Article 18(b). (Note that actual implementation of reduced deliveries under Article 18(b) would have to be ordered by the Director of the Department of Water Resources). Delivery of entitlements under the first priority does not include amounts requested for long-term ground water fill.

b. Second priority: Delivery of remaining available water to satisfy, as far as possible, each contractor's request for entitlement water not fulfilled under the first priority. Second priority water also includes ground water fill which, in Bulletin 132-82, was not treated as entitlement deliveries to contractors (when developing information for Tables 3 through 6), but has been included in the current tables as part of contractor entitlement requests. Delivery of water for ground water fill has not been included for water years in which contractors are allocated reduced entitlements (deficiencies) due to limited water supplies. This allocation procedure during water deficient years is subject to future discussion between the Department and the water contractors.

c. Third priority: Remaining Project water is allocated to satisfy requests for surplus water.

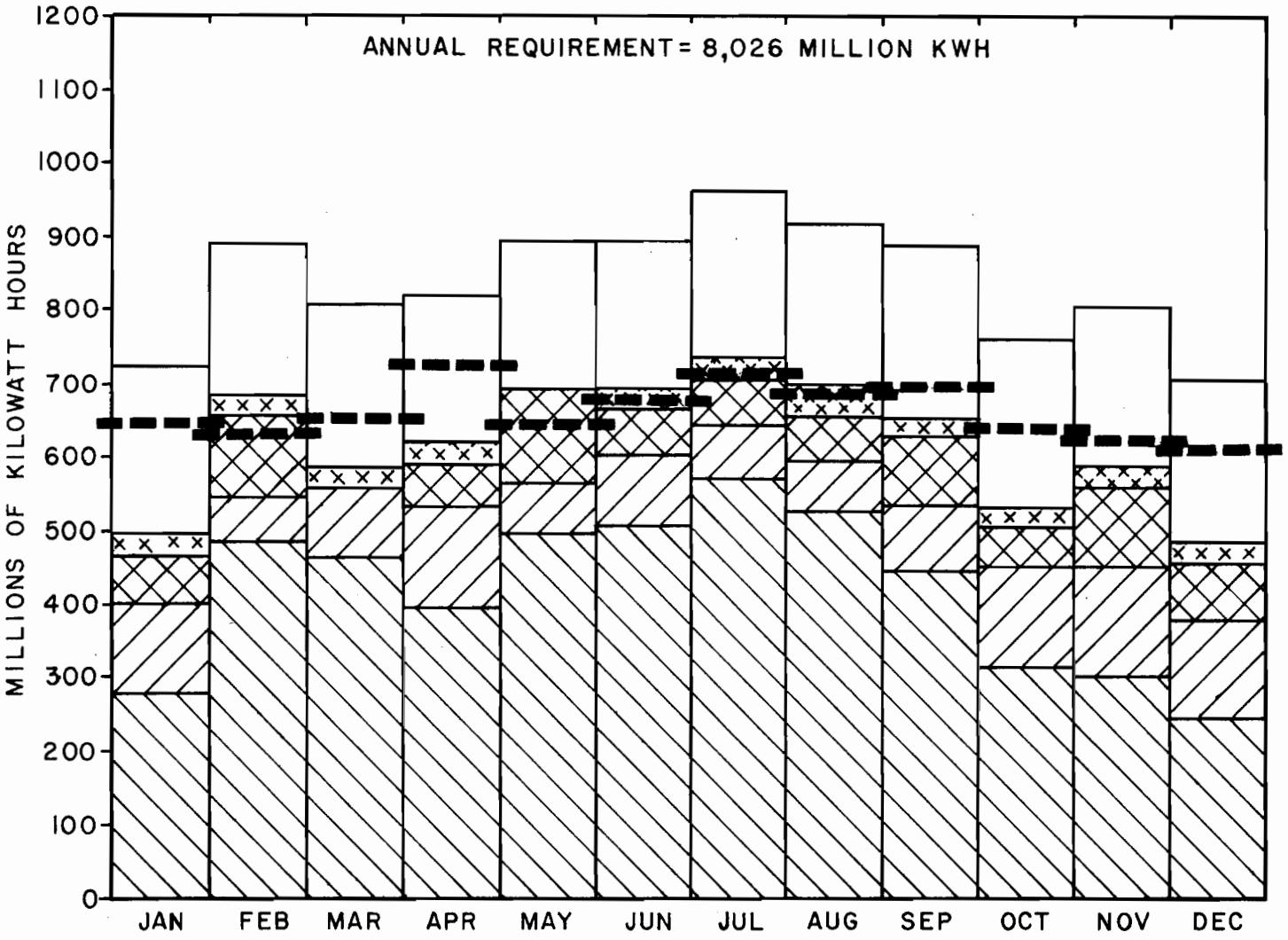
SWP Electrical Power Requirements

Each year, when preparing annual Statements of Charges to water contractors the Department develops short and long-range aqueduct operation studies. These studies are needed to project the amount of electrical capacity and energy required to deliver the SWP contractors' requested entitlement water in future years. The projected electrical capacity and energy required to deliver entitlement water requests in Appendix B of this Bulletin are shown in Figures 3, 4, 5, and 6. These figures show the requirements by month for years 1985, 1990, 1995, and 2000.

The SWP aqueduct operation studies used in developing the energy requirements shown in the figures were based on median year water supply conditions. The figures do not include energy requirements for delivering surplus water nor energy required for any possible future water exchanges and/or power exchanges.

In addition to energy requirements, the Project also has an electrical capacity requirement, This is the maximum demand for electrical power needed to pump Project water during a given time period. Since the Department has flexibility in regulating the Project's electrical power load, the SWP is operated to

Figure 3. 1985 ENERGY REQUIREMENTS - RESOURCES



Requirements based on estimated project pumping needed to deliver the SWP contractor's entitlement water request of 2.60 million acre-feet.

Resources included are:

Hydro - Hyatt Thermalito, Aqueduct recovery, Pine Flat, MWDSC small hydro, DWR small hydro.

SCE Exchange - Energy in exchange for capacity provided to Southern California Edison per DWR-SCE Power Contract (1979).

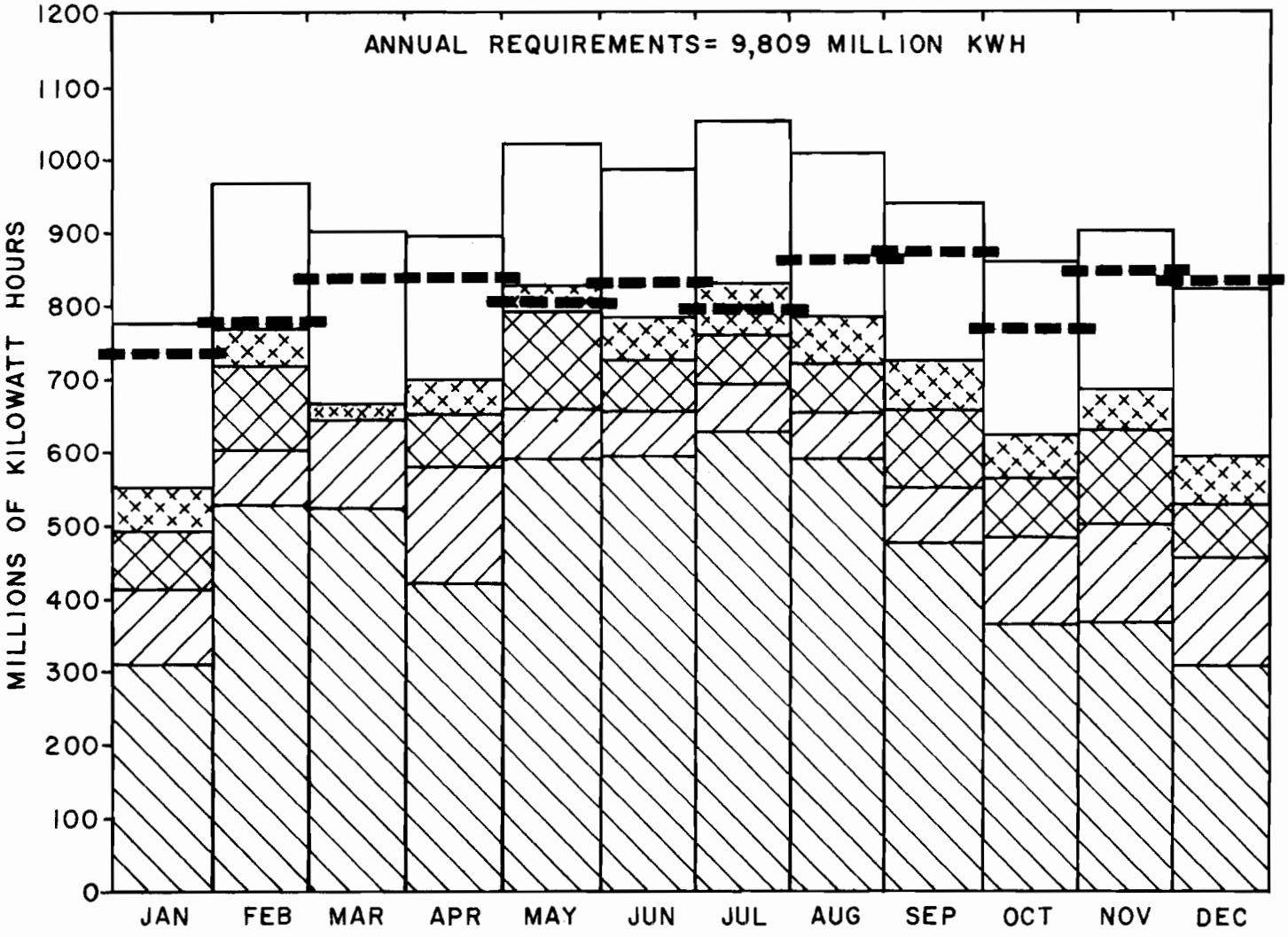
Coal - Reid Gardner Unit No. 4.

Geothermal - Bottle Rock.

Purchases - TERA Corp. (wind), Pacific Northwest Power.

Placement of resources in chart does not indicate a priority of use or need.

Figure 4. 1990 ENERGY REQUIREMENTS - RESOURCES



Requirements based on estimated project pumping needed to deliver the SWP contractor's entitlement water request of 3.21 million acre-feet.

Resources included are:

Hydro - Hyatt Thermalito, Aqueduct recovery, Pine Flat, MWDSC small hydro, DWR small hydro, Isabella Lake.

SCE Exchange - Energy in exchange for capacity provided to Southern California Edison per DWR-SCE Power Contract (1979) and Capacity Exchange Agreement (1981).

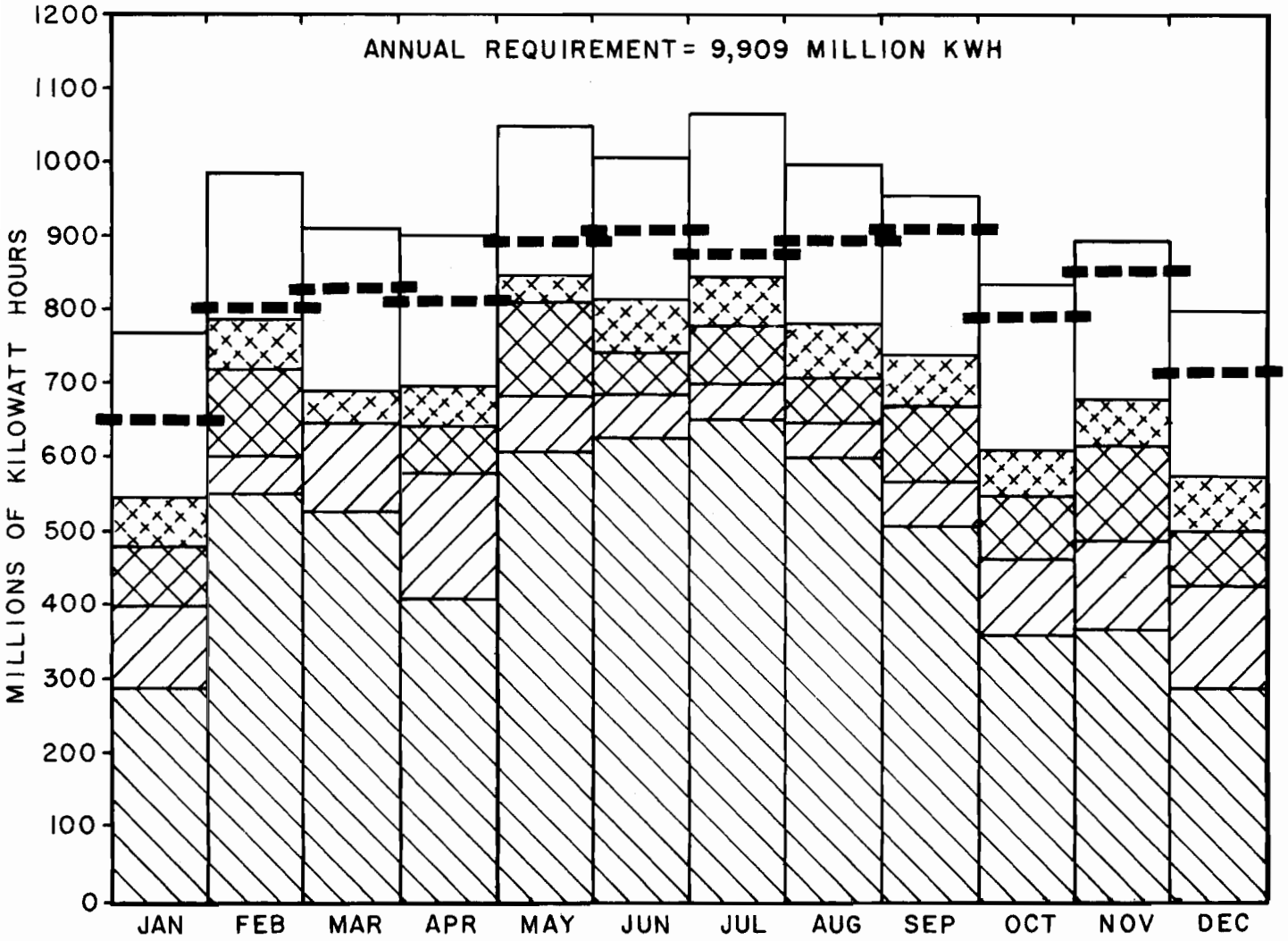
Coal - Reid Gardner Unit No. 4.

Geothermal - Bottle Rock, South Geysers.

Purchases - TERA Corp. (wind), Pacific Northwest Power.

Placement of resources in chart does not indicate a priority of use or need.

Figure 5. 1995 ENERGY REQUIREMENTS - RESOURCES



Requirements based on estimated project pumping needed to deliver the SWP Contractor's entitlement water request of 3.53 million acre-feet.

Resources included are:

Hydro - Hyatt Thermalito, Aqueduct recovery, Pine Flat, MWDSC small hydro, DWR small hydro, Isabella Lake.

SCE Exchange - Energy in exchange for capacity provided to Southern California Edison per DWR-SCE Power Contract (1979) and Capacity Exchange Agreement (1981).

Coal - Reid Gardner Unit No. 4.

Geothermal - Bottle Rock, South Geysers.

Purchases - TERA Corp. (wind), Pacific Northwest Power.

Placement of resources in chart does not indicate a priority of use or need.

minimize on-peak electrical capacity requirements for pumping water. Thus the Project's maximum electrical capacity requirements occur during the off-peak period. Figures 7 and 8 graphically illustrate the potential SWP on-peak and off-peak electrical capacity load for 1990 and the SWP resources planned to meet the load. assuming delivery of the requested entitlement water amounts for the year as shown in Appendix B of this bulletin.

The energy and capacity charts include allowances for scheduled maintenance of power resources and allowance for reductions in power resources due to forced outages. The capacity resources shown on Figure 7 do not reflect any on-peak capacity being available from Reid Gardner Unit No. 4, since the contractual arrangements with Nevada Power Company (NPC) allows NPC to interrupt SWP generation at any time - up to certain limitations in the contract. During on-peak time periods, there is likely to be energy available from Unit No. 4 for use by the SWP, but the Project must anticipate some interruptions during that time.

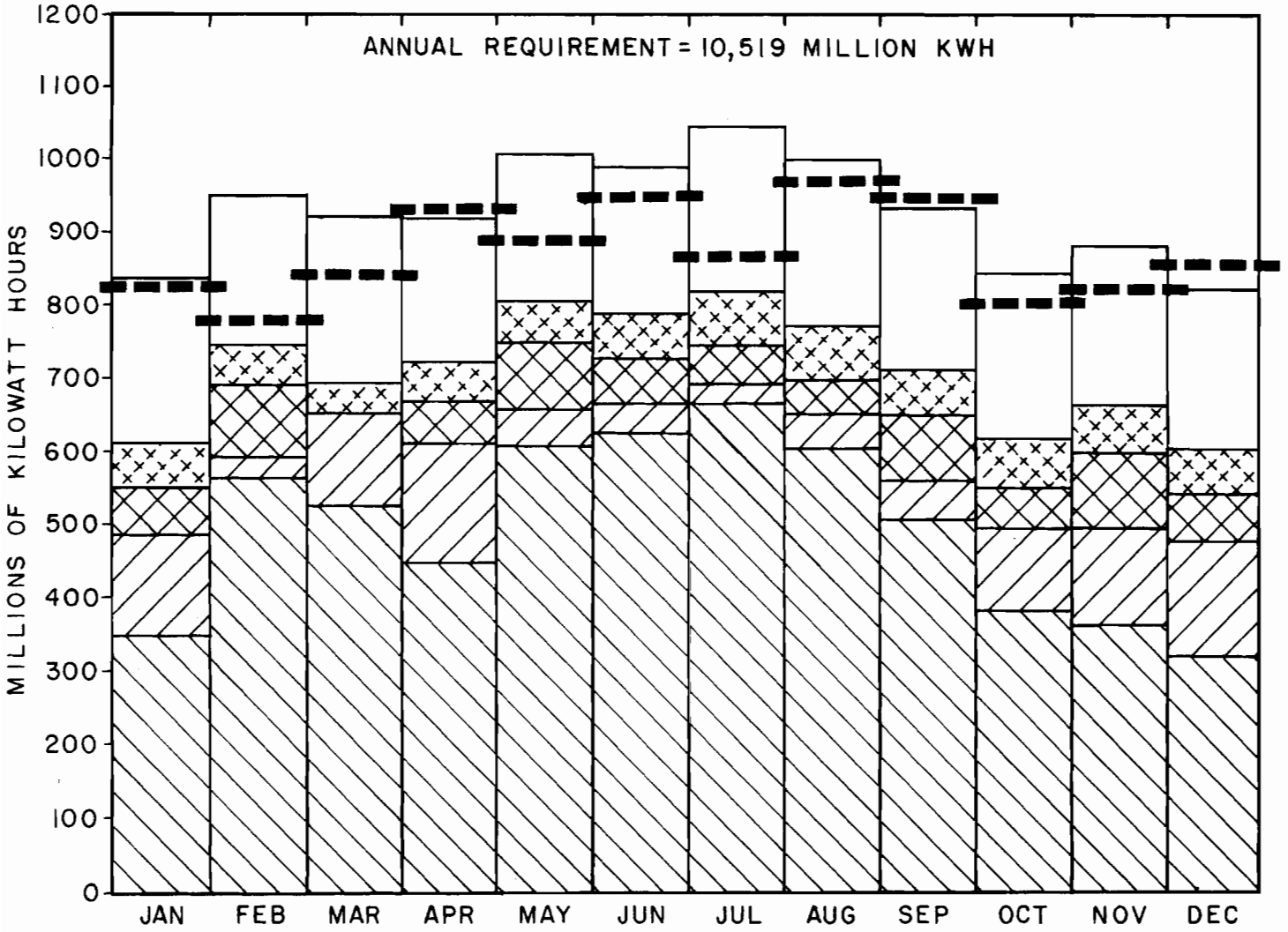
The estimated power load requirements for the Project can vary significantly, depending on the actual balance of water supply and water demand in a given year, and these load requirements primarily depend on annual statewide hydrologic conditions. The aqueduct operation studies used in developing projected SWP power were based on median year hydrologic conditions.

Dry conditions in northern California would reduce the supply of water available for export below the level shown in the tables and would decrease power requirements if the SWP could not deliver full water entitlement requests. Energy requirements would also decrease if hydrologic conditions or other actions in southern California reduce the water demand in that SWP service area. In general, SWP energy requirements would increase only if demands increased in SWP service areas and there are sufficient water supplies in northern California available for delivery.

The SWP energy requirements for delivering entitlement water through year 2000 - and the resources to meet the need are also shown graphically in Figure 9. This figure appears to indicate that some resources were scheduled to be in operation earlier than required for use by the SWP - resulting in excess energy being produced for 1983 and 1984. However, at the time decisions were made regarding these resources, the projected water deliveries into Southern California were much higher than are now projected. This reduction in Southern California water demands is due to recent events concerning water availability and power production along the Colorado River.

Potential power purchases from the Pacific Northwest are shown on Figure 9. If purchased, this power could be imported through use of the 300 MV of transmission rights that the SWP has to the Northwest. It is anticipated that future contracts will be negotiated as needed for purchase of Pacific Northwest power for use by the SWP.

Figure 6. 2000 ENERGY REQUIREMENTS - RESOURCES



Requirements based on estimated project pumping needed to deliver the SWP contractor's entitlement water request of 3.68 million acre-feet.

Resources included are:

Hydro - Hyatt Thermalito, Aqueduct recovery, Pine Flat, MWDSC small hydro DWR small hydro, Isabella Lake.

SCE Exchange - Energy in exchange for capacity provided to Southern California Edison per DWR-SCE Power Contract (1979) and Capacity Exchange Agreement (1981).

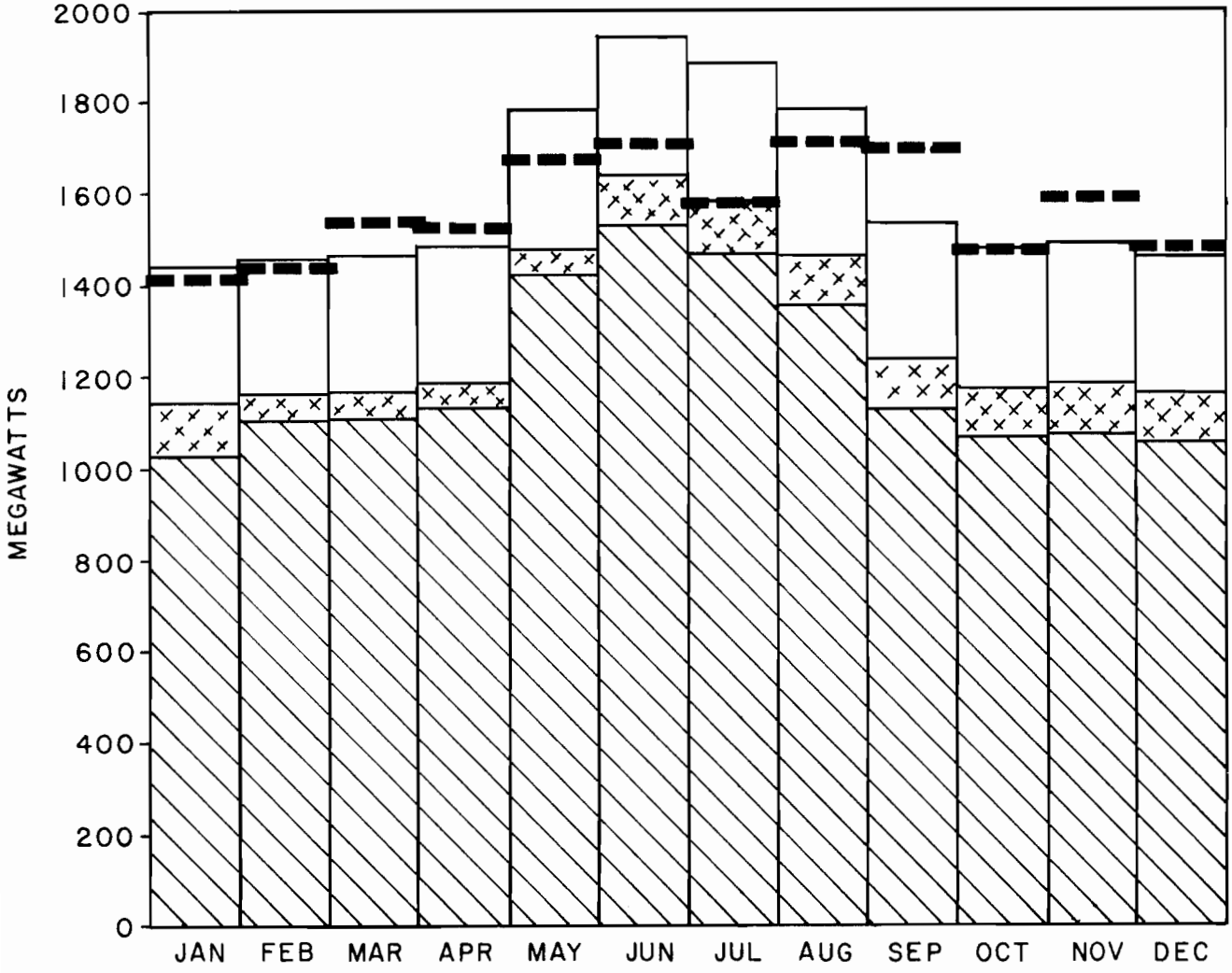
Coal - Reid Gardner Unit No. 4.

Geothermal - Bottle Rock, South Geysers.

Purchases - TERA Corp. (wind), Pacific Northwest Power.

Placement of resources in chart does not indicate a priority of use or need.

Figure 7. 1990 SWP ELECTRICAL ONPEAK CAPACITY LOADS AND RESOURCES



▬▬ *Requirements based on estimated project pumping needed to deliver the SWP contractor's entitlement water request of 3.21 million acre-feet and the capacity supplied to Southern California Edison per DWR-SCE Power Contract (1979) and capacity Exchange Agreement (1981) plus a 10 percent reserve margin.*

Resources included are:

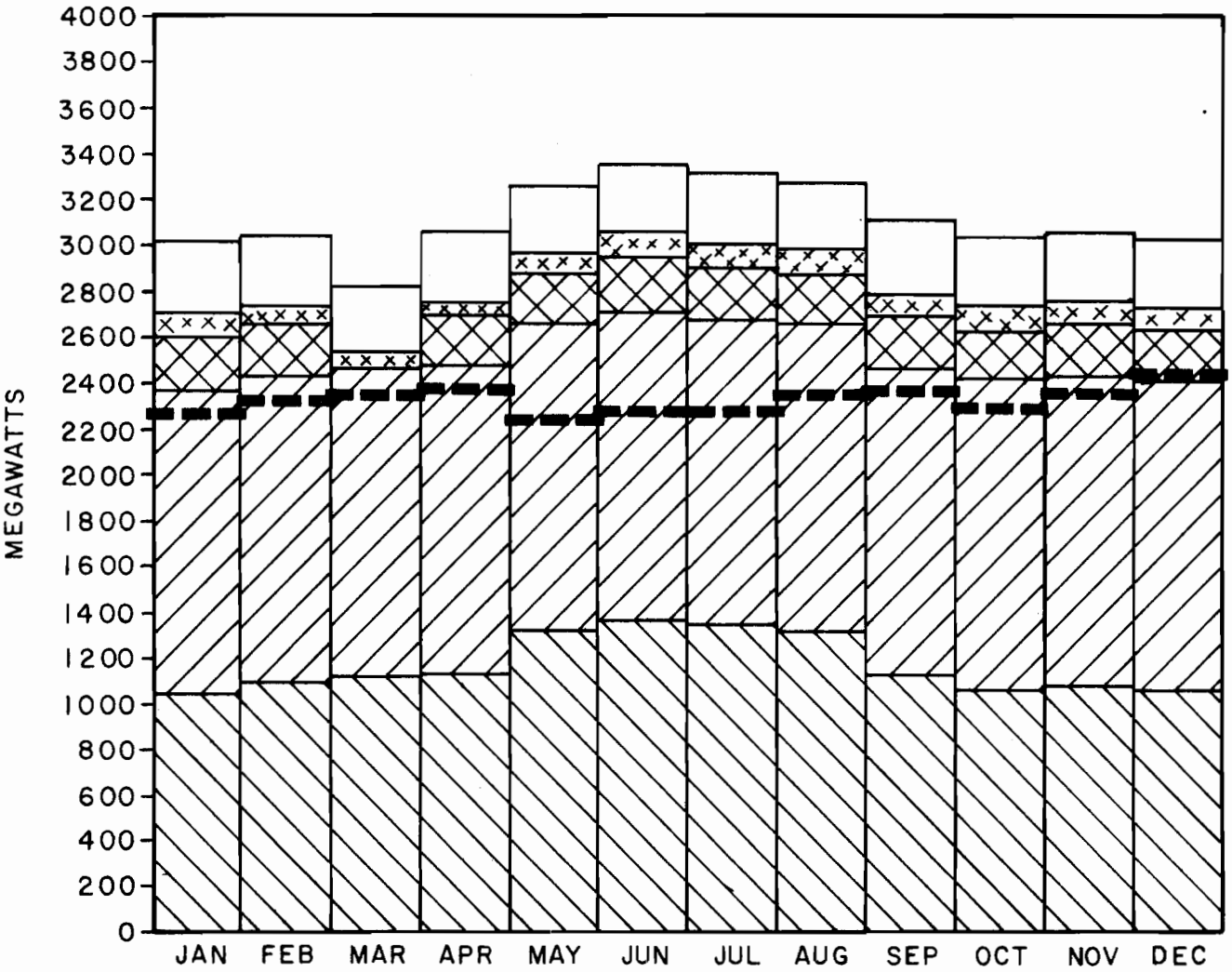
▨ *Hydro - Hyatt Thermalito, Aqueduct recovery, Pine Flat, DWR small hydro, Isabella Lake.*

▩ *Geothermal - Bottle Rock, South Geysers.*

□ *Purchases - Pacific Northwest Power.*

Placement of resources in chart does not indicate a priority of use or need. Reid Gardner Unit No. 4 is subject to interruption by Nevada Power Company and not considered a firm on-peak capacity resource.

Figure 8. 1990 SWP ELECTRICAL OFFPEAK CAPACITY LOADS AND RESOURCES



▬▬ *Requirements based on estimated project pumping needed to deliver the SWP contractor's entitlement water request of 3.21 million acre-feet plus a 10 percent reserve margin.*

Resources included are:

Hydro - Hyatt Thermalito, Aqueduct recovery, Pine Flat, DWR small hydro, Isabella Lake.

SCE Exchange - Capacity provided by Southern California Edison to return energy to DWR under the DWR-SCE Power Contract (1979) and the Capacity Exchange Agreement (1981).

Coal - Reid Gardner Unit No. 4.

Geothermal - Bottle Rock, South Geysers.

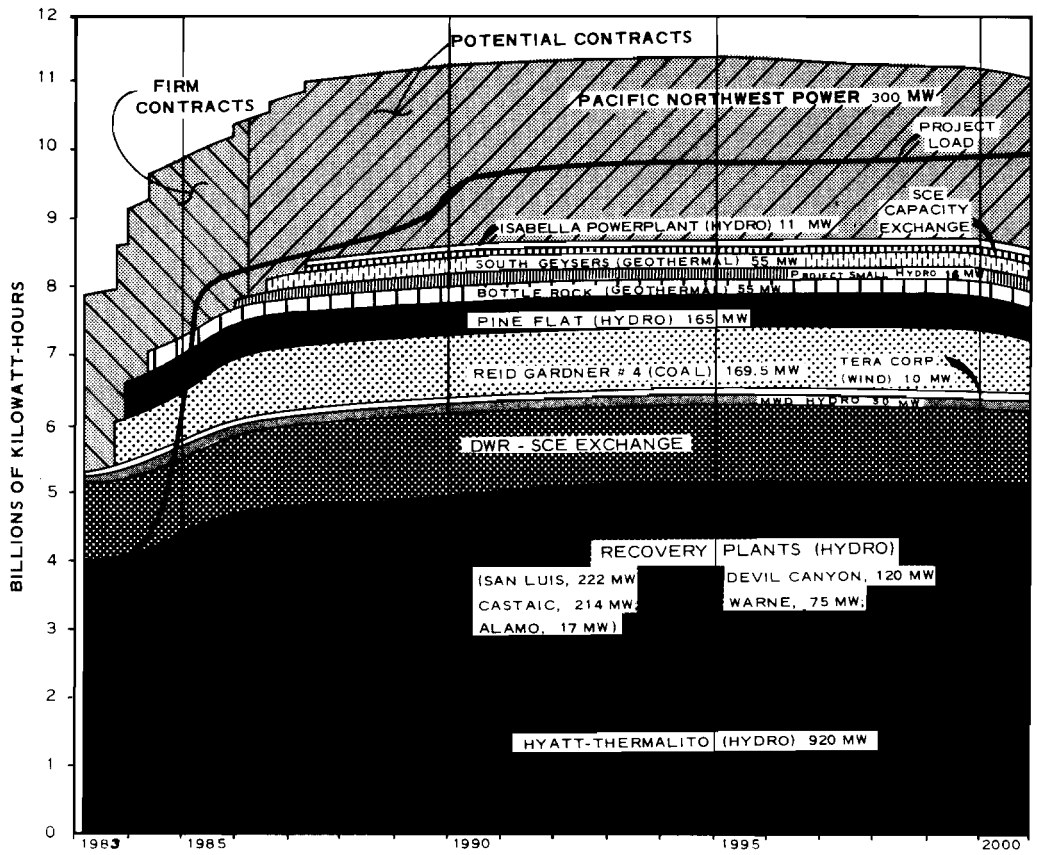
Purchases - Pacific Northwest Power.

Placement of resources in chart does not indicate a priority of use or need.

Figure 9. ESTIMATED ELECTRICAL ENERGY LOADS AND RESOURCES

CALIFORNIA STATE WATER PROJECT

1983 - 2000



Requirement based on energy needed to deliver SWP Contractors' requested entitlement water. 1983 and 1984 based upon The Metropolitan Water District of Southern California latest requests which are much lower than their previous requests.

IDENTIFIED RESOURCES	2000 Supply, in billions of KWH
(1) Pacific Northwest Power Purchases, existing and potential power purchases from utilities in the Pacific Northwest and imported into California via the Department's 300 MW of transmission capability from the Pacific Northwest	2.56
(2) DWR - Southern California Edison Capacity Exchange, the estimated amount of off-peak energy to be made available to the DWR in exchange for 225 MW of SWP on-peak capacity. This capacity is supplied to SCE under the Capacity Exchange Agreement signed Sept. 17, 1981	0.03
(3) Isabella Powerplant, DWR is presently conducting studies for construction of a power plant at Isabella Lake outlet. DWR is proposing to construct an 11-MW powerplant at the U. S. Army Corps of Engineers owned and operated lake. It is currently planned for completion in 1986	0.03
(4) South Geysers, a 55 MW-geothermal development. Construction will be completed by DWR in March, 1986 at a site in the Sonoma County portion of the Geysers area	0.37
(5) Project Small Hydro, the output of 4 small hydroelectric powerplant with a total capacity of 16 MW	0.10
(6) Bottle Rock, a 55 MW geothermal development. Construction will be completed by DWR in October 1984, at a site in the Lake County portion of the Geysers area	0.37
(7) Pine Flat, under an executed purchase contract, generation from a 165 MW hydroelectric plant under construction by the Kings River Conservation District at the base of the existing Pine Flat Dam	0.42
(8) Reid Gardner Unit No. 4, the estimated portion to be available to the DWR from the output of a 250-MW unit being constructed jointly by the DWR and Nevada Power Company under an executed Participation Agreement. (169.5 MW DWR share)	0.82
(9) Wind, the output of this resource represent a contract agreement between DWR and Tera Corp. This resource is 10 MW	0.02
(10) MWD Hydro, under an executed purchase contract, the generation from five small hydroelectric powerplants constructed by The Metropolitan Water District of Southern California on its distribution system -- totaling about 30 MW capacity	0.25
(11) DWR-Southern California Edison Exchange, the estimated amount of off-peak energy to be 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	1.04
(12) Recovery Plants, the DWR's share of output of constructed Castaic Powerplant (214 MW), San Luis Pumping-generation Plant (222 MW), Alamo Powerplant (17 MW), and Devil Canyon Powerplant (120 MW); William E. Warne Powerplant (75 MW)	2.98
(13) Hyatt-Thermalito, the output from this existing hydroelectric plants (920 MW combined capacity) located below Oroville Dam which was sold to the California Companies until April 1, 1983 under a power sale contract	2.30
TOTAL, ALL IDENTIFIED SOURCES	11.21

Future Costs of Water Service

Estimates of future water costs are useful to SWP contractors in short- and long-range planning of their water needs, operations, and economy.

Table 6 shows estimated unit water rates in SWP service areas for capital costs and operating costs of:

- SWP facilities completed and in operation;
- construction and operation of the North Bay Aqueduct;
- installation of additional pumps at the Delta Pumping Plant;
- installation of additional pumps at Edmonston Pumping Plant;
- construction of an enlarged aqueduct in the San Luis Division;
- construction of an enlarged East Branch of the California Aqueduct;
- hypothetical construction of a conservation facility in the late 1980s with capital costs totaling $300 million. Construction of this facility increases the unescalated unit rates in the table by about $3 an acre-foot;
- purchase of yield from Cottonwood Creek Project (assumed to be constructed by the U. S. Army Corps of Engineers). A further discussion of possible agreement for purchase of this yield is included in Chapter IV.
- completion of the Department's long-range energy program discussed in Chapter II.

The unit rates also assume that in 1985, 1990, 1995 and 2000 the SWP will be able to deliver full contractor requests for water.

Escalated Rates. The unit water rates shown in Table 6 are both unescalated rates in 1983 dollars and escalated rates reflecting assumed future inflation. The Department has developed projections of future inflation to apply to SWP construction, operation and energy costs for developing the escalated unit water rates. The escalated rates assume an annual inflation at 8 percent for construction (capital) and 6 percent for operation and maintenance costs. The escalated unit rates for future energy sources, including rates for constructing and operating SWP off-aqueduct power plants, reflect inflation varying from 7.5 percent to 10 percent, depending on the source of energy.

Effects of Inflation. It is difficult to compare future costs, which are adjusted for inflation, with present-day standards of ability to pay. As an example, to put inflation in perspective, applying an 8 percent inflation rate for 17 years, the purchasing power of today's dollar will be reduced to only 27 cents in year 2000. Another way of expressing the same concept is to assume a working person will receive an 8 percent annual cost-of-living adjustment to his income during each of the next 17 years. A family with an annual income of $20,000 today would earn about $74,000 in year 2000; however, the family's purchasing power would still be only $20,000 in what could be considered as today's "real" dollars.

TABLE 6: ESTIMATED TOTAL UNIT WATER RATES

IN SWP SERVICE AREAS THROUGH 2000[a]

The rates shown are in 1983 dollars. The values in parentheses include the effects of assumed future inflation

(in dollars per acre-foot)

SWP Service Area	1983	1985		1990		1995		2000	
Feather River									
Capital, OM&R[b][c]	22	23	(23)	20	(23)	36	(54)	36	(57)
North Bay									
Capital, OM&R				114	(132)	119	(151)	111	(148)
Energy[d]				10	(11)	11	(15)	12	(22)
Total	[e]	[e]	[e]	124	(143)	130	(166)	123	(170)
South Bay									
Capital, OM&R	50	55	(55)	51	(60)	59	(86)	59	(97)
Energy[d]	25	37	(38)	41	(45)	39	(53)	38	(69)
Total	75	92	(93)	92	(105)	98	(139)	97	(166)
San Joaquin									
Capital, OM&R	30	33	(34)	31	(36)	43	(62)	43	(68)
Energy[d]	12	19	(19)	21	(24)	21	(28)	21	(37)
Total	42	52	(53)	52	(60)	64	(90)	64	(105)
Southern California									
Capital, OM&R	193	129	(130)	119	(139)	121	(166)	113	(176)
Energy[d]	71	114	(115)	122	(138)	117	(164)	116	(215)
Total	264	243	(245)	241	(277)	238	(330)	229	(391)

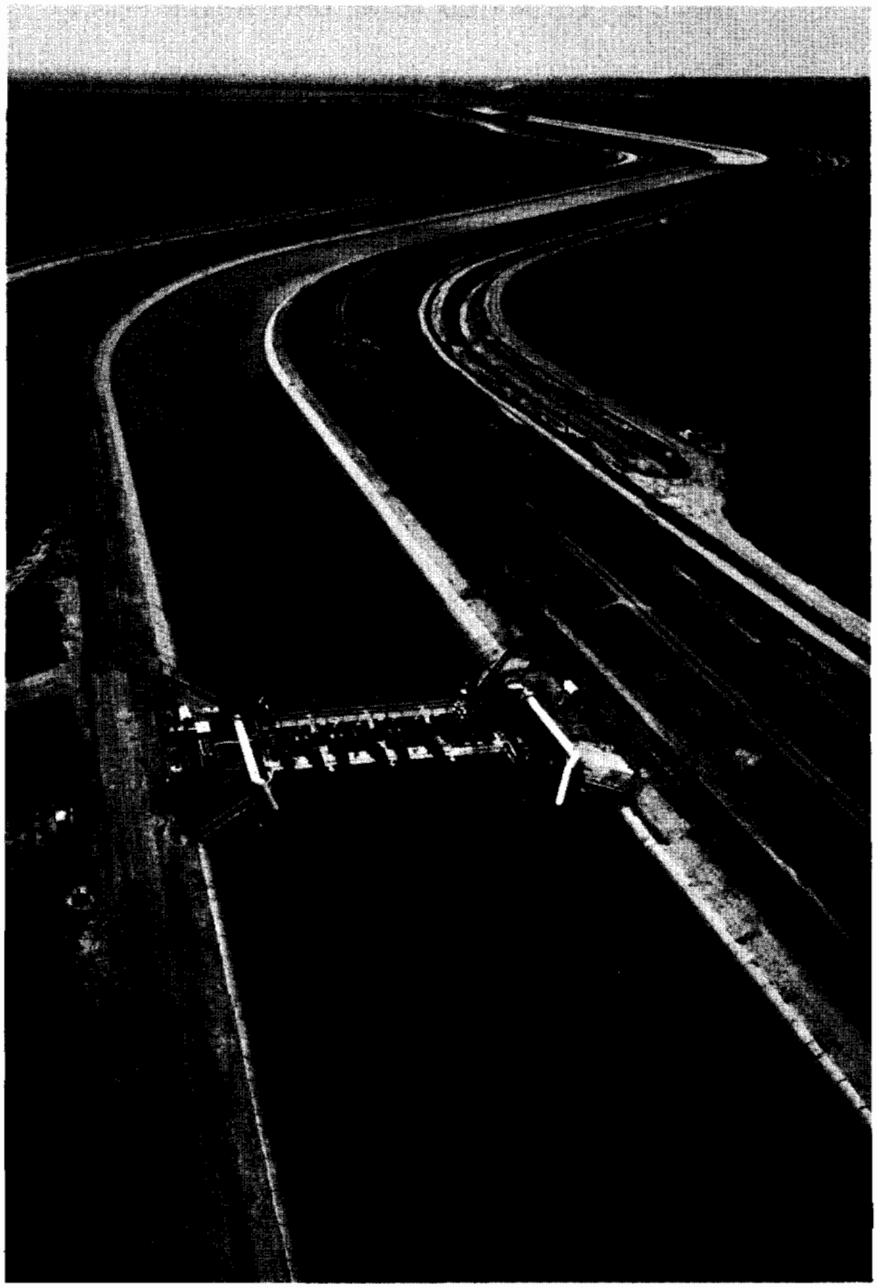
a) *These unit rates are changed from those shown in Bulletin 132-82's Table 7 due to many factors. The major ones are:*
   - *Change in projected water deliveries in all SWP service areas. These unit rates are based on the water contractors' requests shown in Table B-5B;*
   - *Increase in project interest rate;*
   - *Change in assumptions related to repayment of "Off-Aqueduct" power facilities;*
   - *Decrease in escalation rates.*

b) *Operations, maintenance, and replacements.*

c) *No energy costs are incurred for water delivery to Feather River area contractors.*

d) *Energy costs of transportation facilities to deliver project water to the service area, including costs of off-aqueduct powerplants.*

e) *Deliveries to North Bay contractors are currently planned to begin in 1987.*



View of temporary pumps on the
California Aqueduct for delivery
upstream of Kern River Intertie water.

CHAPTER II

PLANNING AND IMPLEMENTATION PROGRAMS

Long-Range Water Development Programs

The Department is continuing its planning for development of water supplies to meet future delivery requirements under existing contracts with 30 long-term SWP water contractors. Following are discussions of programs currently under review by the Department.

Surface Water Development Programs

Cottonwood Creek Project. The Cottonwood Creek Project is currently the only large surface water development planned for construction as a source of future SWP supplies. Under current plans, the Department will purchase water storage space in the federally authorized project to obtain a municipal and industrial water supply of 175,000 acre-feet per year for the SWP. A description and status report on this potential State-Federal agreement, including federal cost sharing proposals, is presented in Chapter IV.

Shasta Lake Enlargement. DWR and the USBR are jointly investigating the feasibility of enlarging Shasta Lake as a means of increasing water supplies and power generation for the SWP and CVP, improving fishery and recreation conditions, and providing additional flood control along the Sacramento River. This major development would require considerable lead time for investigation, approval, construction, and reservoir filling; and is not currently envisioned as a source of SWP water supply until about year 2000. A description of the cooperative DWR/USBR study is presented in Chapter IV.

Local Projects. Local surface water projects have been proposed as units of the SWP. If feasible, each project would develop an additional yield of 2,000 to 10,000 acre-feet per year. The Department is continuing to evaluate those proposals when submitted by SWP contracting agencies, and will approve such projects if they are economically, engineeringly, environmentally, and financially feasible. Further discussion of local projects under consideration is included later in this chapter. (See "Local Water Supply Projects.")

Colorado River Banking Plan. A cooperative reconnaissance-level investigation by DWR, MWD, and the Colorado River Board has been terminated. This was done for several reasons, including:

- Adequate storage space is not available in Lake Mead.
- Space will not be available until the Central Valley Project becomes operational.
- MWD is considering this plan as a local program.

Purchase of CVP Water. Current studies in connection with the negotiation of a coordinated operating agreement between the SWP and the Federal Central Valley Project (CVP) demonstrate that the federal yield currently exceeds its contract requirements. On July 15, 1982, the Department sent a letter to the Federal Commissioner of Reclamation proposing that the State purchase surplus CVP water. In October 1982, the Acting Commissioner responded that the execution of a water service contract for the available water would be beneficial to both California and the United States, and suggested that discussions be initiated. These discussions are now being scheduled.

Agricultural Water Purchase Plan. The Agricultural Water Purchase Plan is a means of increasing the yield of the SWP by purchasing water upstream from the Delta from farmers or water districts willing to sell such water.

While the goal of the purchase plan would be to prevent severe water shortages and economic impacts in agricultural areas served by the SWP, it appears such a plan is not without social and environmental impacts, as well as certain economic costs to the areas foregoing the use of water. Nevertheless, in a reconnaissance investigation of a potential purchase plan, the Department concluded that during emergency periods such a plan is worthy of further consideration as a means of augmenting SWP yield. An assessment of the local socioeconomic impacts of this plan is contained in a January 1981 report by SRI International, acting as a consultant to the Department.

For the plan to be acceptable, it would have to be voluntary. The plan could be implemented on agreement among all parties that adequate safeguards to the farmers and to the environment can be assured.

The Department is conducting a survey among holders of appropriative water rights in the Sacramento watershed to determine willingness to negotiate the sale and transfer of water during severe drought periods to augment the SWP. Initial response from the survey indicate that the plan is acceptable to some of the existing water right holders.

Water Transportation Facilities

Additional transportation facilities planned for the SWP are described below. These facilities increase the conveyance capacity of the California Aqueduct system and may contribute to SWP yield either directly or indirectly.

Banks Delta Pumping Plant, Additional Units. Work is underway on the Environmental Impact Report for the proposed additional pumps at the Banks Delta Pumping Plant. Four additional pumps, each rated at 1,067 cfs, are being evaluated and installation would increase the Banks Plant capacity from 6,300 cfs up to 10,568 cfs.

The additional pumps are needed to: (1) alleviate scheduling problems for maintenance of the existing units; (2) minimize the on-peak power requirements of the SWP; and (3) increase the reliability of SWP deliveries during dry periods.

The U. S. Army Corps of Engineers (USCE) has advised the Department of operational criteria for the additional pumps that would allow installation without a USCE regulatory permit. These operating criteria were published in a USCE Public Notice issued in October 1981.

The operational alternatives included in the Environmental Impact Report will evaluate the USCE criteria as well as other criteria to determine the impact of the additional pumps. The Final Environmental Impact Report is scheduled for completion in late 1983.

San Luis Canal Enlargement. As a result of increases in maximum annual entitlements, the Department's share of capacity in the joint State-Federal San Luis Division of the California Aqueduct will require enlargement by approximately 1,000 cfs to convey the full SWP entitlement deliveries in accordance with summer peaking requirements. A 1982 study of the aqueduct capacity indicates that the Dos Amigos Pumping Plant in the San Luis Division has excess capacity and probably would not require modification.

East Branch Enlargement. The East Branch Aqueduct enlargement is scheduled to be completed by 1990. The 1,200 cfs enlargement, proposed in the Draft Environmental Impact Report, (DEIR) is being reconsidered in view of the comments received from DEIR reviewers. One of the alternatives now being considered is to enlarge the aqueduct by 800 cfs with certain facilities enlarged to handle the ultimate expansion

to 1,200 cfs. The final EIR is now being prepared.

Additional Aqueduct and Offstream Storage Studies. SWP water yield studies indicate that the Project needs additional surface or underground storage capacity, particularly during critical drought periods. Storage sites located south of the Delta near the California Aqueduct are particularly advantageous from an operational standpoint. Several possible offstream storage sites located on the western edge of the San Joaquin Valley are being considered, in addition to sites adjacent to the existing San Luis Reservoir. Additional studies of these storage sites and of possible enlargement of sections of the California Aqueduct are now being conducted by the Department.

Ground Water Storage Programs

The Department is proceeding toward a ground water program to be managed by SWP contractors whose service areas overlay the ground water basins. This type of program would result in reducing the demand on SWP supplies during the remaining build-up period.

The studies have not yet been completed. However, preliminary estimates indicate that it may be possible to develop about 150,000 to 200,000 acre-feet of new local yield from ground water storage. In addition, a ground water program would directly compete with a Colorado River Banking program for both available water and aqueduct transportation capacity. Several proposed feasibility-level investigations have been deferred, pending results of the ongoing studies. The Chino and North Santa Clara Valley basin studies are continuing, and studies in the San Bernardino Valley Municipal Water District area have been initiated. Additional storage capability exists in Kern County for local development and management. Progress during the past year is summarized

Chino Ground Water Storage Feasibility Study. In early 1980, the Department and MWD joined together to develop and fund a feasibility study of a ground water storage program in the Chino Basin. The study has been completed and MWD is planning to utilize Chino Basin for regional ground water storage within their service area.

In 1981, the Department studied ten storage alternatives under varying limitations of ground-water-basin recharge and extraction capacities. Institutional roles were developed for all agencies that might be directly involved in the storage program. A series of meetings were held with the affected agencies in Chino Basin and Orange County, to discuss the institutional and financial aspects of the program.

Screening of the ten alternatives resulted in four study proposals: Project A - Direct Storage in Chino Basin; Project B -Indirect Storage in Chino Basin; Project C - Indirect Storage involving the adjacent Cucamonga Ground Water Basin, and Project D - Indirect Storage involving the adjacent Lytle Creek Ground Water Basin.

Project A involves storing SWP water either by surface spreading or by injection wells. Project B involves an indirect storage program with members of a local Joint Power Agency, who are planning to build a water treatment facility to serve filtered SWP water to the west side of Chino Basin. Project C is a "put and take" indirect storage operation using the Cucamonga Ground Water Basin. "Put and take" refers to a method whereby the water is put in storage and taken out within a specified length of time, usually a year, as opposed to a long-term storage situation. Project D, a similar operation involving the Lytle Creek Ground Water Basin, was subsequently dropped due to lack of local interest.

Reports for Projects A, B, and C have been prepared and public information meetings have been held. The final report on the study is now complete. A combination of Projects A, B, and C have been recommended for implementation. The projects have the potential for developing over 100,000 acre-feet of yield.

Santa Clara Valley Ground Water Storage Reconnaissance Study. The Department and Santa Clara Valley Water District have initiated a reconnaissance level study of the Santa Clara Valley ground water basin. This study began in September 1981 and is scheduled for completion in December 1983. Phase I of this study, a short investigation to evaluate the probability of successfully implementing a ground water storage program, has been completed. Phase II is underway and consists of a detailed analysis of the physical, operational, and institutional aspects of a ground water storage program. Further feasibility work will depend on results of the reconnaissance study.

San Bernardino Valley - San Gorgonio Pass Feasibility Study. 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 basin storage programs and water exchanges. The study will also benefit San Gorgonio Pass Water Agency indirectly, in that it evaluates alternatives for meeting the Agency's future water demands through SWP imports.

The broad concept and overall strategies for ground water basin storage programs and water exchanges in the study area have been developed. The geology and hydrology of the local ground water basins are being evaluated, and an inventory of local existing and proposed facilities is being conducted to assess the interrelationships between ground-water-basin storage programs and future SWP operations within the study area. In addition, alternative storage program proposals for early implementation or further evaluation during the feasibility study were developed. This study is scheduled to be completed in 1983-84.

Water Conservation and Reclamation Programs - Governor's Executive Order B-68-80

In July 1980, Edmund G. Brown Jr. issued Executive Order B-68-80 directing the Department to prepare a plan of water conservation, reclamation, and management for the SWP.

As part of the overall plan, individual plans, identifying specific measures recommended for each of the SWP contractors, are being prepared. Emphasis will be placed on making maximum use of the results from other completed and ongoing studies.

Final drafts of these recommended plans will be submitted to water contractors for their use in developing their own water management plans. Copies of these draft plans will be submitted to the State Water Resources Control Board. The Department's schedule calls for completion of these plans by early 1984.

Waste Water Reclamation and Desalination-Los Banos Demonstration Desalting Facility

The feasibility study of reverse-osmosis desalination of agricultural drainage water in the San Joaquin Valley as a water supply for the SWP continues. The major feature of this study is the Los Banos Demonstration Desalting Facility. A conceptual process flow chart for the desalting process is shown in Figure 10. The marshpond (biological) portion of the plant entered partial operation in October 1982, when brackish ground

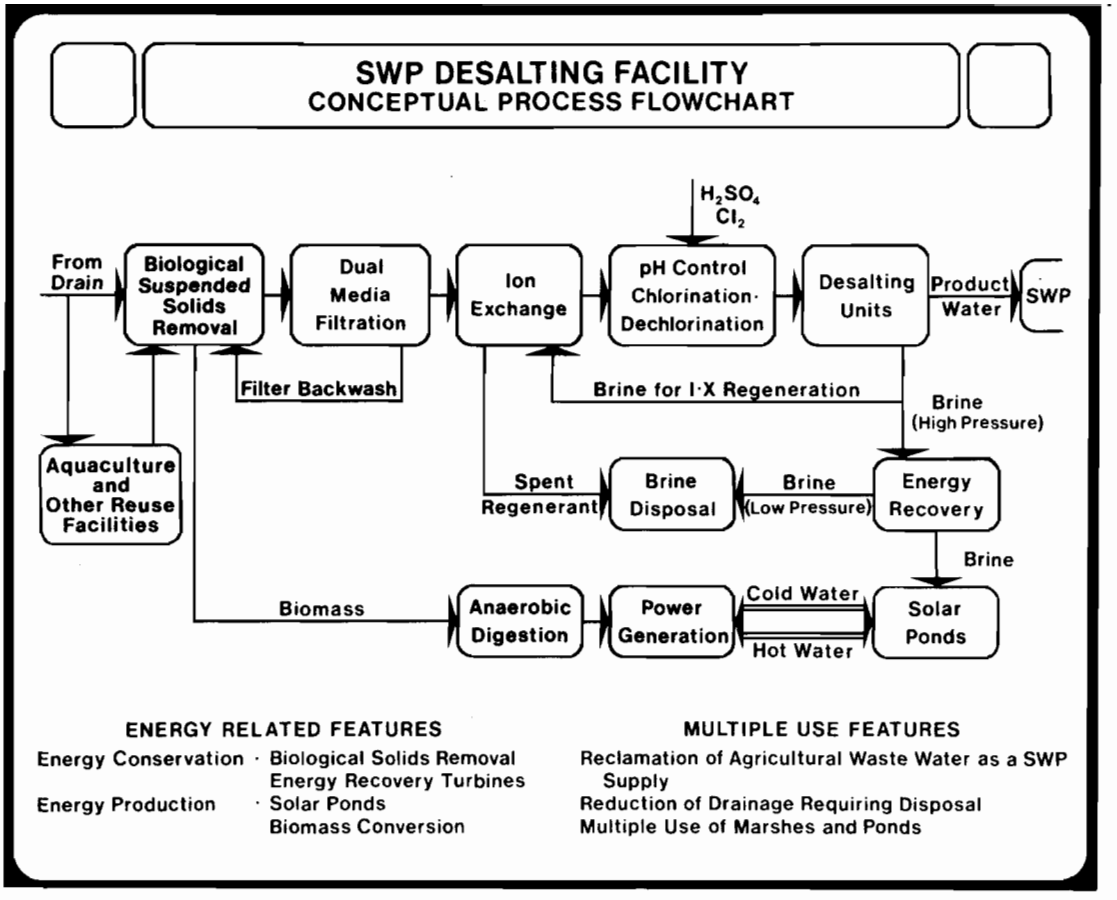


Figure 10. SWP DESALTING FACILITY

water was pumped into the ponds following the planting of Alkali bulrush plants by the California Conservation Corp. The main portion of the plant was completed in May, 1983, including the major water treatment units and plant supporting facilities. Five small contracts for construction of the solar pond power generating system were all awarded during the 1982-83 fiscal year.

Construction of the facility began in March, 1982 with the start of work by Garrison Construction Co. of Yuba City. The first contract involved construction of the San Luis Drain pump station, the marshpond biological treatment system and the main return water pump station. This contract was substantially completed by October, when the earthwork and inlet and outlet structures of the marshponds were completed. As work continued on the two pump stations, Alkali bulrush was planted in the ponds, and the ponds were filled with brackish ground water about half as salty as drainage water for testing. The two pump stations were completed in February, 1983 and began limited operation.

In April, 1982, the joint venture of Wm. Brewer/Kalar Construction Co. began work on the major contract for the facility, the physical-chemical component. This involved the construction, on a four-acre pad, buildings, trailers, and piping, followed by installation of the water treatment equipment consisting of a solids-reactor clarifier, sand filters, ion-exchange vessels, reverse osmosis desalting units, and associated tanks and control systems. The first completed portion of the contract was installation of the office facilities, the ion-exchange control system, and the plant's main data acquisition system.

Preparation of detailed operating plans was begun following completion of the general test plan for the facility in March, 1983. Recruitment of plant engineering personnel began in January, 1983.

Delta Water Quality Under Present Conditions

The Delta Impact Analysis Program, established in July 1982, seeks to document present conditions in the Sacramento-San Joaquin Delta and Suisun Bay and to determine the impacts of operating existing State Water Project facilities and related projects. It will serve four basic purposes: (1) to provide a permanent record of baseline environmental conditions; (2) to identify the impacts of State Water Project operations and distinguish them from those caused by other projects; (3) to describe any adverse impacts that should be solved or mitigated by a Delta water transfer project; and (4) to provide a description of the "No Project" alternative for use in environmental documents for future Delta water transfer facilities.

The program will produce eight individual papers: (1) Operating Assumptions, Water Quality, and Outflow Criteria; (2) Operations Studies; (3) Related Projects; (4) Hydrology and Water Quality; (5) Sedimentation and Scour; (6) Seismicity; (7) Phytoplankton and (8) Biological Productivity. The first two papers will describe the engineering basis for the mathematical model tests used as the basis for the impact assessment. The remaining papers will describe existing conditions, determine cause-effect relationships if possible, and describe impacts for each category.

The program also provides environmental documentation support for projects other than major water transfer facilities, such as the USBR-DWR Coordinated Operation Agreement and internal Delta reservoir storage projects.

The program is scheduled for completion by April 1, 1984.

Long-Range Energy Program

Introduction

In addition to water supply considerations, the Department is responsible for the planning and development of power resources for operation of the SWP. In 1977, the Department embarked upon a "Long-Range Energy Program" to assure reliable and economic power supplies after March 31, 1983 when existing energy supply contracts expired.

The basic principles guiding development of the Department's long-range energy program are:

1. to shape existing resources to meet pumping loads and minimize the need for on-peak electrical power capacity,

2. to develop additional energy sources to balance SWP requirements,

3. to purchase or exchange capacity and energy with other utilities, and

4. to provide adequate transmission between Department power loads and resources.

As a result of this long-range planning effort, the Department is now capable of meeting its current and near future energy needs. However, the anticipated long-term increase in the Department's power loads may require acquisition of additional firm resources and additional transmission rights to the Pacific Northwest, and to the Pacific Southwest. Also, the Department's long-range energy program includes planning for expiration of existing power supply arrangements.

New Energy Supplies

One of the strategies of the Department's power resource development is to reduce dependence on other utilities, which are in turn dependent on costly fuel oil and natural gas for a major portion of their power generation. This includes the construction and acquisition of hydro, coal, geothermal, and purchased power resources.

Hydro. Power generation from the Department's hydroelectric resources set a high performance record of 5.192 billion kWh during 1982 for the second year in a row. This resource is the least expensive source of power and is instrumental in keeping SWP power costs at a minimum.

In addition to existing hydro projects, which include Hyatt-Thermalito, Devil Canyon, San Luis, and Castaic facilities, the Department completed construction of the first phase (two units totaling 75 MW) of the Warne Hydroelectric Powerplant on the West Branch of the California Aqueduct. The units began delivering energy to the SWP in November 1982 and February 1983, respectively.

In October 1982, construction began on the first 17 MW unit of the Alamo Powerplant on the East Branch of the California Aqueduct. The first unit is scheduled for commercial operation in September 1985. In addition to the first 17 MW generation unit, Alamo Powerplant is designed to accommodate a second 12 MW generating unit. Construction of the second phase depends upon enlargement of the East Branch of the California Aqueduct.

The Department is reanalyzing the economics of constructing various small hydro projects for the SWP. These projects, some of which are already licensed, are as follows: (1) Mojave Siphon Powerplant Phase I (10.6 MW), (2) Thermalito Diversion Dam Powerplant (3.0 MW), (3) Pyramid Outlet Powerplant (1.3 MW), and (4) Castaic Outlet Powerplant (1.0 MW).

DWR is also interested in purchasing water power generation developed by other entities. For example, energy from five MWD small hydro facilities began flowing to the SWP system on April 1, 1983. These plants were constructed by MWD and are located on its water distribution system in the Southern California counties of Los Angeles, Riverside, and Orange. The combined 30 MW project should provide 180,000-190,000 MWh annually.

In addition, Kings River Conservation District (KRCD) is expected to complete and begin testing the first unit (55 MW) of their 3-unit Pine Flat Project in fall 1983. This facility is located under Pine Flat Dam on the Kings River in the mountains northeast of Fresno. The plant is being constructed by, and will be operated and maintained by, KRCD. On full commercial operation of the facility in early 1984, KRCD will be delivering the full generation from the 165 MW project to the SWP. DWR is now pursuing the possibility of obtaining load regulation and spinning reserve from this project as well.

Coal. Significant progress was made in development of the Reid Gardner Unit No. 4 coal project as construction proceeded at an accelerated pace during 1982-83. The plant was completed and began undergoing testing in June 1983. Commercial operation of the plant began on July 26th.

DWR is joint owner of this 250 MW coal-fired facility with Nevada Power Company (NPC). The facility is located east of Las Vegas, Nevada. DWR's agreement with NPC provides DWR with up to 226 MW of the generating capability of Reid Gardner Unit No. 4 for 15 years after the firm operation date of the facility. The scheduling of energy to DWR from the Reid Gardner facility depends on the manner in which NPC exercises its rights to obtain peaking capacity from DWR through interruption of capacity to DWR. After 15 years of operation, NPC will have an annual

option to buy back a portion of the capacity and energy available to DWR.

Geothermal. Among the next generating projects scheduled to supply electricity for the SWP system are DWR's two 55 MW geothermal projects in the Geysers area. The Bottle Rock Powerplant, northeast of San Francisco in Lake County, will be the first geothermal power plant to be added to DWR's system. DWR is constructing the facility and will operate and maintain it upon commercial operation. Geothermal steam for the powerplant will be provided under a contract with MCR Geothermal and others.

DWR's second geothermal powerplant is the South Geysers Powerplant in Sonoma County also northeast of San Francisco. Geothermal steam to operate this plant will be provided under contract with Geothermal Kinetics, Inc. DWR is also constructing South Geysers and on completion will operate and maintain the facility. Construction went well on both these projects last year, given the extremely wet weather of the 1982-83 rainy season. Bottle Rock is scheduled to begin commercial operation in October 1984; South Geysers is to begin commercial operation in mid 1986.

Wind. The first phase (ten 50-kW units) of the Bethany Wind Park began supplying energy to DWR's South Bay Pumping Plant in August 1982. DWR is participating in the Bethany Project as a power purchaser, which, among other benefits, protects DWR from some of the risk it might encounter as a developer of new technologies. It also provides direct access to performance and operations data on wind turbines for design and development of future wind farms. At present, 3.0 MW are on line at Bethany Wind Park. Full development of the wind park (10 MW total) is expected to be completed by June 1984.

Power Purchases. On April 1, 1983, DWR began receiving Pacific Northwest power as a result of negotiation of two contracts with utilities in that area -- Pacific Power & Light company and Portland General Electric Company. These contracts will provide 300 MW of firm power supply to the project over the next 2 to 3 years.

Other Resources. In addition to the resources described in the preceding paragraphs, other resources have been considered or are currently being considered as potential additions to DWR's Resource Plan. These resources are evaluated on the basis of such factors as ability to meet anticipated power requirements, alternative cost, environmental impacts, operating characteristics, etc. Based on the results of these evaluations, a resource may or may not be recommended for inclusion in DWR's Resource Plan.

In some cases, projects have been delayed or dropped from further consideration based on results obtained in the preliminary analysis. In 1982-83, the following projects were either deferred or dropped from DWR's current Resource Plan: (1) the Honey Lake project, (2) the cogeneration facility at the California Veterans Home at Yountville, (3) the rice hulls project, (4) the Windfarms Ltd. project, (5) three small hydro facilities at SWP sites (Las Flores, Palermo, Del Valle No. 2), and (6) Thermalito Afterbay Powerplant.

Resources currently being evaluated are the Heber, Binkley, and South Brawley geothermal projects; hydroelectric projects at Lake Isabella, and San Bernardino Valley Municipal Water District water system, additional units at Devil Canyon Powerplant, and a second powerhouse at Oroville Dam. Several small hydro facilities at SWP sites are also being evaluated as future power supplies.

Transmission Service

In December 1982, DWR completed two settlement agreements with Pacific Gas

and Electric Company (PGandE) and SCE that will allow DWR to more effectively utilize its 300 MW of extra high voltage (EHV) transmission entitlement. Under terms of the EHV contract, signed in 1967, DWR was limited to transmitting Northwest power only for its pumping loads and could not utilize rights to 300 MW of EHV transmission capacity to transmit power intrastate.

Under the settlements, both utilities agreed not to enforce the "project power use" provisions of the EHV Contract. The settlement also allows intrastate use of the EHV transmission entitlement by DWR during times of PGandE curtailment of DWR's use of PGandE's backbone transmission system and provides for the purchase by the SWP of specific stub transmission lines. This increased transmission flexibility will improve efficiency of operations and permit greater opportunity to buy and sell power.

The current "EHV Contract" expires in 2004. DWR is actively investigating the feasibility of an additional intertie from the Oregon-California border to Southern California. Participation in construction and ownership of a third intertie line would assure DWR access to Northwest resources. Significant progress has been made during the past year in studies associated with development of this additional intertie. Discussions are continuing with Northern California utilities, BPA, and SCE to study technical, operating and contractual requirements for construction of a new intertie line to California.

In April 1983, DWR completed arrangements with Western Area Power Administration (WAPA) for the construction of an emergency temporary connection from DWR's Oroville-Table Mountain No. 3 - 230 kV circuit to WAPA's Cottonwood-Elverta 230 kV line near Oroville. This action became necessary in January 1983 when PGandE informed DWR that it was planning to increase the transfer capability of the existing intertie system between the Oregon-California border and Table Mountain Substation. At that time, DWR determined that an increase in the transfer capacity of the intertie would result in the severe and extensive curtailment of DWR's use of the backbone transmission system causing curtailment of generation. This interconnection became operational on May 29, 1983 and enabled DWR to transmit about 270 MW of firm Hyatt-Thermalito power even during times of full curtailment of PGandE's backbone transmission system.

Other Transmission

Under provisions of the Comprehensive Agreement with PGandE, DWR has the option to participate as co-tenant in the Geysers-to-Lakeville 230 kV line, which provides up to 165 MW of capacity. This transmission capacity will allow DWR to deliver capacity and energy from its Geysers resources to its loads. PGandE will design, construct, operate, and maintain the transmission facilities. DWR will pay its share of the costs.

DWR has contracted with PGandE for the design, construction, ownership, operation, and maintenance of the Bottle Rock tie-line and is negotiating similar arrangements for the South Geysers Powerplant.

DWR has also contracted with PGandE for modification to PGandE's transmission facilities at the Balch No. 2-McCall line. These modifications will provide the additional transmission capacity needed to allow delivery of the full output of the Pine Flat Powerplant. Transmission service for both geothermal plants and Pine Flat will be provided by PGandE under the terms of the Comprehensive Agreement.

Power Costs

The Department is now, and has been since April 11, 1983, operating as a

bulk power producer. This action was the result of the termination of the Suppliers' contracts in 1977 and 1978 and the Department's subsequent decision to independently provide the power resources to operate the SWP. The numerous energy/capacity exchange agreements negotiated by DWR over the past several years and its program for developing resources provide a wide range of resources at a relatively low cost.

Table 7 shows a current estimate of future power costs under this program. The power requirements for this estimate are the result of the aqueduct operation study used to estimate the power loads required to deliver the SWP contractor's requested amounts of entitlement water. The table shows each source's share of the total annual load and its respective cost in mills-per-kilowatt-hour (kWh) for 1983 and every five years from 1985 through 2000. The mill rates include an allowance for future cost escalation.

Also included is the composite cost for the SWP system as a whole. The composite cost is the weighted average of the resource costs determined by the resource's contribution to the total load required. For instance, in 1985, Hyatt-Thermalito will contribute about 29 percent of the load at about 10 mills/kWh. This table includes only those facilities considered planned resources in the preceding discussion of the long-range energy plan.

Estimated mill rates from the last-published Bulletin (132-82) are revised every year as more information is developed and more complete design, construction, and financing scenarios (which are used in projection of these future energy rates) are prepared. There have been many changes in the components of the cost estimates since publication of Bulletin 132-82. Changes in future cost estimates and increases or decreases in other items used in developing the projected mill rates can be caused by a combination of factors. It is therefore helpful to consider each project individually which exhibits unusual or substantial difference from Bulletin 132-82. Following is a discussion of changes from Bulletin 132-82 in some of the components used in developing the mill rates shown in Table 7.

Hyatt-Thermalito. The slight variation in future mill rates from Bulletin 132-82 results from two factors: (1) a nominal increase in estimates of the plant operating costs, and (2) a nominal decrease in estimated generation. The attractive low cost shown for 1983 can be attributed to an unusually wet year. In addition, during the months January 1 through March 31, 1983, the Suppliers' contracts were still in effect, both conditions combine to reduce the total expense required for the "annual" period of 1983. Beginning in 1984, and reflected initially in the future cost estimate of 1985, the total expense required at Hyatt-Thermalito will be realized for the entire annual period. Estimates of generation for these future periods reflect the assumptions of average water supply scenarios - a much lower amount of generation than the wet year of 1983.

MWD Hydro. Based on current negotiations with MWD, the estimated future costs of this resource assume an exchange of MWD energy with SCE. An initial rate of 50 mills/kWh has been agreed on. This rate will subsequently be escalated by the ratio of current SWP melded costs to the SWP melded cost in 1984. A provision for increases or decreases in the SWP melded costs from 1984 levels has been included to determine payment adjustments.

Reid Gardner. There are two major differences between the current estimated future costs of this resource and the estimated future costs found in Bulletin 132-82. The estimated cost in 1983, is relatively high due to the ratio of costs to expected generation

TABLE 7: ESTIMATED ENERGY REQUIREMENTS AND COSTS

Table 7: Estimated Energy Requirements and Costs

	CALENDAR YEAR				
	1983	1985	1990	1995	2000
TOTAL ENERGY REQUIREMENT (millions of kWh)[a]	3,844	8,026	9,809	9,909	10,519
ENERGY RESOURCES (millions of kWh)					
Hyatt-Thermalito	2,803	2,304	2,304	2,304	2,304
Project Recovery Plants					
San Luis	79	129	164	177	187
Devil Canyon	583	1,014	1,019	1,149	1,093
Castaic	100	649	884	814	982
W. E. Warne	65	387	532	490	592
Alamo	0	37	119	131	129
SCE Exchange	539	1,219	1,202	1,114	1,041
MWD Hydro	150	195	193	261	246
Reid Gardner Unit No. 4	242	872	956	956	815
Pine Flat	40	423	423	423	423
Bottle Rock	0	316	346	361	346
Project Small Hydro	0	1	82	99	99
South Geysers	0	0	346	361	346
Isabella Powerplant	0	0	26	26	26
TERA Corp (wind)	5	21	21	21	21
Pacific Northwest Power Purchase	1,410	2,562	2,562	2,562	2,562
Potential Sale (-)	-3,136	-2,101	-1,370	-1,341	- 692
Purchase (January-March 1983)	964	0	0	0	0
Total Resources	3,844	8,026	9,809	9,909	10,519
RESOURCES' PERCENTAGE					
Hyatt-Thermalito	72.93	28.71	23.49	23.25	21.90
Project Recovery Plants					
San Luis	2.04	1.60	1.67	1.79	1.77
Devil Canyon	15.16	12.63	10.34	10.23	9.64
Castaic	2.61	8.08	9.01	8.21	9.34
W. E. Warne	1.69	4.82	5.42	4.95	5.63
Alamo	0.00	0.46	1.21	1.32	1.22
SCE Exchange	14.02	15.19	12.26	11.24	9.89
MWD Hydro[b]	3.84	2.42	1.97	2.63	2.34
Reid Gardner Unit No. 4	6.30	10.87	9.75	9.65	7.75
Pine Flat	1.04	5.27	4.31	4.27	4.02
Bottle Rock	0.00	3.93	3.53	3.64	3.29
Project Small Hydro	0.00	0.01	0.84	1.00	0.94
South Geysers	0.00	0.00	3.53	3.64	3.29
Isabella Powerplant	0.00	0.00	0.27	0.27	0.25
TERA Corp (wind)	0.13	0.26	0.21	0.21	0.20
Pacific Northwest Power Purchase	36.68	31.93	26.12	25.86	24.36
Potential Sale (-)	-81.52	-26.18	-13.93	-12.16	- 5.83
Purchase (January-March 1983)	25.08	0.00	0.00	0.00	0.00
Total Resources	100.00	100.00	100.00	100.00	100.00
RESOURCES' COST/VALUE (mills per kWh)[c]					
Hyatt-Thermalito	5.0	10.0	11.0	12.0	13.0
Project Recovery Plants					
San Luis	18.0	25.0	25.0	25.0	25.0
Devil Canyon	18.0	25.0	25.0	25.0	25.0
Castaic	18.0	25.0	25.0	25.0	25.0
W. E. Warne	18.0	25.0	25.0	25.0	25.0
Alamo	0.0	42.0	46.0	46.0	47.0
SCE Exchange	0.0	0.0	0.0	0.0	0.0
MWD Hydro	49.0	50.0	62.0	81.0	103.0
Reid Gardner Unit No. 4	87.0	67.0	72 0	84.0	107.0
Pine Flat	7.0	30.0	32.0	36.0	41.0
Bottle Rock	0.0	76.0	96.0	129.0	167.0
Project Small Hydro	0.0	74.0	74.0	74.0	75.0
South Geysers	0.0	0.0	95.0	128.0	167.0
Isabella Powerplant	0.0	0.0	78.0	79.0	81.0
TERA Corp (wind)	85.3	85.3	85.3	68.0	68.0
Pacific Northwest Power Purchase	28.0	29.0	47.0	72.0	107.0
Potential Sale (-)	12.0	29.0	47.0	72.0	107.0
Purchase (January-March 1983)	4.0	0.0	0.0	0.0	0.0
Composite Cost (mills/kWh)	16.16	24.80	32.80	42.10	54.23
Transmission Cost	2.10	2.50	1.60	1.60	1.60
Total Composite Cost (mills/kWh)	18.26	27.30	34.40	43.70	55.83

a) Requirement based on energy needed to deliver SWP contractors' requested entitlement water.
b) Energy amount includes the exchange provision of the SCE Power Contract.
c) Includes allowances for future cost escalation.

of this newly operating facility. As a new facility, Reid Gardner Unit No. 4 is assumed to be in a "build-up" phase of operation - gradually brought up to minimum expected generation by 1986.

In previous estimates, an estimated annual capacity factor of 80 percent had been used. In Table 7 it is assumed that only a 65 percent annual capacity factor can be expected, thus lowering the annual generation.

Through the agreements with Nevada Power Company (NPC), the Department's generation may be interrupted by NPC for periods of time not to exceed specified amounts. Under this arrangement, DWR bears 90.4 percent of the fuel and operating and maintenance cost of producing all energy from Unit No. 4. (The Department's generation entitlement share will decrease after the fifteenth year if NPC exercises its option to acquire a share of the Department's generating capability). NPC then reimburses the Department for energy obtained through interruption on the basis of NPC's fuel and operations/maintenance costs of producing energy at their gas turbine generating plants. This estimate assumes NPC will interrupt about 650 hours each year and pay the Department based on their foregone costs of their gas turbine plants; this will keep the overall net cost to the Department lower than if NPC were not to interrupt the Department's generation.

Pine Flat. The agreement between DWR and Kings River Conservation District (KRCD) provides that a portion of the payments that DWR makes to KRCD will equal their bond service payments. KRCD sold $57 million of revenue bonds in 1979. During 1983, KRCD sold an additional $13 million of revenue bonds to complete construction of the project, which increased the cost to DWR by about 15 percent.

Bottle Rock. The principal source of the estimated decrease in cost from Bulletin 132-82 is the lower cost of financing the construction cost. Last year's estimate was based on the sale of revenue bonds at an interest rate of 12 percent. However, the revenue bonds for the construction of Bottle Rock Power Plant were sold in May 1983, at an interest rate of approximately 8.5 percent, which substantially reduced the bond service requirements. Additionally, estimates of geothermal steam costs have been adjusted to reflect current fossil fuel costs and anticipated increases.

DWR Small Hydro. The estimated future costs of DWR's small hydro facilities published here are nearly 57 percent less than the estimates shown in Bulletin 132-82. This is due almost exclusively to the deletion of several proposed plants from consideration as economically feasible resources.

South Geysers. As with Bottle Rock Plant, the total debt service from revenue bonds sold (Series D and F) and an assumed future sale is less than was assumed in Bulletin 132-82, and the estimates of geothermal steam costs are lower than previously assumed.

Lake Isabella. Lake Isabella's mill rate estimate shown in Table 7 is substantially lower than the estimate shown in Table 9, Bulletin 132-82. There are two reasons contributing to the decrease. The first concerns the recently favorable bond market activity. Although no financing for Lake Isabella has been obtained, there are indications that relatively low interest rate assumptions are realistic. A second reason for the estimated cost decrease is related to annual generation estimates increasing by about 3 million kilowatthours. Both of these components have the effect of reducing the estimated cost by more than 45 mills/kWh.

Northwest Purchases. Not included in Bulletin 132-82, the estimated future

costs of this resource represent contractual costs (see Long-Range Energy Program preceding this section) for 1983 through 1986. Beyond 1986, the estimated costs reflect assumptions of continued acquisition of Pacific Northwest capacity and energy at rates commensurate with those contracts already signed.

Local Water Supply Projects

Guidelines

In February 1979, the Department issued "Guidelines on Funding Local Water Supply Projects for Inclusion in the State Water Project". Following this issuance, many questions were raised related to procedures the Department would use to finance local water projects. In response to these questions, a second task force was established in August 1981 to (1) define and develop criteria for the development of the guidelines, (2) address the role of the State Water Supply Contractors, and (3) establish procedures for determining the feasibility of a proposed local water supply project for inclusion in SWP.

The second task force set forth two basic assumptions that were fundamental to the revised policy statement and guidelines. These assumptions are:

1. Contract amendments to the State Water Supply Contracts, providing for local projects, are finalized; and

2. Any yield, whether permanent or intermittent, which is developed by a local project that becomes a unit of SWP will become part of the yield of SWP and will be included within the annual 4.23 million acre-feet minimum SWP yield.

On December 29, 1982 the Director of the Department approved the "Revised Guidelines on Funding Local Water Supply Projects for Inclusion in the State Water Project."

This policy statement has been developed to serve as a guide to local agencies, water supply contractors, and the Department regarding implementation and inclusion of local projects as units of the SWP. The basic assumptions are as follows:

1. Any necessary SWP contract amendments are executed.

2. Yield, whether for the life of the SWP or for an interim period, developed by a local project as a unit of the SWP, becomes part of the yield of the SWP.

3. The local project must not adversely affect either the costs or water deliveries to SWP water supply contractors, other than the sponsoring contractor.

The Department will conduct a feasibility study of a local project when it appears, from both the conceptual report and the reconnaissance report, that the local project may be designated as a future unit of the SWP. Local projects must be feasible on an engineering and financial basis and must be economically and environmentally sound.

Local projects eligible to be added to the SWP may be financed with available SWP funds. Should the costs of construction of the local project exceed the funds available from the SWP, local participation in financing the construction will be required. SWP financing will not exceed the actual construction costs of the local project. Only after an agreement has been signed will the local project become a unit of the SWP.

The Department and SWP water supply contractors have negotiated a water supply contract amendment that allows for repayment of construction and

operation costs of a local water supply project.

The guidelines for funding Local Projects which are components of the SWP are as follows:

1. SWP water supply contractors must be involved.

2. The local project must provide a water supply to help meet the entitlement deliveries of the SWP water supply contractors.

3. The water supply developed by the local project must be new, dependable, and of adequate quantity and quality to serve the intended beneficial uses that would otherwise be met from imported SWP supplies.

4. The SWP may provide funds based on the local project yield and the melded costs of future SWP water supply (conservation) facilities. Repayment of these funds will be under the Delta Water Charge in accordance with terms of a recently negotiated contract amendment.

5. The SWP may also provide funds equal to the difference in cost of the unconstructed SWP transportation facilities with and without the local project.

6. Local projects must be feasible on an engineering and financial basis, and be economically and environmentally sound.

7. SWP energy may be used by a local project that becomes a unit of the SWP. SWP energy may be used by a local project where only part of the firm yield of the local project becomes a yield to the SWP, but only to the extent of the ratio of the SWP yield to the total local project yield. The cost to the local project will be the melded SWP energy rate to be reported annually by the Department.

Status of Contracts for Local Water Supply Projects

Since the middle of 1981, the Department has completed the review of six conceptual reports submitted by Santa Barbara County Flood Control and Water Conservation District (SBCFCWCD). The six reports represent a total of eight alternative projects, four of which appear to warrant further investigation.

As reported in Bulletin 132-82, SBCFCWCD's first proposal, the Goleta Water Reuse Project, Phase I, was evaluated at the feasibility level and found to be engineeringly feasible, environmentally acceptable, and economically justifiable. However, Goleta Water District has since elected to withdraw the project from consideration because of uncertainties about how the project would be financed as part of the SWP.

The second proposal submitted by SBCFCWCD, the Eagle Canyon Reservoir Project, was eliminated from further consideration as a local water supply project because the project was not economically justifiable. Another proposal, the Lompoc Off-Stream Water Spreading Project, although economically justifiable, was eliminated because of (1) an apparent lack of ground water basin storage space and (2) the poor quality of the ground water.

The first surface storage project to qualify for a feasibility-level investigation was the enlargement of Cachuma Reservoir on the Santa Ynez River. The alternative project of constructing Hot Springs Dam and Reservoir directly upstream of Cachuma Reservoir may be eligible for a feasibility study if it is later found that enlarging Cachuma Reservoir is not feasible.

After an extensive review in 1982 of the Gibraltar/Camuesa Canyon Project, it was concluded that enlarging Gibraltar Reservoir as a local project appears to warrant further study at the feasibility level. It was also concluded that a feasibility-level investigation of constructing Camuesa Canyon Dam and Reservoir should be deferred, pending a decision on the feasibility of enlarging Gibraltar Reservoir.

A proposal by the City of Santa Barbara (Phase I Reclamation) for landscape irrigation was also found to be eligible for a feasibility-level investigation.

SWP Aqueduct Extensions

Construction of the North Bay Aqueduct - Phase II

Pursuant to contracts to deliver SWP water to Napa and Solano Counties, the Department is proceding with plans for construction of Phase II facilities of the North Bay Aqueduct to supply up to 61,400 acre-feet annually with a maximum delivery of 115 cfs. The aqueduct will divert Delta water from Cache Slough in eastern Solano County and transport the water overland, approximately 23 miles to Cordelia Pumping Plant, where it would tie into previously constructed Phase I aqueduct facilities in Napa County.

The city of Vallejo will take its 5,600 acre-feet allotment of SWP water through its existing intake and transport system at Cache Slough.

Phase I of the aqueduct, which extends from the Cordelia area to the city of Napa and American Canyon treatment plants near the west end of American Canyon, was completed in 1968. Phase I facilities consist of an interim pumping plant near Cordelia in Solano County and an underground 36-inch pipeline extending about 4-1/2 miles to Napa Turnout Reservoir. The maximum capacity of the Phase I facilities is 46 cfs. The interim source of supply for these Phase I facilities is the USBR Solano project, and these supplies have been delivered to Napa County for use by the American Canyon Water District and the city of Napa. When the Phase II facilities are completed, these nonproject deliveries from the Solano project are expected to cease.

Phase II of the NBA will consist of diversion facilities, a pumping plant on Cache Slough in the Delta, and an underground pipeline extending westward through Solano County to the Cordelia area. Delta water would be diverted from Cache Slough near the city of Vallejo's existing and currently operating intake pumping station. A 63-inch diameter buried pipe would transport the water southwesterly along the north boundary of Vallejo's existing pipeline, then northwest adjacent to the Alamo Drain, and then west across Highway 113. From Highway 113 the pipe will run west to the intersection of Peabody Road and the Sacramento Northern Railroad. At a high point just north of Travis Air Base a surge tank will be constructed.

From Peabody Road the pipe will run southwest within the right of way of the abandoned Sacramento-Northern Railroad. Within this abandoned right of way the pipeline will pass through the center of Fairfield and on to Chadbourne Road. From Chadbourne Road to Suisun Creek the pipe will be aligned to conform to the northern boundary of a planned CALTRANS I-80, Highway 12, and Abernathy Road interchange and Phase II of Fairfield's Linear Park.

From Suisun Creek the pipe will proceed westward along the north side of I-80 to a point west of Dan Wilson Creek, then northwesterly to Cordelia Forebay about 1/2-mile west of Suisun Valley Road.

From the 7-acre site of Cordelia Forebay and Pumping Plant, a 42-inch pipe will carry Napa County water across Green Valley within the route of a proposed subdivision thoroughfare to

the junction with DWR previously acquired right of way, then west to the existing Cordelia Surge Tank of Phase I NBA.

The planning and development proposed for Phase II of the NBA included extensive participation of local officials and others in the EIR review process. The original alignment proposed for Phase II of the NBA would have resulted in extensive significant adverse environmental effects. Planning activities determined several ways to eliminate or minimize adverse impacts; the preferred alignment would avoid the environmentally sensitive Jepson Prairie area.

The final EIS/EIR for Phase II of the NBA was released in June 1982. The report showed the preferred alternative for the NBA as the Route 1 aqueduct alignment plus enforceable water conservation plans for NBA contracting agencies. Figure 11 shows the selected alignment of the aqueduct.

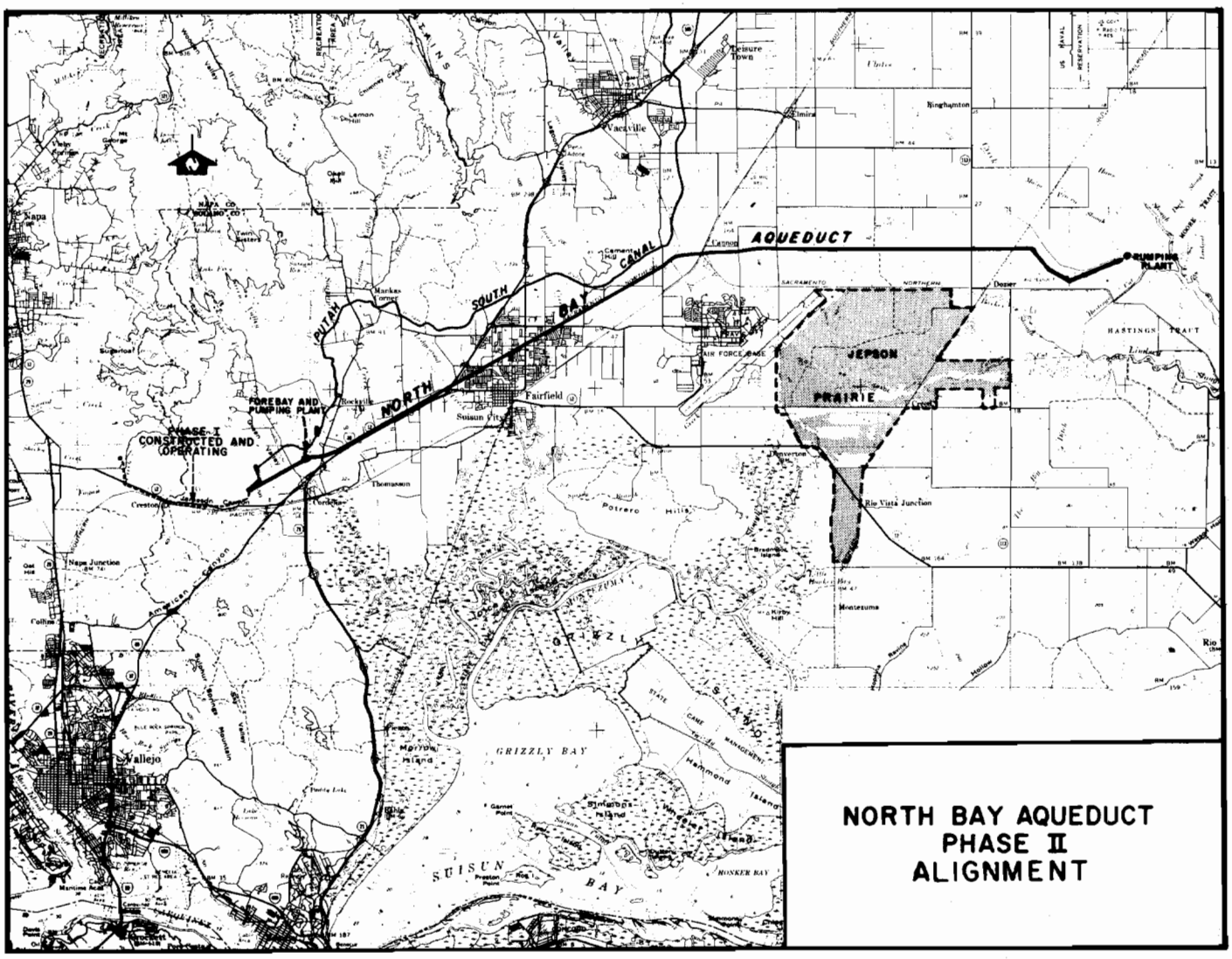


Figure 11

On December 23, 1982, the Department signed the Notice of Determination authorizing final design and land-acquisition programs for the Phase II facilities. Final design of the aqueduct has been initiated, and the interagency coordination agreement between the Department and Caltrans is being finalized. This agreement is for a program of right-of-way acquisition within a specific joint-use area in the city of Fairfield, where three separate projects are scheduled for construction. The three projects are: State Route 12/I-80 Fairfield Bypass (Caltrans), NBA phase II Facilities (Department), and the Fairfield Linear Park (City of Fairfield). This will be the first section of the NBA pipeline to be constructed.

During final design of the project it was learned that the Department of Parks and Recreation reduced the size and boundary of the proposed Jepson Prairie Natural Area. For engineering and economical reasons the northern boundary shifted southward about 1-1/2 miles. Approximately 1,000 feet of pipeline and three stream crossings were eliminated under the new alignment. Additional environmental documentation will be performed for the revised alignment and reported on by mid-1984.

The Notice of Determination stated that construction of Phase II facilities is contingent on both Napa and Solano County Flood Control and Water Conservation Districts signing contracts committing them to implement water conservation programs.

A contract (Amendment No. 10 to the existing water supply contract) between Napa and the State outlined the water conservation program and also amended Table A (entitlement schedule).

The State will make all reasonable efforts consistent with sound fiscal policies, reasonable construction schedules, and proper operating procedures to deliver water through the North Bay Aqueduct fifty-one (51) months from December 31, 1982; or from the date, whichever occurs later, that the Solano County Flood Control and Water Conservation District and its member units (the cities of Benicia, Fairfield, Suisun, and Vacaville) have entered into an agreement committing them to carry out a plan similar to that described in the agreement with the Napa County Flood Control and Water Conservation District. If final design studies show that variable speed pumps are not necessary, the 51-month period shall be reduced to 46-months.

The Department has received a Corps of Engineers permit dated March 3, 1983, to construct a water intake, perform 30,000 cubic yards of dredging initially, and perform maintenance dredging for ten years at Cache Slough.

SWRCB issued Water Right Permit 16483 for the NBA diversion at a point on Lindsey Slough. The final EIS/EIR favored alternative Route 1 with diversion from Cache Slough. A petition is being filed with the SWRCB to change the point of diversion from Lindsey to Cache Slough.

Future Construction of the Coastal Branch

Water supply contracts between the State and Santa Barbara and San Luis Obispo counties, signed in 1963, stipulated that SWP water deliveries would begin in 1980. These contracts also provided for the deferral or the elimination of the Phase II Coastal Branch if the counties should so elect. At the request of the counties, the Department has granted several delays in initiating design on the Coastal Branch since 1973; the current approved date is July 1, 1984. Under this latest schedule, initial delivery of SWP water cannot begin sooner than the early 1990s.

The Phase I Coastal Branch Facilities, consisting of the first 15 miles leading from the Aqueduct, were constructed in the late 1960s to provide water service to agricultural water contractors near Avenal Gap.

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 terminus near the city of Santa Maria.

The rejection by Santa Barbara County voters 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 local project guidelines prepared by the Department in 1979 and updated in 1982. The Department has been working with the county in evaluating eligibility of proposed local projects for Project funding.

During 1981, the Santa Barbara Flood Control and Water Conservation District voted to reduce its maximum annual entitlement from 57,700 acre-feet to 45,486 acre-feet and reduce its capacity by 17 cfs.

Because of the uncertainty regarding the timing of construction and operation of Phase II, no costs are projected for this facility in the Financial Analysis presented in Chapter VIII or in Appendix B of this bulletin.

CHAPTER III

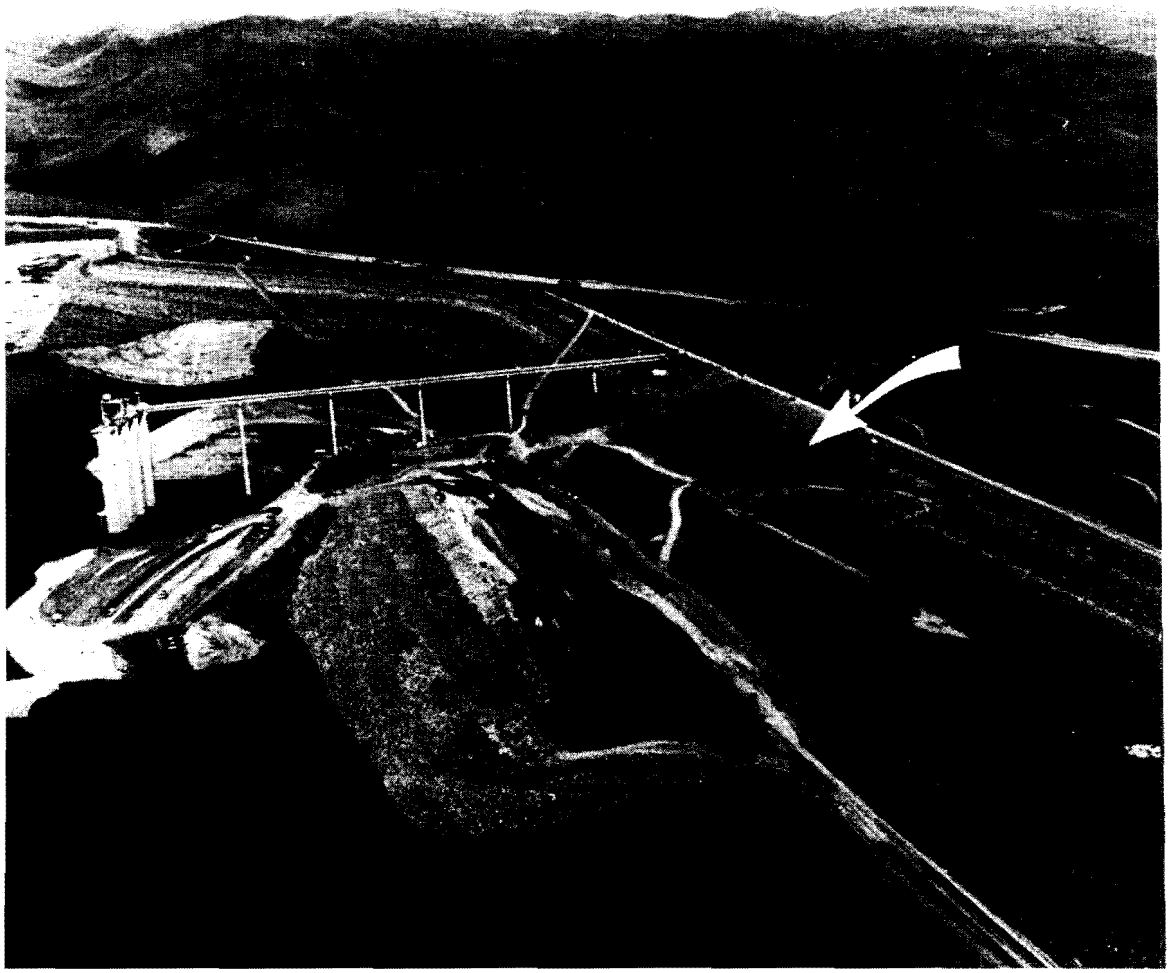
MAJOR MAINTENANCE AT SWP FACILITIES

San Luis Dam Repair

In September 1981, a slide involving 1.67 million cubic yards of earth and rock occurred along the upstream face of San Luis Dam. The primary cause of this slide was determined to be a weak clay known as "slopewash" underlying the dam embankment.

Repair of the dam consisted of excavating a portion of the slopewash material and constructing four large buttressing fills against the dam embankment. One fill is along the upstream face at the location of the slide. The other three fills were made at potential slide areas identified during subsequent engineering and geological investigations. Construction of the first buttress fill was described in the previous issue of this bulletin (see Bulletin 132-82, Chapter III). All repair activities were discontinued on April 1, 1982 as the reservoir was filled for summer operations.

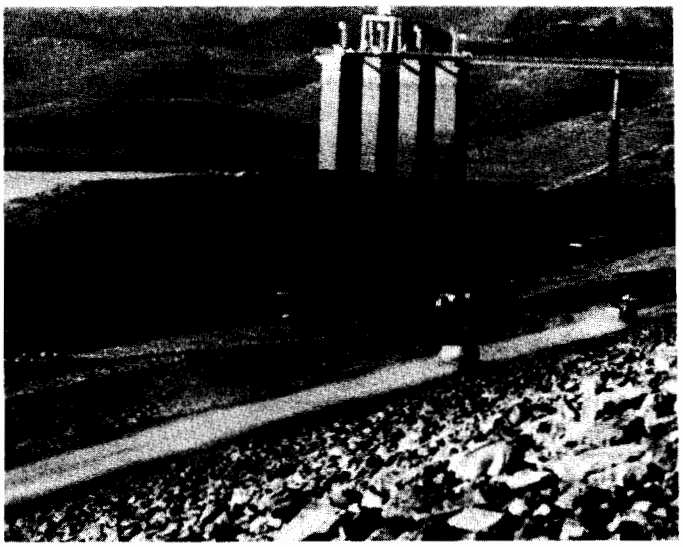
By July 20, the reservoir water level was low enough to allow the contractor to continue remedial work. This included repair of the slide area and construction of a second buttress fill in a potential slide area located near the south abutment of the dam. In September 1982, construction began on buttress fills in two other potential slide areas -- one on the downstream



Aerial view, looking northward at the upstream slide of San Luis Dam showing construction of buttress berm. (Arrow points to slippage area near the crest of dam.)

face and the second on the upstream face of the dam. Work on these two fills was essentially completed by December. At each of the fill areas, the U. S. Bureau of Reclamation (USBR) installed equipment to monitor soil pressures, slope movement, and seepage.

Analysis and repair of the slide were carried out by the USBR, which was responsible for the original design and



View, looking northerly at buttress fill construction. Inlet-outlet trashrack structures are in the background.

View, looking southerly at buttress fill construction.

construction of the dam. All analysis and repair work completed on the dam has been reviewed by a Safety Review Board. Additional analysis and review has been provided by the Department of Water Resources. Costs of the repairs are being shared 55 percent State and 45 percent Federal.

The USBR and DWR are also conducting a joint study to evaluate the safety of the dam during a major earthquake. It is anticipated that this study will be completed by the end of 1983. Depending on the results of this study and the monitoring data being collected at the dam, additional remedial work may be required.

Sediment Removal from the California Aqueduct

During 1982, high concentrations of sodium, trihalomethane precursors, and asbestos were detected in SWP water being used as domestic supplies. The three constituents were found in Delta exports and in flood flows to the San Luis Division of the California Aqueduct. Accordingly, the Department prepared and implemented a work plan to collect additional water quality data needed to both monitor the behavior of the three constituents and provide guidelines for their control.

On August 31, 1982, the Director of the Department of Water Resources appointed a scientific panel to assess the health aspects of Sacramento-San Joaquin Delta water being used as domestic supplies. On water quality monitoring, the panel concluded that:

> "The current Delta water quality monitoring program conducted by the Department ... was developed primarily to monitor quality from an ecological perspective specifically directed toward fishery resources and not to assess human health aspects with respect to drinking water. The program ... is not entirely adequate to assess the present or projected suitability of these waters as a source of drinking water supply."

The panel then recommended that more specific data be collected on the concentrations of sodium, trihalomethane precursors, and asbestos in SWP water, particularly in the Sacramento-San Joaquin Delta and California Aqueduct reaches from which water is supplied for domestic uses.

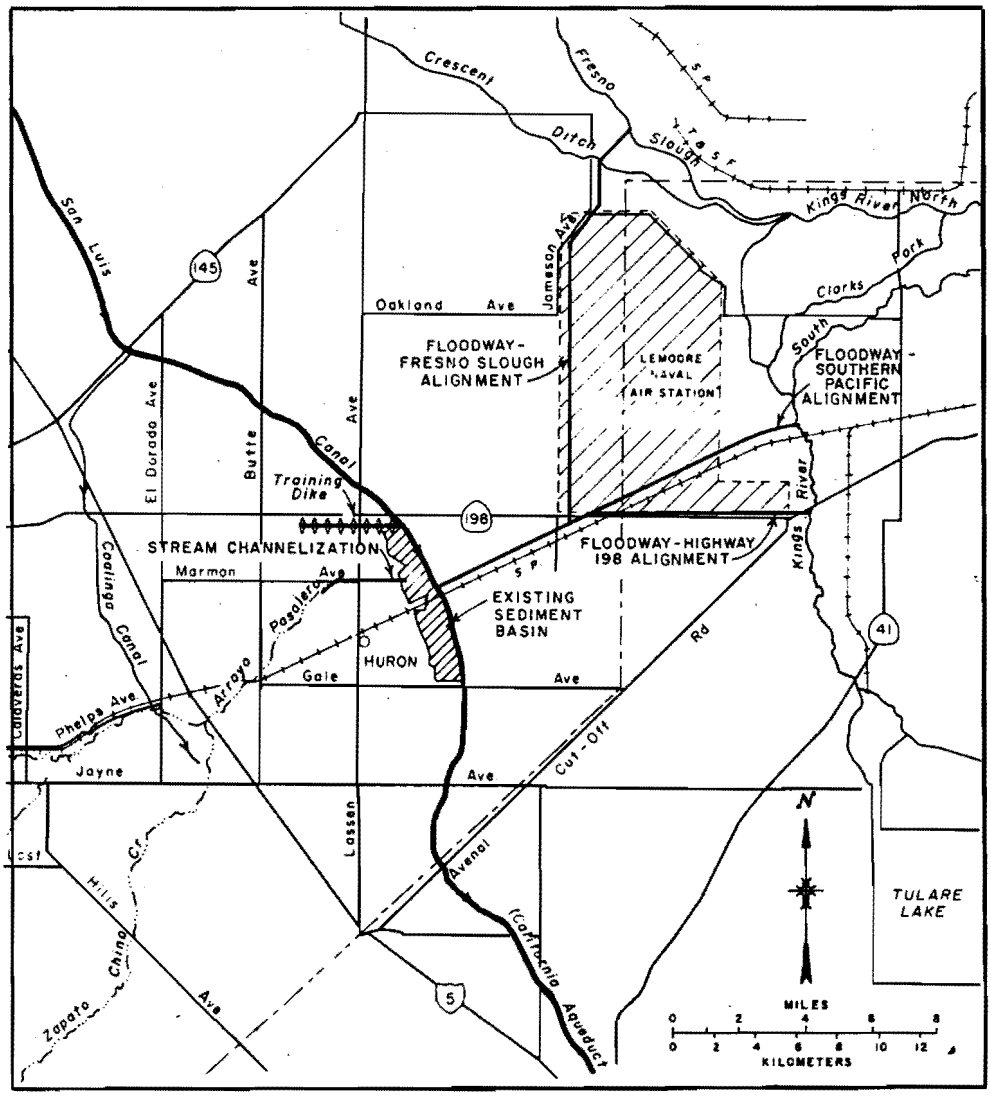
Sodium. The SWP collects monthly analytical data on sodium in the Delta and throughout the Project. The SWP also maintains excellent records of sodium concentrations through continuous recordings of electrical conductivity. In response to the panel's recommendation, the SWP staff is developing a program to provide continuous information on sodium to the Department of Health Services, particularly when sodium concentrations begin to approach the level set by the panel as an unofficial standard of acceptability for drinking water.

Trihalomethane. Prior to formation of the scientific panel, the Department had completed an investigation of trihalomethane precursors in the Delta and South Bay Aqueduct. However, trihalomethane compounds form in drinking water after treatment and chlorination; therefore, before treatment, only their organic precursors can be found in the untreated water at the source of supply.

The Department investigation has not been extended into a permanent monitoring program. However, if local water-treatment and distribution agencies cooperate, the Department believes that a program to monitor drinking water at the source of supply can be established during 1983. This would complement the monitoring of trihalomethane compounds in treated water conducted by the Department of Health Services.

Asbestos. Asbestos found in SWP water has been linked to a "point source" entering the San Luis Canal joint-use reach, where cross-drainage flows are allowed to enter the California Aqueduct.[1] The largest such source is the Arroyo Pasajero, which is formed by the discharge of an intermittent stream group that drains through an area containing asbestos-bearing rocks and abandoned asbestos mines. Winter flood flows in the Arroyo Pasajero watershed carry sediment and asbestos into the aqueduct.

Although no water from the Arroyo Pasajero was admitted into the San Luis Canal during 1982, subsequent flood flows early in 1983 were large enough to require their release into the Aqueduct. As a result, the Department attempted to operate the drain inlets that control the inflow in a manner that would reduce the amount of sediment entering the canal.



Arroyo Pasajero Flood & Silt Deposition Study

1) A "point source" is a "confined" source of pollution, in this case from a group of streams discharging through the Arroyo Pasajero.

This operation may be facilitated by a maintenance program designed to remove the sediment, more than 10 million cubic yards of material has accumulated in the flood impoundment basin adjacent to the canal. In addition, the storage capacity of the basin may be increased, thus permitting longer floodwater detention time and increased settling of the suspended solids in the Arroyo Pasajero inflows.

After the initial discovery of high asbestos concentrations in the Aqueduct in 1980, the Department began a dredging program to remove the asbestos-laden sediment from the San Luis Canal. The dredging continued throughout 1982, along with a special sampling program designed to evaluate the effectiveness of dredging in reducing the asbestos concentrations. The sampling program compared asbestos concentrations in the dredged Aqueduct reaches with (1) concentrations in upstream reaches, which had not been affected by sediment inflow, and (2) downstream reaches that had not been dredged.

Following the study, the Department concluded that (1) although the removal of sediment in the dredged reaches substantially reduced asbestos concentrations there, the concentrations in the downstream reaches remained high; and (2) the asbestos concentrations in the Aqueduct water are apparently a function of the surface area (top layer) of sediment, which is exposed to the water, rather than the total volume. The Aqueduct may have to be dredged down to the concrete lining to reduce the asbestos concentrations to acceptable levels.

The USBR is considering another aspect of the asbestos problem in a long-range planning study of the Arroyo Pasajero flooding problem. The study alternatives include methods for preventing inflows of floodwaters to the Aqueduct and treatment of Aqueduct water to reduce the asbestos concentrations. The Department's San Joaquin District is reviewing the USBR study and evaluating additional alternatives. Reports on the studies are due in late 1983, after which the Department will review the recommendations and select a course of action.

The asbestos mines in the Arroyo Pasajero are also of concern to the Department of Health Services, which has designated the area as a hazardous waste site, thus making it eligible for State and Federal Superfund money. However, the limited amount of superfund money must be shared by a number of such sites, and no immediate action is expected.

When the dredging program began in late 1981, the Department began a routine sampling program at as many as 16 stations along the Aqueduct south of the Delta. The Department is now evaluating the program and attempting to improve its capability of determining how asbestos concentrations in the Aqueduct respond to varying flow conditions and quantities of sediment removed.

Westerly view of Suisun Marsh. Fish screens at Roaring River Slough are in the lower center of photo.

CHAPTER IV

INTERAGENCY ACTIVITIES

CVP-SWP Coordinated Operation Agreement

The Central Valley Project of the United States and the State Water Project divert water into, store, and export water from the Sacramento and San Joaquin River basins. The water of one project is physically indistinguishable from that of the other as it mingles in the lower portion of the Sacramento River and the Sacramento-San Joaquin Delta. CVP and SWP operations must be coordinated to (1) attain the most effective use of the available water resources, and (2) ensure that each project obtains its appropriate share of the water available and carries out its obligations to protect the water-related environment.

The Department and the USBR have operated their respective projects pursuant to a Coordinated Operation Agreement since the SWP became operational. The agreement currently in effect was signed May 16, 1960. The agreement was designed to provide a method of allocating shortages in water supplies by prorating the shortage on the basis of specified annual diversion amounts, to resolve the protests of each party to the applications of the other for water rights consistent with these annual diversion amounts, and to clear the way for construction of San Luis Reservoir and related facilities. It did not utilize chronological priorities of water rights.

While the May 16, 1960 agreement provided the basis for coordinated operations, Article 16 specifically recognized that additional criteria would be needed for actual operation of the two projects on a coordinated basis. Negotiation on the operating criteria started in 1961 and continued to May 13, 1971, when a draft agreement was completed. The May 13, 1971 agreement provides an operating procedure for determining how much water each project must supply from its own sources for uses in the Sacramento Valley, including the Delta, and how much water each project is entitled to export from the Delta.

The May 13, 1971 agreement was never executed because of a stipulated judgment obtained in a lawsuit filed by the Environmental Defense Fund. The judgment prohibited approval of the agreement until environmental documentation had been prepared as provided for by the National Environmental Policy Act. Although the 1971 agreement was never executed, the Department and the USBR have signed annual letter agreements to operate the CVP and the SWP according to its terms with some modifications.

Experience in operating and developing both projects has shown that actual conditions are significantly different from the criteria assumed during the negotiations of the May 13, 1971 draft agreement. In 1979, USBR and the Department established negotiating teams to reevaluate the criteria, determine the water supplies available for each project, and develop a new agreement.

From early 1980 through December 1982, numerous negotiating sessions were held to deal with complex technical items, such as base hydrology values to be used for Delta consumptive use and outflow. In addition, experience gained during the 1976-77 drought had to be quantified.

On December 22, 1982 the leaders of the negotiating teams signed a memorandum recommending that the agreement

be approved at the staff level as the basis for future coordinated operations of the two projects. This draft agreement, if executed, will suspend rather than supersede the May 16, 1960 agreement. This ensures that in the event the agreement were to terminate, the May 16, 1960 agreement would still be in force.

The basic points included in the completed draft agreement are:

1. Annual supplies at the 1980 level of development have been established for both projects: 7.0 million acre-feet (MAF) for the CVP, and 3.7 MAF for the SWP (includes 1.0 MAF for the Feather River service area). Each project's annual supplies at the 2020 level of development would be 8.4 MAF for the CVP, and 3.1 MAF for the SWP (includes 1.0 MAF for Feather River service area). The determination of these supplies was computed by a method that does not attempt to segregate the complex water rights of each project. The method involved the use of staged operation studies, starting with the existing facilities of the CVP (not including the joint facilities) and then adding SWP facilities and the joint facilities. The method will be described in detail in a technical report.

2. The water supply amounts were then used to determine each project's proportionate share of available water supplies and responsibility for in-basin uses.

3. In the future, the method used to estimate 1980 level water supplies will be continued to determine, without extensive negotiation, the incremental water supply developed by new facilities.

4. Both parties agree to meet a specified set of water quality standards extracted from SWRCB D-1485. The standards do not include post-1984 Suisun Marsh criteria found in D-1485. No agreement has been reached between the Bureau and the Department regarding this issue.

   If new water quality standards are developed by the Board and not approved by the Secretary of the Interior, the agreement requires the Secretary to immediately request the Department of Justice to bring an action to determine the applicability of the standards to the United States.

5. The parties agree to operate and maintain specified monitoring sites to ensure compliance with water quality standards. The costs of this program will be shared equally by both parties.

6. The agreement provides for each party's use of the facilities of the other party, including the charges which the Federal Government must pay the Department for the use of SWP facilities in specified situations. Within five years from the date the agreement is executed, the parties will agree upon the manner in which imbalances in services provided by one project to the other prior to the execution of this agreement will be resolved.

7. Periodic review is provided to determine the success of each party toward meeting its objectives and to make adjustments if necessary to enable the parties to develop their respective water supplies.

An unresolved issue continues between the two agencies concerning coordinated operations related to the court decision in California v. United States. The decision requires USBR to comply with conditions established under State law by the 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 D-1485 in California v. United States is not contrary to any congressional directive and that the USBR must operate in compliance with it. (See California v. United States, in Chapter IX-Litigation, for further discussion.)

The Department and USBR are working to complete environmental documentation required by both the National Environmental Policy Act and the California Environmental Quality Act. Completion of a final environmental document is scheduled for mid-1984.

Federal officials believe Congressional authorization will be required for the USBR to enter the agreement.

Cooperative Study for Enlarging Shasta Lake

In December 1979, the Department and USBR signed a Letter of Intent to fund jointly and study the feasibility of enlarging Shasta Lake. In July 1982 an agreement formalizing the study procedure and funding arrangements was signed by both parties.

Objectives of the study are to determine the feasibility of enlarging Shasta Lake to increase water supplies and power generation for both the CVP and SWP, to improve fishery and recreation conditions, and to provide additional flood control along the Sacramento River.

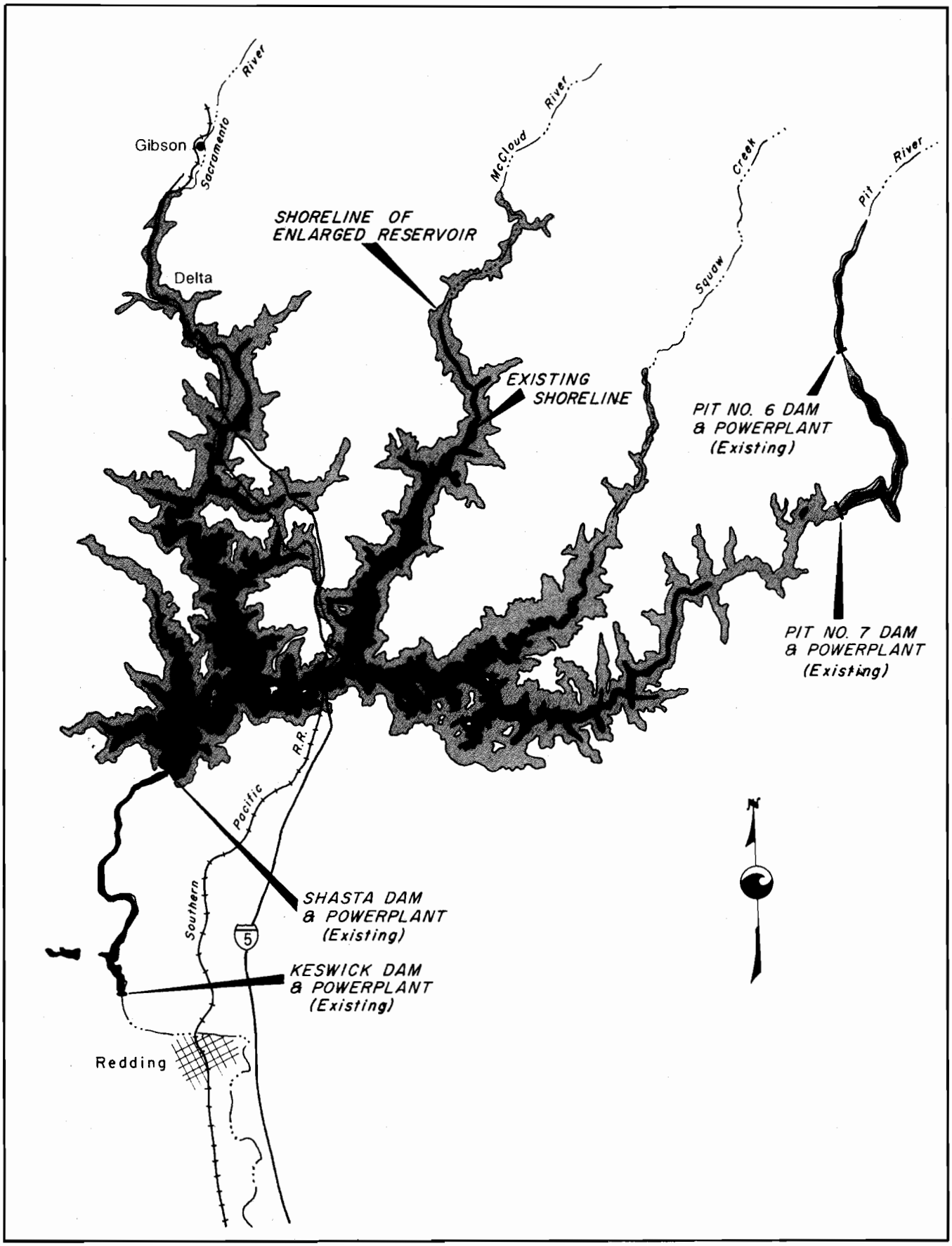
Study costs will be shared equally by both agencies, with a provision for reallocation in the event costs are eventually divided in some other proportion. The USBR will be responsible generally for planning of the main reservoir features (including Keswick or alternative afterbay facilities), planning associated with CVP conveyance facilities and CVP service areas, and studies of some alternative water supply proposals. DWR will be responsible generally for planning along the Sacramento River downstream of Keswick Dam. This will include planning for seepage, erosion, sedimentation, floodways, SWP conveyance facilities and SWP service areas, and studies of certain alternative water supply proposals.

Relocation studies will be shared, with DWR handling the relocation of portions of Interstate 5 (with assistance from CalTrans) and the Southern Pacific Railroad. All local road and other relocations within the reservoir area will be USBR responsibilities. All planning activities will be undertaken in accordance with current applicable Federal and State guidelines.

A Draft Plan of Study (POS) was completed in October 1981 and revised in February 1982. The POS is an outline of actions and a schedule for performing the overall study. The POS will be revised and updated during the investigation as required by changing conditions. It is to serve mainly as a guide for the study and not to be considered as a final plan.

The original schedule called for a joint feasibility study, including a draft EIR, by June 1987. The present schedule is to look at only the elements of the study needed to determine if the project is viable, and then, after feasibility is demonstrated, to do the work necessary for an environmental report. A preliminary report on feasibility is scheduled for June 1985. The Shasta Lake Enlargement Plan is shown in Figure 12.

Figure 12. SHASTA LAKE ENLARGEMENT PLAN



Colorado River Task Force Report

After reviewing the Department's Southern District Report, "Stretching California's Water Supplies: Increased Use of Colorado River Water in California," dated August 1980, the SWRCB recommended that the Department establish and chair a task force to (1) evaluate the merits and feasibility of the Department's proposal and (2) identify necessary actions to effect voluntary increased use of Colorado River water in lieu of SWP water by MWD.

In October 1981, the task force was formed with representatives from the Department, Colorado River Board, Department of Fish and Game, Public Utilities Commission, Colorado River Basin Regional Water Quality Control Board (RWQCB), Los Angeles RWQCB, San Diego RWQCB, Santa Ana RWQCB, MWD, LADWP, PGandE, Southern California Edison, San Diego Gas and Electric, U. S. Fish and Wildlife Service, League of Women Voters, and the Environmental Defense Fund.

In November 1982, the Task Force completed its report and submitted it to the SWRCB for consideration. The Task Force concluded that from an energy and water quality standpoint, the use of 400,000 acre-feet of Colorado River water in lieu of SWP water is not feasible in years of adequate SWP water supply. However, in years when the SWP is short of water, MWD would consider using Colorado River water in its service area in lieu of SWP water. This exchange would make Project water available in the Sacramento-San Joaquin Delta to alleviate water shortages within other SWP service areas.

The Task Force recommended that:

1. MWD, Coachella Valley Water District, and Desert Water Agency continue to negotiate the advance delivery of excess Colorado River water as exchange water.

2. The respective Regional Water Quality Control Boards discuss further the use of excess releases with local water agencies.

3. DFG consider further investigation of possible uses of excess releases for fish and wildlife, provided excess releases would not require large capital expenditures. The uses of water now available to DFG should be evaluated. DFG should consider investigating sources of possible funding for capital and operating expenditures to utilize any excess water supply.

4. The Department and MWD initiate negotiations to develop principles and guidelines for future water exchanges.

Cottonwood Creek Project

The Cottonwood Creek Project is a dam and reservoir complex to be located on Cottonwood Creek, an uncontrolled tributary of the Sacramento River. Congress authorized the project in the Flood Control Act of 1970, and later provided funds to the U.S. Army Corps of Engineers (USCE) for advanced engineering and design studies in 1976. The draft Phase I General Design Memorandum and Environmental Impact Statement is finished, and the final Phase I report is scheduled for completion in 1983. If the Phase I report is approved, Phase II studies will be undertaken to develop final design criteria for the project. Dam construction could begin as early as 1989, and the project could be operational by 1992, if no major institutional or funding problems are encountered.

The Department and the USCE have reached preliminary agreement on 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).

The incremental yield of Cottonwood Creek Project without the Delta Facilities would be about 175,000 acre-feet per year. Under present conditions, local irrigation yield may not be economically feasible as an initial project purpose, and there is no current demand in the local Cottonwood Creek area for an additional municipal and industrial water supply. However, if future demands of local agencies develop for additional supply, water from the Cottonwood Creek Project would be made available by the Department.

The Department will request assignment for the State filing of the Cottonwood Creek Project water rights at an appropriate time during development of the project.

The USCE 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 USCE expects to recommend to Congress that penstocks and related facilities be included in the initial project to allow for future addition of generating facilities. Under federal development, the electric power would probably be marketed by the Western Area Power Administration to preferential customers served by the CVP.

If the USCE decides not to construct the power plant, the Department might construct it at State expense to provide energy for the SWP. However, in anticipation of construction of the Cottonwood Creek Project, the city of Redding has filed for a FERC license to develop this source of energy, and this could preempt construction by the Department.

Federal Cost Sharing Proposal

State and Federal representatives met on February 1, 1982, to discuss the USCE proposal for cost sharing (up-front financing) for federal water projects and specifically for the Cottonwood Creek Project. The USCE proposes that nonfederal entities assume the following share of construction costs during the period of construction:

- Hydroelectric Power and Municipal/Industrial Water Supply - new proposal of 100 percent (local beneficiaries now pay zero, but they pay back all costs, with interest, over a period of time).
- Flood Control - new proposal of 35 percent (now varies - nonfederal interests pay costs of lands, easements, and rights of way on channel projects, but not dam projects).
- Fish Enhancement - 100 percent (new proposal).
- Recreation - 50 percent (same as existing practice).
- Navigation - new proposal of 75 percent up-front, with repayment of remaining 25 percent over the life of the project.

The Cottonwood project will cost $753 million to build at October 1983 prices. Under the new USCE cost sharing proposal, nonfederal interests would advance $662 million during the time of construction (1985-92). Stated another way, the Federal Government would reduce its capital investment from $753 million to $91 million. The quantitative effect on the SWP, which is committed to repaying the water supply costs of this Project, is not yet known.

The Department plans to continue negotiations and discussions with USCE regarding the purchase of reservoir storage space, fish and wildlife mitigation measures, and development of recreation facilities and hydroelectric power.

Interagency Drainage Program
San Joaquin Drainage Facilities

The Department is working with local agencies toward implementing the Recommended Plan of the San Joaquin Valley Interagency Drainage Program.

The monitoring of agricultural waste waters is continuing with emphasis placed on areas with the highest potential drainage problems. These are the areas to be studied for siting of desalting plants or marsh development. An update of maps showing the change in area of shallow ground water within the proposed drainage area has been completed.

Several concepts for reuse of agricultural waste water are being pursued by the Department. These include desalting, developing marshes, and irrigation of salt-tolerant crops. Several local agencies or individual ranches have constructed, or plan to construct, evaporation ponds to solve drainage problems, in addition to reuse of agricultural waste water.

Additionally, the Department is cooperating with the U.S. Salinity Laboratory (Riverside) in a demonstration project for reuse of agricultural waste water on crops in northern Kern County.

The Department submitted a request for $940,000 from the Energy and Resources Fund (one of the categories of the State General Fund) in 1983-84 for a demonstration marsh management project; however, these funds are not available for 1983-84.

Long-Range Program

The extension of the existing Federal San Luis Drain to a discharge point near Chipps Island is being studied by the USBR. The San Luis Drain would be the initial phase of the Valley Drain.

The San Luis unit of the Central Valley Project will require reauthorization to permit a joint Federal-State San Luis Drain that could provide drainage service for the entire valley. Before funds could be advanced to the Federal Government for State capacity in the drain, a repayment contract with local agencies would be required to provide assurance of repayment of State funds.

Discharge Requirements

The USBR has asked the SWRCB to establish discharge requirements for the San Luis Drain, discharging at Chipps Island. Additional studies are being conducted by the USBR to meet the needs of the SWRCB. The information from these studies will be essential in establishing appropriate waste discharge requirements. It will be three or four years before the SWRCB will be able to issue discharge requirements. In the meantime, the SWRCB has issued interim guidelines for establishing discharge requirements.

Two-Agency Fish Agreement

In September 1982, the Department of Water Resources and the Department of Fish and Game released a report titled Draft Environmental Impact Report on the Proposed Agreement to Manage the Fish and Wildlife Resources of the Sacramento-San Joaquin Estuary. Both departments believe an agreement on operation of the SWP is needed with regard to managing fish and wildlife resources in the Sacramento-San Joaquin estuary. The goals of the proposed Agreement are to compensate for SWP impacts on fish and wildife in the Bay and Delta and to realize the Project's potential for enhancing fish and wildlife, consistent with other Project purposes.

The Department of Water Resources and the Department of Fish and Game recognize that federal participation is desirable to fully accomplish the goals of the proposed agreement. Therefore, both departments are actively seeking federal participation.

The Final Environmental Impact Report on the Agreement to Manage the Fish and Wildlife Resources of the Sacramento-San Joaquin Estuary was released in December 1982 by the Department of Water Resources and the Department of Fish and Game. However, the December 1982 agreement was not approved by the Department of Fish and Game and, because of this, negotiations were resumed to develop a new agreement for the preservation of fish in the Delta.

CHAPTER V

DESIGN, RIGHT OF WAY AND CONSTRUCTION ACTIVITIES JULY 1, 1982 - JUNE 30, 1983

This chapter discusses the design of SWP facilities, acquisition of land, and construction work by SWP construction divisions. The SWP construction divisions are shown in Figure 13. Also included in the chapter is a discussion of the Department's program for safety review of Department-owned dams.

Design Activity

Between July 1982 and June 1983, the Department continued design work on major projects including Alamo Powerplant, Mojave Siphon Tunnel, Thermalito Afterbay Powerplant, North Bay Aqueduct, pumps for Banks Delta Pumping Plant, Suisun Marsh Facilities, two geothermal facilities (Bottle Rock Powerplant and South Geysers Powerplant), and several small hydroelectric projects. Design work also included modifications to certain existing SWP facilities. Other noteworthy design activities include:

- Seismic reevaluation of Thermalito Forebay Dam, Thermalito Afterbay Dam, Cedar Springs Dam, Patterson Dam, Frenchman Dam, Antelope Dam, Del Valle Dam, and Castaic Dam.
- Evaluation of Clifton Court Forebay Dam erosion caused by dispersive clays and design of remedial measures.
- Design of replacement piezometer installations for Oroville Dam and Perris Dam.
- Review of USBR analysis, design and construction of stability berms for San Luis Dam, and USBR reanalysis of seismic stability of San Luis Dam.
- Study of an embankment slide in the vicinity of Banks Delta Pumping Plant.
- Design O'Neill Forebay Dam riprap repair.
- Determination of maximum allowable safe ground water piezometric levels within Thermalito Afterbay Dam.
- Design of bridge hinge restrainers for bridges crossing SWP waterways.
- Design of the Los Banos Demonstration Desalting Facility and associated solar ponds.
- Participation in completion of the EIR for North Bay Aqueduct - Phase II, and initiation of design.
- Design of pipeline flow measuring station at Lake Perris.

Other significant design activities in each SWP construction division are summarized in Table 8, "SWP Design Activities in Progress."

Land Acquisition Activity

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

- Oroville-Wyandotte Irrigation District Tunnel Access Road rendered impassable after use by heavy equipment requires remedial construction work affecting one ownership.
- Access rights for Thermalito Diversion Dam Powerplant construction requires two parcels.
- Sutter-Butte Powerplant: FERC clearance needed before acquiring two required parcels.
- Bottle Rock Powerplant: plant site and access road have been acquired. Towerline and communication site property acquisition is still to be negotiated. Bottle Rock road, Phase II and III to be negotiated.

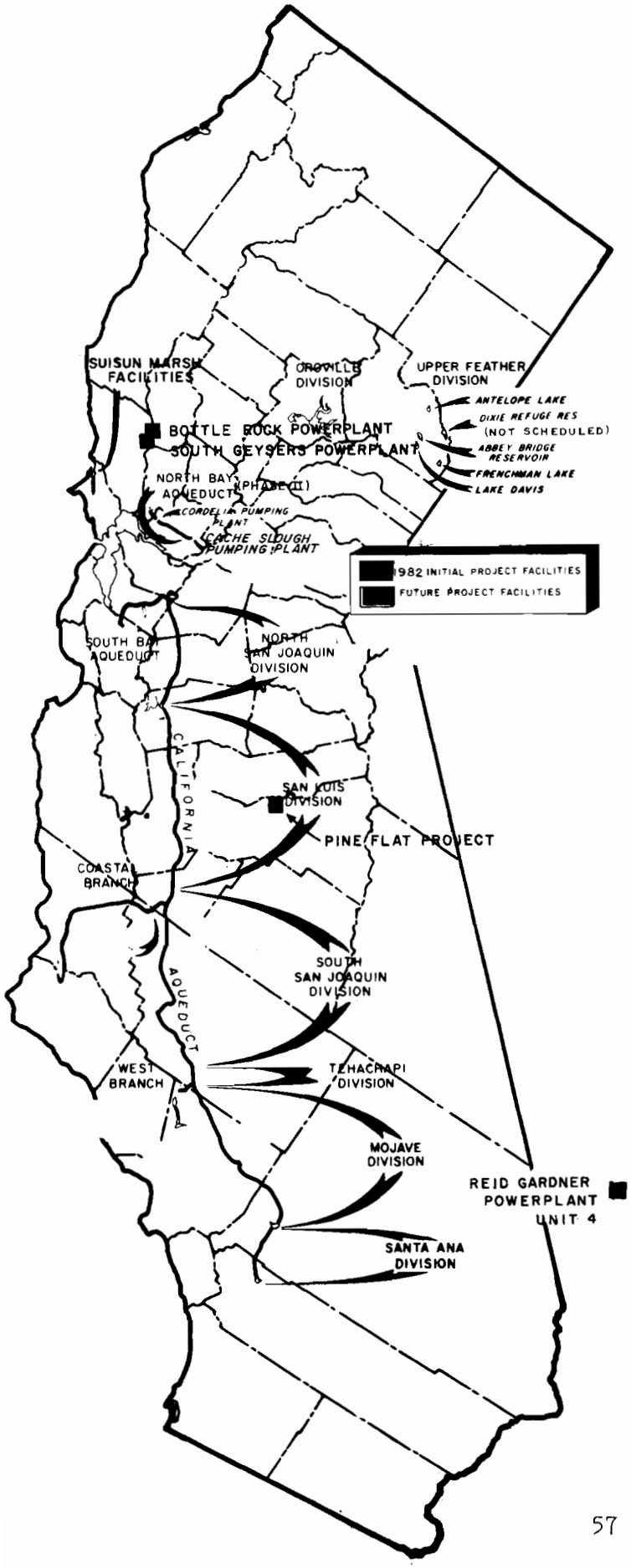
TABLE 8: SWP DESIGN ACTIVITIES IN PROGRESS

During Period
July 1982 - June 1983

Division or Facility	Activity	Begin Design	Complete Design
Energy Supply	Bottle Rock Powerplant:		
	Furnish and Install Cooling Tower	Jan. 1980	Aug. 1982
	Furnish Floor Panels	Jan. 1980	Sep. 1983
	Road Reconstruction between Cobb and Station 40	Mar. 1981	Feb. 1984
	Road Reconstruction between Stations 60 and 230	Mar. 1981	Jul. 1983
	Completion Contract	Jul. 1982	Sep. 1983
	South Geysers Powerplant:		
	Furnish Surface Condenser	Jul. 1981	May 1983
	Furnish Switchyard Equipment	Feb. 1982	Aug. 1982
	Furnish Switchgear	Feb. 1982	Sep. 1983
	Furnish Control Switchboards	Aug. 1981	Jun. 1983
	Furnish and Install Cooling Towers	Aug. 1981	Aug. 1983
	Furnish Plant Auxiliary Control System	Aug. 1981	Apr. 1983
	Furnish and Install Stretford Process Unit	Aug. 1981	Jul. 1983
	Plant Construction	Aug. 1981	Nov. 1982
	Furnish and Install Turbine-Generator	Aug. 1981	Oct. 1982
	Completion Contract	Aug. 1981	Jan. 1984
	Furnish 230 kV Line Breaker	Sep. 1981	Apr. 1983
State Water Project - General	Small Hydroelectric Powerplants		
	Pyramid Outlet Powerplant	Aug. 1981	*
	Castaic Outlet Powerplant	Aug. 1981	*
Oroville Division			
	Waste Settling Ponds-Feather River Fish Hatchery	Jul. 1982	Sep. 1983
	Thermalito Fish Rearing Raceways	Jul. 1982	Mar. 1983
	Armature Windings Hyatt Powerplant	Jul. 1982	Dec. 1982
	Furnish Major Equipment-Thermalito Diversion Dam Powerplant	Sep. 1981	Dec. 1983
	Thermalito Diversion Dam Powerplant	Jul. 1980	Apr. 1984
Suisun Marsh			
	Roaring River Fish Screen Second Stage	Dec. 1981	Feb. 1983
North Bay Aqueduct, Phase II			
	Cache Slough Pumping Plant Structure	Jan. 1983	Feb. 1985
	Cordelia Pumping Plant Structure	Feb. 1983	Feb. 1985
	Cache Slough Pumping Plant - Mechanical-Electrical	Jan. 1983	Jun. 1985
	Cordelia Pumping Plant - Mechanical-Electrical	Feb. 1983	Jun. 1984
	Pipeline, Suisun City Turnout through Ledgewood Creek	Feb. 1983	Aug. 1984
	Pipeline, Ledgewood Creek through Suisun Creek	Jan. 1983	Feb. 1984
	Pipeline, Suisuin Creek through Cordelia Forebay	Jun. 1983	Apr. 1984
	Pipeline, Cordelia Pumping Plant to Cordelia Surge Tank	Apr. 1983	Dec. 1983
South Bay Aqueduct			
	Furnish Vertical Multistage Pumping Units	Sep. 1981	Dec. 1982
	Seepage Measuring Facility at Del Valle Dam	Aug. 1982	*
	Trashrake Replacement for Del Valle and Dyer-Altamont Check Structures	Aug. 1982	Sep. 1983
North San Joaquin Division			
	Warehouse Extension Delta Operation and Maintenance Center	Jul. 1981	May 1984
	Furnish and Install 4 Vertical Pumps for Harvey O. Banks Delta Pumping Plant	Jul. 1982	*
Mojave Division	Alamo Powerplant:		
	Completion Contract	Jan. 1980	Jul. 1983
	Furnish Governor	Jul. 1981	May 1983
	Furnish Control Switchboards	Jul. 1981	Sep. 1983
	Furnish and Install Generator #1	Aug. 1981	May 1983
	Furnish Transformer	Jul. 1981	Jul. 1983
	Furnish Generator Switchgear and Station Substation	Jul. 1981	Sep. 1983
	Mojave Siphon Powerplant:		
	Tunnel	Aug. 1981	Nov. 1982
	Powerplant	Jul. 1980	*
	Hydroelectric Generating Equipment	Jul. 1980	*
	Trashrake	Jul. 1982	Nov. 1983
	Valve Vault	Jul. 1982	Nov. 1983
	Check Structure Completion, Mile 379.0 and 389.5	Mar. 1983	Oct. 1983
Other Project Activity	Monitor and Control System:		
	Project Power Management System	On Going	
	North Bay Aqueduct System	Jul. 1982	Dec. 1984
	Completion California Aqueduct System	On Going	
	Seismic Design Criteria	On Going	
	Special Consulting Board Work:		
	Safety Evaluations	On Going	

* SCHEDULE BEING ESTABLISHED

Figure 13: STATE WATER PROJECT CONSTRUCTION DIVISIONS



- South Geysers Powerplant: Transmission line and staging area to be acquired. Mitigation lands are being selected for acquisition.
- Entry permits and permanent acquisitions for Phase II of the North Bay Aqueduct are being acquired, as well as coordination with CalTrans plans for Abernathy Road interchange and truck weighing station expansion.
- Recreation development sites associated with project facilities at Gorman Creek is being acquired.
- Lake Davis/Plumas Eureka Land Exchange between the Department and the U. S. Forest Service will be completed.
- Suisun Marsh requires lands necessary to accommodate the construction of facilities to reduce salt water intrusion in critical areas.
- Hood Fish Test Facility expansion program requires seven parcels.
- Borrow Ponds 5, 6, 7, and 8 on the Peripheral Canal Alignment have been opened for fishing, hunting, or wildlife management, and Ponds 1 and 4 have been leased for water skiing.
- Approximately 690 acres required for a materials borrow site to repair San Luis Dam are to be acquired.
- San Luis Division - South San Joaquin silt removal program: Eight parcels are in the process of being acquired.
- South San Joaquin: One parcel to be acquired for spoil from upstream erosion.
- West Branch Completion: Parcels to be acquired are under one ownership (Tejon Ranch).

- Transfer of mitigation lands to Department of Fish and Game is anticipated. Transfer of 622 acres in the Perris Borrow Area has been approved.

- Negotiations with MWD for issuing Director's Easement Deeds to MWD to cover the Lake Perris Bypass Pipeline have been completed.

- Mojave Division: Completed acquisition of all except one parcel associated with the Mojave flood damage project.

From July 1982 through June 1983, the Department spent $1.3 million for land acquisition in excess of credits for sales of surplus property and return of condemnation deposits. This brings the total net expenditure through January 1983 to $116.7 million. A total of 112 acres, comprising 7 parcels of land, was acquired from July 1982 through June 1983. The cumulative total of excess lands sold through 1983 is 840 parcels (12,354 acres).

Thirty eight leases, consisting of new and existing leases through June 1983 were monitored; revenues received totalled $89,708. On the basis of a mitigation agreement between the Department, Department of Fish and Game, and MWD, 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.

During the 1982-83 fiscal year, six new utility agreements were processed with total estimated relocation costs of $221,500. In addition, the Department processed 28 encroachment permits, and three Director's Easement Deeds were issued for which the Department received $88,915 in fees. Table 9, "Acquisition of Land Parcels", shows the number of land parcels required under the current land acquisition pro-

TABLE 9: ACQUISITION OF LAND PARCELS

Facility or Construction Division	Parcels Acquired July 1, 1982 Thru June 1983	Total Parcels Acquired	Total Parcels Required
Feather River Facilities			
Upper Feather Division	1	25	43
Oroville Division	1	972	990
Delta Facilities	0	39	167
Emergency Drought Facilities	0	3	3
Suisun Marsh Facilities	1	28	82
North Bay Aqueduct	0	34	130
South Bay Aqueduct	0	206	208
Future Water Facilities	0	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	4	2
Mojave Division	0	1,696	1,777
Santa Ana Division	0	697	697
West Branch	1	339	349
Coastal Branch (Phase I)	0	48	48
Coastal Aqueduct	0	0	200
Desilting Sites	0	8	18
Energy Supply Facilities	5	32	152
Total	**9**	**4,939**	**5,691**

gram, together with the number of parcels acquired through June 1983, for each Department facility or construction division.

Construction Progress

Highlights of the Department's construction progress between July 1, 1982 and June 1983 included work on the following projects:

Reid Gardner Unit No. 4

The Department participated with the Nevada Power Company in constructing a coal-fired power plant near Las Vegas, Nevada. The completed project will be a 250-MW addition to the existing Reid Gardner Generating Station. Design and construction management of the plant is by Fluor Power Services, Inc. under supervision of the Nevada Power Company. The Department is also monitoring the construction work.

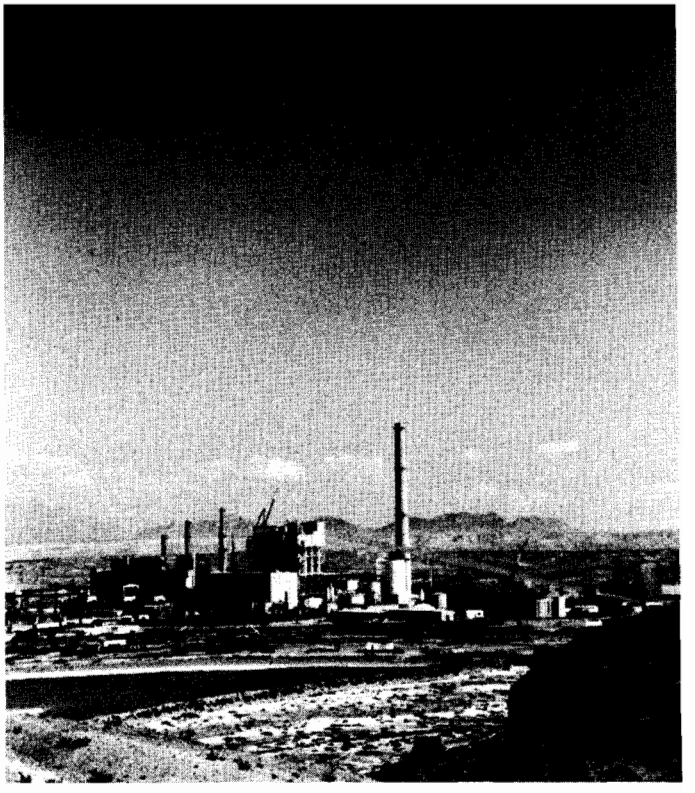
Contracts are now nearing completion for installation of major equipment at the facility, with Morrison-Knudsen and Fegles and Lord performing the general construction work as a joint venture. Among major contracts are those for installation of the boiler, turbine, flue gas desulfurization system, bag house dust collector system, cooling tower, coal handling system, and water treatment system.

At the end of June 1983, construction was essentially complete. Commercial operation of the plant began on July 26, 1983.

Bottle Rock Powerplant

Bottle Rock Powerplant, when completed, will provide 55-MW of energy supply to the SWP. This geothermal energy project is located on the Francisco Leasehold in Lake County. The power plant and related facilities will include a 55-MW turbine-generator, a condensing system cooling tower, electrical switchyard, and atmospheric emission control systems.

Construction of the power plant structure continued and was about 35 percent completed as of June 30, 1983. All major equipment contracts have been started and the completed turbine and generator are being stored in Japan until the plant is ready for installation. The condenser has been delivered and is being assembled at the job site Commercial operation is planned for October 1984.



Distant view of Reid Gardner Powerplant near Las Vegas, Nevada. Unit 4 is at the right with the largest smokestack. Unit 4 began operation in July 1983.

South Geysers Powerplant

South Geysers Powerplant, when completed, will provide 55 MW of energy supply to the SWP. This geothermal energy project is located at Rorabaugh Leasehold in Sonoma County. The power plant and related facilities will include a 55-MW turbine-generator, a condensing system cooling tower, electrical switchyard, and atmospheric emission control systems.

Development was started in June 1982 and is planned for completion in fall 1983. Work on the $11 million power plant structure was started early in 1983.

The steam turbine generator contract is under way with fabrication to be in Japan. The rest of the major equipment contracts will be awarded during 1983. Scheduled operational date is March 1986.

William E. Warne Powerplant

Facilities of this project located at Pyramid Lake include (a) Quail Lake and Lower Quail Canal, Peace Valley Pipeline, a 12-foot diameter pipe, and the powerplant with two 37.5 MW generators and appurtenant items. This installation is essentially completed. Unit No. 1 became operational in November 1982 and Unit No. 2 during February 1983.

Alamo Powerplant

Alamo Powerplant (formerly Cottonwood Powerplant) is under construction along the California Aqueduct approximately 10 miles east of Gorman in Los Angeles County. The first phase of this facility will have a capacity of 17 MW and will produce up to 115 million kWh/yr. At the end of June 1983, the main structure contract was 65 percent completed, with all work scheduled to be finished in early 1984. A completion contract for equipment installation was started in August 1983. The turbine which is being manufactured by Mitsui and Co. is estimated to be completed in fall 1984. Contracts for the equipment construction were let this spring with delivery to the job site during 1984. Unit No. 1 is scheduled to be operational in 1985.

A. D. Edmonston Pumping Plant

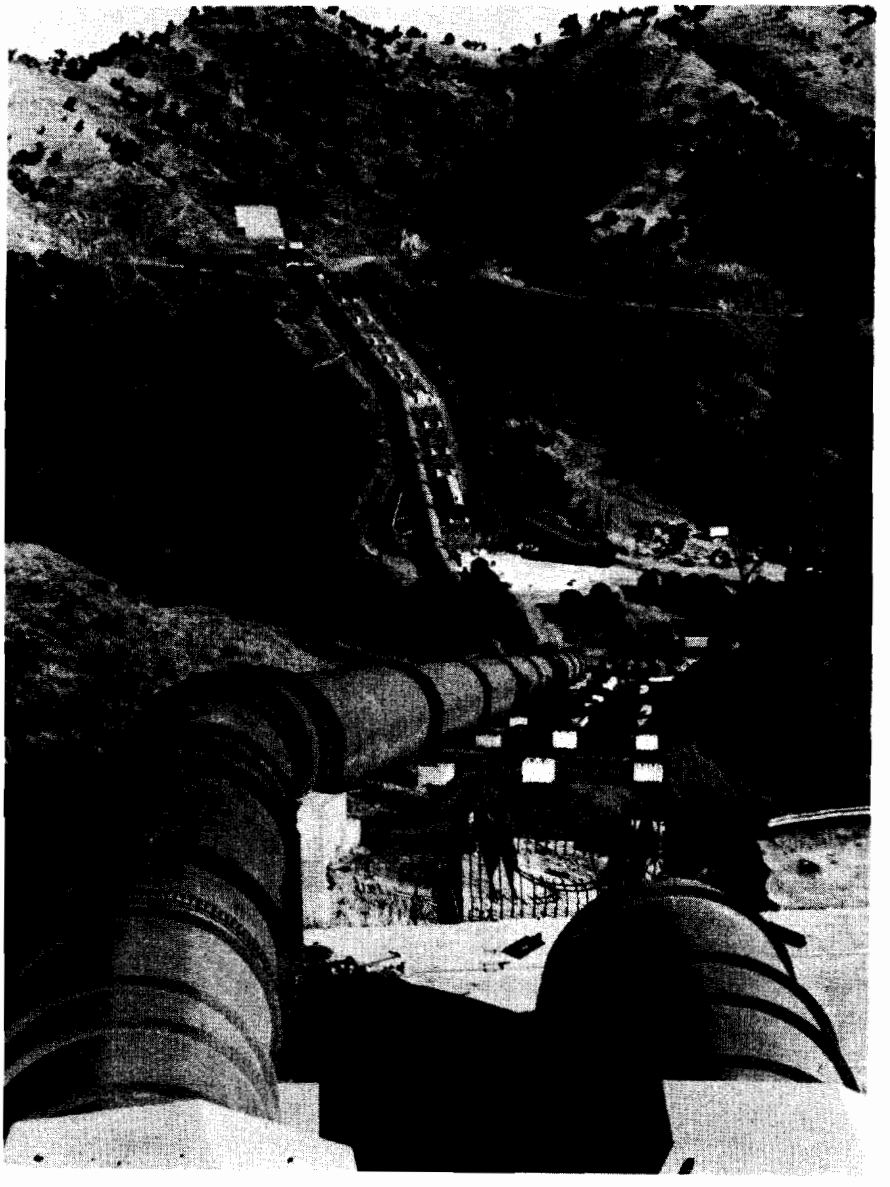
Three 80,000 hp pump units are being installed at Edmonston Pumping Plant. (This will complete the installation of pumps for the transportation of water across the Tehachapi Mountains.) These 4-stage centrifugal pumps will pump SWP water 1,926 feet in a single lift. After installation, the plant will be able to pump 4,410 cfs at full capacity. The first two pump units have been shipped from West Germany and are being stored at the job site until facilities are ready for installation. Motors and four other equipment contracts will be completed in 1983 and 1984; the first unit is scheduled for initial operation in November 1983, with all units operational by the end of 1984.

Construction of penstocks at the Alamo Powerplant.

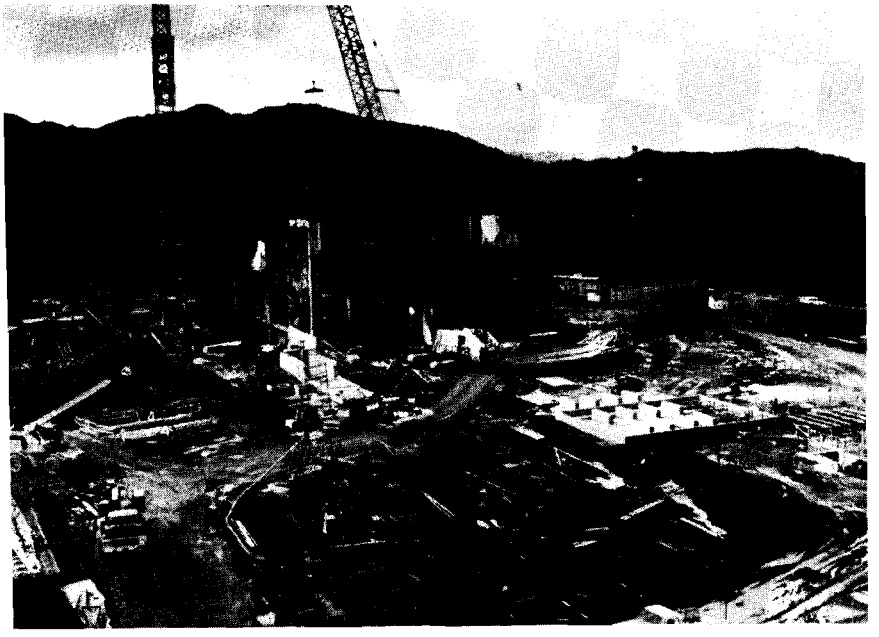
Pastoria Siphon

The second barrel of the Pastoria Siphon in the Tehachapi Division near the town of Lebec will increase the capacity of the California Aqueduct from the Edmonston Pumping Plant to the Tehachapi Afterbay to its full design capacity of 4410 cfs.

As of June 1983, construction was about 95 percent completed. Placing this section of the Tehachapi crossing is expected to be completed in late 1983.



A northerly view of the Pastoria Siphon showing construction of the Second Barrel.



Ongoing construction at the Bottle Rock Geothermal Powerplant in Lake County. This powerplant will provide 55 megawatts of energy.

Contract Status

On July 1, 1982, construction work under 54 contracts was in progress. Between July 1, 1982 and June 30, 1983, work called for 54 new contracts to begin. Average low bid of the contracts bid during this period was about $1 million. Average low bid of contracts in progress during this period was about $3.0 million. SWP construction progress is shown in Table 10. As shown in the table, some contracts have been completed. Also, estimated completion dates are given for those still in progress.

Governor Edmund G. Brown California Aqueduct

On December 11, 1982, the Department held a ceremony at the Edmonston Pumping Plant to dedicate the newly named California Aqueduct. The dedication paid tribute to former Governor Edmund G. Brown for his contributions of leadership and foresight in the development and construction of the State Water Project. Former Governor Edmund G. Brown Jr. and his sisters, Barbara Casey and Kathleen Kelly, joined with over one-hundred guests for this very special event. In attendance were California Water Commission Chairperson, Scott Franklin, Vice Chairperson, Alexandria Stillman, and Commission members, John Bryant, John King, and Marion Walker.

Former Director Ronald B. Robie, as master of ceremonies, opened the ceremony by describing the project and the importance of the Aqueduct. Harvey O. Banks, DWR's first Director (1956-61) and William E. Warne, DWR's second Director (1961-67) and former Governor Edmund G. Brown Jr. spoke in praise of the State Water Project as the crowning achievement of the Brown administration.

Former Governor Edmund G. Brown, accompanied by his wife Bernice, was very pleased with the event. A permanent plaque renaming the Aqueduct will be placed at the Edmonston Plant.

Heber Powerplant Groundbreaking

On November 22, 1982 the San Diego Gas and Electric Company hosted the groundbreaking ceremony of the Heber Powerplant. The Heber plant site is three miles from the border of Mexico, near El Centro in the Imperial Valley. The site is in the heart of America's liquid-dominated geothermal activity area. "Liquid-dominated" means that most of the geothermal brine is liquid rather than gas, with moderate temperatures similar to those of 80 percent of the known hydrothermal resources in the United States.

The Heber Powerplant project, a 45-megawatt pilot plant, will demonstrate the technical, economic, and environmental feasibility of the binary geothermal system. A binary system is simply one in which two fluids are used. The geothermal fluid is brought to the surface and goes through a heat exchanger, where its heat energy is transferred to a "working fluid". The working fluid, heated to a vapor, flows through a turbine to produce electricity. Cooled to a liquid again in a cooling tower, it then returns to the heat exchanger to absorb more energy.

The project's cost of $122 million through the demonstration period will be paid by the U.S. Department of Energy (50 percent), San Diego Gas and Electric Company (31.1 percent), the Electric Power Research Institute (10 percent), Southern California Edison Company (2 percent), Imperial Irrigation District (4 percent), and the Department of Water Resources (1.2 percent). An additional (1.7 percent) will be administered by the Department of Water Resources from the State's Energy and Resources Fund. When the project is completed, it will be owned by San Diego Gas and Electric (82 percent), Imperial Irrigation (10.5 per-

TABLE 10: SWP CONSTRUCTION DURING THE PERIOD

Division or Facility	Activity	Start Date	Planned Completion Date
Energy Supply	Bottle Rock Powerplant:		
	Turbine/Generator	Nov. 1980	Oct. 1984
	Condenser	Oct. 1981	Mar. 1984
	Powerplant Construction	Feb. 1982	Jan. 1985
	Pump Units	May 1982	Mar. 1984
	Control Switchboards	Feb. 1982	Sep. 1983
	Auxiliary Control System	May 1982	Sep. 1983
	Road Construction	May 1982	Oct. 1982
	Transformers for Bottle Rock and South Geysers Powerplants	Oct. 1982	Jan. 1985
	Cooling Tower	Nov. 1982	Jan. 1985
	Stretford System	Nov. 1982	Oct. 1984
	South Geysers Powerplant:		
	Initial Site Development	Jun. 1982	Sep. 1983
	Turbine/Generator	Jan. 1983	Apr. 1986
	Powerplant Construction	Jan. 1983	Jun. 1985
	Reid Gardner Unit No. 4	Mar. 1979	Aug. 1983
Oroville Division (Including Upper Feather)	Hyatt Powerplant:		
	Emergency Repair Station Unit No. 3	Dec. 1982	Apr. 1983
	230 kV Power Circuit Breaker	Oct. 1982	Jan. 1984
	Repair Chiller Unit No. 1	Aug. 1982	Sep. 1982
	Repair Chiller Unit No. 2	Oct. 1982	Dec. 1983
	Generator and Motor Generator Armature Winding Coils	Jan. 1983	Sep. 1984
	Rebuild Gate Level Encoder Units	Aug. 1982	Feb. 1983
	Access Road for Thermalito Afterbay Powerplant	Sep. 1982	Nov. 1982
	Thermalito Fish Rearing Raceways	Apr. 1983	Jan. 1984
	Resealing Paved Areas	Jun. 1983	Jul. 1983
Delta Facilities	Data Acquisition System for Delta Water Quality Monitoring:	Jan. 1981	Aug. 1982
	Repair East Levee of Highline Canal	Mar. 1983	Apr. 1983
Suisun Marsh Facilities	Roaring River Levee Repair Phase III	Jun. 1982	Aug. 1982
	Roaring River Fish Screen Second Stage	Mar. 1983	Oct. 1983
South Bay Aqueduct	South Bay Pumping Plant:		
	Furnishing Pumping Units	Mar. 1983	Feb. 1984
California Aqueduct-General	Electronic Circuit Boards for Southern California Monitor and Control Systems	Aug. 1982	Feb. 1983
North San Joaquin Division	Skinner Delta Fish Facilities Phase II	Nov. 1980	Jun. 1983
	Spare 1067 cfs Pump Impeller for Banks Delta Pumping Plant	Feb. 1981	Jul. 1983
	Repair Packing Box for 1067 cfs Centrifugal Pump for Banks Delta Pumping Plant	Oct. 1982	Dec. 1982
San Luis Division	Seal Coat for O'Neill Dam Crest Road	Aug. 1982	Sep. 1982
	Sealing Roads and Parking Areas	Sep. 1982	Sep. 1982
	Multipath Acoustical Velocity Flowmeter for San Luis Pumping/Generating Plant	Sep. 1982	Sep. 1983
	Motor/Generator Modification for San Luis Pumping/Generating Plant	Dec. 1982	Jan. 1984

ACTIVITIES IN PROGRESS
JULY 1982 - JUNE 1983

Division or Facility	Activity	Start Date	Planned Completion Date
South San Joaquin Division	Spare Pump Impellers	Jul. 1982	Aug. 1984
	Machine Pump Impeller Wear Ring for Pump Unit No. 1 of Buena Vista Pumping Plant	Aug. 1982	Oct. 1982
	San Joaquin O&M Center Storage Facility	Nov. 1982	Mar. 1983
	Bridge Hinge Restrainers	May 1983	Nov. 1983
	Repair of Seal Pistons, Seal Rings, Body Seats and Plug Seats, South San Joaquin Operations and Maintenance Center	Apr. 1983	May 1983
Tehachapi Division	Edmonston Pumping Plant:		
	Pumps	Jul. 1979	Apr. 1984
	Isolated Phase Bus Equipment	Nov. 1980	Oct. 1983
	Motors	Jun. 1981	Jun. 1984
	Switchboards	Jun. 1981	Nov. 1983
	Switchgear	Sep. 1981	Oct. 1983
	Completion Phase II	Apr. 1982	Aug. 1984
	Power Transformers	Mar. 1982	Nov. 1983
	Repair Unit No. 3 Impeller	Jun. 1982	Aug. 1982
	Repair of 48-inch Valve Rotor Pistons and Rings	Oct. 1982	Dec. 1982
	Repair of Unit No. 3	Dec. 1982	Feb. 1983
Mojave Division	Alamo Powerplant:		
	Turbine	Oct. 1980	Nov. 1984
	Initial Structure	Mar. 1982	Feb. 1984
	Gantry Crane	Jul. 1982	Dec. 1983
	Mojave Siphon Powerplant:		
	Intake	Apr. 1982	Oct. 1982
	Tunnel	Jan. 1983	Oct. 1984
	205th Street West Bridge and Aqueduct Frontage Roads	Apr. 1982	Sep. 1982
	Check Structures Mile 379 and 389.5, Phase I	Mar. 1982	Nov. 1982
	Pearblossom Pumping Plant:		
	Emergency Machining of Pump Casing Rings	Feb. 1983	Feb. 1983
Santa Ana Division	Devil Canyon Powerplant:		
	Power Circuit Breakers	Jan. 1983	Aug. 1983
	Santa Ana Pipeline Flow Measurement Station	Nov. 1982	Apr. 1983
West Branch	Warne Powerplant:		
	Turbines	Feb. 1978	Oct. 1983
	Valves	Aug. 1978	May 1983
	Generators	Jun. 1979	Oct. 1983
	Switchboards	Mar. 1980	Oct. 1983
	Actuators	Aug. 1980	Oct. 1983
	Completion	Dec. 1980	Sep. 1983
	Flowmeter	Nov. 1981	Oct. 1983
	Modifications of Southern California O&M Center and Castaic O&M Center	Apr. 1982	Oct. 1982
	Disc Seals for 78-inch Butterfly Valves for Oso Pumping Plant	Aug. 1982	Nov. 1982
	Machine Pump Impeller Wear Ring Billet Unit No. 8 of Oso Pumping Plant	Aug. 1982	Sep. 1982
	Rebabbitting Guide Bearings for 625 cfs Pumping Units at Oso Pumping Plant	Oct. 1982	Dec. 1982
	Rebabbitting Guide Bearings at Oso Pumping Plant	Jan. 1983	Mar. 1983
San Joaquin Drainage Facilities	Los Banos Demonstration Desalting Facility:		
	Biological Component	Mar. 1982	Sep. 1983
	Physical and Chemical Components	Apr. 1982	Sep. 1983
	Evaporation Ponds Completion	Sep. 1982	Apr. 1983
	Solar Ponds Operations Building	Oct. 1982	Mar. 1983
	Solar Ponds	Dec. 1982	Sep. 1983
	Electrodialysis Reversal Demineralization Unit	Jun. 1983	Sep. 1983

cent), and Department of Water Resources (3.2 percent). The State will hold another 4.3 percent for its contribution from the Energy and Resources Fund.

The experience gained at the innovative Heber Geothermal Powerplant could have wide application in future development in this country and in other nations.

Visitors to SWP Facilities

Every year SWP is visited by thousands of people from diverse backgrounds with varied interests. Many visit the Project to obtain information regarding the Department's basic objectives, management philosophy, policies, practices and procedures. Others come seeking technical information regarding the planning and design of the Project, design decisions of peak flows, turnout structure sizes, and capacities. In addition, visitors are also interested in the technical aspects of canal maintenance, weed control, lining repairs and maintenance of the Project. The technical features of our communication systems and control of waterflow in the Aqueduct by the Division of Operation and Maintenance is also of continuing interest.

During this last year we have received many national and/or statewide dignitaries. These dignitaries are normally sponsored through the World Bank or by large international firms involved in providing assistance to various countries abroad. Among the distinguished visitors have been the Minister of Water of Saudia Arabia, the Director of Water and Power from Pakistan, the Director of the Central Water Commission of India, Chief of Operations and Maintenance from Nepal, and the Vice Minister of Water from the Republic of China.

In addition to dignitaries from foreign countries, we have received USBR and Congressional Aids, financial analysts, economists, scientists, engineers, farmers, and students of all ages. This year to date we have had 20,000 visitors representing 64 foreign countries and thousands of others from within our own country and state. The State Water Project not only delivers water throughout California, it also provides an opportunity for many citizens and visitors to see first hand how technology is helping meet the industrial, social, and economic needs of the people of this state.

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 first safety evaluation under this review program has been completed for all Department-owned dams.

Following is a summary of activities within each SWP area in progress under this program.

Upper Feather River Division

The Department's Independent Safety Review Board for Antelope, Grizzly Valley, and Frenchman dams completed its safety evaluation and submitted a report in November 1980. The report declared the dams to be safe, but recommended some additional work and studies for each. This additional work and studies, expected to be completed by March 1984 is summarized in Bulletin 132-81.

Oroville Division

Members of the Special Consulting Board for the August 1, 1975, Oroville Earthquake are performing the independent safety review for Thermalito Forebay, Thermalito Afterbay, and Bidwell Canyon Saddle dams. During courses of the studies, the Department completed:

- Seismic evaluation of Thermalito Forebay and Thermalito Afterbay dams, and
- Extensive facilities exploration and testing of the dams.

The Department has completed its final technical studies of these dams. The final draft report on the Thermalito Afterbay Dam is scheduled to be sent to the Board in fall 1983 for concurrence. The final draft report on the Thermalito Forebay Dam will be submitted to the Board at the final Board meeting scheduled before the end of 1983, to conclude the safety review of the Oroville-Thermalito facilities.

The Department has published two reports on the 1975 Oroville Earthquake:

1. Bulletin 203, "Performance of the Oroville Dam and Related Facilities During the August 1, 1975 Earthquake", April 1977.
2. Bulletin 203-78, "The August 1, 1975 Oroville Earthquake Investigations", February 1979.

These reports discuss in detail the 1975 earthquake and its effects on Oroville Dam.

South Bay Area

The Department's Safety Review Board completed its safety evaluation of Del Valle, Clifton Court Forebay, Patterson, and Bethany Dams and submitted its report on each dam in 1980. The Board's reports declare the dams to be safe, but recommended additional work or studies for each dam.

The recommendations included such actions as dynamic soil studies, seismic stability analyses, specific monitoring and inspection at each structure, and a number of remedial repairs.

Accountability statements covering all of the recommended actions have been prepared and are being reviewed by Department management. The additional work and studies are expected to be complete about December 1984.

San Luis Division

Dam safety evaluation programs for San Luis Dam, carried out by the Department and USBR in 1979, concluded that the dam's performance during and after a large magnitude earthquake needed further evaluation. An engineering consulting board was appointed to review the results of a seismotectonic study prior to completing the study's report and to advise on engineering criteria for the seismic evaluation. The consulting board is scheduled to complete its review by the end of 1983. The engineering analysis of San Luis Dam is scheduled to be complete in 1983.

Southern California Area

The Safety Review Board for Perris Dam completed its evaluation on October 7, 1982. The Board's report stated the dam to be safe, but made the following recommendations and suggested actions:

- Investigate a depression or trench located at the upstream edge of the upstream impervious blanket; action to be completed by December 1983.
- Certain selected inoperative gas piezometers be replaced and at least two new ones be added in the foundation of the dam; action, to be completed during June 1984.

The Safety Review Board for Castaic Dam declared in its January 1980 report that the dam is safe, but recommended that the following additional design studies and remedial work be conducted:

- Analysis of the left abutment and installation of more pressure-sensing devices.
- Recalculation of the maximum flood hydrograph.
- Correction of movement between some concrete slabs in the spillway.

These additional studies and work are expected to be completed by mid-1984.

The Department completed its memorandum report on the "Seismic Reevaluation of Cedar Springs Dam and Reservoir" in March 1983, and submitted it to the Safety Review Board for review. The Board plans to submit the final report in the fall of 1983.

The Safety Review Board for Pyramid Dam is scheduled to begin its review in fiscal year 1983-84.

Review Under FERC Requirements

FERC Project No. 2100 Oroville Division. The second safety inspection and report by an independent consultant, covering requirements of FERC for Oroville, Bidwell Canyon Saddle, Parish Camp Saddle, Thermalito Diversion, Thermalito Forebay, Thermalito Afterbay and Feather River Fish Barrier Dams, were completed in February 1980.

All actions recommended by the consultant have been completed except for the investigations and reports in progress for the Special Consulting Board for the Oroville Earthquake, which are to be completed in December of 1983.

The investigation requested by FERC concerning the susceptibility of Oroville Dam to overtopping as a result of wind and wave action has been completed. The consultant has reviewed the report and concurs with the conclusion. The report was sent to FERC in July 1983.

The third safety inspection and report is due in March 1984. A contract is being prepared to obtain the service of an independent consultant.

FERC Project No. 2426 California Aqueduct. The consulting engineer's report covering FERC requirements for both Cedar Springs and Pyramid Dam was completed in March 1981. Actions recommended by the consultant and the status of their implementation are:

- Reexamine the dynamic stability or deformation of the dams. The action for Cedar Springs has been completed, with a report submitted to FERC in April 1983. Evaluation of Pyramid Dam is scheduled for 1984-85.
- A consultant's report titled, "Erratic Piezometer Performance, Pyramid Dam", was submitted to FERC in January 1983.

The Safety review schedule of Department-owned dams is shown in Figure 14 together with Board's review costs, design costs, and costs of remedial work incurred by the Department through June 1983.

Figure 14: SCHEDULE FOR REVIEW OF DEPARTMENT OWNED DAMS

FACILITY	CALENDAR YEAR									Review Board Studies Cost Thru June 1983	Design Studies and Remedial Work Cost Thru June 1983
INDEPENDENT SAFETY REVIEWS	1976	1977	1978	1979	1980	1981	1982	1983	1984		
Antelope, Grizzly Valley, and Frenchman Dams										$ 7,000	$ 471,800
Oroville, Thermalito Diversion, and F. R. Fish Barrier Dams										17,004	951,000
Thermalito Forebay, Thermalito Afterbay and Bidwell Canyon Saddle Dams										33,029	3,322,800
Del Valle, Clifton Court Forebay, Bethany, and Patterson Dams										15,568	232,600
Castaic Dam										38,719	253,700
Pyramid and Perris Dams *										11,679	797,500
Cedar Springs Dam										15,000	142,400
San Luis Dam										453,000	9,750,000
FERC SAFETY EVALUATION											
Oroville, Thermalito Forebay, Thermalito Afterbay, Thermalito Diversion, F. R. Fish Barrier, and Bidwell Canyon Saddle Dams										68,227	
Cedar Springs and Pyramid Dams										30,000	
Castaic Dam											
										TOTAL	**$689,226**	**$15,921,800**

Scheduled Review
Board Review and Report
Design Studies and Remedial Work
Design Studies and Board Review
Design Studies, Board Review and Report

* Pyramid and Perris Dams are in their second review phase which is charged as an operation and maintenance cost and is not included herein.

Foundation work for the second barrel of the Pastoria Siphon works its way up the canyon wall beside the existing first barrel.

CHAPTER VI

PROJECT MANAGEMENT

Water Rights Management

The SWP currently operates in the Delta under conditions set forth in Water Rights Decision 1485 issued by the SWRCB in August, 1978. This decision resulted in (1) coordination of terms for SWP and CVP water rights permits and (2) establishment of water quality standards for the Sacramento-San Joaquin Delta. These standards have been set to ensure protection of Delta beneficial uses. Decision 1485 requires implementation of a monitoring program to properly monitor Delta water quality. The monitoring program and associated special studies conducted by the Department have helped gain a better understanding of the effects of SWP operation on the Delta's ecology. The program has also provided information that will determine future operating criteria to protect the Bay-Delta waters.

Delta Water Quality Monitoring and Reporting

In 1982, the Department sampled an average of 32 water quality parameters at each of 28 sites throughout the Delta estuary on a biweekly basis. On alternate weeks, continuous water-quality profiles of the main channels were recorded with automated instrumentation aboard the Department's laboratory workboat, San Carlos. Special studies conducted by the Department in 1982 included (a) a continuing series of sampling runs to measure food web relationships in the shoal areas of San Pablo Bay and (b) salinity gradient runs through San Francisco Bay during periods of high winter outflows.

Efforts continue to determine the causes for erratic algal production in the Central Delta. Additional information was collected during supplemental monitoring runs in 1982 and is being integrated with the routine monitoring data base for further evaluation.

D-1485 further requires supplemental 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 influences on the Bay, such as waste discharges and shoreline development. The program is a cooperative effort with the Department of Fish and Game, the lead agency for these studies.

Construction for a network of six continuous, multiparameter recorders, located on-shore at strategic locations throughout the Delta, has been completed. This network is another requirement in the appropriation permit issued by the SWRCB. Sensor packages have been installed, and computerized equipment is being calibrated. Processing of computer water quality information began in the fall of 1982. Three sites (Antioch, Mallard Slough, and Rio Vista) will have telemetry capabilities.

Water quality information is stored in the Department's Water Data Information System. Data for 1982 were published and transmitted to the SWRCB with the Department's analysis of the information. Copies of 1975 through 1981 data tabulations are still available. The Department is cooperating with the SWRCB in analyzing existing State and Federal data systems to adopt an electronic data processing system common to all State agencies. The data developed from these efforts are also an important reference for other agencies involved in Delta study and evaluation programs.

Water Entitlement Negotiations

To aid in the control of water quality in the Delta, the Department (1) has constructed facilities in the Suisun Marsh, (2) has signed contracts with water districts who depend on the Delta for a water supply, and (3) has been negotiating agreements with others. Following is a summary of these activities.

Suisun Marsh. The Suisun Marsh Initial Facilities, consisting of dredging, and improvements on Roaring River Slough, Morrow Island Ditch, and the Goodyear Slough Outfall Structure, were completed by the Department in October of 1981. The first phase of the fish screen required as a condition of the Corps of Engineers permit was completed in January 1981.

A contract for fish screens for the remaining 6 pipes of the Roaring River Slough intake was advertised in December of 1982. Bids were opened in February 1983. The work under this contract was completed in October 1983.

The completed Initial Facilities were transferred to the Department's Division of Operations and Maintenance in September 1982.

The monitoring program described in the Plan of Protection is being implemented, and most of the equipment is now in place. The storms of 1982-83 caused flood damage to almost all of the monitoring equipment. The damaged equipment has been repaired and replaced and is now back in use. An EDP program to reduce the raw data has been developed and is now in use. The first report on water quality was completed in March 1983.

The Department is continuing to work through the Suisun Marsh Technical Committee of the Interagency Ecological Study Program for the Sacramento-San Joaquin Estuary to develop a coordinated plan to maintain and, where practicable, enhance the wildlife habitat in the Suisun Marsh.

The Suisun Marsh Model has been used to analyze alternatives and test the effectiveness of proposed facilities in meeting the requirements of D-1485. Information from the model on channel sizes and the volumes of water to be moved is to be used in designing the facilities. It has also been used to determine the effects on the marsh of deficiency conditions (reduced flows and increased salinities) in dry and critical years.

In mid-December 1982, the Suisun Resource Conservation District (SRCD) negotiator advised the Department that the contract between DWR, Department of Fish and Game, and SRCD was not acceptable in its present form. Contract negotiations are continuing and it is expected that a contract will be signed in late 1983. The EIR will be modified to reflect the changes in the contract.

In July 1982, the Department advised the SWRCB that it would not be able to complete the Overall Facilities by the October 1984 deadline but would move as rapidly as possible on the marsh project.

Western Delta Municipal Water Users. Two contracts are in effect for replacement of municipal water supplies in the Antioch-Pittsburg area. (See page 20, Bulletin 132-67.) The first, signed April 21, 1967, is with the Contra Costa County Water District (CCWD) 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 its 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 1982 water year as defined in the contract. During the year, the CCWD accumulated a surplus of 104 days and Antioch a surplus of 102 days. At the end of 1982, the CCWD and Antioch have total credits of 104 and 165 days, respectively, including the credits accumulated in previous years. These credits for above-average offshore water supplies are available to offset below-average days in future years.

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, the Contra Costa Canal provides a substitute supply. These industries have not agreed to participate in a contract similar to those signed by municipal interests. The reasons cited include: (1) belief that SWP should provide compensation for the entire loss of offshore water regardless of who is responsible; and (2) desire that SWP 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 negotiations with Louisiana Pacific-Fibreboard and Crown Zellerbach corporations. A draft contract was submitted by both corporations in October, 1982.

Delta Agricultural Water Users. For more than a decade, the Department has sought to contract with the agricultural agencies for the SWP to meet water quality standards necessary for reasonable beneficial uses throughout each agency's respective area, with relaxation of these 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.

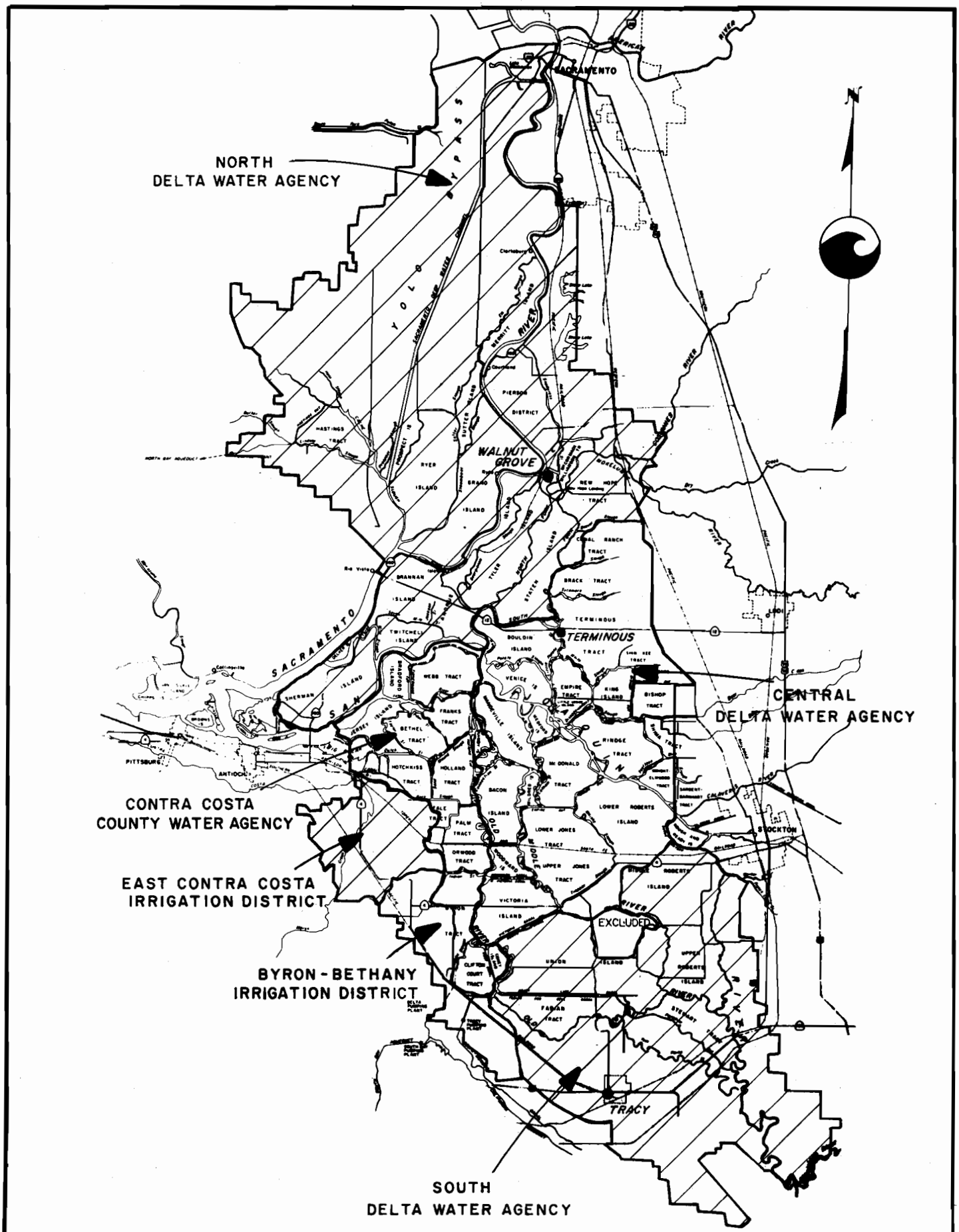
Beginning in 1974, six agencies representing agricultural water interests in the Delta succeeded to the overall interest of the Delta Water Agency, which ceased to exist December 31, 1973. These are the North, the Central, and the South Delta Water agencies, the Contra Costa Water Agency, and the East Contra Costa, and Byron-Bethany Irrigation Districts. The area served by each of these agencies is shown in Figure 15. The status of negotiations is further detailed as follows:

- North Delta Water Agency (NDWA). A contract with the NDWA was signed in 1981 (see Bulletin 132-81, pp. 70-71 for discussion). Activities since June 30, 1981 have been devoted to monitoring water quality at four existing stations required by D-1485 and installation of three new stations required by the contract. Grab samples are being utilized until these latter three stations are operational.

- East Contra Costa Irrigation District (ECCID). The contract was executed on January 7, 1981. No ratification election was required because the District holds the water rights. The installation of monitoring equipment at the ECCID intake is in progress.

- South Delta Water Agency. In its Decision 1485, the SWRCB did not establish water quality standards for the southern Delta, because insufficient information was available, and because negotiations among USBR, SDWA, and the Department were underway. If negotiations were not successful by January 1, 1980, the SWRCB was to have intervened. However, this date has been repeatedly extended at the request of all parties (in-

Figure 15. SACRAMENTO - SAN JOAQUIN DELTA AGENCIES



cluding SDWA), although SDWA had also filed suit against SWRCB for failing to include southern Delta standards in D-1485.

On March 4, 1982, the SWRCB held a workshop session to discuss the southern Delta problems. As a result of this meeting, SDWA was informed that the Agency must petition the SWRCB if it wishes any action on the adoption of standards. SDWA responded by criticizing this position, restating its position that the SWRCB must adopt standards for the southern Delta, and stating that negotiations have come to an impasse.

On July 22, 1982, the Department was served in a lawsuit filed by SDWA against the Department and USBR over the effects of SWP and CVP operations on water quantity and quality in the southern Delta. The lawsuit also challenges the USBR's designation of the New Melones service area (See discussion in Chapter IX). The suit seeks a declaration of the rights of the parties, a preliminary injunction and a permanent injunction requiring that the projects be operated to protect the southern Delta.

- Central Delta Water Agency; Contra Costa County Water Agency and Byron-Bethany Irrigation District. Negotiations are currently inactive; there is no reason to believe that they will be resumed in the near future.

Pyramid and Castaic Water Rights Applications and Related Activities

On January 4, 1983, the SWRCB, Division of Water Rights, issued permits for water rights applications 25988 and 26058 to the Department.

Permit No. 18709 (Application 25988) was issued to store up to 55,000 acre-feet per year of unappropriated Piru Creek water in Pyramid Lake, and Permit 18710 (Application 26058) was issued to store up to 85,000 acre-feet per year of Castaic Creek Water in Castaic Lake.

The purposes of use described in the permits are:

Fish and Wildlife Enhancement
Recreational
Salinity Control
Industrial
Municipal
Domestic
Irrigation

These permits are issued subject to vested rights and the limitations and conditions of the permit. The permit terms require that the permittee (Department) fund a steelhead fishery study to be performed by the Department of Fish and Game (DFG). The purpose of this study is to gather data and make recommendations on feasible alternatives for the improvement and perpetuation of a steelhead resource in Sespe Creek and the lower Santa Clara River. An Inter-Agency Agreement (No. B54179) was approved on June 22, 1982 that obligated the Department to pay to DFG an amount not to exceed $120,000 for this study. The two-year study was initiated in November 1982.

In accordance with the conditions specified in the FERC License for Pyramid Lake, the Department is required to release (and has been releasing) water from Pyramid Lake to provide a year-round trout fishery in Piru Creek. In November of 1982, FERC issued an amendment increasing the amount of water to be released beginning in May 1983. The amount to be released is 5 cfs minimum from November 16 to April 30, and 10 cfs minimum from May 1 to November 15. For the latter period the flows would have to be increased by an additional 5 cfs to 15

cfs, depending on the temperature in the vicinity of Pyramid Lake. An agreement between the Department and United Water Conservation District to both conserve natural local waters originating in the watershed above Pyramid Dam and regulate that water to meet the required releases is under consideration.

Water Contracts Management

SWP water supplies in 1982 were sufficient to meet all water contractors' entitlement and repayment water requests with enough remaining to meet 100 percent of the water contractors' surplus water requests. In addition, enough unscheduled water (formerly designated as extra surplus water) was available during the first four months of 1982 to meet over 22 percent of the original surplus water requests. On December 30, 1981, the initial schedule was approved for water deliveries in 1982, based on the 1982 rule curve criteria and using the December 1, 1981, water supply forecast for the 1981-82 water year. The initial approval was for the delivery of all 1982 entitlement requests plus 700 acre-feet of carry-over entitlement and 63,321 acre-feet of preconsolidation repayment water.

As the year's water conditions improved, increasing amounts of surplus water were approved for delivery, reaching a maximum in April 1982 when all the requests for surplus water were approved for delivery.

The unscheduled water program, initiated in 1980 and continued in 1981, was again carried out in 1982 with seven contractors signing unscheduled water contracts. During the first four months, six of these contractors took delivery of 168,151 acre-feet of unscheduled water.

Unscheduled water is defined as water available in the Delta in excess of that needed for scheduled SWP water deliveries, or other SWP purposes and, also, in excess of water to meet Delta requirements established by the SWRCB. In short, unscheduled water can be delivered only when Project water supplies and aqueduct conveyance capacity exceed all other SWP needs.

Priorities established for the use of unscheduled water provide that such water will be furnished (1) for ground water 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 unscheduled water are normally scheduled weekly in accordance with procedures set forth in the annually executed unscheduled water contracts.

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.

Palmdale Water District's contract provides for deliveries of SWP water beginning in 1972; however, the District has not yet taken delivery of any Project water. Contracts for the other six contractors who have not yet taken Project water specify initial deliveries to be made in 1980 or thereafter. To date, some contractors have received far less water than the amounts contracted for, mainly because annual needs are less than those projected in the early and mid-1960s, when the contracts were signed. Table 11 shows the annual entitlements and actual water deliveries for 1962 through 1982. Although total entitlement deliveries are less than the contracted entitlements, cumulative State deliveries of all types of water (including surplus) since 1962 exceed the cumulative total of all annual contract entitlements through 1982.

Table 12 presents a summary of 1982 entitlement and surplus water service to long-term contractors. In 1982, 23 of these contractors took less entitlement water than their originally contracted "Table A" amounts.

In August 1982, the Department started negotiations to sell to Kern County Water Agency (KCWA) the 17 cfs of Coastal Branch conveyance capability recently relinquished by Santa Barbara County Flood Control and Water Conservation District. The initial proposal by the Department was rejected by KCWA in March 1983. As a result, the Department issued Water Service Contractors' Council Memo No. 1614 inquiring if any contractor(s) would be willing to repay all the costs allocated to that capacity (both prior and future) for all reaches in which that capacity exists, if the water amount associated with that capacity would be included in the sale. The Department received replies from interested contractors and will begin negotiations soon.

Water Deliveries in 1982

During 1982, 30 agencies were provided water service by the SWP. These included 23 long-term water contractors and 7 noncontractors. Monthly deliveries to each of the 30 contractors are shown in Table 13 and are summarized as follows:

- 1,748,910 acre-feet of 1982 entitlement water to 20 long-term contractors.
- 47,722 acre-feet of surplus water to five long-term contractors.
- 168,151 acre-feet of unscheduled water to six long-term contractors.
- 24,600 acre-feet of emergency relief water to a long-term contractor.
- 27,474 acre-feet of regulated local supply to three long-term contractors and two noncontractors.
- 557 acre-feet of 1978 exchange water to one long-term contractor.
- 60,306 acre-feet of 1982 exchange water to one long-term contractor and one noncontractor.
- 5,979 acre-feet of preconsolidation repayment water delivered to one of the two agencies holding a preconsolidation repayment water contract.
- 1,365 acre-feet of Federal Central Valley Project water wheeled to eleven San Joaquin Valley agencies:
- 134 acre-feet delivered to KCWA's Cross Valley Canal for distribution to nine agencies.
- 1,231 acre-feet delivered to two Federal customers from the joint-use San Luis facilities.

Entitlement Water Deliveries. (Table 12). In September of every year the State obtains from each contractor an estimate of future requirements for SWP water. Estimates for 1982 entitlement water received in the fall of 1981 from 22 contractors totaled 2,342,576 acre-feet. In addition to the entitlement water, the estimates contained requests for preconsolidation repayment water, demonstration ground water, and a substantial amount of surplus water.

Actual entitlement water delivered in 1982 totaled 1,748,910 acre-feet. Tables 12 and 13 show water delivered during 1982 by type and contractor. The difference between the amounts of entitlement water initially requested and those delivered resulted mostly from decreased deliveries to MWD. The decrease was due to the wet water year and increased local supplies. The greatest effect was on the municipal

TABLE 11: ANNUAL ENTITLEMENTS

(in acre-

Calendar Year	Annual Entitlements Under Long-Term Water Supply Contracts							Annual Water
	Feather River Area	North Bay Area	South Bay Area	San Joaquin Valley Area	Central Coastal Area	Southern California Area	Total	Entitlement Water
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	11,538	0	0	0	11,538	11,538
1968	550	0	109,900	81,050	0	0	191,500	171,709
1969	620	0	98,700	168,075	0	0	267,395	193,020
1970	700	0	114,200	207,700	0	0	322,600	233,993
1971	890	0	116,200	258,500	0	0	375,590	357,340
1972	970	0	118,300	420,766	0	201,723	741,759	611,801
1973	1,100	0	120,400	392,352	0	472,400	986,252	694,388
1974	1,230	0	122,400	470,350	0	588,220	1,182,200	874,077
1975	1,610	0	124,500	556,509	0	704,250	1,386,869	1,223,990
1976	1,990	0	126,500	555,117	0	824,780	1,508,387	1,373,002
1977	2,420	0	128,600	594,100	0	942,201	1,667,321	574,155
1978	1,850	0	130,700	647,262	0	1,038,222	1,818,034	1,452,699
1979	2,130	0	132,700	715,385	0	1,177,873	2,028,088	1,659,896
1980	1,810	500	134,800	770,800	1,946	1,304,914	2,214,770	1,529,749
1981	1,940	650	137,000	830,700	2,813	1,419,365	2,392,468	1,909,562
1982	1,970	800	139,200	889,200	5,626	1,540,875	2,577,671	1,748,910
Total, 1962-1982	21,780	1,950	1,865,638	7,557,866	10,385	10,214,823	19,672,442	14,619,829

a) *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 Contruction Company, 1980).*

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

AND WATER DEMANDS

feet)

Water Demands							Calendar Year
Contractor Demands			Initial Fill	Operational Losses and Storage Changes	Recreation Water	Total	
Surplus Water	Other Water	Subtotal					
(9)	(10)	(11)	(12)	(13)	(14)	(15)	
0	18,289	18,289	9	272	0	18 570	1962
0	22,456	22,456	71	185	0	22,712	1963
0	32,507	32,507	171	152	0	32,830	1964
0	44,105	44,105	93	729	0	44,927	1965
0	67,928	67,928	0	1,746	0	69,674	1966
0	53,605	65,143	8,328	4,212	0	77,683	1967
121,534	14,777	308,020	498,926	117,906	0	924,852	1968
72,397	18,829	284,246	510,614	72,196	0	867,056	1969
133,024	38,080	405,097	23,947	2,435	0	431,479	1970
296,019	44,119	697,478	7,853	5,812	8	711,151	1971
423,964	66,638	1,102,403	100,274	53,062	6,489	1,262,228	1972
296,416	42,511	1,033,315	204,638	53,798	1,155	1,292,906	1973
417,676	46,224	1,337,977	237,554	10,657	2,118	1,588,306	1974
622,902	63,793	1,910,685	103,352	- 94,606	3,377	1,922,808	1975
580,110	115,217	2,068,329	61,122	-681,025	1,745	1,450,171	1976
0	389,065	963,220	0	-131,151	1,111	833,180	1977
16,914	121,225	1,590,838	64,443	717,370	1,691	2,374,342	1978
648,389	187,630	2,495,915	12,302	- 83,401	1,766	2,426,582	1979
404,557	46,459	1,980,765	0	- 30,456	2,131	1,952,446	1980
908,428	243,454	3,061,444	0	126,180	4,688	3,192,312	1981
215,873	120,838	2,085,621	0	136,555	4,646	2,226,822	1982
5,158,203	1,797,749	21,575,781	1,833,697	282,628	30,925	23,723,037	21 Years, 1962-1982

TABLE 12: SUMMARY OF 1982 ENTITLEMENT AND SURPLUS WATER SERVICE TO LONG-TERM CONTRACTORS

(acre-feet)

Long-Term Water Supply Contractor	Entitlement, Surplus and Other Water Service in 1982					Future Entitlement Credits			
						Future Entitlement Delivery Credit as of 1/1/83			Future Entitlement Reduction Credit
	1982 Entitlement Water Deliveries	Surplus Water Deliveries	Unscheduled Water Deliveries	Other Water Deliveries	Total SWP Deliveries	Articles 7 and 45	Articles 12(d) and 14(b) (a	Total	Articles 7 or 45
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
UPPER FEATHER RIVER AREA									
County of Butte	334	-	-	-	334	-	-	-	-
Plumas County FC&WCD	305	-	-	-	305	-	-	-	-
NORTH BAY AREA									
Napa County FC&WCD (i	-	-	-	1,213	1,213	-	-	-	-
SOUTH BAY AREA									
Alameda County FC&WCD, Zone 7	13,123	-	-	-	13,123	53,741	2,438	56,179	-
Alameda County WD	6,316	-	-	-	6,316	96,609	2,220	98,829	
Santa Clara Valley WD	87,261	1,163	140	-	88,564	-	-	-	
SAN JOAQUIN VALLEY AREA									
County of Kings	1,750	-	-	-	1,750	750	-	750	-
Devil's Den WD	12,700	4,119	2,240	-	19,059	-	-	-	-
Dudley Ridge WD	41,000	14,290	173	-	55,463	-	-	-	-
Empire West Side ID	361	-	926	0 (c	1,287	2,639 (b	-	2,639	-
Kern County WA	745,300	27,429	97,307	25,157 (d	895,193	-	-	-	-
Oak Flat WD	3,838	721	-	306	4,865	662	-	662	2,466
Tulare Lake Basin WD	18,551	-	67,365	-	85,916	61,649	-	61,649	74,852
SOUTHERN CALIFORNIA AREA									
Antelope Valley-East Kern WA	50,291	-	-	-	50,291	-	14,841	14,841	-
Castaic Lake WA	9,516	-	-	-	9,516	-	500	500	-
Coachella Valley WD	13,326	-	-	-	13,326	-	-	-	-
Crestline-Lake Arrowhead WA	1,238	-	-	-	1,238	-	151	151	-
Desert WA	21,000	-	-	-	21,000	-	-	-	-
Littlerock Creek ID	-	-	-	-	-	-	438	438	-
Mojave WA	10,500 (e	-	-	-	10,500	-	20	20	-
San Bernardino Valley MWD	8,409 (f	-	-	-	8,409	-	4,269	4,269	-
San Gabriel MWD	12,599	-	-	-	12,599	-	1,000	1,000	-
The Metropolitan Water District of Southern California	691,192 (g	-	-	557 (h	691,749	-	102,239	102,239	-
TOTAL ALL AREAS	1,748,910	47,722	168,151	27,233	1,992,016	216,050	128,050	344,166	77,318

a) *Antelope Valley-East Kern Water Agency credits total 4,787 acre-feet under water contract Article 14(b) and 10,054 acre-feet under Article 12(d). Credits for all other contractors are under Article 12(d) of their water supply contracts.*
b) *Carry-over storage of entitlement water under letter agreement dated October 1, 1979.*
c) *24,600 acre-feet of 1977 emergency relief water and 557 acre-feet of 1978 exchange water.*
d) *1982 exchange water with MWDSC.*
e) *Entitlement water recaptured under Department's ground water demonstration program.*
f) *Includes 1,650 acre-feet of entitlement water recaptured under Department's ground water demonstration program.*
g) *Reflects 120,000 acre-feet reduction in entitlement deliveries under 1982 exchange water agreements.*
h) *A portion of the water stored by MWDSC under 1978 exchange water agreement with KCWA was recaptured from ground water storage in 1982.*
i) *Delivery of non-SWP water.*

and industrial water users and on two agricultural water contractors.

Makeup Water Deliveries (Table 12). When the State is unable to deliver the requested entitlements in any year, long-term contractors are afforded relief under Articles 12(d) and 14(b) of the water supply contract. Contractors 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 457,066 acre-feet. These credits for undelivered entitlement water under Article 12(d) have been reduced by delivery of "makeup" water over the years so that now only 10 contractors have remaining rights. No makeup water was delivered in 1982, and as of December 31, 1982, the total makeup water for future deliveries totaled 128,116 acre-feet, consisting of 123,329 acre-feet of Article 12(d) water, the remainder being Article 14(b) water.

Deliveries Under Wet Weather Provisions (Tables 12 and 13). At the beginning of 1982, two contractors had acquired credits totaling 150,350 acre-feet for future delivery of entitlement water under the wet weather provisions of their contracts. Water agencies can acquire credits to future deliveries if above-normal supplies of local water are available within their service areas during the year, thereby reducing their need for Project water.

Because of above-normal local water supplies in 1982, Empire West Side Irrigation District could not use all of its entitlements. Since it was receiving its maximum annual entitlement, the District requested that its undelivered 1982 entitlement water be stored in Lake Oroville. A total of 2,639 acre-feet of undelivered 1982 entitlement was stored, on the condition that space would be available in the reservoir. On January 27, 1983, Lake Oroville exceeded its flood control reservation and the water was released from storage. Accordingly, the District received a monetary credit, as provided in the October 1, 1979 storage agreement less operational losses.

Future Entitlement Credits (Table 12). Oak Flat Water District and Tulare Lake Basin Water Storage District were the only contractors with entitlement reduction credits due to wet weather remaining at the end of 1982. 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.

On the other hand, this contract article has a balancing provision under which the two contractors may reduce their annual entitlements by using the credits in any year when either agency is unable to accept all of its annual entitlements because of above-average local water supply caused by climatic conditions. Due to an above-average local water supply in the 1982-83 water year, Tulare Lake Basin Water Storage District reduced its 1983 Table A value of 84,400 acre-feet by 74,852 acre-feet, which equals the sum of all prior entitlement increases. This action lowered their future entitlement-reduction credit to zero.

Repayment Water Deliveries (Tables 12 and 13). In 1964, the State entered into two contracts to obtain water to preconsolidate land within the right-of-way alignment of the California Aqueduct. This water was to be paid back after the aqueduct began service. The contracts, which have changed hands over the years, are currently held by

TABLE 13: WATER

Line No.	Contracting Agency and Type of Service	Month JAN	FEB	MAR	APR	MAY	JUN	JUL
	FEATHER RIVER SERVICE AREA							
	County of Butte:							
1.	Entitlement Water	18	8	49	77	0	13	0
	Last Chance Creek Water District:							
2.	Regulated Delivery of Local Supply	0	0	0	0	0	2,289	3,409
	Plumas County Flood Control and Water Conservation District:							
3.	Entitlement Water	0	1	0	1	39	70	90
	Thermalito Irrigation District:							
4.	Regulated Delivery of Local Supply	0	0	0	11	83	93	122
5.	AREA TOTAL	18	9	49	89	122	2,465	3,621
	NORTH BAY SERVICE AREA							
	Napa County Flood Control and Water Conservation District:							
6.	Regulated Delivery of Local Supply	64	58	59	59	106	106	124
	Solano County Flood Control and Water							
7.	Conservation District:	0	0	0	0	0	0	0
8.	AREA TOTAL	64	58	59	59	106	106	124
	SOUTH BAY SERVICE AREA							
	Alameda County Flood Control and Water Conservation District, Zone 7:							
9.	Entitlement Water	0	0	90	58	1,113	2,421	2,734
10.	Regulated Delivery of Local Supply	670	801	720	914	963	0	0
11.	Agency Total	670	801	810	972	2,076	2,421	2,734
	Alameda County Water District:							
12.	Entitlement Water	0	0	0	0	804	787	1,423
13.	Regulated Delivery of Local Supply	476	553	901	847	345	499	561
14.	Agency Total	476	553	901	847	1,149	1,286	1,984
	Santa Clara Valley Water District:							
15.	Entitlement Water	4,320	4,380	4,565	5,420	8,649	8,945	9,403
16.	Surplus Water	0	0	0	0	0	0	0
17.	Unscheduled Water	140	0	0	0	0	0	0
18.	Agency Total	4,460	4,380	4,565	5,420	8,649	8,945	9,403
19.	AREA TOTAL	5,606	5,734	6,276	7,239	11,874	12,652	14,121
	SAN JOAQUIN VALLEY SERVICE AREA							
	Belridge Oil Company:							
20.	Repayment Water	641	572	622	579	426	355	448
	County of Kings:							
21.	Entitlement Water	250	250	250	0	0	250	250
	Devil's Den Water District:							
22.	Entitlement Water	550	825	1,050	1,075	1,027	1,717	2,637
23.	Surplus Water	0	0	0	0	609	0	0
24.	Unscheduled Water	1,246	554	440	0	0	0	0
25.	Agency Total	1,796	1,379	1,490	1,075	1,636	1,717	2,637
	Dudley Ridge Water District:							
26.	Entitlement Water	2,490	929	1,830	1,112	2,270	7,728	9,592
27.	Surplus Water	0	0	0	0	2,585	1,324	2,502
28.	Unscheduled Water	173	0	0	0	0	0	0
29.	Agency Total	2,663	929	1,830	1,112	4,855	9,052	12,094
	Empire West Side Irrigation District:							
30.	Entitlement Water	200	150	5	0	0	6	0
31.	Unscheduled Water	691	235	0	0	0	0	0
32.	Agency Total	891	385	5	0	0	6	0
	Kern County Water Agency:							
33.	Entitlement Water	11,515	39,682	16,485	15,150	70,776	128,418	173,401
34.	Surplus Water	0	0	0	0	0	0	8,754
35.	Unscheduled Water	0	22,107	34,451	7,873	0	0	0
36.	1977 Emergency Relief Water	125	525	925	625	3,692	4,718	5,525
37.	1978 Exchange Water	0	0	0	0	100	100	100
38.	Agency Total	33,747	73,083	51,861	23,648	74,568	133,236	187,780
	Oak Flat Water District:							
39.	Entitlement Water	0	61	204	70	810	810	810
40.	Surplus Water	0	0	0	0	34	268	292
41.	1982 Exchange Water (State)	0	0	0	0	65	90	90
42.	Agency Total	0	61	204	70	909	1,168	1,192
	Tracy Golf and Country Club:							
43.	Conveyance of Federal CVP Water	0	0	0	0	44	68	68
	Tulare Lake Basin Water Storage District:							
44.	Entitlement Water	1,604	2,406	4,812	648	290	822	4,059
45.	Surplus Water	41,006	21,866	4,493	0	0	0	0
46.	Agency Total	42,610	24,272	9,305	648	290	822	4,059
	United States Bureau of Reclamation:							
47.	Conveyance of Federal CVP Water	134	0	0	0	0	0	0
	Green Valley Water District:							
48.	Conveyance of Federal Wheeling Water	0	0	0	0	0	0	211
	Westlands Water District:							
49.	1982 Exchange Water (Federal)	0	0	0	0	9,624	16,500	18,384
50.	AREA TOTAL	82,732	100,931	65,567	27,132	92,352	163,174	227,123

DELIVERIES IN 1982

Month						1982 Contract Entitlement	1982 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Through		Line No.
AUG	SEP	OCT	NOV	DEC	Total			1981	1982	
0	8	64	44	53	334	1,200	866	9,087	9,953	1.
3,457	1,344	0	0	0	10,499	-	-	-	-	2.
77	26	1	0	0	305	770	465	2,997	3,462	3.
143	98	115	62	36	763	-	-	-	-	4.
3,677	1,476	180	106	89	11,901	1,970	1,331	12,084	13,415	5.
122	97	86	277	55	1,213	-	-	-	-	6.
0	0	0	0	0	0	800	800	1,150	1,950	7.
122	97	86	277	55	1,213	800	800	1,150	1,950	8.
2,738	2,135	1,831	3	0	13,123	24,000	10,877	71,206	82,083	9.
0	0	0	1,024	840	5,932	-	-	-	-	10.
2,738	2,135	1,831	1,027	840	19,055	-	-	-	-	11.
1,280	1,135	887	0	0	6,316	27,200	20,884	148,970	169,854	12.
1,810	931	106	1,099	939	9,067	-	-	-	-	13.
3,090	2,066	993	1,099	939	15,383	-	-	-	-	14.
10,000	9,847	8,636	6,509	6,587	87,261	88,000	739	38,776	39,515	15.
301	0	862	0	0	1,163	-	-	-	-	16.
0	0	0	0	0	140	-	-	-	-	17.
10,301	9,847	9,498	6,509	6,587	88,564	-	-	-	-	18.
16,129	14,048	12,322	8,635	8,366	123,002	139,000	32,500	258,952	291,452	19.
480	482	450	461	463	5,979	-	-	-	-	20.
250	250	0	0	0	1,750	2,500	750	0	750	21.
2,500	839	177	0	303	12,700	12,700	0	5	5	22.
338	0	423	1,215	1,534	4,119	-	-	-	-	23.
0	0	0	0	0	2,240	-	-	-	-	24.
2,838	839	600	1,215	1,837	19,059	-	-	-	-	25.
5,584	3,618	3,071	1,140	1,636	41,000	41,000	0	0	0	26.
7,021	858	0	0	0	14,290	-	-	-	-	27.
0	0	0	0	0	173	-	-	-	-	28.
12,605	4,476	3,071	1,140	1,636	55,463	-	-	-	-	29.
0	0	0	0	0	361	3,000	2,639	2,316	4,955	30.
0	0	0	0	0	926	-	-	-	-	31.
0	0	0	0	0	1,287	-	-	-	-	32.
170,358	54,198	23,273	16,631	25,413	745,300	745,300	0	0	0	33.
18,675	0	0	0	0	27,429	-	-	-	-	34.
0	0	0	0	0	97,307	-	-	-	-	35.
5,392	2,525	97	326	125	24,600	-	-	-	-	36.
100	157	0	0	0	557	-	-	-	-	37.
194,525	56,880	23,370	16,957	25,538	895,193	-	-	-	-	38.
810	253	10	0	0	3,838	4,500	662	0	662	39.
127	0	0	0	0	721	-	-	-	-	40.
61	0	0	0	0	306	-	-	-	-	41.
998	253	10	0	0	4,865	-	-	-	-	42.
75	35	27	2	0	319	-	-	-	-	43.
2,140	852	187	0	731	18,551	80,200	61,649	0	61,649	44.
0	0	0	0	0	67,365	-	-	-	-	45.
2,140	852	187	0	731	85,916	-	-	-	-	46.
0	0	0	0	0	134	-	-	-	-	47.
662	39	0	0	0	912	-	-	-	-	48.
15,492	0	0	0	0	60,000	-	-	-	-	49.
230,065	64,106	27,715	19,775	30,205	1,130,877	889,200	65,700	2,321	68,021	50.

TABLE 13: WATER

Line No.	Contracting Agency and Type of Service	Month JAN	FEB	MAR	APR	MAY	JUN	JUL
	CENTRAL COASTAL SERVICE AREA							
51.	San Luis Obispo County Flood Control and Water Conservation District:	0	0	0	0	0	0	0
52.	Santa Barbara County Flood Control and Water Conservation District:	0	0	0	0	0	0	0
53.	AREA TOTAL	0	0	0	0	0	0	0
	SOUTHERN CALIFORNIA SERVICE AREA							
54.	Antelope Valley-East Kern Water Agency: Entitlement Water	571	820	1,929	3,162	7,716	7,408	9,553
55.	Castaic Lake Water Agency: Entitlement Water	550	630	606	772	1,061	1,102	1,161
56.	Coachella Valley Water District: Entitlement Water	1,110	1,110	1,110	555	0	0	0
57.	Crestline-Lake Arrowhead Water Agency: Entitlement Water	128	93	73	65	75	107	142
58.	Desert Water Agency: Entitlement Water	1,750	1,750	1,750	875	0	0	0
59.	Littlerock Creek Irrigation District: Entitlement Water	0	0	0	0	0	0	0
60.	Mojave Water Agency: Entitlement Water	0	0	2,100	2,100	2,100	2,100	2,100
61.	Palmdale Water District:	0	0	0	0	0	0	0
62.	San Bernardino Valley Municipal Water District: Entitlement Water	3,115	1,952	1,249	251	350	621	422
63.	San Gabriel Valley Municipal Water District: Entitlement Water	433	863	0	153	838	1,686	2,096
64.	San Gorgonio Pass Water Agency:	0	0	0	0	0	0	0
65.	The Metropolitan Water District of Southern California: Entitlement Water	58,879	53,143	57,455	48,532	43,049	51,761	52,614
66.	1978 Exchange Water	0	0	0	0	100	100	100
67.	Agency Total	58,879	53,143	57,455	48,532	43,149	51,861	52,714
68.	Ventura County Flood Control District:	0	0	0	0	0	0	0
69.	AREA TOTAL	66,536	60,361	66,272	56,465	55,289	64,885	68,188
	ALL AGENCIES							
70.	Entitlement Water	87,483	109,053	95,612	80,076	140,967	216,772	272,487
71.	Surplus Water	0	0	0	0	3,228	1,592	11,548
72.	Repayment Water	641	572	622	579	426	355	448
73.	1977 Emergency Relief Water	125	525	925	625	3,692	4,718	5,525
74.	1978 Exchange Water	0	0	0	0	200	200	200
75.	1982 Exchange Water (State)	0	0	0	0	65	90	90
76.	Unscheduled Water	65,363	55,531	39,384	7,873	0	0	0
77.	Subtotal	153,612	165,681	136,543	89,153	148,578	223,727	290,298
78.	Regulated Delivery of Local Supply	1,210	1,412	1,680	1,831	1,497	2,987	4,216
79.	Conveyance of Federal CVP Water	134	0	0	0	44	68	279
80.	1982 Exchange Water (Federal)	0	0	0	0	9,624	16,500	18,384
81.	TOTAL WATER	154,956	167,093	138,223	90,984	159,743	243,282	313,177

DELIVERIES IN 1982

Month						1982 Contract Entitlement	1982 Entitlement Not Delivered	Net Cumulative Entitlement Not Delivered Through		Line No.
AUG	SEP	OCT.	NOV	DEC	Total			1981	1982	
0	0	0	0	0	0	2,000	2,000	2,000	4,000	51.
0	0	0	0	0	0	3,626	3,626	3,500	7,126	52.
0	0	0	0	0	0	5,626	5,626	5,500	11,126	53.
8,859	5,893	3,082	762	536	50,291	81,300	31,009	163,404	194,413	54.
1,134	791	732	409	568	9,516	22,100	12,584	98,558	111,142	55.
0	2,359	2,359	2,359	2,364	13,326	13,326	0	12,779	12,779	56.
152	132	103	89	79	1,238	3,480	2,242	9,187	11,429	57.
0	3,719	3,719	3,719	3,718	21,000	21,000	0	19,700	19,700	58.
0	0	0	0	0	0	1,380	1,380	3,248	4,628	59
0	0	0	0	0	10,500	25,969	15,469	177,651	193,120	60.
0	0	0	0	0	0	12,320	12,320	72,000	84,320	61.
433	4	12	0	0	8,409	71,500	63,091	383,806	446,897	62.
2,221	1,559	2,164	586	0	12,599	19,100	6,501	99,928	106,429	63.
0	0	0	0	0	0	8,800	8,800	14,600	23,400	64.
48,375	92,371	93,727	55,118	36,268	691,192	1,257,600	566,408	2,391,227	2,957,635	65.
100	157	0	0	0	557	-	-	-	-	66.
48,475	92,528	93,727	55,118	36,268	691,749	-	-	-	-	67.
0	0	0	0	0	0	3,000	3,000	3,000	6,000	68.
61,174	106,985	105,898	63,042	43,533	818,628	1,540,875	722,804	3,449,088	4,171,892	69.
256,811	179,989	144,035	87,369	78,256	1,748,910	2,577,671	828,761	3,729,095	4,557,856	70.
26,462	858	1,285	1,215	1,534	47,722	-	-	-	-	71.
480	482	450	461	463	5,979	-	-	-	-	72.
5,392	2,525	97	326	125	24,600	-	-	-	-	73.
200	354	0	0	0	1,114	-	-	-	-	74.
61	0	0	0	0	306	-	-	-	-	75.
0	0	0	0	0	168,151	-	-	-	-	76.
289,406	184,168	145,867	89,371	80,378	1,996,782	-	-	-	-	77.
5,532	2,470	307	2,462	1,870	27,474	-	-	-	-	78.
737	74	27	2	0	1,365	-	-	-	-	79.
15,492	0	0	0	0	60,000					80.
311,167	186,712	146,201	91,835	82,248	2,085,621	2,577,671	828,761	3,729,095	4,557,856	81.

Shell California Production, Inc. (formerly Belridge Oil Company) and the J. G.Boswell Company. In 1982, 5,979 acre-feet were delivered to Shell California Production, Inc., leaving a balance of 37,684 acre-feet yet to be delivered. In 1982 no water was delivered to the J. G. Boswell Company. This leaves a balance of 44,895 acre-feet yet to be delivered. These contracts will terminate December 31, 1984.

Emergency Relief Water Deliveries (Table 11, 12 and 13).

At the end of 1977, the State had 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). KCWA purchased 94,526 acre-feet of stored water for delivery before December 31, 1983. Through 1982, KCWA had taken 72,400 acre-feet. Two noncontractors (Green Valley Water District and Tracy Golf and Country Club) purchased and have taken delivery of the remaining 650 acre-feet.

1978 Exchange Water Deliveries.

During 1978, the State acquired 30,000 acre-feet of SWP water from MWD through an exchange agreement. Under the agreement, MWD pumped additional Colorado River water for its use in lieu of taking delivery of 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. The State had arranged to obtain up to 200,000 acre-feet for such purposes.

However, the substantial change in weather conditions in California beginning in early 1978 ended the need to acquire further exchange water when it became apparent that the drought was over. Under an agreement between the State, MWD, and KCWA, KCWA purchased 25,000 acre-feet. Under a similar agreement between the State, MWD and Dudley Ridge Water District, Dudley Ridge Water District purchased the remaining 5,000 acre-feet.

The original agreements required that KCWA and Dudley Ridge Water District must use the water prior to March 31, 1983. These agreements were amended on September 24, 1982 to extend the delivery deadline to December 31, 1984 or another mutually acceptable date. As of December 31, 1982, a total of 557 acre-feet of 1978 exchange water has been delivered -- all to KCWA during 1982.

1982 Exchange Water Deliveries.

Bulletin 132-82 (see pages 59 and 60) described an exchange agreement under which MWD would increase its deliveries from the Colorado River by 250,000 acre-feet during the critical peak irrigation period in the San Joaquin Valley. The increase was to offset a like amount of SWP water that would be released during the same period for delivery to San Joaquin Valley contractors. This exchange was established to mitigate the effect of the anticipated inability of both the Department and USBR to meet their contractors' 1982 water delivery requests, due to the repairs on San Luis Dam and consequent unavailability of San Luis Reservoir for full use during 1982.

In the late spring of 1982, it became apparent that the rainfall and runoff in northern California were abundant. Furthermore, rapid progress on repair of San Luis Dam enabled the reservoir to fill ahead of schedule. As a result, the exchange was reduced to 120,000 acre-feet, 60,000 acre-feet of which was delivered to the Westlands Water District (Federal CVP).

The USBR had paid the Department $1,875,000 on March 1, 1982, but the contract specified minimum payment provisions if USBR took less than 125,000 acre-feet of exchange water.

Under these provisions, the total amount due for 60,000 acre-feet was only $1.2 million; therefore, a credit balance was due USBR after it had taken the last of its exchange water in August 1982. After interest adjustments, USBR owed the Department $315,553 as of December 31, 1982. Final interest adjustments will be made after July 1983, when the new State Surplus Money Investment Fund rate is known. Some additional charges will be returned to the Department from USBR as energy after March 31, 1983.

Of the remaining 60,000 acre-feet designated for SWP use, 306 acre-feet was delivered to Oak Flat Water District, and the remaining 59,694 acre-feet is being stored for participating San Joaquin Valley (SJV) contractors either by MWD in its ground water basin or by the Department at Lake Oroville under agreements executed in November 1982. The amounts stored, by contractor and storage location, are as follows:

	MWD Ground Water Basins (acre-feet)	Lake Oroville (acre-feet)
Devil's Den W.D.	125	560
Dudley Ridge W.D.	572	2,550
KCWA	10,224	45,663
TOTAL	10,921	48,773

The Department will deliver 1982 exchange water stored by MWD to the requesting SJV contractors by reducing MWD's entitlement delivery by a like amount. Water stored by the Department at Lake Oroville will be available for delivery to the three participating SJV contractors on request, provided Lake Oroville has not filled to the extent that releases have been made beyond those required for fish mitigation and power generation. If storage limitations have required the release of 1982 exchange water prior to delivery, as requested by the SJV contractors, such water will be returned to storage at the first opportunity. Return of this water to storage will have a priority second only to storage for SWP operation to meet future entitlements.

The storage agreement further specifies that the 1982 exchange water stored by MWD shall be scheduled and delivered prior to December 31, 1984 or another mutually agreeable date, and that the 1982 exchange water stored in Lake Oroville shall be scheduled and delivered by December 31, 1985.

Ground Water Demonstration Deliveries (Tables 12 and 13). The State and Mojave Water Agency entered into a contract in 1978 establishing a ground water demonstration project, involving the storage of 23,687 acre-feet of SWP water in a ground water basin within Mojave's service area (see pages 89 and 90 of Bulletin 132-79). A total of 22,500 acre-feet was considered available for extraction from the basin for future use by the agency. As of December 31, 1981, 12,000 acre-feet of entitlement water had been withdrawn from the basin by Mojave. The remaining 10,500 acre-feet was withdrawn during 1982.

In accordance with the guidelines for funding costs under the ground water demonstration program, the agency paid Transportation Charges for this project water in the year of withdrawal from ground water storage as though it had been delivered through SWP facilities from the Delta.

A second ground water demonstration project was established in 1978 under agreements between the State and the San Bernardino Valley Municipal Water District (SBVMWD) (see page 90 of Bulletin 132-79). Total water stored as of January 1, 1982 under the project was 13,990 acre-feet. A total of 5,728

acre-feet was added to the basin during 1982, partially offset by a withdrawal described below. 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, SBVMWD negotiated a Letter of Agreement with the City of San Bernardino for withdrawal of water from the recharge area. A total of 1,650 acre-feet was withdrawn during 1982, thus reducing the total storage to 18,068 acre-feet as of January 1, 1983.

Surplus Water Deliveries (Tables 11, 12 and 13). In September 1981, nine contractors submitted estimates that they could use a total of 779,254 acre-feet of surplus water during 1982. Because of the repair of San Luis Dam and the resulting reduced delivery capability, surplus water was not declared available until April 1982. Regular monthly meetings between contractors and Department representatives were held from December 1981 through March 1982 to review the latest forecasts of water supply conditions and update SWP water delivery capability. At the April meeting, the Department announced that all surplus water requests could be satisfied. However, during the first part of April, strong Pacific storms hit the State and continued through May, setting records for rainfall, causing heavy damage to crops, and reducing substantially the need for surplus water. The total surplus water delivered during 1982 was only 47,722 acre-feet.

Unscheduled Water (Tables 11, 12 and 13). Unscheduled 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. Delivery of unscheduled water is administered separately, in accordance with unscheduled water contracts and cannot be substituted for scheduled entitlement or surplus water deliveries.

In previous years, unscheduled water was delivered on an as-available basis, before it was known whether surplus water requests could be met. This year's unscheduled water deliveries were initiated at the beginning of 1982 and continued until the end of April on a weekly basis. At that time, the year's water supply had been defined, and the amount of surplus water available for delivery during 1982 determined. However, the extremely wet weather of April through May curtailed the need for further unscheduled water in 1982.

The unscheduled water program was developed as a result of contractor requests. By 1980, nine qualified contractors, who had expressed an interest in unscheduled water, received and signed an amendment to Article 21 of the basic water supply contract. Seven of these contractors signed contracts to receive unscheduled water in 1982, and six of them took delivery of 168,151 acre-feet of unscheduled water.

Local Water Deliveries (Table 13). Project facilities are used to deliver nonproject water to both contractors and noncontractors. During 1982, three contractors and two noncontractors received 27,474 acre-feet of regulated local water supplies.

Wheeling of Federal Water

During 1982 there were essentially three arrangements for wheeling CVP water through SWP facilities. In each arrangement, the USBR provided the electrical energy required for moving the water through SWP facilities.

Cross Valley Canal. Contracts with nine local agencies provide for wheeling federal CVP water through SWP facilities to KCWA's Cross Valley Canal. Another contract between the State and USBR provides the water and the electrical energy needed. The contracts provide that up to 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.

Aqueduct capacity is shared by both the SWP and the CVP in the San Luis Division. In the existing wheeling contracts, it was assumed that Federal rather than State capacity would be used in the San Luis Division; therefore, the participating Federal agencies have not previously been charged for transportation of water through Federal-State joint facilities. After reevaluation of this assumption, however, the Department's policy now is to charge for wheeling through State capacity in the joint-use facilities because 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 reflect this concept in determining acceptable charges for wheeling service.

During 1982, 134 acre-feet of federal CVP water was wheeled through Reach 12E for the KCWA's Cross Valley Canal.

SWRCB Decision 1485 Water. As part of the annual letter agreement, the CVP and SWP operate as if the draft agreement 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, were signed.

In April 1981, the Department executed an interim agreement with the USBR to wheel CVP water through SWP facilities to water users who would enter into temporary contracts with the USBR. As part of this interim 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. SWRCB D-1485 requires curtailed 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. (The July curtailment does not impose a limitation on existing Federal pumping capability).

A total of 193,590 acre-feet of Federal water was to have been wheeled in 1982 (subject to conditions of the annual letter agreement) to replace capacity foregone in May and June due to CVP export reduction. However, available storage capacity in San Luis Reservoir was severely reduced during the summer of 1982 due to repairs under way on the face of San Luis Dam. Consequently, no D-1485 water was wheeled for the USBR in 1982.

TABLE 14: WATER CONTRACTORS TOTAL REQUESTS FOR ENTITLEMENT WATER 1982 THRU 1988

Year Estimate Submitted	Delivery Amount in Acre-Feet (a(b by Year						
	1982	1983	1984	1985	1986	1987	1988
1982 (c		2,368,138	2,404,542	2,599,190	2,711,107	2,800,235	2,888,377
1981 (c	2,317,249	2,335,841	2,383,586	2,699,830	2,788,111	2,901,175	
1980 (c	2,096,692	2,245,197	2,405,844	2,561,970	2,709,710		
1979 (c	2,186,196	2,279,942	2,461,223	2,617,594			
1978 (c	2,300,401	2,403,652	2,495,503				
1977 (d	2,574,831	2,371,140	2,482,275				
1976 (d	2,273,925	2,376,990					

a) *Includes project entitlement water recaptured from ground water storage pursuant to Mojave demonstration project agreement.*
b) *For the years 1982 through 1986, amounts include nonproject water pumped through interim facilities to Napa County Flood Control and Water Conservation District.*
c) *Submitted requests covered the following six years.*
d) *Submitted request covered the following seven years.*

Other Service. Under an extension of the April 1981 agreement mentioned above, the Department conveyed 319 acre-feet of Federal water to Tracy Golf and Country Club, and 912 acre-feet to Green Valley Water District. During 1982, 199 acre-feet of water, purchased from KCWA (part of the 1978 emergency relief water that KCWA had purchased from the Department), was wheeled to Pleasant Valley Water District.

Future Project Water Delivery Plans

In September 1982, SWP contractors submitted their estimated monthly Project water delivery requirements for the six-year period 1983 through 1988. 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 entitlement plus makeup water needs submitted in 1982, as well as estimates submitted in the five previous years, are shown in Table 14.

In July 1982, the Department sent a letter to each contractor requesting (1) estimates of monthly SWP water requirements during 1983 through 1988, and (2) annual requirements for 1989 and 1990. For those contractors whose maximum annual entitlement would occur after 1990, estimates were requested for every fifth year from 1990 through the year in which maximum entitlements would be used on a regular basis.

Surplus Water. Of the 831,936 acre-feet of surplus water (including repayment of preconsolidation water) requested in September 1982, none was approved for delivery until April except for 515 acre-feet per month of preconsolidation repayment water to Shell California Production, Inc. (formerly Belridge Oil Company). Surplus water totalling 271,997 acre-feet was allocated in the revised approved schedules of April 16, 1982. Nine contractors signed 1982 surplus water contracts. While regular monthly updates of water supply conditions were made, it was not until the April 1, 1982 update that the Rule Curve criteria provided for surplus water.

Surplus Water Deliveries
April 1-December 31, 1983

Two contractors signed surplus water contracts for the period April 1 through December 31, 1983. The contracts incorporate the basic principles set forth in Water Contractors Council Memo No. 1585, "Policy on Pricing Power for Pumping Surplus Water." Under terms of the contract, if the Department has excess electrical capacity and energy produced by project facilities, or through contractual arrangements, such power may be used for surplus water delivery. In this case, the contractor will be charged the market value of the last incremental unit of such power based on an assessment of actual sales.

If DWR does not have excess power for pumping surplus water or if it is possible to purchase less expensive power, then surplus water contractors must pay the actual cost of such electrical capacity, energy, and additional transmission service purchased specifically to deliver surplus water. In addition, if the delivery of surplus water reduces the water level in San Luis Reservoir, contractors must pay for electrical capacity and energy required to return the level of the San Luis Reservoir to what it would have been without surplus water delivery. Finally, in addition to the cost of power, the contractors must pay the administrative and variable replacement costs incurred in implementing surplus water deliveries.

Since the market price of power varies, DWR is sending a letter each month to those agencies contracting for surplus water pursuant to the terms of the April-December 1983 surplus water contract. This letter establishes the respective agency's maximum charge per acre-foot of surplus water demand for the month.

The following monthly percentages of annual entitlement amounts must be delivered under terms of the Surplus Water Contract before delivery of surplus water can begin:

April	8%
May	10%
June	16%
July	18%
August	18%
September	9%
October	4%
November	3%
December	3%

This procedure for pricing power for pumping surplus water is being discussed with the Water Contractors Issue Group. The procedure may be adjusted in future contracts to reflect agreements reached from these discussions.

Unscheduled Water. The unscheduled water program established in 1980 was

continued through 1982. 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 Water Contracts Management). Due to the refilling of San Luis Reservoir, unscheduled water was not declared available during January through April 1983.

Miscellaneous Project Water Deliveries. Approved delivery schedules issued in December 1982 included water for ground water demonstration, emergency relief, and recreation. These deliveries accounted for 37,193 acre-feet of the deliveries originally scheduled for 1983.

Contract Amendments

Each of the 30 long-term water supply contracts has been amended. Some of the contracts have been amended nineteen times. A list of the amendments for each contractor, and the general subject of each, are shown in Figure 16. 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 this 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 April 1, 1983, amendments signed since the Bulletin 132-82 report are as follows:

- An amendment to revise the contracts with regard to Contract Issues 1, 6, and 8 has been signed by a total of 29 out of 30 long-term SWP contractors.

  Issue 1 - Redefined "Project Transportation Facilities" to include off-aqueduct power plants such as Reid-Gardner. It excludes financing for such projects from the project interest rate calculation. The amendment shifts the cost of these projects from the Capital Component of the Transportation Charge to the Minimum OMP&R component. However, if the monies received are not sufficient to pay for the off-aqueduct power costs for the year, the State may allocate, charge, and collect the deficiency based on the capital cost components of the Transportation Charge. This makes the capital cost component of the Transportation Charge a backstop for bond security purposes. Any credits realized by the State from the sale or exchange of off-aqueduct power would be credited to the contractors in the same proportion as the allocation of costs.

  Issue 6 - This amendment provides for an interest penalty on the late payments to be computed at the State's Pooled Money Investment Fund rate, rather than the present rate of one-half percent per month.

  Issue 8 - This amendment provides for inclusion of ground water storage projects, and stream and off-stream

Figure 16. WATER SUPPLY CONTRACT AMENDMENTS AS OF JUNE 30, 1983

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	Contract Issues 1,6,8, (c
		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		5
County of Butte	1	3	3	3	3		1	2		4	5			1				6,8		NA	7		9
Plumas County Flood Control and Water Conservation District	1	3	5	6	3		1	2	4	7	8			10						9	11		12
NORTH BAY AREA																							
Napa County Flood Control and Water Conservation District	1	3	4	5	3		1				6			1				8,9			7	1,2	11
Solano County Flood Control and Water Conservation District	1	2	3P	3P	2		1							1,5		1		6			6	6	9
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	14
Alameda County Water District	1	4	5	7	4	1		3		8	9	S		1,11,12	2					10	13	1,6	14
Santa Clara Valley Water District	2	6	8	10	6	2		5	7	11	12	1		1,2,14, 15,17	3			1,4		13	16	1,9	18
SAN JOAQUIN VALLEY AREA																							
County of Kings		2	3	4	2			1		5	6	S	S	8						7	9		10
Devil's Den Water District	1	5	7	8	5			4	6	9	10			1,12,				1,3		11	14	2	16
Dudley Ridge Water District	1	6	8	9	6			5	7	10	11			15,13, 1,13,				1,2 3,4		12	15		17
Empire West Side Irrigation District	1	4	6	7	4			3	5	8	9	S		16,14 1,11,				2		10	13		15
Hacienda Water District (a	1	4	6	7	4			3	5	8	9	S		14,12 1,11,				2		10	12	7	
Kern County Water Agency	1	4	6	8	4			3	5	9	10			13 1,12,				1,2		11	15	7,13	17
Oak Flat Water District		3	5	6	3			2	4	7	9	S	S	16,14 12,11	1			8		10	13		15
Tulare Lake Basin Water Storage District	2	5	6	7	5			4		8	10	S		14 2, 17,14,				1,3,9 12,19		11	15	16	18
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		10
Santa Barbara County Flood Control and Water Conservation District	2	3	4	5	3	1	2				6			1 2,7				2,9			8		10
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	13
Castaic Lake Water Agency	2	4	5	6	4	1	2				7			1 2,10		2		2,3 9		8	11		12
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		13
Desert Water Agency	2	3	4	5	3	1	2				6			1 2,8				2		7	9		10
Littlerock Creek Irrigation District	2	3	4	5	3	1	2				6			1 2,7				2			8		9
Mojave Water Agency	2	4	5	6	4	1	2				7			1 2			3	2,10		8	9	3	11
Palmdale Water District	2	3	4	5	3	1	2				6			1 2,8				2		7	9		11
San Bernardino Valley Municipal Water District	2	4	5	6	4	1	2				7			1 2				1,2 3,9		8	10		11
San Gabriel Valley Municipal Water District	2	4	5	6	4	1	2				7			1 2,10		2		2,9	3	8	11		12
San Gorgonio Pass Water Agency	2	4	5	6	4	1	2				7			1 2		2					8	2,3	9
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	(b	18
Ventura County Flood Control District	1	2	3	4	2		1				5			1,7						6	8		9

P = Pending
S = Special provisions of basic contract
V = Amendment voided by subsequent action

a) *Hacienda Water District was consolidated into Tulare Lake Basin Water Storage District effective January 1, 1981.*
b) *MWD Special Conditions: Amendment Nos. 2, 3, 4, 5, 7, 8V and 12.*
c) *Contract Issues:*
1. *Repayment of "off-aqueduct" power facility costs.*
6. *Delinquency penalty.*
8. *Authority to include other types of projects as additional conservation facilities.*

surface storage reservoir not provided for in Section 12938 of the Water Code Waste Water Reclamation facilities and facilities for delivery water purchased by the State as SWP additional conservation facilities. This has been called the "Local Water Projects Amendment".

- An amendment to Article 21 to replace the term "extra surplus water" with the term "unscheduled water" was signed by seven of the ten water contractors who had added the water type definition to their contracts in 1980.

- Tulare Lake Basin Water Storage District amended its Table A. The value for 1983 was reduced by a reduction credit of 74,852 acre-feet gained in 1972 and 1973 due to climatic conditions.

Project Purpose Cost Allocations

Appendix D to Bulletin 132-82 was submitted to the Legislature in December 1982. As discussed in Bulletin 132-82, that report included a review of the project purpose cost allocation for Grizzly Valley Dam and Lake Davis.

The Department of Finance in October 1979 issued a staff report on the project-purpose cost-allocation methods used by the Department 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 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.

Appendix D to Bulletin 132-83 will not include any new or revised project purpose cost allocations. However, the costs reported in the appendix will be updated through 1982.

Copies of Appendix D to Bulletin 132-82 are available from the Department on request.

Power Contracts Management

Use of DWR Pacific Northwest Intertie Capacity

The Department is contractually entitled to use 300 MW of EHV transmission line capacity from the Oregon-California border to the Table Mountain-Tesla, Los Banos, and Midway substations. During June, July, and August 1982, the Department made 150 MW of EHV line capacity available to PGandE, for which the company paid $125,625. The remaining 150 MW of EHV line capacity was used to transmit Canadian Entitlement power.

MWD Short Term Exchange Program

The MWD exchange program took place from April to August 1982, when the Department reduced water deliveries to MWD by 120,000 acre-feet. The Department paid for the power needed to pump the same amount of water from the Colorado River to the MWD service area. This arrangement helped alleviate water shortage conditions caused by the outage of San Luis Reservoir. SCE provided the power and charged the Department $2,498,400 for delivering 249,834,960 kWh from Vincent substation, and $429,600 for transmitting 240 million kWh of net energy to Julian Hinds substation.

Summary of Major Power Contracts

On March 31, 1983, the Suppliers Contract, the Canadian Entitlement power contracts and the Oroville-Thermalito Power Sales contract were terminated. These contracts have governed the purchase and sale of electrical power for the SWP since the 1960s. To provide energy for the SWP after March 31, 1983, the Department has executed twenty-two major electrical power contracts. These contracts are summarized in Figure 17.

Figure 17. 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. Extra High Voltage (EHV) Intertie	August 1, 1967	Pacific Gas and Electric Co., Southern California Edison Co., San Diego Gas and Electric Co.	300 MW of extra high voltage transmission from the Oregon border to specific points in California by SWP and purchase of off-peak energy to the extent of purchased transmission capacity	January 1, 2005
3. Bonneville Power Administration	September 5, 1967	Bonneville Power Administration	Purchase of surplus BPA energy at Oregon-California border	August 30, 1986
4. Fourth Supplemental Resolution, Oroville	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
5. 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
6. San Diego Gas & Electric EHV Settlement	May 25, 1978	San Diego Gas & Electric	Establishes extent of San Diego Gas & Electric's obligation to supply off-peak energy during the remaining term of the EHV contract, and resolves disputes concerning DWR's use of its EHV transmission entitlement	January 1, 2005
7. 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	August 1, 2013-based on 30 yrs. from estimated operating date of Reid Gardner Unit 4
8. 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
9. Firm Transmission Service	October 11, 1979	Southern California Edison Co.	Provides for transmission service between Reid Gardner's and Edison's service area	August 1, 2013-based on 30 yrs. from estimated operating date of Reid Gardner Unit 4
10. Edison-DWR 1979	October 11, 1979	Southern California Edison Co.	Establishes rate of Edison's off-peak energy under the EHV contract effective January 1, 1983	January 1, 2005
11. Pine Flat	November 6, 1979	Kings River Conservation	Purchase of hydroelectric output from a power plant to be located at Pine Flat Dam	April 1, 2033-based on 50 yrs. from estimated operating date
12. Southern California Edison Agreement for Emergency Services	July 21, 1980	Southern California Edison Co.	Emergency service between the parties	December 31, 2004
13. Capacity Exchange Agreement	September 17, 1981	Southern California Edison Co.	Exchanges 225 MW of on-peak capacity from Hyatt-Thermalito for: (a) Up to 600 MW of SCE's capacity during off-peak periods (b) Up to 225 MW of SCE's capacity during partial-peak periods (c) A 75% reduction in transmission service charges for transmission under Power Contract and Firm Transmission Service Agreement	December 31, 2004
14. Agreement for Sale of Interruptible Energy	March 8, 1982	British Columbia Hydro and Power Authority	Sale of B. C. Hydro surplus interruptible energy to the Department	December 31, 1991 or upon one month's notice by either party, whichever occurs first
15. Agreement for Sale of Nonfirm Thermal Energy	March 8, 1982	Pacific Power and Light Co.	Sale of nonfirm thermal energy to the Department	December 31, 1991 or upon one month's notice by either party, whichever occurs first
16. Comprehensive Agreement	April 22, 1982	Pacific Gas and Electric Co.	Up to 1465 MW of firm transmission service in PGandE's service area effective April 1, 1983	December 31, 2004 with an option for ten years of additional service
17. Generation Replacement Agreement	June 14, 1982	Southern California Edison Co.	Provides energy from DWR generating resources to replace lost generation of two SCE plants on San Bernardino's water distribution system	June 1, 2012
18. Energy Purchase Agreement	June 14, 1982	San Bernardino Valley Municipal Water District	District to pay DWR for energy supplied to SCE under the Generation Replacement Agreement, and give DWR option to develop four small hydro plants on District's system	June 1, 2012
19. Power Sale Agreement	November 5, 1982	Pacific Power & Light Co.	Purchase of 200 MW firm capacity and energy beginning April 1, 1983	March 31, 1985 (can be extended one year)
20. Power Sale Agreement	November 5, 1982	Portland General Electric Co.	Purchase of 100 MW capacity and energy beginning April 1, 1983	March 31, 1986 (can be extended one year early)
21. Power Sale Agreement	May 14, 1982	TERA Corporation	Sale of energy to DWR from wind generating facilities being constructed by TERA	May 3, 2002
22. Southern California Edison EHV Settlement Agreement/Pacific Gas & Electric EHV Settlement Agreement	December 31, 1982	Southern California Edison Co./Pacific Gas & Electric Co.	Establishes the extent of DWR's ability to utilize its rights to 300 MW of EHV transmission from the Pacific Northwest. PGandE Agreement also defines the rate for EHV off-peak energy purchases	December 31, 2004 and January 1, 2005 respectively

Administrative Procedure Related to Cost Allocation and Repayment of Off-Aqueduct Power Facilities

The State Water Contractors Contract Issues Committee and Department staff initiated meetings in mid-1983 to discuss effects on water charges of the new cost allocation procedures related to off-aqueduct power facilities. The objectives of these joint meetings were to (1) assess the net effect that substantial water delivery reductions would have on the minimum and variable operation, maintenance, power and replacement (OMP&R) components of the Transportation Charge; and (2) develop an administrative procedure to offset potential adverse impacts on contractors.

Water and Energy Conservation at SWP Facilities

The Department continued its general energy-reduction program, which began in 1978, and its water conservation efforts, which began during the 1976-77 drought. During 1982, statewide energy use was 26 percent below the 1979-80 level for all facilities. This produced an annual savings of about 3 million kWh of energy and $232,000 at today's costs.

The Department's annual energy-reduction achievement award was earned by the Delta Field Division. Their efforts resulted in significant energy savings, lower utility costs, and maximum energy efficiency in the operation and maintenance of the Delta facilities.

Facility Energy Coordinators and maintenance personnel attended several workshops and training sessions to learn innovative methods for reducing energy. They exchanged ideas for attaining maximum energy efficiency at all Department facilities.

Monthly energy use figures continue to be reported to the Governor's Energy Task Force on a quarterly basis.

The Governor's Energy Task Force announced that DWR was the first Department to achieve former Governor Brown's energy reduction goal of 20 percent by 1983-84.

Energy audits are being conducted annually during regular inspections of field operations and maintenance facilities. Audits were also performed at the Sutter and Sacramento Maintenance yards and at the 88th Street Mobile Equipment Shop. Measures for saving energy were recommended and tracked for progress and completion.

An audit was also completed by Southern California Edison Company (SCE) at the Southern Field Division Castaic Center. SCE recommended several energy-saving measures that will mean significant future savings.

The Department's Water Conservation Plan was formalized in 1982, although significant conservation efforts had been underway since the 1976-77 drought. Water conservation practices are continuing even though there is an abundance of water this year. We have renewed our efforts to continue improved water-use practices developed during the drought.

CHAPTER VII

PROJECT OPERATIONS

Water Operations in 1982

This Chapter summarizes SWP water operations during calendar year 1982, including (1) water conditions, (2) water delivery scheduling, and (3) other 1982 activities.

Water Conditions

Statewide precipitation during the 1981-82 water year (October 1, 1981 through September 30, 1982) averaged 150 percent of normal, double the value recorded in the 1980-81 water year. The 1981-82 precipitation pattern ranged from 200 percent of normal in some Sierra Nevada, Central Valley, and San Francisco Bay area locations, down to 50 percent of normal in parts of southeastern California. Precipitation, in percentage of normal, is shown for all areas of California on Figure 18.

Streamflow in California for the 1981-82 water year averaged 190 percent of normal, ranging from 245 percent of normal in the San Francisco Bay area down to 65 percent of normal in the South Coastal Area. Individual streams having new record high runoff totals for the year included the Yuba, American, Consumnes, Truckee, and West Fork Carson Rivers, with flows ranging up to 275 percent of normal. In the Feather River Basin, the primary source of supply for the SWP, runoff was 207 percent of the 50-year average. Total Central Valley runoff surpassed the normal water-year volume by an impressive 25.3 million acre-feet.

Based on the SWRCB's D-1485, the 1981-82 water year was classified as a "wet" year. The classification is determined by the sum of the computed unimpaired runoff for the four major river basins of the Sacramento Valley (the Sacramento, Feather, Yuba, and American Rivers). The total combined runoff for these basins was 33,500,000 acre-feet for the water year, 190 percent of average for the four basins.

Because of the abundance of water, the Delta outflow index during calendar year 1982 was well-above normal, averaging above 20,000 cfs every month except July and August, which averaged 16,000 cfs. All water quality standards of SWRCB's D-1485 were satisfied in calendar year 1982.

Figure 19 presents a pictorial summary of the operations of SWP reservoirs during 1982. The figure also presents information on total SWP and CVP deliveries to Project service areas during 1982, and areas of the SWP's five field divisions responsible for operations and maintenance activities. Further details of water conditions during the 1981-82 water year are available in the Department's Bulletin 120-82, "Water Conditions in California, Fall Report, October 1982".

The curves in Figure 20 show cumulative natural runoff to Shasta and Oroville Reservoirs for the three years (the historic maximum year, historic minimum year and the 1981-82 water year). The curves also show a multiyear average for the basins. The figure includes the cumulative natural runoff from October 1982 through September 1983 for comparison to past years.

In Figure 21, end-of-the-month storage in Lake Oroville and San Luis Reservoir in 1982 are compared to 1981 storage. The figure shows a significant reduction in 1982 storage amounts in San Luis Reservoir from January through March compared to those months in 1981. This reduction in storage was required after a major earth and rock slide was discovered in the dam's embankment in the fall of 1981. SWP operations were then changed to allow the embankment to be repaired.

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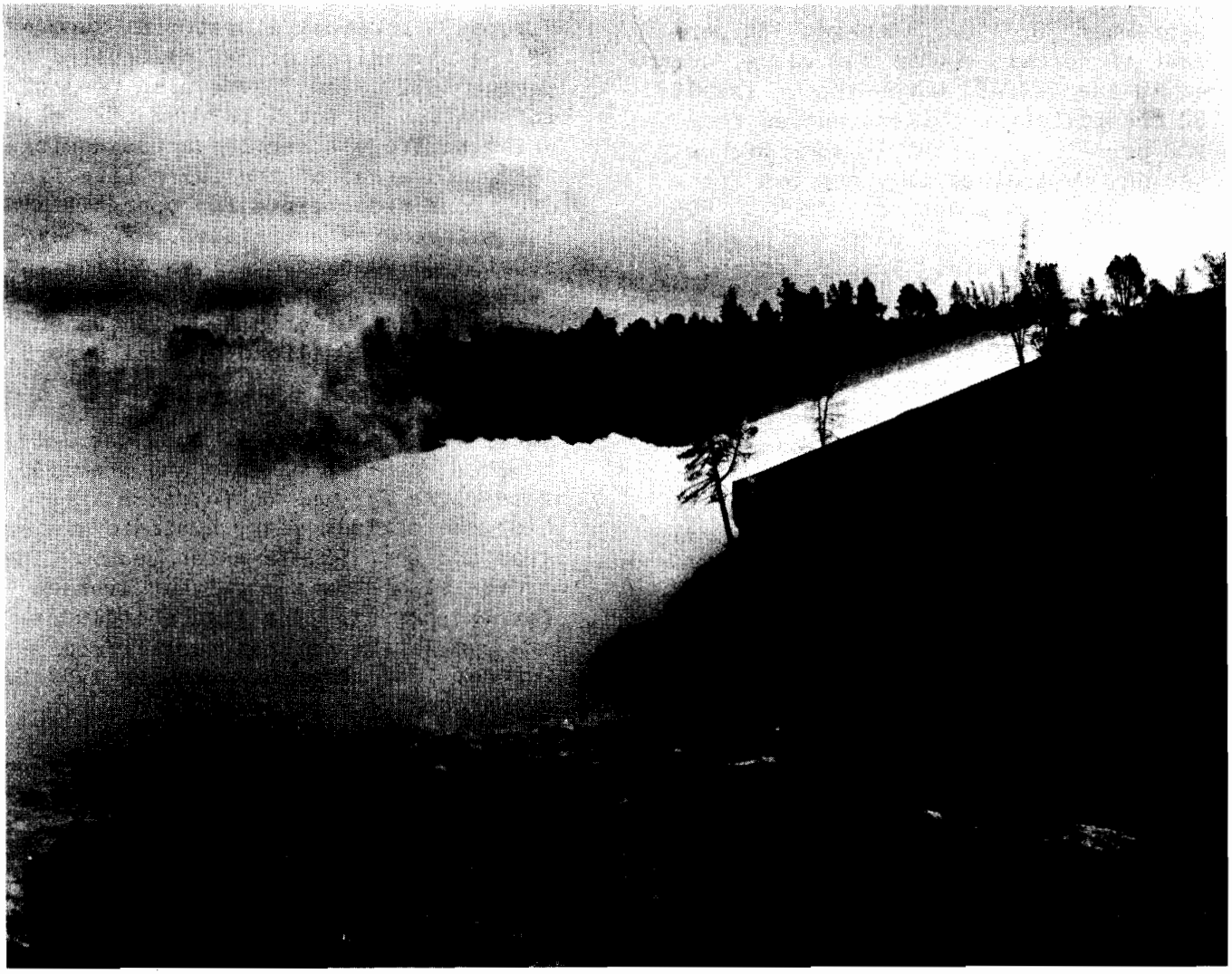


Closeup view of Lake Oroville Spillway

Figure 18. STATEWIDE PRECIPITATION 1981-82 WATER YEAR

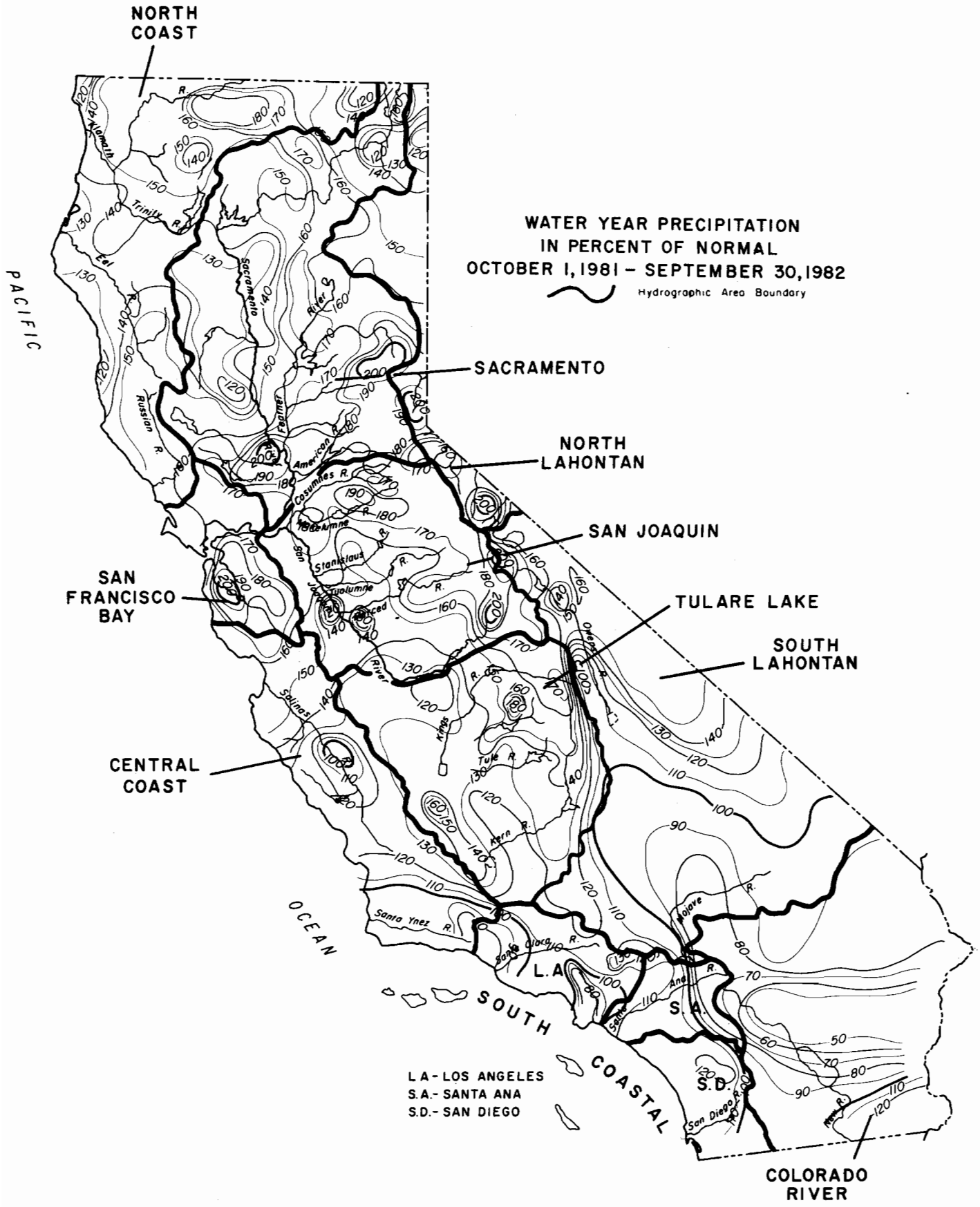
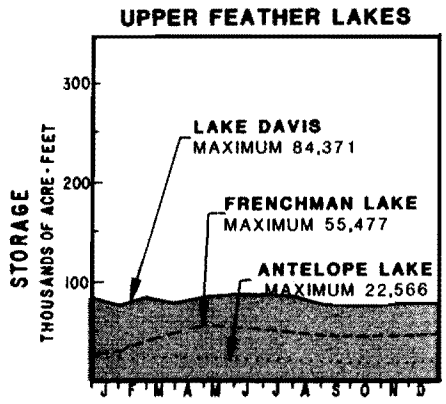
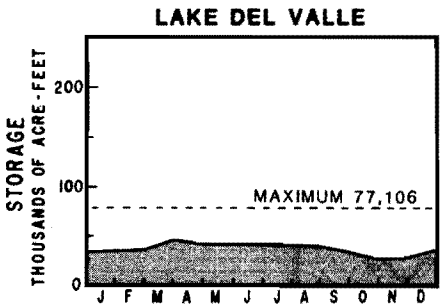
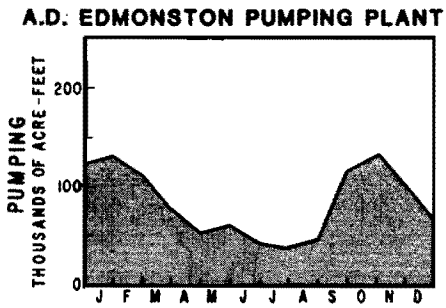
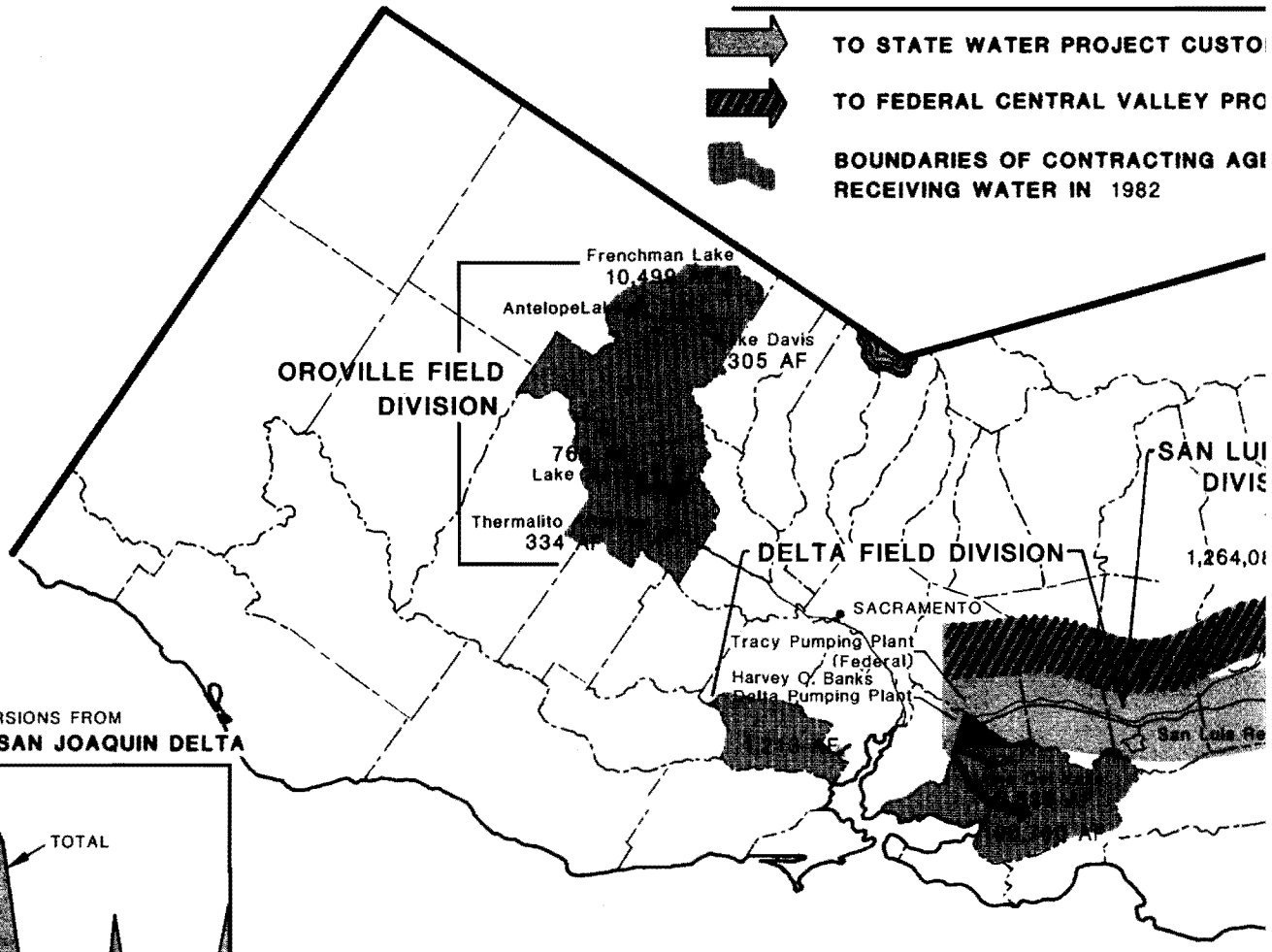


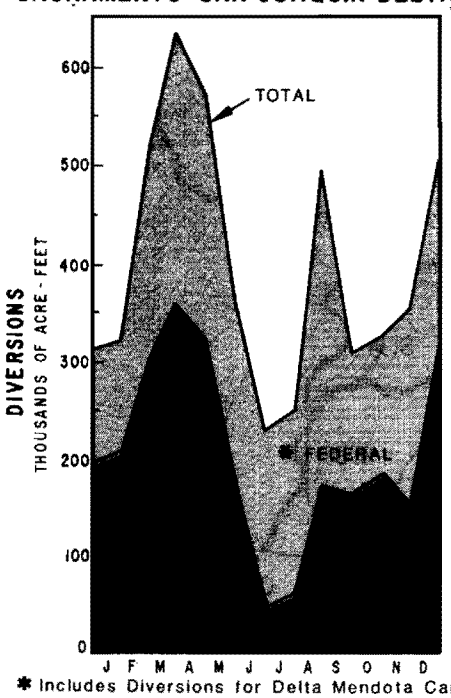
Figure 19. SUMMARY OF PROJECT



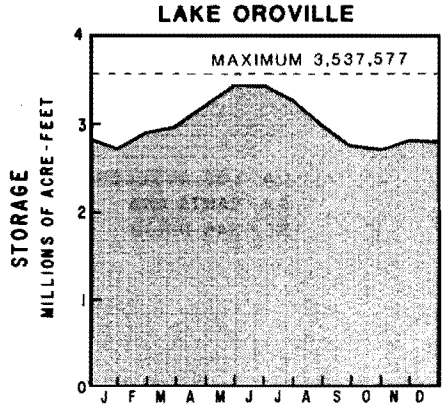


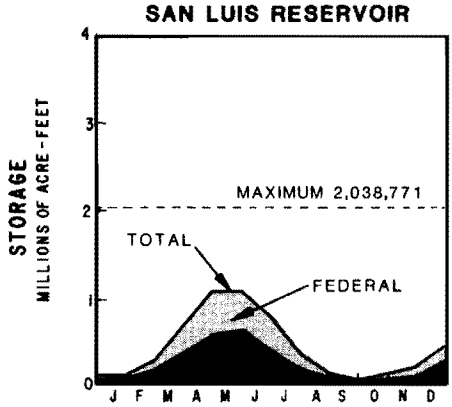




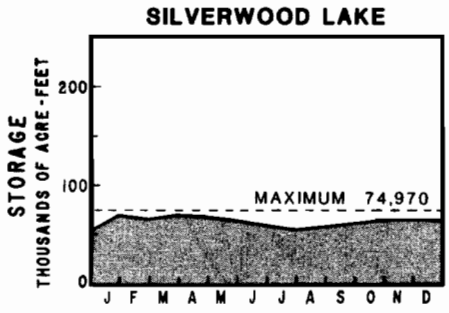


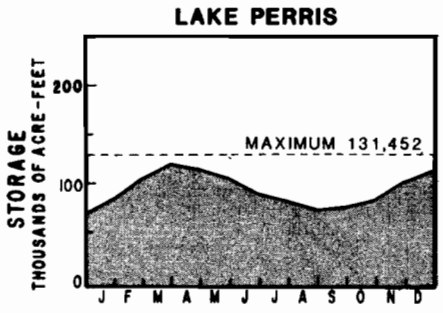
* Includes Diversions for Delta Mendota Canal and Contra Costa Canal





WATER OPERATIONS, 1982





M PROJECT FACILITIES

'OMERS

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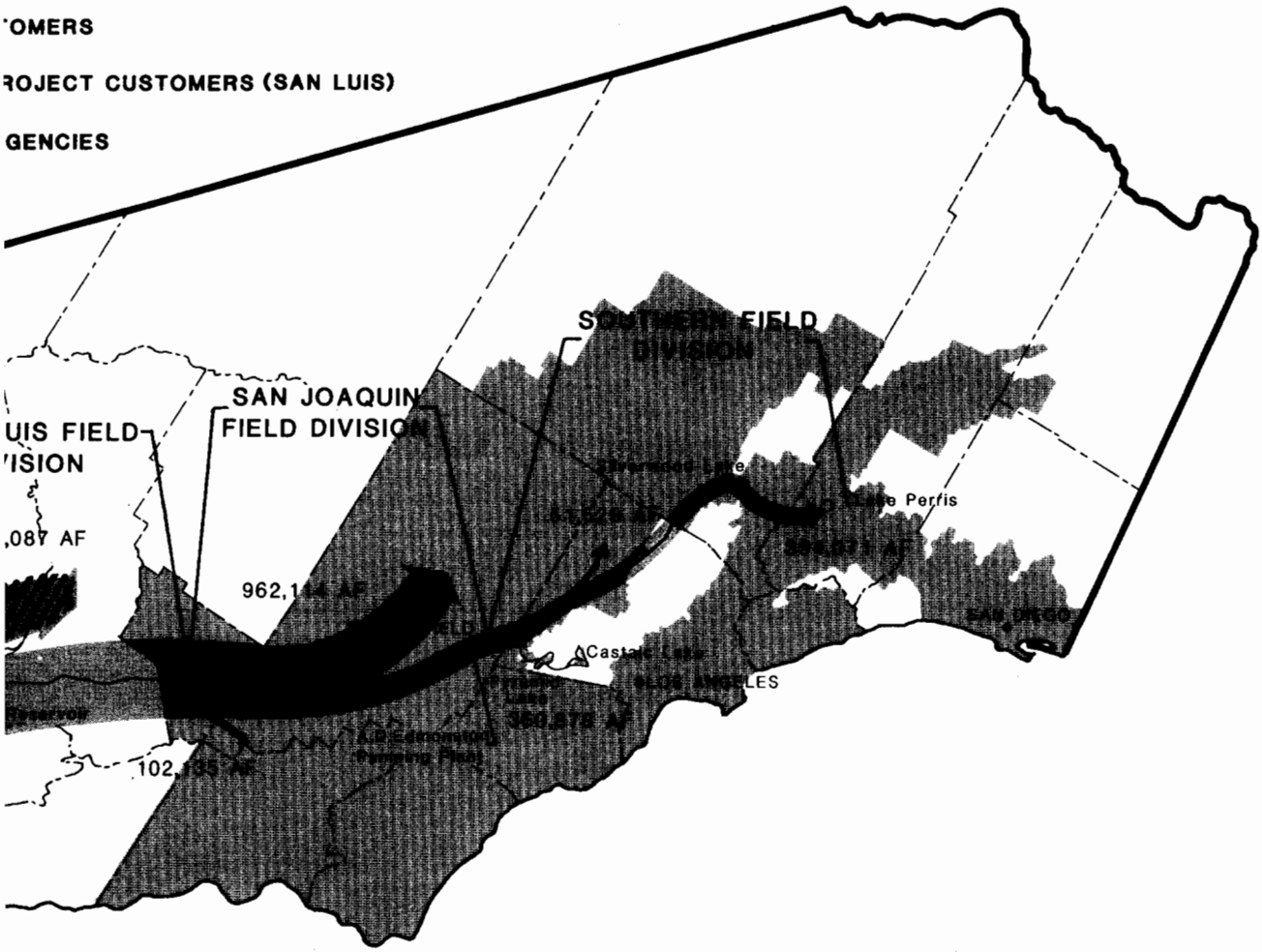
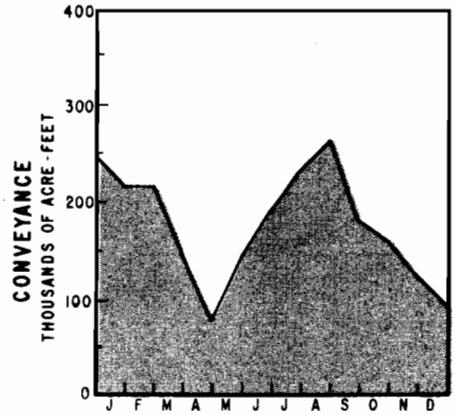
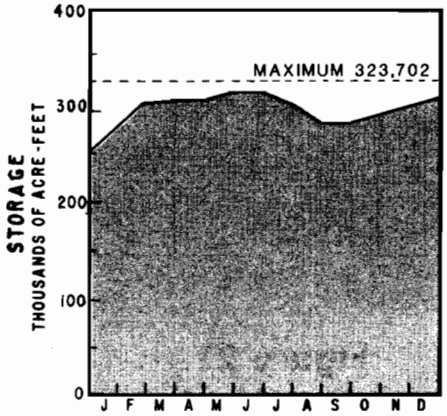
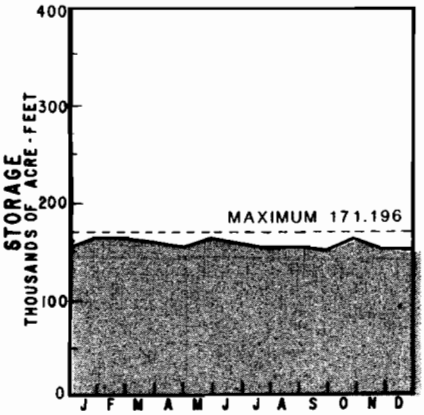








ACCUMULATIVE NATURAL RUNOFF TO SELECTED RESERVOIRS

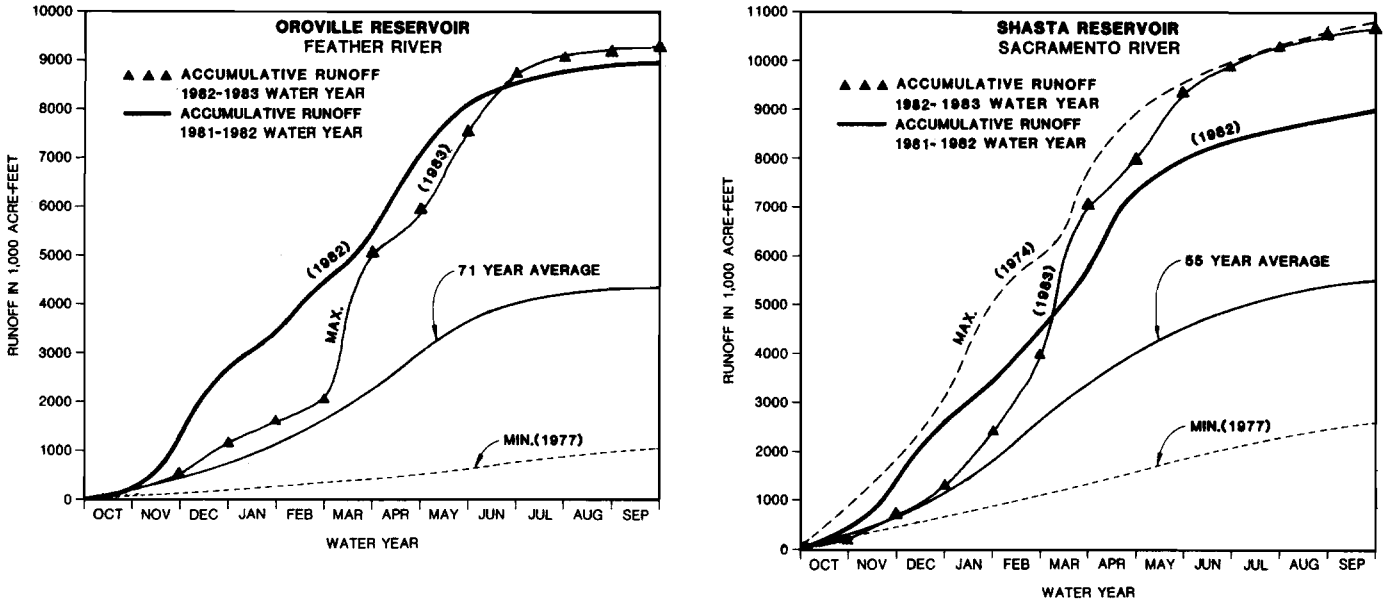


Figure 20.

MONTHLY RESERVOIR STORAGE DURING 1982 FOR LAKE OROVILLE AND SAN LUIS RESERVOIR

January 1, 1982 - December 31, 1982

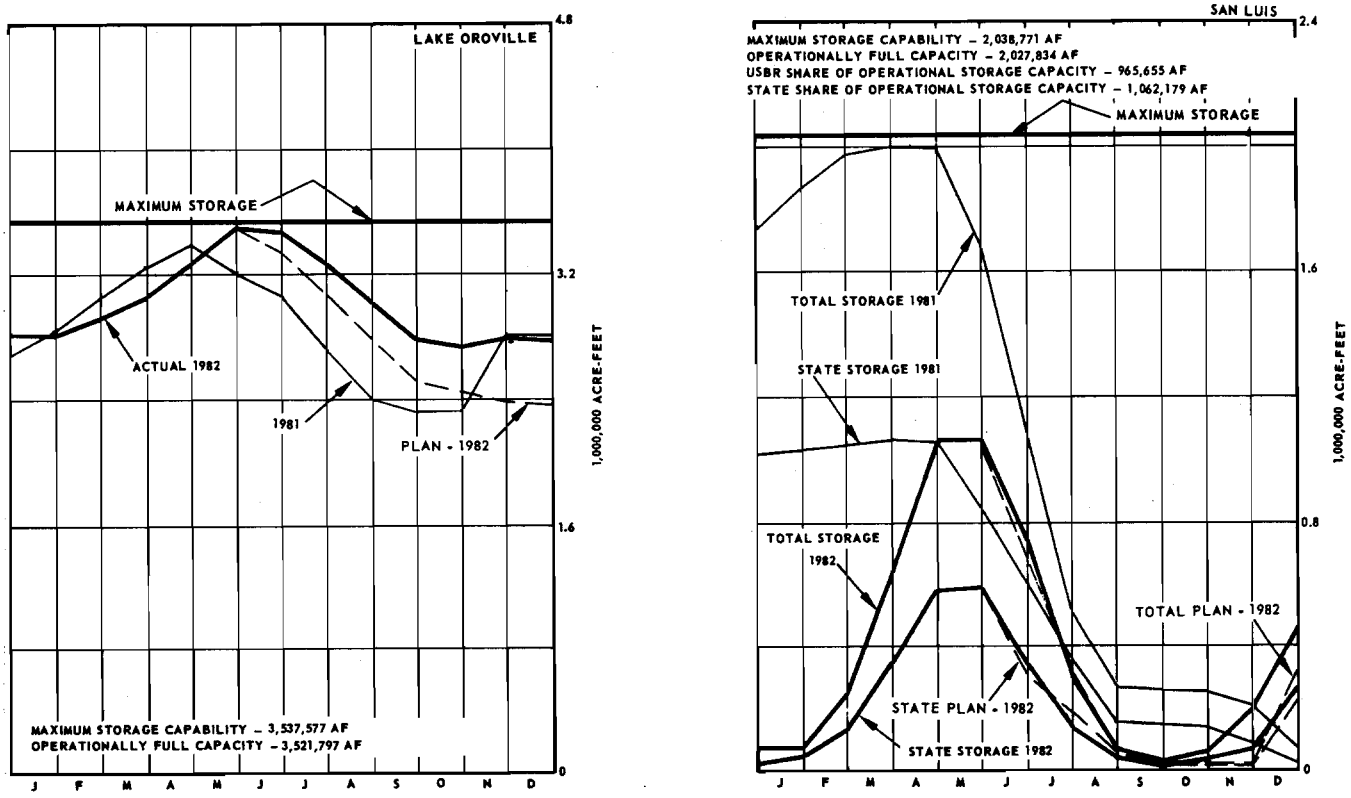


Figure 21.

TABLE 15: COMPARISON OF ACTUAL STORAGE WITH PLAN OF OPERATIONS

(1,000 ACRE-FEET)

Reservoir	May 24, 1982 Plan of Operations	Actual Storage On Dec. 31, 1982 [1/]	Difference
Oroville	2,390	2,804	419
Del Valle (State share)	25	23	−2
San Luis (State share)	243	260	17
Pyramid	165	154	−11
Castaic	286	313	27
Silverwood	62	69	7
Perris	67	121	54
Totals	**3,238**	**3,749**	**511**

[1/] From "State Water Project Report of Operations" for the month of December 1982.

Table 15 shows a comparison of actual year-end storage of Project water in major SWP reservoirs to those projected in the Department's Plan of Operations for 1982. At the end of 1982, storage in SWP major reservoirs remained above average, about 270,000 acre-feet greater than the amount in storage at the end of last year. Total storage in our four southern reservoirs was high, at about 93 percent of their combined capacity, while upper Feather River reservoir storage was at about 90 percent of capacity. Lake Oroville storage was held to about 2.8 million acre-feet for the first three weeks of December, but increased to about 2,870,000 acre-feet on December 23 due to heavy precipitation in the Feather River Basin. Peak inflow to the reservoir was about 44,000 cfs the day before. Lake Oroville spilled for the first time this season on December 21 and continued spilling through Christmas Day. Because of the increased inflow and storage gain, releases to the Feather River from the Oroville-Thermalito complex were stepped up to 25,000 cfs during that period. At other SWP reservoirs, releases were made from Los Banos, Pyramid, and Silverwood to pass storm flows.

Water Delivery Scheduling

In 1982, the Department again used the "Rule Curve" method to forecast water supplies available to the SWP and to schedule water deliveries to contractors. The "Rule Curve" determines the quantity of water available for SWP deliveries after sufficient water is reserved to meet Delta water-quality requirements for entitlement deliveries during the following year.

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

During the year, the Department prepares weekly reports 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.

In 1982, the SWP delivered a total of 2,024,256 acre-feet, excluding deliveries to Federal customers. This was a 30 percent decrease from water deliveries in 1981. In addition to State Water Contractor's entitlement water, deliveries included surplus water, exchange water, recreation and wildlife mitigation water, emergency relief water, repayment of preconsolidation water, regulated delivery of local runoff, and water for ground water recharge demonstration.

Water delivered to Federal customers in the joint facilities (San Luis) service area in 1982, including wildlife mitigation water, amounted to 1,264,536 acre-feet, 20 percent below the 1981 amount. Federal water wheeled through SWP facilities for delivery to the Cross Valley Canal service area in 1982 amounted to 134 acre-feet. An additional 1,231 acre-feet of water was wheeled for other Federal customers.

The various water types, amounts of water and contracting agencies receiving water in 1982 are detailed in Table 13 and discussed in Chapter VI, "Project Management" (see "Water Deliveries in 1982" and "Wheeling of Federal Water").

Special SWP Operations During 1982

A variety of special circumstances in 1982 required that operation of State Water Project facilities be closely coordinated. Although 1982 was classified as wet, it appeared early in the year that this could be a difficult water year for both SWP and CVP water contractors, because repairs to San Luis Dam would severely limit operation of San Luis Reservoir, especially during the peak water-using summer months when delivery rates would be limited to the rate at which water could be pumped from the Delta. The inconvenience of San Luis Reservoir's reduced availability was partially mitigated by releases into the California Aqueduct through the Kern River Intertie, and by an exchange agreement negotiated with MWD.

As late as the March 1982 monthly meeting on project water supply, the SWP contractors were advised that full entitlement could be delivered in 1982 without deficiency, but that the amounts of entitlement that could be delivered in the four peak water-using summer months of May through August would be less than the amounts requested for those months because of limited delivery capability. The availability of surplus water was said to depend on the unlikely occurrence of a very wet March-September period.

The unlikely occurred. Heavy, extended storms struck the State in late March, improving project water-supply conditions sufficiently for the Department to announce at an April water supply meeting that a total of 300,000 acre-feet of surplus water would also be available from the project in 1982. A preliminary canvass of surplus water-using contractors had indicated that this amount would be sufficient to meet all requests for surplus water because the storms had also improved local water supplies.

A series of brief comments concerning major Project facilities from north to south follows:

- Lake Oroville reached the maximum allowable water surface elevation of 900 feet on June 7, 1982. This was the first time the lake had reached maximum elevation since June 16, 1974. After normal summer drawdown, early winter rains led to the first spill of the 1982-83 season on December 21. Continued releases brought the storage in the lake at the end of 1982 to essentially the same as at the end of 1981, but it was necessary to begin spilling again on January 27, 1983.

- A slide on the face of San Luis Dam on September 14, 1981 required extensive emergency repairs. As described on pages 55-58 of Bulletin 132-82, withdrawal of water began in November 1981 and repair work started in December. By February 5, 1982, repair work had progressed sufficiently to allow pumping into San Luis Reservoir to resume. The contractor shut down operations on April 1, 1982, and the reservoir ultimately reached about half capacity by May 3. Construction resumed in July 1982 after the summer drawdown had lowered the water level below the repair areas. Upon completion of repair work in January 1983, and clearance from the Division of Safety of Dams, filling proceeded at the maximum rate to take advantage of 3 mill power available under the Suppliers' Contract which was due to expire on April 1, 1983. The goal of filling the State's share of San Luis Reservoir was achieved on March 10, 1983.

- The Kern River Intertie was placed in operation three times in 1982. The first operation extended from April 19 to May 8 and was arranged by Tulare Lake Basin interests to mitigate flooding in the basin from excess Kaweah River flows. The Kaweah River water was conveyed to the intertie via the Friant-Kern Canal and the Kern River. During this first operation, a total of 10,947 acre-feet of Kaweah River water entered the California Aqueduct through the intertie. The second operation extended from December 3 to December 15 and was initiated at the request of the Kern River Watermaster to divert excess Kern River water. A total of 10,339 acre-feet of Kern River water entered the aqueduct during this second period, the earliest time of season that the intertie had been used since its completion in 1976. The third operation was initiated on December 30 and extended, with short interruptions, into 1983.

During the period December 3, 1982 through July 31, 1983, approximately 681,500 acre-feet of floodwater from the Kern, Kaweah, and Tule Rivers were received into the Aqueduct via the intertie. Of this total, 121,325 acre-feet were delivered under the following special agreements:

1. February 15, 1983 letter agreements between DWR, MWD and Delta Land Reclamation District No. 770 (Delta Land). Under these agreements, MWD reduced its deliveries of Colorado River water and increased intertie floodwater deliveries by 28,464 acre-feet. Delta Land paid actual costs of delivering the water plus administrative and variable replacement costs, less MWD's avoided Colorado River pumping costs.

2. February 18, 1983 letter agreements between DWR, Mojave Water Agency (Mojave) and Delta Land. A total of 34,356 acre-feet was released to the Mojave River. Mojave took delivery of 24,489 acre-feet of water for ground water recharge. Delta Land paid the variable replacement costs for the 24,489 acre-feet of water delivered to Mojave, and Mojave paid the remaining costs. During a period of high local runoff, water was flowing beyond the recharge area, and Delta Land assumed full financial responsibility for the remaining 9,867 acre-feet.

3. May 17, 1983 contract between DWR, MWD, Delta Land, Tulare Lake Basin Water Storage District (TLBWSD) and Southern California Edison (Edison). Under this contract, MWD relinquished the opportunity to maximize Colorado River water deliveries from May 17 through May 31, 1983 by 24,224 acre-feet and instead, "optimized" SWP deliveries by a like amount. MWD continued to pay their avoided pumping costs of foregone Colorado River water plus certain reserve fund costs. The other parties contributed the remaining costs.

4. May 26, 1983 contract between DWR, MWD, Delta Land, TLBWSD, Edison and Los Angeles Department of Water and Power (LADWP). This contract is quite similar to the May 17, 1983 contract with the addition of LADWP. "Optimized" SWP deliveries to MWD totaled 34,281 acre-feet from June 1, 1983 through June 21, 1983.

- There was an outage on the East Branch between Pearblossom Pumping Plant and Silverwood Lake from April 15 through August 31, 1982 for construction of two new check structures and the intake for Mojave Siphon Powerplant. It was necessary during this period to supply AVEK's water demands from Aqueduct Pool storage, while contractors downstream from Silverwood Lake and Lake Perris were able to draw their scheduled water demands from reservoir storage.

- The significant local runoff from the wet trend in 1982 resulted in an increase in the storage of Southern California reservoirs. The following tabulation lists the reservoir capacities and a comparison of storage between December 1981 and December 1982. The higher local inflows resulted in reduced pumping through Edmonston Pumping Plant.

Reservoir and Capacity (in acre-feet)	Storage 12-31-81	Storage 12-31-82
Pyramid Lake 169,902	153,836	153,788
Castaic Lake 319,247	252,171	312,877
Silverwood Lake 73,031	57,996	69,145
Lake Perris 126,841	76,199	120,642
TOTALS	540,202	656,452
TOTAL CHANGE		+116,250

Other Activities

California Aqueduct Sediment Removal. Regular dredging operation continued in 1982 for the removal of about one million cubic yards of asbestos-laden silt from the California Aqueduct. The dredging effort covers a 140-mile segment of the Aqueduct from Check 19 south to the Edmonston Pumping Plant. Most of the sediment originated from periodic flood inflows to the Aqueduct from Arroyo Pasajero near Coalinga in Fresno County, an area containing serpentine rocks and asbestos mines. Concerns of the potential health hazards of high concentrations of asbestos in sediment deposited in the Aqueduct led to the decision to remove it by dredging. Also, the pumping of water that contained suspended sediment material was causing pump impellers to wear out prematurely.

Further discussion of the operations and progress of the sediment removal project in the Aqueduct is included in Chapter III of this bulletin.

San Luis Dam Slide Repair. On September 14, 1981, an earth and rock slide 1,100 feet long was discovered along the upstream face of San Luis Dam. After the initial discovery, the embankment continued to slide slowly (8 to 12 inches) a day and a second vertical scarp opened up about 20 feet above the one first noticed on September 14.

After investigation it was agreed that the primary cause of the slide was a weak clay, commonly referred to as "slopewash", underlying the dam embankment.

Withdrawal of water from the reservoir in preparation for construction began in late November and repair construction work began on December 31, 1981. The repair of the berm was completed on March 15, well ahead of the July 1 deadline. Construction work continued when summer drawdown had lowered the water level below the repair areas.

In September, 1982 the remaining repair work began to restore the crest section, and to construct buttress berms along three other sections of the dam identified as potential slide areas. By December 31, 1982, buttress repair work was essentially completed, allowing refilling of the reservoir to elevation 393 feet.

Chapter III of Bulletin 132-82 and Chapter III of this bulletin provide additional discussions of the San Luis Dam slide and repair and its impact on SWP operations.

Sacramento-San Joaquin Delta. Water Right Decision 1485 sets water quality standards, export limitations, and outflow requirements to protect beneficial uses in the Sacramento-San Joaquin Delta. This information and a record of the water quality monitoring in the Delta appears in Appendix E to Bulletin 132. It is published separately from this report under the title "Water Operations in the Sacramento-San Joaquin Delta."

Table 16 shows summary data on the quality of water delivered during 1982 as measured at selected stations. Also shown at the bottom of Table 16 are corresponding monthly average objectives for maximum concentrations of constituents as set forth in long-term water contracts. Note that the mineral analyses are based on one each month, while the objectives are stated in terms of average conditions within a month.

TABLE 16: WATER QUALITY MEASUREMENTS AT SELECTED STATIONS IN 1982

Station	Monthly Samples	Concentrations (in parts per million unless otherwise noted)					
		Total Dissolved Solids	Total Hardness	Chlordies	Sulfates	(a Sodium (%)	Boron
Thermalito Afterbay,	Minimum	48	30	1	0	12	0.0
Outlet to Feather River	Average	53	31	1	1	16	0.0
	Maximum	57	32	1	2	17	0.1
Sacramento-San Joaquin Delta,	Minimum	111	54	17	16	39	0.1
Delta Pumping Plant	Average	167	72	33	26	44	0.2
	Maximum	283	105	69	50	52	0.3
South Bay Aqueduct,	Minimum	111	54	11	17	34	0.1
Santa Clara Terminal Facility	Average	167	82	26	27	38	0.2
	Maximum	239	118	46	41	40	0.2
California Aqueduct:	Minimum	103	53	15	15	37	0.1
Entrance to O'Neill Forebay	Average	161	71	31	25	43	0.2
	Maximum	261	97	61	45	51	0.3
Outlet from O'Neill Forebay	Minimum	112	55	18	20	41	0.1
	Average	182	78	38	31	46	0.2
	Maximum	290	111	74	49	52	9.3
Near Kettleman City	Minimum	104	52	26	15	43	0.1
	Average	190	80	40	32	46	0.2
	Maximum	313	119	59	62	50	0.3
Coastal Branch near Devil's Den	Minimum	126	58	9	23	34	0.1
	Average	195	80	39	33	45	0.2
	Maximum	298	110	84	47	54	0.3
Near Buena Vista Pumping Plant	Minimum	130	57	18	18	42	0.1
	Average	195	80	41	31	46	0.2
	Maximum	320	119	85	56	52	0.3
At Tehachapi Afterbay	Minimum	133	63	19	24	42	0.1
	Average	184	79	37	33	46	0.2
	Maximum	267	105	69	47	51	0.3
At Pearblossom Pumping Plant	Minimum	114	50	24	20	43	0.1
	Average	209	83	44	46	49	0.2
	Maximum	360	144	75	88	63	0.4
Silverwood Lake, Outlet to	Minimum	124	62	28	23	43	0.1
San Bernardino Tunnel	Average	224	90	46	43	46	0.2
	Maximum	348	121	79	60	51	0.2
Lake Perris, Outlet from	Minimum	193	87	47	40	46	0.2
Santa Ana Pipeline	Average	275	107	67	48	50	0.2
	Maximum	316	118	78	56	54	0.2
Pyramid Lake, Entrance to	Minimum	169	69	28	34	43	0.2
Angeles Tunnel	Average	256	106	50	55	45	0.2
	Maximum	374	139	78	74	49	0.3
Castaic Lake, Outlet Tower	Minimum	282	135	55	74	41	0.3
	Average	349	153	65	90	43	0.3
	Maximum	409	168	74	99	45	0.4
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.*

TABLE 17: SWP BENEFITS THROUGH 1982

Year	Water Delivered (acre-feet)							Recreation Supported (Recreation days)(b	Electrical Energy Generated (Megawatt-hours)(c
	Entitlement Water			Other Deliveries					
				Surplus					
	Municipal and Industrial Use	Agricultural Use	Total	Agr.	M&I	Other Water (a	Total Delivery		
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	44,127	697,486	2,085,900	3,302,000
1972	181,066	430,735	611,801	401,759	22,205	73,127	1,108,892	1,971,200	1,922,000
1973	293,824	400,564	694,388	293,255	3,161	43,666	1,034,470	2,502,000	3,298,000
1974	418,521	455,556	874,077	412,923	4,753	48,342	1,340,095	4,073,600	4,672,000
1975	641,621	582,369	1,223,990	601,859	21,043	67,170	1,914,062	4,189,300	3,159,000
1976	818,588	554,414	1,373,002	547,622	32,488	116,962	2,070,074	4,239,600	2,131,000
1977	280,919	293,236	574,155	0	0	390,176	964,331	3,951,900	958,000
1978	742,385	710,314	1,452,699	13,348	3,566	122,916	1,592,529	5,773,700	2,882,000
1979	690,659	969,237	1,659,896	582,308	66,081	189,396	2,497,681	5,298,700	2,485,000
1980	730,545	799,204	1,529,749	384,835	19,722	48,590	1,982,896	5,701,900	2,988,000
1981	1,057,273	852,289	1,909,562	896,428	12,000	248,142	3,066,132	6,017,800	3,358,000
1982	928,613	820,297	1,748,910	214,570	1,303	125,484	2,090,267	6,187,700	5,097,000
Total (d	7,003,940	7,615,880	14,619,829	4,959,481	198,722	1,828,674	21,606,706	58,188,500	42,173,000

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

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. Table 17 summarizes the SWP benefits through 1982.

Power Operations in 1982

During 1982, the power requirements of SWP pumping plants were supplied by:

1. generation by SWP recovery generating plants,
2. purchases of Canadian Entitlement Power,
3. purchases of energy from participating utilities for MWD pumping Colorado River water in lieu of SWP water,
4. purchases from California electric utilities, and
5. purchases from TERA's Bethany wind park.

As shown in Table 18, the total energy from all sources was 5,441.93 million kWh.

SWP Recovery Plants

Power generation at Warne Powerplant began in November 1982. Warne Powerplant, along with San Luis Pumping-Generating Plant and Devil Canyon Generating Plant, contributed 621.46 million kWh to the SWP in 1982.

TABLE 18: 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	429.64	395.54	454.68	571.28	436.87	280.31	267.59
Power Plant Use and Pumpback Requirements	.23	.16	2.36	0	.13	.29	.31
Delivered to California Power Pool Companies	429.41	395.38	452.32	571.28	436.74	280.02	267.28
ENERGY USED BY PROJECT PUMPING PLANTS							
Cordelia Pumping Plant	.04	.03	.04	.03	.06	.05	.07
South Bay Pumping Plant (b	.98	2.90	3.24	1.98	8.88	10.64	13.21
Del Valle Pumping Plant	.01	.01	.01	.02	.01	.01	.01
Tracy Pumping Plant (State Share)	0	0	1.22	0	0	0	0
Harvey O. Banks Delta Pumping Plant	62.90	91.62	108.46	96.25	53.36	14.19	18.41
San Luis Pumping-Generating Plant (State Share)	.39	16.51	43.21	65.90	.28	.13	.09
Dos Amigos Pumping Plant (State Share)	28.79	28.00	19.89	10.68	19.42	25.08	35.28
Las Perillas Pumping Plant (c	.27	.41	.30	.33	1.23	1.45	1.66
Badger Hill Pumping Plant	.67	1.08	.75	.83	3.30	3.94	4.52
Buena Vista Pumping Plant	33.34	29.58	21.04	14.90	20.17	18.90	19.53
Wheeler Ridge Pumping Plant	36.67	31.85	22.56	16.54	20.16	15.63	14.34
Wind Gap Pumping Plant	82.81	71.80	50.17	35.43	40.74	29.53	27.69
A. D. Edmonston Pumping Plant	289.36	250.49	174.58	121.28	135.16	94.17	87.49
Oso Pumping Plant	15.68	12.23	5.17	8.06	14.03	9.30	7.86
Pearblossom Pumping Plant	46.89	43.65	38.28	14.28	1.01	.49	.35
Devil Canyon Powerplant (for Station Service)	0	0	0	.06	.12	.05	.06
William E. Warne Powerplant (for Station Service)	0	0	0	0	0	0	0
Participating Utilities (MWD Exchange)	0	0	0	31.10	112.31	54.72	28.68
	598.80	580.16	488.92	417.67	430.24	278.28	259.25
SOURCES OF ENERGY FOR PROJECT							
San Luis Pumping-Generating Plant (State Share)	0	0	0	.05	0	28.90	32.63
Castaic Powerplant (State Share)	52.83	42.50	18.26	30.35	27.26	29.71	26.78
Devil Canyon Powerplant	63.42	73.65	64.11	27.48	2.33	4.40	4.64
William E. Warne Powerplant	0	0	0	0	0	0	0
Canadian Entitlement Power	44.90	41.04	45.49	43.23	44.45	42.96	44.55
California Suppliers	437.65	422.97	361.06	285.46	243.89	118.18	121.38
Participating Utilities (MWD Exchange)	0	0	0	31.10	112.31	54.72	28.68
Total	598.80	580.16	488.92	417.67	430.24	278.87	258.66

a) Sold under terms of the Oroville-Thermalito Power Sale Contract, November 29, 1967.
b) TERA Corp wind generation provided .14 gigawatt-hrs directly to the plant in addition to the energy shown in the Table.
c) Pumping for USBR during July (18 012 kWh), August (48 000 kWh) and September (3 268 kWh) is not included in totals.

OPERATIONS IN 1982

kilowatthours)

MONTH						Operations
Aug.	Sept.	Oct.	Nov.	Dec.	Total	
						ENERGY GENERATED BY EDWARD-HYATT AND THERMALITO POWERPLANTS[a]
327.87	255.52	155.50	162.84	343.19	4,080.83	Gross Generation
.34	2.18	8.32	17.48	1.95	33.75	Power Plant Use and Pumpback Requirements
327.53	253.34	147.18	145.36	341.24	4,047.08	Delivered to California Power Pool Companies
						ENERGY USED BY PROJECT PUMPING PLANTS
.07	.06	.06	.14	.03	.68	Cordelia Pumping Plant
15.14	9.07	4.74	3.54	5.59	79.91	South Bay Pumping Plant[b]
.01	0	.01	.01	.01	.12	Del Valle Pumping Plant
0	0	0	0	0	1.22	Tracy Pumping Plant (State Share)
52.68	49.54	55.74	46.59	97.18	746.92	Harvey O. Banks Delta Pumping Plant
.20	.40	3.79	3.87	39.73	174.50	San Luis Pumping-Generating Plant (State Share)
34.30	24.94	22.52	16.29	13.34	278.53	Dos Amigos Pumping Plant (State Share)
1.22	.43	.25	.20	.41	8.16	Las Perillas Pumping Plant[c]
3.29	1.13	.63	.56	1.06	21.76	Badger Hill Pumping Plant
20.89	31.25	34.25	25.50	18.85	288.20	Buena Vista Pumping Plant
15.67	35.05	39.19	29.53	20.85	298.04	Wheeler Ridge Pumping Plant
31.51	77.03	86.64	64.98	44.71	643.04	Wind Gap Pumping Plant
100.83	266.45	301.37	229.24	155.51	2,205.93	A. D. Edmonston Pumping Plant
7.11	9.79	13.57	10.08	9.15	122.03	Oso Pumping Plant
6.34	50.62	53.82	43.07	23.61	322.41	Pearblossom Pumping Plant
.02	0	0	0	0	.31	Devil Canyon Powerplant (for Station Service)
0	.09	.08	.09	.02	.28	William E. Warne Powerplant (for Station Service)
23.08	0	0	0	0	249.89	Participating Utilities (MWD Exchange)
312.36	555.85	616.66	473.69	430.05	5,441.93	Total
						SOURCES OF ENERGY FOR PROJECT
5.70	0	0	0	.01	67.29	San Luis Pumping-Generating Plant (State Share)
25.06	33.12	42.33	34.51	31.92	394.63	Castaic Powerplant (State Share)
6.39	79.13	86.89	71.97	43.55	527.96	Devil Canyon Powerplant
0	0	0	5.09	21.12	26.21	William E. Warne Powerplant
44.81	42.96	44.40	42.97	30.78	512.54	Canadian Entitlement Power
207.32	400.64	443.04	324.48	297.34	3,663.41	California Suppliers
23.08	0	0	0	0	249.89	Participating Utilities (MWD Exchange)
312.36	555.85	616.66	479.02	424.72	5,441.93	Total

Castaic Pumping-Generating Plant

Castaic Pumping 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 1982, the SWP received 394.63 million kWh from LADWP.

Canadian Entitlement Power

The SWP obtained Canadian Entitlement Power (CEP) from three electric utilities in the Pacific Northwest at a maximum rate of 150 megawatts. During 1982, the SWP received 512.54 million kWh of CEP energy. SWP contracts for CEP expired on March 31, 1983.

California Suppliers' Energy

During 1982, the SWP received most of its power from four California utilities (called "Suppliers"): Pacific Gas and Electric Company (PGandE), Southern California Edison Company (SCE), San Diego Gas and Electric Company (SDGE), and the City of Los Angeles Department of Water and Power (LADWP). The total 1982 Suppliers' energy obtained by the SWP during the year was 3,663.41 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 contract for Suppliers power expired on March 31, 1983. The SWP has a contract for the sale of the power from the Hyatt and Thermalito Powerplants at Lake Oroville to three of the Suppliers: PGandE, SCE, and SDGE. After allowing for station service and pumpback energy, net 1982 Hyatt-Thermalito generation was 4,047.08 million kWh. On March 31, 1983, this contract was terminated and the Hyatt-Thermalito generation will be available for pumping and other SWP purposes.

SWP Electrical Operations in 1983

The SWP, in addition to its water utility function, became a bulk power producer on April 1, 1983. This change in status increased the Department's responsibilities in managing SWP electric loads and resources. In preparation for this change, the Department during the past several years has executed numerous contracts for the purchase and sale of power and for transmission service with public and private utilities throughout the State. Power purchase contracts with Portland General Electric, Pacific Power and Light, and Nevada Power Company have also been signed.

A major influence on the Department's power and water operations during the past year has been the above average precipitation received in California during the winter of 1982-83. As a result, power needed for operation of the SWP has been considerably below expected levels. Therefore, since April 1, 1983, the Department has had excess energy to sell. The market for excess energy has been restricted because potential purchasers have had access to low-cost energy from the Pacific Northwest (PNW).

Energy sales by the Department were generally in the range of from 8 to 11 mills per kWh during April, May, and June. Purchasers were PGandE, SCE, and LADWP. Beginning in July, sales were also made to Pasadena, Glendale, Burbank, and the Nevada Power Company. The average selling prices of firm and non-firm energy during July were about 25 and 12 mills per kWh, respectively. As the availability of surplus energy in the PNW ends in late summer, the market for surplus energy is expected to improve.

The Department's largest single source of power is the Hyatt-Thermalito plant complex. Starting on April 1, 1983, all of the energy generated by the

Hyatt and Thermalito plants became available to the SWP. Prior to April 1, Hyatt-Thermalito generation was sold to the California companies, a three-utility group.

The Comprehensive Agreement with PGandE provides for 900 MW of firm transmission service on the PGandE backbone system (the primary facilities for the transmission of bulk power within the PGandE systems) to transmit Hyatt-Thermalito generation. Heavy imports of power from the PNW, as well as high levels of generation at PGandE's Northern California hydro plants, have resulted in curtailment of the Department's use of the backbone transmission system. PGandE curtailed transmission service by the following percentages during April, May, and June, respectively: 83, 55, and 47. In spite of the curtailments, PGandE has billed the Department for the entire 900 MW of transmission service. The Department is negotiating with PGandE over this issue. If negotiations with the company are unsuccessful, arbitration may be necessary.

The Department will probably continue to be curtailed in the use of its backbone transmission service until the upgrade of the Table Mountain-to-Tesla portion of the EHV intertie is completed. Work on the upgrading is currently in progress and is expected to be completed sometime in 1984. To help alleviate the curtailment problem an agreement was reached with the Western Area Power Administration (WAPA) to obtain approximately 270 MW of transmission service from the Oroville vicinity to the WAPA substation at Tracy. This service began on May 19.

The Department was able to use part of the 300 MW of transmission service available under the Extra High Voltage (EHV) Contract to transmit Hyatt-Thermalito generation. This was accomplished by reducing the amount of energy deliveries from the Pacific Northwest (Pacific Power and Light, and Portland General Electric) to the minimum amounts the Department is obligated to pay for.

Initial operation of Reid Gardner Unit No. 4 occurred in June with commercial operation being declared on July 26, 1983. Since the Department did not need its share of the generated energy, the Nevada Power Company agreed to bank the energy until July 15, 1983 for delivery to the Department at a later date.

Since July 15th, the Department has been able to sell all excess energy to utilities in California. Additional agreements are being negotiated with electric utilities to provide more markets and increased revenues for SWP excess energy.

Managing the SWP electric power loads and resources under the provisions of the power contracts that became effective on April 1, 1983, requires a diligent effort by the SWP operations staff to minimize costs, which are ultimately paid by the water contractors.

Other Power Sources and Services

The Romero wind turbine and Bethany Wind Park were two sources of wind energy available to the Department in 1982. The Department operates the 50-kW Romero wind turbine located near San Luis Reservoir and its energy is credited for use at San Luis Operations and Maintenance Center. The Department has a contract with the TERA Corporation for the installation of two-hundred 50-kW wind turbines in the Bethany area near South Bay Pumping Plant. Ten wind turbines were operational at the end of December 1982, and their energy was delivered to South Bay Pumping Plant.

Because of structural problems and subsequent outage at San Luis Reservoir, the Department entered into a short-term contract with the participating utilities (PGandE, SCE and SDGE)

and MWD, whereby the participating utilities provided energy to MWD to pump Colorado River water to replace SWP water. The Department paid $2,928,000 to the participating utilities for providing 249.89 million kWh from April through August. The Department also agreed not to schedule power on its uncommitted 150 MW of EHV line capacity in order to allow PGandE the use of this capacity. PGandE paid $125,625 for this service during June, July and August.

Recreation and Fish and Wildlife Activities

Approximately 6.2 million people used SWP facilities during 1982, a three percent increase over 1981. This use included camping, boating, swimming, fishing (lake and aqueduct), bicycling, and other recreational activities. Over 420,000 visitor-days of use occurred at SWP visitor centers. This is a 17 percent decrease from the 508,000 who visited the facilities in 1981. Visitors included people entering visitor centers, stopping at overlooks, and participating in guided tours of Project facilities.

Figure 22 shows the location of fishing sites, recreation developments and the bikeway on the California Aqueduct at the end of 1982. There are 14 fishing access sites along the Aqueduct. The Cadet Road site was closed permanently in March 1982. There is also a total of 291 miles of walk-in fishing along the Aqueduct: 208 miles in Northern California and 83 miles in southern California.

Use of recreation facilities in recreation days during 1982 is detailed in Table 19: "Recreation Use at SWP Facilities in 1981 and 1982."

Figure 22. AQUEDUCT RECREATION DEVELOPMENTS

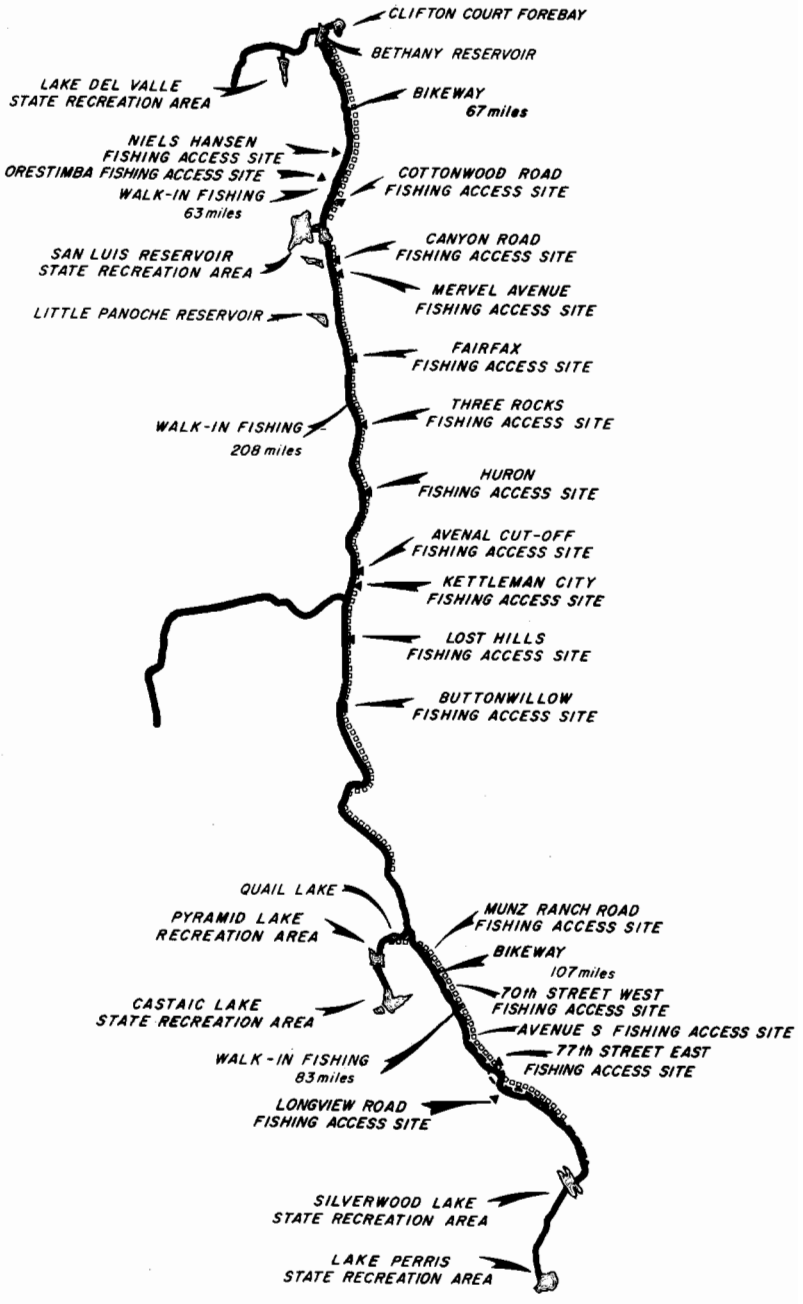


TABLE 19: RECREATION USE AT SWP FACILITIES IN 1981 AND 1982

Facility	Recreation Use in Recreation Days	
	1982	1981
Oroville Field Division		
Frenchman Lake	194,521	179,900
Antelope Lake	300,325	212,400
Lake Davis	300,220	287,800
Lake Oroville Complex	554,567	800,000
TOTAL	**1,349,633**	**1,480,100**
Delta Field Division		
Lake Del Valle	347,753	326,500
Bethany Reservoir	31,645	30,400
Cottonwood Road F.A.S. *	718	600
Niels Hansen F.A.S.*	625	600
Orestimba F.A.S.*	1,665	900
California Aqueduct Walk-in fishing	20,461	14,000
California Aqueduct Bikeway	458	400
White Slough Wildlife Area	13,000	8,000
TOTAL	**416,325**	**381,400**
San Luis Field Division		
San Luis Reservoir O'Neill Forebay, and Los Banos Reservoir	718,650	625,000
Canyon Road F.A.S.*	2,726	1,300
Mervel Avenue, F.A.S.*	2,836	900
Fairfax F.A.S.*	2,688	2,000
Three Rocks F.A.S.*	1,812	1,300
Huron F.A.S.*	1,915	1,600
Avenal Cutoff F.A.S.*	3,238	1,600
San Luis Field Division (Cont'd)		
California Aqueduct Walk-in fishing	29,978	17,100
TOTAL	**763,843**	**650,800**
San Joaquin Field Division		
Lost Hills F.A.S.*	2,641	2,100
Buttonwillow F.A.S.*	2,879	2,300
Cadet Road F.A.S.*	25**	800
Kettleman City F.A.S.*	1,978	2,000
California Aqueduct Walk-in fishing	17,193	16,500
TOTAL	**24,716**	**23,700**
Southern Field Division		
Castaic Lake	972,144	1,266,800
Silverwood Lake	609,555	590,300
Pyramid Lake	328,620	149,900
Lake Perris	1,713,527	1,467,300
77th Street, East F.A.S.*	411	300
Longview Road F.A.S.*	1,492	1,600
California Aqueduct Walk-in fishing	3,704	3,400
California Aqueduct Bikeway	3,698	2,200
TOTAL	**3,633,151**	**3,481,800**
GRAND TOTAL, SWP	**6,187,668**	**6,017,800**

Fishing Access Site

**Closed permanently in March 1982.*

California Aqueduct Bikeway

Recreationists continued to enjoy the California Aqueduct Bikeway. Approximately 4,200 cyclists used the bikeway in 1982: 500 along the Aqueduct from Bethany Reservoir to O'Neill Forebay, and 3,700 in the Antelope Valley area. The total use of the bikeway for 1982 represents an increase of about five percent from 1981.

The total length of the bikeway now in operation is approximately 174 miles: 67 miles in Northern California and 107 miles in Southern California.

Recreation Activity Within SWP Field Divisions

Following are details of recreation and fish and wildlife activities within each field division. In addition, Table 20 shows the fish planted at SWP facilities in 1982 by the Department of Fish and Game.

Oroville Field Division. Visitors to the Oroville Wildlife area participated in the following activities:

Activity	Recreation Days
Fishing	63,960
Hunting	4,900
Camping and Picnics	13,293
Sightseeing	11,104
All other Activities	35,656
Group Activities	422
TOTAL	129,335

TABLE 20: FISH PLANTED BY DEPARTMENT OF FISH AND GAME - SWP FACILITIES DURING 1982

Facility	Species					Total
	Trout	Striped Bass	Steelhead	Channel Catfish	King Salmon	
Frenchman Lake	276,600					276,600
Antelope Lake	80,000					80,000
Lake Davis	233,000					233,000
Lake Oroville	77,900				100,200	178,100
Thermalito Forebay	21,200				3,000	24,200
Feather River			1,131,500		8,704,100	9,835,600
Thermalito Afterbay		2,000				2,000
Lake Del Valle	36,800					36,800
California Aqueduct				25,600		25,600
Castaic Lake	177,800			10,000		187,800
Castaic Lagoon	50,900					50,900
Pyramid Lake	130,000			7,100		137,100
Lake Perris	164,700			10,500		175,200
Silverwood Lake	232,800			9,000		241,800
TOTAL	**1,481,700**	**2,000**	**1,131,500**	**62,200**	**8,807,300**	**11,484,700**

In 1982, the Department of Fish and Game enhanced the Oroville Wildlife area with the following improvements:

- The access roads were repaired at 11 sites, and 7 road closures were constructed.
- Approximately 3.7 acres were seeded to herbaceous plants, and 48 tree and shrub seedlings were planted.
- 25 nest boxes were replaced. Raptor and heron nesting inventories were made.
- Approximately 13 acres were cleared of Cottonwood and Willow for waterfowl use.
- 110 male pheasants were planted during pheasant season.

The Feather River Fish Hatchery had a successful year, producing a total of 8,704,147 King Salmon and 1,131,542 Steelhead.

The Thermalito Afterbay area was open to fishing and hunting. During the hunting season 90 male pheasants were planted.

At Lake Davis in northern California, additional boat slips were constructed.

Delta Field Division. Clifton Court Forebay was open to waterfowl hunting from October 23, 1982 through January 23, 1983 (41 short days on Saturdays, Sundays and Wednesdays). A new self-registration system was introduced in response to a reduction in personnel. In previous years, a check station was staffed by Department of Fish and Game personnel during shoot days to issue permits and warn hunters of dangerous wind conditions for small duck boats. Under the new system, the check station is unmanned. The station contains area regulations and a self-registration booth. Hunters obtain day-use permits from the booth, fill out both halves of the permit, then record and remit their waterfowl take for the day. Department of Fish and Game wardens and wildlife managers periodically patrol the area to insure hunter compliance with area regulations.

The new system was successful in recording 330 hunter days for the 1982-83 season, with a harvest of 397 waterfowl. This resulted in a hunter success rate of 1.2 birds per hunter, exactly the same success rate as last season.

The White Slough Wildlife Area is the name given by the Fish and Game Commission to the five southernmost Interstate (I-5) borrow ponds and adjacent State-owned land in San Joaquin County. The area was opened to the public for fishing and hunting on September 30, 1980 and has received a great deal of use by the public. Most of the users are from the Stockton-Lodi area, which has few areas open to the general public offering such enjoyable recreational opportunities. In addition to the public use, the land areas adjacent to the ponds provide excellent wildlife habitat because they are bounded on all sides by farm land, which furnishes wildlife cover and food.

Due to the area's success as a recreational area and as an excellent wildlife habitat, the White Slough Wildlife Area was extended in July 1981 to include two additional ponds located immediately north of State Highway 12 (Ponds 7 and 8). In January 1982, Ponds 5 (Walnut Grove Road) and 6 (Woodbridge Road) were included, increasing the total area to 9 ponds.

Through December 1982, this area supported more than 13,000 user-days, involving fishing, hunting, nature walks, and bird watching.

Development of the borrow ponds is funded by the Wildlife Conservation Board. While the Department is responsible for monitoring and maintenance, game warden service is provided by the Department of Fish and Game.

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. 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. During 1982, the Department of Fish and Game planted large mouth bass, sunfish, bluegill, and channel catfish.

A recreation and wildlife enhancement project was proposed by the Department at Orestimba Creek in Stanislaus County. Under the proposal, wildlife habitat and public access facilities along Orestimba Creek would be developed between the California Aqueduct and the Delta-Mendota Canal. The Department completed a draft environmental impact report and the development plan for the project in 1982.

In February 1983 the Department set aside the plan for Orestimba. After reexamining the plan, the Department concluded that the conservation easements planned along the creek were inadequate for the degree of public use and benefit necessary for State Water Project recreation and wildlife projects.

San Luis Field Division. Public use of existing fishing access sites in the San Luis Field Division continued as usual in 1982. The Department of Fish and Game stocked 4,100 catchable trout in Los Banos Reservoir.

At O'Neill Forebay, wildlife populations were above normal. Pheasant and raptor populations were increased. During 1982, 1,700 dove nesting cones were constructed and affixed to larger trees that were not coned in past years. A total of 5,750 cones have been installed in the area during the last three years. Dove populations have responded well to the nests and are also increasing. The wildlife habitat has been further enhanced by experimental planting of wheat and safflower, which produced an excellent cover for wildlife and an abundance of seed for food. In addition 200 willow cuttings were cut and planted to augment existing riparian habitat.

San Joaquin Field Division. During 1982 the Department continued its project to remove asbestos laden silt from a 140-mile stretch of the California Aqueduct. The dredged material is being disposed of in several miles of trenches excavated along the State-owned right-of-way. The area utilized for the trenches has been the sole source of wildlife habitat along the aqueduct. The Department has recognized the adverse impact on wildlife and has planted shrubs to reestablish the habitat.

Southern Field Division. At Castaic Lake construction was completed at Skier's Landing (formerly Laura's Landing) and Fisherman's Rest (formerly Sharon's Rest). Each site was improved with the development of 70 family campsites and 45 day-use picnic units at Skier's Landing. Development of the Marine Patrol headquarters and day-use parking areas at Baal Point were approximately 80 percent complete by the end of 1982.

Silverwood Lake recreation area was improved by a launch ramp for car-top and sailboat launching at the Cleghorn area.

In 1982, development at Lake Perris included the addition of 70 parking spaces, a new three-lane boat launching ramp, and development of the Bernasconi camping and day-use area. The 1982-83 waterfowl season at Lake Perris, both in terms of hunter participation and waterfowl take, exceeded all past seasons. A total of 641 hunters harvested 1,073 waterfowl for the season.

Perris Dam Visitors Center. The Visitors Center at Lake Perris has been closed since 1979 due to minimal use. The Department has been negotiating with the Department of Parks and Recreation for the sale of the Visitors Center for the appraised value of $336,500. A Memorandum of Understanding is being executed by the two Departments. The Department of Parks and Recreation plans to use the facility as an Indian History Center.

CHAPTER VIII
FUTURE CONSTRUCTION COSTS, OPERATING COSTS, AND PROJECT FINANCING

The Department has redirected its planning programs for future yield-increasing water development facilities. The current primary planning areas are for additional offstream storage south of the Delta and construction of the Cottonwood Project by either the Corps of Engineers or the State. The Department has redirected but continues its studies regarding water project concerns in the Sacramento-San Joaquin Delta, and will develop a recommendation for a water-transfer facility to increase SWP exports.

Not included in the financial analysis shown in Table 21 are the costs and financing of the facilities necessary to develop the remaining 2+ million acre-feet of yield to meet the total contractual commitment to all long-term SWP water contractors.

Major SWP facilities planned for completion by 1990 are:

- North Bay Aqueduct - Phase II
- Suisun Marsh Facilities
- Final Four Units at Banks Delta Pumping Plant
- San Luis Canal Enlargement
- Final Three Units at Edmonston Pumping Plant
- Enlargement of the California Aqueduct, Mojave Division (East Branch)
- Small Hydroelectric and Off-Aqueduct Power Generation Facilities sufficient to secure an economical and reliable power supply to meet SWP energy needs.

The analysis demonstrates that adequate revenues will be available 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, assuming that appropriations of State tideland oil and gas revenues continue as provided for by statute and that available contractor revenues continue as projected. Prior to January 1, 1983, about $3.2 billion had been expended by the Department for SWP facilities, of which almost $2.9 billion has been disbursed for construction expenditures and $0.3 billion for other capital requirements.

The Department's current assumptions indicate that capital requirements through 1990 for power and water facilities and the Davis-Grunsky Program, along with special requirements for revenue bond financing, are $4.44 billion in escalated dollars, expended in the years indicated.

The current financial analysis of the State Water Project is shown in Table 21 in two parts. Actual and projected capital expenditures and sources of financing are shown in Part 1. Shown in Part 2 are actual and anticipated revenues and their application to: (1) pay SWP operating expenses and principal and interest on bonds, and (2) provide a limited amount of construction funding. Excluded from the cost estimates in the financial analysis are costs of 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. The Department currently estimates that the 30 long-term contractors ultimately will spend a total of $2.34 billion for local dis-

TABLE 21: PROJECT FINANCIAL

(in 1,000 Dollars)[a]

Part I

Line No.	Line Item	Calendar Year									Total 1952-1990	Total 1991-2035
		1952-1982	1983	1984	1985	1986	1987	1988	1989	1990		
	CAPITAL REQUIREMENTS											
1.	Initial Project Facilities	2,180,887	0	0	0	0	0	0	0	0	2,180,887	0
2.	Phase II of North Bay Aqueduct	7,625	3,517	10,448	24,702	29,610	2,085	572	68	39	78,666	12
3.	Delta and Suisun Marsh Facilities	79,402	6,065	3,940	12,021	32,988	2,067	1,825	1,900	2,012	142,220	0
4.	California Aqueduct, Final Four Units at Delta Pumping Plant	1,100	398	1,026	2,622	7,930	14,478	12,975	5,062	0	45,591	0
5.	California Aqueduct, San Luis Canal Enlargement	0	0	633	972	1,054	12,684	25,852	27,916	20,292	89,403	5,919
6.	California Aqueduct, Final Three Units at A. D. Edmonston Pumping Plant	20,381	9,904	4,446	99	0	0	0	0	0	34,830	0
7.	Units South of Edmonston	27,891	486	74	29	126	195	3,723	6,723	1,247	40,494	0
8.	California Aqueduct, Peace Valley Pipeline and William E. Warne (Pyramid) Powerplant	118,173	4,784	0	0	0	0	0	0	0	122,957	0
9.	Enlargement of the California Aqueduct, Mojave Division (East Branch)	0	964	22,073	104,444	104,520	61,906	35,893	21,232	3,362	354,394	104,844
10.	Additional Conservation Facilities	8,492	0	0	0	0	0	0	0	0	8,492	3,860,497
11.	Small Hydroelectric Power Generating Facilities	19,378	26,613	18,464	23,516	11,853	1,034	0	0	0	100,858	0
12.	Power Generation and Transmission Facilities	224,859	82,744	57,405	37,374	18,381	998	14	0	0	421,775	0
13.	San Joaquin Drainage Facilities	13,826	5,702	3,430	2,528	1,170	338	358	380	403	28,135	5,626
14.	Other Costs	135,512	32,025	29,652	18,883	13,539	8,057	6,555	5,061	3,937	253,221	73,058
15.	TOTAL PROJECT CONSTRUCTION EXPENDITURES	2,837,526	173,202	151,591	227,190	221,171	103,842	87,767	68,342	31,292	3,901,923	4,049,956
16.	Davis-Grunsky Act Costs	110,783	5,127	5,115	5,115	3,860	0	0	0	0	130,000	0
17.	Special Capital Requirements Under Revenue Bond Financing	218,835	46,442	0	59,330	64,935	16,113	5,506	0	0	411,161	0
18.	TOTAL CAPITAL REQUIREMENTS	3,167,144	224,771	156,706	291,635	289,966	119,955	93,273	68,342	31,292	4,443,084	4,049,956
19.	Power Facilities Capital Requirements	868,774	160,583	75,869	81,590	30,234	2,032	14	0	0	1,219,096	0
20.	Water Facilities Capital Requirements	2,298,370	64,188	80,837	210,045	259,732	117,923	93,259	68,342	31,292	3,223,988	4,049,956
	FINANCING OF CAPITAL REQUIREMENTS											
	POWER REVENUE BOND PROCEEDS											
21.	Power Bonds Through Reid Gardner Series B	679,895	0	0	0	0	0	0	0	0	679,895	0
22.	Reid Gardner Series C	82,532	42,382	86	0	0	0	0	0	0	125,000	0
23.	Small Hydro - South Geysers Series D	26,525	25,845	20,424	2,206	0	0	0	0	0	75,000	0
24.	Bottle Rock Series E	56,429	44,618	16,511	7,442	0	0	0	0	0	125,000	0
25.	Alamo - South Geysers Series F	23,393	34,437	15,057	2,113	0	0	0	0	0	75,000	0
26.	Assumed Future Power Revenue Bonds	0	0	0	87,720	30,234	2,032	14	0	0	120,000	0
27.	SUBTOTAL POWER REVENUE BONDS	868,774	147,282	52,078	99,481	30,234	2,032	14	0	0	1,199,895	0
	OTHER CAPITAL FINANCING											
28.	Initial Project Facilities and Additional Conservation Facilities	1,452,255	0	0	0	0	0	0	0	0	1,452,255	0
29.	APPLICATION OF PROCEEDS FROM SALE OF WATER BONDS, DAVIS-GRUNSKY ACT PROGRAM	110,783	5,127	5,115	5,115	3,860	0	0	0	0	130,000	0
30.	APPLICATION OF CALIFORNIA WATER FUND MONIES (TIDELANDS REVENUES)	440,431	5,731	25,000	25,000	25,000	25,000	25,000	25,000	25,000	621,162	1,125,000
31.	APPLICATION OF MISCELLANEOUS RECEIPTS TO CONSTRUCTION	294,901	66,631	70,687	36,714	16,070	7,946	5,999	0	0	498,947	225,000
32.	Revenue Transfers Applied	0	0	3,826	18,020	34,427	40,218	46,966	43,342	6,292	193,091	2,699,956
33.	APPLICATION OF PROCEEDS FROM SALE OF SUPPLEMENTAL WATER REVENUE BONDS	0	0	0	107,305	180,375	44,759	15,294	0	0	347,734	0
34.	SUBTOTAL OTHER CAPITAL FINANCING	2,298,370	77,489	104,628	192,154	259,732	117,923	93,259	68,342	31,292	3,243,189	4,049,956
35.	TOTAL FINANCING OF CAPITAL REQUIREMENTS	3,167,144	224,771	156,706	291,635	289,966	119,955	93,273	68,342	31,292	4,443,084	4,049,956

a) Amounts shown in future years have been escalated to account for anticipated inflation.

ANALYSIS, JUNE 30, 1983

(in 1,000 Dollars)[a]

Part II

Line No.	Line Item	Calendar Year									Total 1952-1990	Total 1991-2035
		1952-1982	1983	1984	1985	1986	1987	1988	1989	1990		
	PROJECT REVENUES											
36.	Miscellaneous Receipts	542,145	28,159	17,368	19,941	15,141	7,581	5,911	5,474	5,967	647,687	225,000
	WATER CONTRACTOR PAYMENTS											
37.	Transportation Capital	927,961	83,942	114,590	90,696	93,824	96,765	98,169	99,866	101,617	1,707,430	3,483,850
38.	Transportation Minimum	303,746	89,254	144,314	186,099	201,030	213,066	216,314	214,908	217,712	1,786,443	6,429,294
39.	Transportation Variable	103,857	78,560	113,142	109,431	105,711	100,556	99,568	109,419	114,336	934,580	11,691,898
40.	Delta Water Charge	237,991	34,186	38,209	41,201	44,267	47,639	50,773	53,793	56,202	604,261	6,670,618
41.	East Branch Enlargement	0	0	50	1,197	6,623	12,081	15,332	17,228	18,356	70,867	1,055,967
42.	SUBTOTAL WATER CONTRACTOR PAYMENTS UNDER LONG-TERM WATER SUPPLY CONTRACTS	1,573,555	285,942	410,305	428,624	451,455	470,107	480,156	495,214	508,223	5,103,581	29,331,627
43.	Off-Aqueduct Reserve Adjustment	0	0	- 3,721	- 8,948	-11,988	-14,593	-15,253	-15,749	-15,775	-86,027	0
	OTHER REVENUES											
44.	Federal Payments for Project Operating Costs	31,197	4,191	7,216	6,367	4,631	4,644	4,648	4,650	4,649	72,193	415,861
45.	Appropriations for Operating Costs Allocated to Recreation	16,657	0	5,676	4,411	4,285	4,206	4,318	4,194	4,519	48,266	237,678
46.	Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts	6,342	1,694	1,879	1,902	1,962	1,984	1,960	2,012	1,977	21,712	53,628
47.	Miscellaneous Revenues	374,248	56,283	5,000	64,330	69,935	21,113	10,506	5,000	5,000	611,415	225,000
48.	Payments Under Oroville-Thermalito Sales Contract	222,487	26,792	0	0	0	0	0	0	0	249,279	0
49.	SUBTOTAL OTHER REVENUES	650,931	88,960	19,771	77,010	80,813	31,947	21,432	15,856	16,145	1,002,865	887,167
50.	TOTAL OPERATING REVENUES	2,224,486	374,902	426,355	496,686	520,280	487,461	486,335	495,321	508,593	6,020,419	30,263,794
51.	TOTAL OPERATING REVENUES AND MISCELLANEOUS RECEIPTS	2,766,631	403,061	443,723	516,627	535,421	495,042	492,246	500,795	514,560	6,668,106	30,488,794
	PROJECT EXPENSES											
52.	Project Operating Costs	584,641	162,652	224,446	235,641	229,231	231,010	230,984	236,120	249,339	2,384,064	16,113,990
53.	Replacement Reserves	29,961	9,780	9,423	11,025	10,932	10,805	10,983	11,734	11,930	116,573	990,173
54.	Deposits to Special Reserves Under Revenue Bond Financing	307,176	-11,573	-75,188	16,970	29,033	-15,755	-25,494	-16,315	761	209,615	-209,615
	PAYMENTS OF DEBT SERVICE											
55.	Principal Repayment on Bonds Sold through June 30, 1983	149,798	23,665	25,745	29,030	31,980	34,435	37,030	39,110	41,200	411,993	2,230,940
56.	Interest on Bonds Sold through June 30, 1983	1,323,313	144,937	150,594	149,220	147,507	145,624	143,647	141,555	139,376	2,485,773	2,328,522
57.	Future Power Bond Principal Repayment	0	0	0	0	0	489	529	581	633	2,232	117,768
58.	Future Power Bond Interest Payments	0	0	0	10,350	10,350	10,350	10,306	10,258	10,206	61,820	244,173
59.	Future Water Bonds Principal Repayment	0	0	0	0	0	0	0	172	476	648	366,293
60.	Future Water Bonds Interest Payments	0	0	0	9,657	25,891	29,920	31,296	31,296	31,296	159,356	1,088,322
61.	TOTAL PRINCIPAL	149,798	23,665	25,745	29,030	31,980	34,924	37,559	39,863	42,309	414,873	2,715,001
62.	TOTAL INTEREST	1,323,313	144,937	150,594	169,227	183,748	185,894	185,249	183,109	180,878	2,706,949	3,661,017
63.	SUBTOTAL DEBT SERVICE	1,473,111	168,602	176,339	198,257	215,728	220,818	222,808	222,972	223,187	3,121,822	6,376,018
64.	California Water Fund Appropriation to NonSWP Purposes	52,000	18,000	0	0	0	0	0	0	0	70,000	0
65.	TOTAL OPERATING EXPENSES	2,446,889	347,461	335,020	461,893	484,924	446,878	439,281	454,510	485,218	5,902,074	23,270,566
66.	Operating Reserves Added	24,841	-11,031	34,190	0	0	0	0	0	0	48,000	0
67.	California Water Fund Repayment Required for Construction	0	0	3,826	18,020	34,427	40,218	46,966	43,342	6,292	193,091	2,699,956
68.	California Water Fund Repayment Not Required for Construction	0	0	0	0	0	0	0	2,943	23,050	25,993	4,293,272
69.	Miscellaneous Receipts Used for Construction	294,901	66,631	70,687	36,714	16,070	7,946	5,999	0	0	498,947	225,000
70.	TOTAL PROJECT EXPENSES	2,766,631	403,061	443,723	516,627	535,421	495,042	492,246	500,795	514,560	6,668,106	30,488,794

a) Amounts shown in future years have been escalated to account for anticipated inflation.

tribution facilities. Total expenditures through 1982 are estimated at $1.22 billion.

Table 21 presents the financial analysis in a somewhat different format than in previous bulletins. The new format is designed to identify sources of funds by their commonly understood names. Amounts shown in future years have been escalated to account for anticipated inflation.

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 16);
- annual payments for additional water conservation storage capacity (Cottonwood Creek Project) assumed to be constructed by the federal government (see Line 10); and
- special capital requirements under revenue bond financing (see Line 17).

The financial analysis is based on the following assumptions:

1. Pursuant to the provisions of Sections 12937 and 12938 of the Water Code, available contractor revenues will be transferred to the California Water Fund. This analysis assumes that all funds available will be required for SWP construction until 1990 and should be transferred and expended for that purpose.

2. The analysis also assumes no change in the present statutory provisions regarding future appropriation of State tideland oil and gas revenues. The Department will continue to pursue the sale of sufficient revenue bonds to meet all needs for supplemental financing.

Future conditions undoubtedly will require changes in the financial analysis. For this reason, basic assumptions are reviewed and the financial analysis is updated annually. Notable contingencies that could change the financial analysis are:

- deviation from the assumptions regarding SWP energy resources;
- 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; the Coastal Branch to serve San Luis Obispo County FC&WCD and Santa Barbara County FC&WCD; and Buttes Reservoir for Antelope Valley-East Kern 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 discounts and the statutory limits on bond interest rates;
- adverse impacts on water contractors resulting from shortages due to insufficient supplies (see Chapter I, Tables 3, 4, and 5);
- the outcome of certain lawsuits now pending before the courts (see Chapter IX); and

- adverse rulings by regulatory agencies.

Project Construction Expenditures

Actual and projected construction expenditures for each division of the SWP are shown in Table 22, together with a preliminary allocation of such expenditures among SWP purposes. A generalized construction schedule for current and future contracts is shown in Figure 23.

Described in the following sections are the Department's current assumptions concerning the costs of each facility of the future construction program through 1990, as shown in Table 21. Decisions to commence construction on projects not yet underway will be made only after an examination of alternatives and upon completion of final environmental impact reports and other review processes.

Line 1: Initial Project Facilities.

Facilities included in the initial construction program are those completed before 1974 (see Chapter II, Bulletin 132-74). Additional costs after 1973 and estimated costs of remaining work on the initial SWP facilities are included in Line 14, "Other Costs." This line also accounts for 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 until there is local support and demonstrated need for these facilities.

Line 2: Phase II of the North Bay Aqueduct.

Phase II of the North Bay Aqueduct, which will connect at Cordelia with existing Phase I facilities, 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 28 miles. The costs shown in this line include all costs for design, construction, and rights-of-way for the facilities described in Chapter II.

Line 3: Delta and Suisun Marsh Facilities.

The history column (1952-1982) of line 3 includes costs for general Delta facilities and planning costs associated with the previously-planned Peripheral Canal and Western Delta overland facilities. Included for Suisun Marsh are historical planning costs as well as construction costs through 1982.

The columns for 1983-1990 only show costs for completion of the Suisun Marsh facilities. These facilities are necessary for maintenance of brackish marshlands in and on the north shores of Suisun, Honker, and Grizzly Bays, and are required under Condition 8(c) of SWRCB D-1485. The overall facilities will help mitigate the adverse effects of the SWP and CVP caused by reduced Delta outflow. The initial facilities (completed in 1980) provided water from Montezuma Slough in lieu of Suisun Bay water for many of the managed wetlands in southerly portions of the marsh.

The additional 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. The Federal Government is expected to contribute one-half the cost of these facilities.

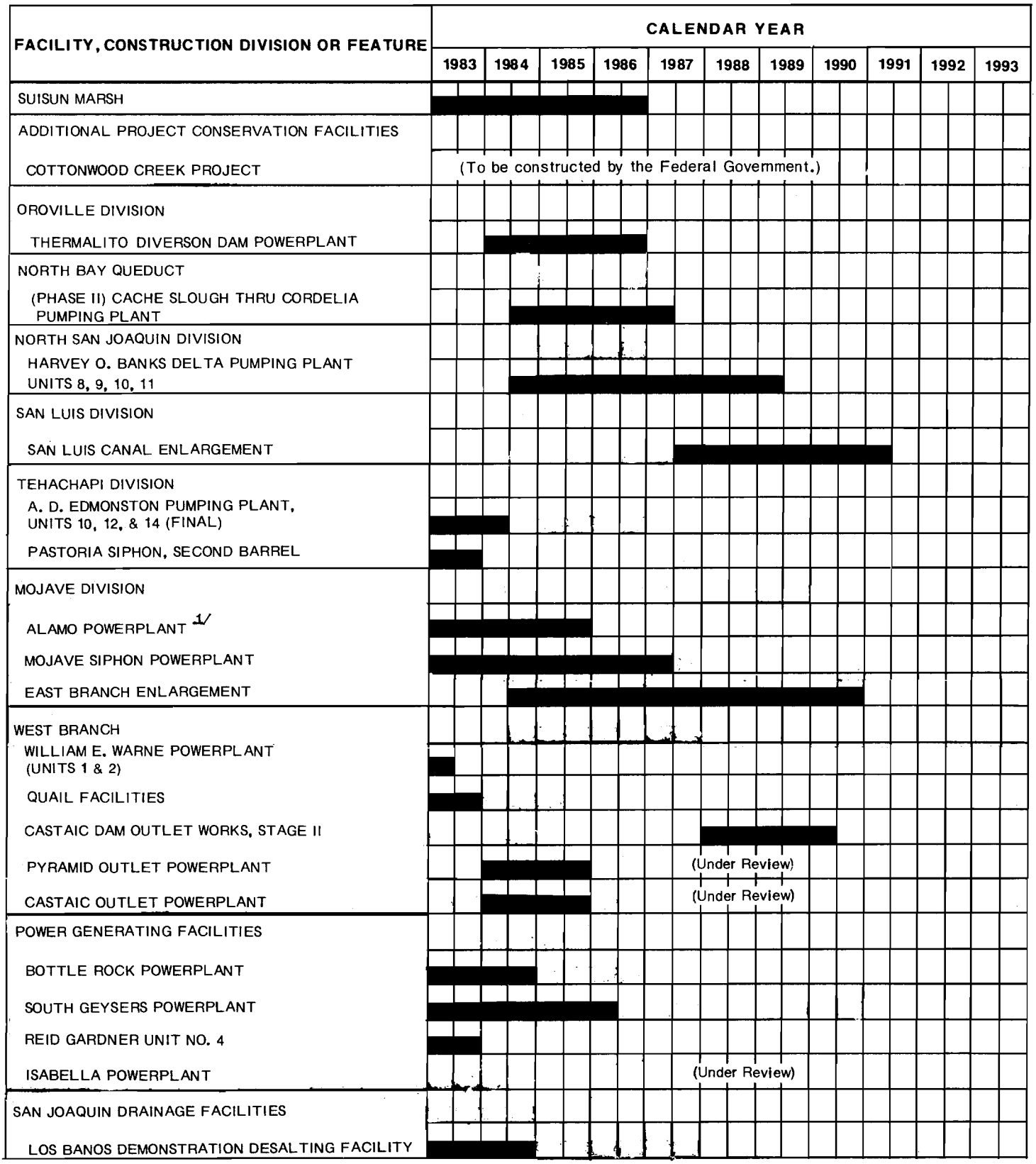
TABLE 22: PROJECT CAPITAL EXPENDITURES

(Thousands of Dollars)

FACILITIES AND CONSTRUCTION DIVISIONS	EXPENDITURES INCURRED THROUGH 1982	FUTURE EXPENDITURES	TOTAL	PRELIMINARY ALLOCATION 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	15,660	214	15,874	1,144	0	14,730	0
Oroville Division	538,453	13,199	551,652	467,042	70,661	13,949	0
North Bay Aqueduct	7,656	71,052	78,708	78,708	0	0	0
Delta Facilities	79,402	62,778	142,180	122,275	0	19,905	0
South Bay Aqueduct	71,081	946	72,027	50,955	7,302	13,737	33
California Aqueduct							
North San Joaquin Division	169,502	50,361	219,863	211,720	0	8,143	0
San Luis Division	190,379	119,403	309,782	293,450	0	16,123	209
South San Joaquin Division	268,202	1,150	269,352	254,084	0	15,266	2
Tehachapi Division	295,119	21,790	316,909	298,881	0	18,028	0
Mojave Division[c]	227,463	462,473	689,936	650,610	0	39,326	0
Santa Ana Division	191,827	446	192,273	175,496	0	16,777	0
West Branch	487,926	29,971	517,897	485,026	0	32,368	503
Coastal Branch	16,494	524	17,018	16,913	0	0	105
SUBTOTAL, CALIFORNIA AQUEDUCT	1,846,912	686,118	2,533,030	2,386,180	0	146,031	819
Additional Conservation Facilities[a]	8,492	3,860,497	3,868,989	3,868,989	0	0	0
Small Hydroelectric Power Generating Facilities	19,378	81,480	100,858	99,848	0	1,010	0
Off-Aqueduct Power Generating Facilities	224,859	196,916	421,775	421,775	0	0	0
San Joaquin Drainage Facilities	13,826	19,935	33,761	0	0	0	33,761
Planning and Preoperations[d]	8,497	112,436	120,933	120,933	0	0	0
Unassigned	3,310	8,782	12,092	0	0	0	12,092
SUBTOTAL, PROJECT CONSTRUCTION EXPENDITURES	2,837,526	5,114,353	7,951,879	7,617,849	77,963	209,362	46,705
OTHER CAPITAL REQUIREMENTS							
Davis-Grunsky Act Program	110,783	19,217	130,000	0	0	0	130,000
TOTAL	2,948,309	5,133,570	8,081,879	7,617,849	77,963	209,362	176,705

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 planning and preoperation expenses allocated to conservation facilities.

Figure 23: GENERALIZED CONSTRUCTION SCHEDULE



1/ Unit No. 2 to be constructed as part of East Branch Enlargement.

Line 4: California Aqueduct, Final Four Units at Delta Pumping Plant.

The first two of the final four 1,067 cfs units are scheduled to be operational in 1987 and the last two in 1988. The 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 5: California Aqueduct, San Luis Canal Enlargement.

This enlargement is required to maintain and augment the present conveyance capability between Dos Amigos Pumping Plant and Kettleman City. The capacity of the San Luis Canal will be increased by 1,000 cfs, with a scheduled operational date of 1990. Damage caused during the floods of 1978 indicate that additional flood protection facilities are also necessary. Work to correct subsidence will be performed by the Bureau of Reclamation.

The costs included in Line 5 represent about $21.0 million (State share) for the subsidence work and about $68.4 million between 1981 and the operational date of 1990 for increased conveyance capacity.

Line 6: California Aqueduct, Final Three Units at Edmonston Pumping Plant.

According to the current schedule for these 315-cfs units, the first unit will be operational in 1983 and the two final units in 1984.

Line 7: Units South of Edmonston.

This line includes staged units and pipelines for the California Aqueduct south of the Edmonston Pumping Plant and the final three units at Las Perillas and Badger Hill Pumping Plants. 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 1987).

The 112-cfs units at Las Perillas and Badger Hill Pumping Plants were installed by the Berrenda Mesa Water District in 1971, at the District's expense, under special agreement with the Department. Unit No. 5 and the second discharge line at Badger Hill were purchased, at depreciated value, in January 1977. The Department purchased Unit No. 4 at a depreciated value in 1981, and plans to purchase Unit No. 6 at a depreciated value in 1991 from Berrenda Mesa Water District.

Line 8: California Aqueduct, Peace Valley Pipeline and William E. Warne (Pyramid) Powerplant.

The first stages of the pipeline and power plant complex were operational in 1982. A portion of these costs which are allocable to power generation ($75.0 million) is being financed by the Pyramid Hydroelectric Project Revenue Bonds issued in November 1979. The Pyramid Hydroelectric Project consists of the portion of facilities allocable to power generation and transmission of electrical energy from the first stage of the Warne Powerplant. Included are Quail Lake, together with Lower Quail Canal and the first stage of the Peace Valley Pipeline. The Warne Powerplant is designed to allow the installation of four additional 37.5 MW generating units for a total capacity of 150 MW. The first stage of the power plant encompasses two of the four units and is capable of producing about 600 million kilowatthours annually when water flows reach design capacity.

Line 9: Enlargement of the California Aqueduct, Mojave Division (East Branch).

The purpose of the enlargement of the California Aqueduct between the Alamo Powerplant and Devil Canyon Powerplant Afterbay, exclusive of the San Bernardino Tunnel, is to provide capacity to transport increased amounts of entitlement water for East Branch contractors, for local programs for ground water storage in Southern California ground water basins, and for Colorado River banking. The analysis assumes the enlargement of an additional 800 cfs will be completed in 1990, with some facilities expanded to accommodate an enlargement to 1,200 cfs over existing capacity.

Line 10: Additional Conservation Facilities.

The history column (1952-1982) of line 10 includes costs of planning studies for SWP future water supply programs.

No costs are shown for the period 1983-1990, since the Department currently does not have a program for construction of specific additional facilities.

The column 1991-2035 represents projected payments to the federal government for purchase of water from the Cottonwood Creek Project.

Line 11: Small Hydroelectric Power Generating Facilities.

Expenditures included in Line 11 are for the costs of the small hydroelectric powerplants described in the "Long Range Energy Program" section in Chapter II.

Line 12: Power Generation and Transmission Facilities.

Power generating facilities' costs in Line 12 are for the off-Aqueduct power facilities: the Reid Gardner coal-fired powerplant; Bottle Rock and South Geysers geothermal plants; Pine Flat transmission line liaison costs; and Lake Isabella hydroelectric powerplant.

Line 13: 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, (3) monitoring and reporting the quality and quantity of agricultural waste waters in the San Joaquin Valley, and (4) the Los Banos Demonstration Desalting Facility (see Chapter II).

Line 14: Other 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 14 includes expenditures that cover completion of monitor and control systems and other completion activities for SWP facilities other than the Aqueduct. Line 14 also includes planning costs for future facilities.

Line 15: Total Project Construction Expenditures.

The total of Lines 1 through 14.

Line 16: Davis-Grunsky Act Costs.

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, 1982, the Department and the California Water Commission had approved more than $110.8 million in grants and loans for 109 local agencies throughout the State, as indicated on Figure 24.

Of the total approved applications, over $46 million (42 percent) was for loans, and the remaining $64 million (58 percent) was for grants. The Department estimates that funds presently authorized for the program will be disbursed prior to 1987.

Line 17: Special Capital Requirements Under Revenue Bond Financing.

The analysis assumes that power facility revenue bond proceeds will pay bond interest through one year following the completion of construction, and operating costs for the first year of operation. The revenue bonds for facilities other than power generating facilities (hereafter termed water revenue bonds) include proceeds for bond interest for four years. These proceeds are also included in Line 47 as a Miscellaneous Revenue. Application of proceeds to these special requirements for actual and assumed revenue bond sales is shown in Table 23.

TABLE 23: APPLICATION OF REVENUE BOND PROCEEDS

(in millions)

Application of Revenue Bond Proceeds	Oroville (Actual)	Devil Canyon-Castaic (Actual)	Pyramid Series A (Actual)	Reid Gardner Series B (Actual)	Reid Gardner Series C (Actual)	Small Hydro-South Geysers Series D (Actual)	Bottle Rock Series E (Actual)	Alamo-South Geysers Series F (Actual)	Supplemental Power (Assumed)	Supplemental Water (Assumed)
Construction Expenditures	$218.0	$126.4	$74.0	$145.1	$ 91.1	$51.9	$96.9	$59.1	$ 97.6	$244.8
Plus, Other Capital Requirements:										
Reimbursement of General Fund	$ 2.6	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0	$ 0.0
Bond Interest through one year following completion of construction	$ 19.9	$ 10.0	$19.2	$ 41.9	$ 17.9	$18.8	$22.0	$14.2	$ 18.5	$102.9
Operating costs for one year following completion of construction	$ 1.5	$ 0.7	$ 1.0	$ 0.0	$ 7.9	$ 0.0	$ 3.7	$ 0.0	$ 3.9	$ 0.0
Bond discount and financing costs	$ 3.0	$ 2.1	$ 1.6	$ 13.0	$ 8.1	$ 4.3	$ 2.4	$ 1.7	$ 0.0	$ 0.0
SUBTOTAL	$ 27.0	$ 12.8	$21.8	$ 54.9	$ 33.9	$23.1	$28.1	$15.9	$ 22.4	$102.9
TOTAL, Principal amount of bonds	$245.0	$139.2	$95.8	$200.0	$125.0	$75.0	$125.0	$75.0	$120.0	$347.7

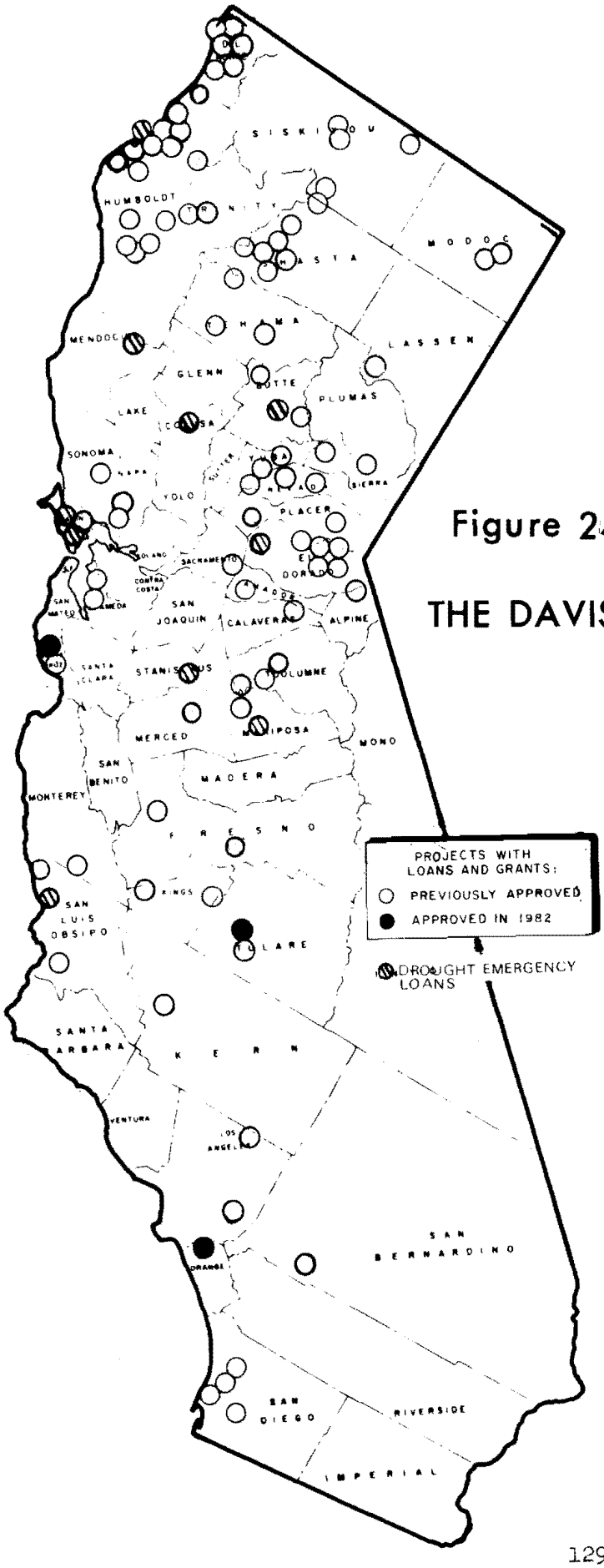


Figure 24: LOCAL PROJECTS UNDER THE DAVIS-GRUNSKY ACT PROGRAM

Line 18: Total Capital Requirements

The total of Lines 15, 16 and 17.

Line 19: Power Facilities Capital Requirements.

Total of power facilities contained in Lines 1-14 and part of 17.

Line 20: Water Facilities Capital Requirements.

Total of water facilities contained in Lines 1-14 and part of 17.

Financing of Capital Requirements

Three general types of financing have been used for the SWP:

- Burns-Porter Financing, derived from the sale of California Water Resources Development Bonds (general obligation bonds) and the State's tideland oil and gas revenues deposited in the California Water Fund as authorized by the Burns-Porter Act (California Water Code Sections 12930-12944), approved 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 California Supreme Court in 1963 (Warne v. Harkness 60 Cal. 2d 579).

- Miscellaneous Receipts, derived from payments and appropriations (including a portion of tideland oil and gas revenues) as authorized by a variety of special contracts, cost-sharing agreements, legislative actions concerning the SWP, and accrued interest on these funds.

To date, general obligation 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 general obligation 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.

As of June 30, 1983, the Department had sold $1.1 billion of revenue bonds in addition to $250 million of revenue bond anticipation notes in two issues, one for the Reid Gardner Project and the other for Bottle Rock and Alamo facilities. Proceeds were set aside from the Series B bond issue (sold July 7, 1982) and from the Series E and F bond issues (sold April 27, 1983) to repay the notes.

Additional issues of revenue bonds are planned to fund future SWP construction. 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) general obligation 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 general obligation bond interest that exceeds available Burns-Porter Act second priority revenues (general obligation bond debt service).

The financing of capital expenditures is described in Lines 21 through 35.

Line 21: Power Bonds Through Reid Gardner Series B.

This line contains power revenue bonds for Oroville, Devil Canyon-Castaic, the Pyramid Powerplant (renamed William E. Warne Powerplant), and a portion of the Reid Gardner Project.

All proceeds from the sale of Oroville Revenue Bonds in April 1968 (Series A) and in April 1969 (Series B) had been applied as of December 31, 1973.

Construction funds provided by the sale of Devil Canyon-Castaic Revenue Bonds, in August 1972, included (1) $98.9 million that 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 reserved to complete construction of the facilities. Of this amount, two and one-half million dollars was transferred to the trustee during 1981 as required by the bond resolution.

Revenue bonds were sold in October 1979 for construction of the portion of the Warne Powerplant and related facilities allocated to power. The construction proceeds provided (1) $31.8 million that reimbursed other project funds used to finance construction of these facilities prior to delivery of the bonds; and (2) $42.4 million reserved to complete construction of the Pyramid Hydroelectric Project. The remaining proceeds are used for other requirements as shown in Line 17.

For the Reid Gardner Project the Department sold Series B revenue bonds for $200 million on July 7, 1982. Approximately $143 million was set aside from the proceeds to repay the $150 million bond anticipation notes sold on June 30, 1981. About $22 million provided reimbursement of other project funds used to finance construction of these facilities prior to delivery of the bonds, and the remaining proceeds are used for other requirements as shown in Line 17.

Line 22: Reid Gardner Series C.

The Department sold additional revenue bonds of $125 million for the Reid Gardner Project on November 16, 1982 as Series C. About $46.6 million provided reimbursement of other project funds used to finance construction of these facilities prior to delivery of the bonds, and about $44 million remained to complete construction of the Project. The remaining proceeds are used for other requirements as shown in Line 17.

Line 23: Small Hydro - South Geysers Series D.

On November 16, 1982 the Department sold $75 million of revenue bonds for a portion of the construction cost of Small Hydroelectric Project I and of the South Geysers Geothermal Project. The construction proceeds provided (1) $10.6 million for reimbursement of other project funds used to finance construction of the projects prior to delivery of the bonds, and (2) $39.0

million for construction of the projects. The remaining proceeds are used for other requirements as shown in Line 17.

Line 24: Bottle Rock Series E.

The Department sold $125 million of revenue bonds on April 27, 1983 for construction of the Bottle Rock Geothermal Powerplant. Approximately $75.9 million was set aside to repay the Bottle Rock Bond Anticipation Notes sold on December 1, 1981. About $19.6 million is for construction of the Project, and the remaining proceeds are used for other requirements as shown in Line 17.

Line 25: Alamo - South Geysers Series F.

On April 27, 1983, the Department sold $75 million of revenue bonds for a portion of the construction cost of the Alamo Hydroelectric Project and South Geysers Geothermal Powerplant. Approximately $24.5 million was set aside to repay the Alamo Bond Anticipation Notes sold on December 1, 1981. The construction proceeds provided (1) $4.5 million for reimbursement of other project funds used to finance construction of the Alamo Project prior to delivery of the bonds, and (2) $29.0 million for construction of the projects. The remaining proceeds are used for other requirements as shown in Line 17.

Line 26: Assumed Future Power Revenue Bonds.

Future power revenue bond issues (those sold after June 30, 1983) are assumed to provide $120 million for construction of power-generating facilities and for special capital requirements under revenue bond financing (interest for two years following bond sale, one year of operating cost, and discount and finance costs of the bonds).

The financial analysis assumes that supplemental power revenue bonds will be sold to complete Alamo and Pyramid Hydroelectric Powerplants, Small Hydroelectric Project I, and South Geysers Geothermal Powerplant, and for Isabella Hydroelectric Powerplant. The schedule for assumed future sales of these bonds is shown in Table 26.

Line 27: Subtotal Power Revenue Bonds.

The total of Lines 21-26.

Line 28: Initial Project Facilities and Additional Conservation Facilities Bond Proceeds.

This line includes financing of initial project facilities and planning costs for certain additional conservation 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. The Burns-Porter Act provides that to the extent California Water Fund monies are expended, an equal amount of general obligation bonds are reserved ("offset") for financing the construction of 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 general obligation bonds 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. This analysis assumes that additional offset bonds will not be sold. (If at some future time the State constructs a conservation facility north of the Delta, the offset bonds could be sold.)

Line 29: Application of Proceeds From Sale of Water Bonds, Davis-Grunsky Act Program.

For simplification, the entire $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 general obligation 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. The schedule for assumed future sales of bonds authorized but not yet sold is shown in Table 26.

Line 30: Application of California Water Fund Monies (Tidelands Revenues).

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 general obligation 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 from tidelands revenues have been deposited in the California Water Fund in annual amounts of $25 million with three exceptions. For fiscal year 1981-82 the Legislature reduced the appropriation to $22,789,800. For fiscal year 1982-83 the appropriation was reduced to $14,710,000. For fiscal year 1983-84 no annual appropriation was made. The entry for 1983 of $5.7 million is the net tidelands revenue remaining from previous appropriations.

This analysis assumes that appropriations to the fund will continue hereafter for the full annual amounts provided for by law. The Burns-Porter Act requires that the Department's use of tidelands revenues appropriations be reimbursed to the California Water Fund. Upon transfer of funds to the California Water Fund by the Department, such funds can either be allocated for future capital expenditures or be appropriated by the Legislature for any lawful purpose. The Department expects that transfers to the California Water Fund, to be derived from SWP revenues in excess of operating costs and bond debt service, would be available to aid in financing future capital expenditures beginning in 1985.

The financial analysis indicates that full annual appropriations of tideland revenues to the California Water fund would be required to assist in financing construction expenditures through 1989. Annual transfers to the fund, which are projected to commence in 1984, are needed to supplement the annual appropriations. After 1990, it is expected that all future financing could be provided by such payments.

Line 31: Application of Miscellaneous Receipts to Construction.

This line shows the application of Miscellaneous Receipts for capital expenditures (see description for Line 36).

Line 32: Revenue Transfers Applied.

This line shows the application of Project Revenues for capital expenditures (see following description for Project Revenues). These are monies which are assumed to be transferred to the California Water Fund pursuant to conditions of the Burns-Porter Act (see description under Project Expenses heading), and consequently allocated to construction.

Line 33: Application of Proceeds From Sale of Supplemental Water Revenue Bonds.

Future water revenue bond issues are assumed to provide about $400 million for application to construction expenditures and special capital requirements (see Line 17) under revenue bond financing. This is the supplemental amount necessary to construct facilities which are currently planned. These bonds would most likely need to be issued soon after commencement of construction of the North Bay Aqueduct and enlargement of the East Branch of the California Aqueduct.

Line 34: Subtotal Other Capital Financing.

The total of Lines 28-33.

Line 35: Total Financing of Capital Requirements.

The total of Lines 27 and 34.

Project Revenues

Project Revenues are deposited in two funds: 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 all other SWP operating revenues are placed, including interest earnings on any unexpended proceeds from the sale of general obligation bonds. Use of these funds is limited to operating costs and debt service, except that revenues in excess of such costs can be transferred to the California Water Fund.

Line 36: Miscellaneous Receipts.

Sources of Miscellaneous Receipts are: (1) federal payments for SWP capital expenditures, (2) appropriations for capital costs allocated to recreation and fish and wildlife enhancement, (3) appropriations for project capital expenditures prior to the Burns-Porter Act and under SB 261, (4) City of Los Angeles Payments for Castaic power development, (5) water contractor advances for construction of requested works, (6) investment earnings on unexpended miscellaneous receipts, and (7) investment earnings on unexpended bond proceeds. A detailed description of each of these sources is included in Bulletin 132-82 and previous bulletins. Miscellaneous receipts are deposited in the Central Valley Water Project Construction Fund, and may be expended for payment of general obligation bond interest and construction of Project facilities.

Line 37-41: Water Contractor Payments.

Each of these lines provides the separate elements of water contractor payments. The payments identified in Lines 37-40 are described in detail in Bulletin 132-68 in Chapter V and Appendix B. Some of the elements of Lines 37-40 are discussed in following paragraphs. Line 41 is the repayment for the enlargement of the East Branch, for which construction costs are shown in Line 9.

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, San Luis Reservoir, and the portion of the California Aqueduct from the Delta to Dos Amigos Pumping Plant. 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.

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 currently are paid 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 general obligation bonds sales only. Under contract 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 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) are included in the calculation. In addition, proceeds from sale of power revenue bonds for off-aqueduct facilities are not included in the calculation at all. Table 24 shows the percentage of total proceeds from revenue bond issues that affect the Project Interest Rate.

In the past year a contract amendment was signed by all contractors, except Coachella Valley Water District, which deals in part with cost allocation of off-aqueduct powerplants. That amendment excludes financing for off-aqueduct power facilities (such as Reid

TABLE 24: REVENUE BOND PROCEEDS AFFECTING THE PROJECT INTEREST RATE

(in millions of dollars)

Revenue Bond Proceeds	Devil Canyon Castaic Revenue Bonds	Pyramid William A. Warne Hydroelectric Revenue Bonds (Series A)	Alamo Hydroelectric Bond Anticipation Note	Small Hydro Project I Revenue Bonds (Series D)	Alamo Hydroelectric Revenue Bonds (Series F)
Applied to construction costs	$126.4	$74.0	$17.4	$25.8	$39.0
Less portion of such proceeds derived from interest earnings prior to delivery of bonds	1.6	0.0	0.0	0.0	0.0
Plus bond discount and financing costs	2.1	1.6	0.6	2.2	1.1
Subtotal, proceeds included in calculating the proj. interest rate	$126.9	$75.6	$18.0	$28.0	$40.1
Principal amount of bonds	$139.2	$95.8	$24.4	$37.5	$50.0
Percent total principal amount included in calculating the Project Interest Rate	91%	79%	74%	75%	80%

Gardner) from the Project Interest Rate calculation. The amendment shifts such project costs from the capital component of the Transportation Charge to the minimum OMP&R component. This matter is discussed in greater detail in Chapter VI.

Tables 25 and 26 present information basic to the calculation of the actual and projected Project Interest Rates. The discussion of contractors' water charges in Appendix D is based on presently known conditions and supports the Department's determination of 1984 water charges, which were billed July 12, 1983. However, the following are significant differences between the projection of charges shown in Line 42 and the substantiation of 1984 charges discussed in Appendix D:

- Future capital costs discussed in Appendix D are based on prices prevailing on January 1, 1983. Those shown in the financial analysis include allowances for price escalation.
- The Project Interest Rate (4.736 percent) basic to charges discussed in Appendix D includes actual bond sales through June 30, 1983. Bonds planned to be sold after that date are not included in the calculation of the Project Interest Rate.
- Pre-1983 charges discussed in Appendix D represent what the charges should have been under presently known conditions. Pre-1983 charges shown in line 42 below are those actually paid under previously determined bills.
- Charges discussed in Appendix D are unadjusted for past over- or underpayments. Charges for 1983 and thereafter, shown in Line 42 below, include adjustments for any apparent

TABLE 25: ACTUAL BOND SALES AND PROJECT INTEREST RATES

Bond Sales	Date of Sale	Dollar-Years[a] (in 1,000s)	Interest Cost ($1,000)	Percent Interest Cost[b]	Project Interest Rate (%)[c]
	(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[d]	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[e]	10/23/79	2,364,917	180,496	7.632	4.584
$150,000,000 Reid-Gardner Project, Series A Bond Anticipation Notes	7/1/81	347,906	29,572	8.500	-
$75,600,000 Bottle Rock Bond Anticipation Notes	12/1/81	264,600	25,137	9.500	-
$24,400,000 Alamo Bond Anticipation Notes[f]	12/1/81	63,119	5,996	9.500	4.589
$200,000,000 Reid-Gardner Project, Series B Revenue Bonds	7/7/82	4,623,137	553,793	11.979	-
$125,000,000 Reid-Gardner Project, Series C Revenue Bonds	11/16/82	2,720,045	255,744	9.402	-
$37,500,000 Small Hydro Project I, Series D Revenue Bonds[g]	11/16/82	872,469	88,090	10.097	4.666
$37,500,000 South Geysers Project, Series D Revenue Bonds	11/16/82	930,325	90,021	9.676	-
$125,000,000 Bottle Rock Project, Series E Revenue Bonds	4/27/83	2,624,805[h]	225,102[h]	8.576	-
$50,000,000 Alamo Project, Series F Revenue Bonds[i]	4/27/83	1,168,922[h]	98,599[h]	8.435	4.736
$25,000,000 South Geysers Project, Series F Revenue Bonds	4/27/83	608,550	52,578	8.640	-
TOTAL (Excluding Oroville CVP Revenue Bonds and Power Revenue Bonds for Off-Aqueduct Facilities)		**63,558,188**	**3,009,946**		

a) A unit equivalent to one dollar of principal amount outstanding for one year.
b) The total interest cost (without regard to premiums received) divided by the total dollar-years, expressed as a percent.
c) Determined by dividing cumulative interest costs by cumulative dollar-years, expressed as a percent. Excluding Central Valley Project Revenue Bonds, Oroville Division and Power Revenue Bonds for Off-Aqueduct Facilities, which do not affect the "project interest rate".
d) Bonds sold at a net interest cost of 5.446 percent. Net proceeds for financing construction costs plus bond discount amounting to $126,893 are used for purposes of the project interest rate.
e) 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.
f) Notes sold at a net interest cost of 10.036 percent. Net proceeds for financing construction costs plus note discount amounting to $18,034 are used for purposes of the project interest rate.
g) Bonds sold at a net interest cost of 10.275 percent. Net proceeds for financing construction costs plus bond discount amounting to $28,012 are used for purposes of the project interest rate.
h) Net values including defeasance of the Bottle Rock-Alamo Bond Anticipation Notes.
i) Bonds sold at a net interest cost of 8.525 percent. Net proceeds for financing construction costs plus bond discount amounting to $40,114 are used for purposes of the project interest rate.

TABLE 26: PROJECTED BOND SALES

Bond Sales	Purpose	Date of Sale
$ 12,250,000 Series "W" Water Bond	Davis-Grunsky Act	8-84
$120,000,000 Power Revenue Bond	Small Hydro Alamo South Geysers Pyramid Isabella	1-85
$107,305,000 Supplemental Water Revenue Bond	California Aqueduct Construction	1-85
$180,375,000 Supplemental Water Revenue Bond	California Aqueduct Construction	1-86
$ 44,759,000 Supplemental Water Revenue Bond	California Aqueduct Construction	1-87
$ 15,294,000 Supplemental Water Revenue Bond	California Aqueduct Construction	1-88

overpayments or underpayments of pre-1983 charges. Line 42 also includes credits due to prepayments of the capital cost components resulting under various contract amendments involving excess aqueduct capacity.

- The charges discussed in Appendix D do not include a capital cost component for the repayment of the enlargement of the California Aqueduct, Mojave Division. Line 42 below includes an estimate of the repayment for the enlargement expenditure.

The payments shown in Line 42 below also include revenue which would be pledged to provide bond cover to support supplemental revenue bonds. The amount of revenue pledged is that portion 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 42: Subtotal, Water Contractor Payments Under Long-Term Water Supply Contracts.

The total of Lines 37-41.

Line 43: Off-Aqueduct Reserve Adjustment.

This line shows the credit to contractors resulting from the additional cover of 25 percent of one year's debt service for off-aqueduct power generating facility bonds. This amount is charged annually to contractors, and is

credited to them the following year, provided all contractors have paid their stated charges for such bonds. The amount varies in proportion to the debt service for these facilities.

Line 44: 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 44 are based on the assumption that the 44.47 percent federal share will continue.

Line 45: Appropriations for Operating Costs Allocated to Recreation.

Under the Davis-Dolwig Act, the Legislature declared its intent that, except 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 46: Local Agency Payments Under Davis-Grunsky Loan Repayment Contracts.

As pointed out in the description of Line 16, over $46 million in loan applications had been approved as of December 31, 1982. The amounts shown in Line 45 are based on the assumption that $19.2 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 $65.2 million (50 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 47: 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 general obligation bonds, interest on operations reserves, and other short-term investment earnings on SWP revenues. Based on experience to date, an allowance of $5 million annually is included in Line 47 to approximate these revenues.

This line also includes bond proceeds that are special reserves under revenue bond financing, described in Line 17. 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 48: Payments Under Oroville-Thermalito Power Sales Contract.

Until April 1, 1983, all of the power generation from Hyatt-Thermalito powerplants was 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 were pledged to the payment of annual operating expenses of Hyatt-Thermalito Powerplants (limited to $1.5 million annually) and annual debt ser-

vice on Oroville Revenue Bonds. Firm revenues consist of $8,075,000 paid semiannually. Revenues are also received from energy adjustment accounts for cumulative theoretical generation in excess of 2.1 billion kilowatthours annually.

During 1981, a 633-million-kilowatthour debit was made to the energy adjustment accounts, reducing the cumulative positive balance on December 31, 1981 to 3.7 billion kilowatthours (equivalent to a credit as of that date of about $9.6 million).

Line 48 also includes an additional revenue of $20.0 million from the electric utilities in 1983 to clear an estimated positive balance in energy adjustment accounts.

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 49: Subtotal Other Revenues.

The total of Lines 43-48.

Line 50: Total Operating Revenues.

The total of Lines 42 and 49.

Line 51: Total Operating Revenues and Miscellaneous Receipts.

The total of Lines 36 and 50.

Project Expenses

Project expenses include operating costs, replacement reserves, deposits to special reserves (see Line 54 description), payment of debt service, operating reserves, repayment of the California Water Fund, and application of miscellaneous receipts for construction (see Line 69 description).

Revenue bond proceeds 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, maintenance and replacement costs;

2. General Obligation Bond debt service;

3. repayment of expenditures from the California Water Fund; and

4. deposits to a reserve for future construction of the SWP.

Line 52: Project Operating Costs.

Historical and estimated future project operating costs are presented in Table 27 by project facilities. Line 52 in the financial analysis is composed of operating costs that are assumed to occur under the assumptions of water demands adjusted to reflect use of 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 43 and 44, respectively. Allowances for cost escalation are included for power costs and for operation, maintenance and replacement costs through 1985. 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

TABLE 27: PROJECT OPERATING COSTS

(in thousands of dollars)

FEATURE	CALENDAR YEAR										TOTAL
	1962-1982	1983	1984	1985	1986	1987	1988	1989	1990	1991-2035	
BY PROJECT FACILITY											
Feather River Facilities	84,799	- 1,106	- 8,319	- 9,398	-13,873	-14,962	-15,143	-15,208	-15,191	- 682,496	- 690,897
North Bay Aqueduct	1,502	178	206	208	230	479	466	543	579	45,148	49,539
Delta Facilities	0	4,079	206	303	333	262	256	256	257	11,528	17,480
South Bay Aqueduct	27,484	4,576	5,873	6,130	6,032	6,039	6,074	6,156	6,293	371,982	446,639
GOVERNOR EDMUND G. BROWN CALIFORNIA AQUEDUCT:											
Main Line - Delta to A. D. Edmonston	277,031	86,781	108,896	111,002	109,609	108,513	108,679	113,002	121,295	8,683,773	9,828,581
Main Line - A. D. Edmonston to Perris	146,133	64,257	88,570	95,611	92,410	85,441	83,296	90,611	93,319	7,920,119	8,759,767
West Branch	32,039	- 126	3,707	- 9,079	-14,220	-16,518	-14,698	-21,483	-18,383	-1,156,578	-1,215,339
Coastal Branch	14,386	1,936	2,051	2,058	2,132	2,151	2,187	2,166	2,188	144,750	176,005
Additional Conservation Facilities	0	0	0	0	0	0	0	0	0	174,399	174,399
Off-Aqueduct Power Generating Facilities	0	8,348	29,412	46,135	53,723	66,633	67,079	68,035	67,131	1,406,322	1,812,818
Water Quality Monitoring	30,153	3,359	3,117	3,546	3,637	3,627	3,621	3,626	3,631	178,466	236,783
Davis-Grunsky Act Program	1,075	150	150	150	150	150	150	150	150	6,750	9,025
TOTAL OPERATING COSTS	614,602	172,432	233,869	246,666	240,163	241,815	241,967	247,854	261,269	17,104,163	19,604,800
BY COMPOSITION:											
Salaries & Expenses of Headquarters Personnel	206,358	29,206	26,598	27,444	27,578	28,030	27,971	27,971	27,971	1,167,538	1,596,665
Salaries & Expenses of Field Personnel	313,486	47,231	53,712	52,460	48,102	47,093	47,333	47,241	47,378	2,319,101	3,023,137
Pumping Power											
Used by Pumping Plants	173,085	108,312	166,913	185,904	185,519	177,928	178,986	186,890	203,394	16,469,107	18,036,038
Produced by Recovery Plants	-43,143	-30,371	-52,082	-76,023	-85,262	-88,553	-90,419	-94,115	-96,664	-5,259,558	-5,916,190
Deposits to Replacement Reserves	29,691	9,780	9,423	11,025	10,932	10,805	10,983	11,734	11,930	990,173	1,106,476
Off-Aqueduct Power Generating Facilities Requirement	0	8,348	29,412	46,135	53,723	66,633	67,079	68,035	67,131	1,406,322	1,812,818
Oroville-Thermalito Insurance Premiums	4,418	337	328	300	300	300	300	300	300	13,500	20,383
Less: Portion of Costs Incurred During Construction	69,293	411	435	579	729	421	266	202	171	2,020	74,527
TOTAL OPERATING COSTS	614,602	172,432	233,869	246,666	240,163	241,815	241,967	247,854	261,269	17,104,163	19,604,800
BY PROJECT PURPOSE:											
Water Supply & Power Generation	563,991	162,844	221,764	235,404	230,753	232,471	232,507	238,516	251,606	16,427,817	18,797,673
Recreation and Fish & Wildlife Enhancement	14,603	3,421	4,310	4,411	4,285	4,206	4,318	4,194	4,519	237,677	285,944
Flood Control	650	28	149	159	164	164	164	164	165	7,958	9,765
Miscellaneous Purposes:											
Federal Share, San Luis and Delta Facilities	32,751	5,745	7,216	6,367	4,631	4,644	4,648	4,650	4,649	415,861	491,162
Other (Davis-Grunsky, Drainage, City of Los Angeles)	2,607	394	430	325	330	330	330	330	330	14,850	20,256
TOTAL OPERATING COSTS	614,602	172,432	233,869	246,666	240,163	241,815	241,967	247,854	261,269	17,104,163	19,604,800

the most part, changes of operating costs cause direct offsetting changes in operating revenues.)

Power cost 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 (see Chapters II and VII).

Line 53: Replacement Reserves.

This line includes funds set aside as required by contract for replacement of existing project facilities. As of December 31, 1982, $1.9 million has been expended for replacement costs; the balance of the replacement reserve as of this date is $28.0 million.

Line 54: Deposits to Special Reserves Under Revenue Bond Financing.

The deposits to special reserves under revenue bond financing include the following:

- Funds held by the Trustee for Oroville Power Revenue Bonds;
- Funds held by the Trustee for Devil Canyon - Castaic Power Revenue Bonds;
- Deposits for other power revenue bonds as follows:
  1. Proceeds set aside to pay bond interest through one year following construction;
  2. Proceeds set aside for the first year of operating costs; and
  3. Water Contractor payments for debt service reserves; and
- Deposits for water revenue bonds to pay bond interest for four years following bond sale.

The history entry for Line 54 includes deposits to special reserves for all past bond sales shown in Table 23 except for Series E and F. The 1983 entry includes such deposits for Series E and F. For future water and power revenue bonds, deposits to special reserves are included in the year of assumed sale.

The reserves are reduced in subsequent years as the reserved amounts are used for their respective purposes. By the time all revenue bonds are retired (2035), all reserves will have been used.

Line 54 also includes unexpended miscellaneous receipts in the 1952-1982 entry, as well as the annual miscellaneous receipts income (Line 36) minus annual expenditures (Line 31). The annual miscellaneous receipts income goes into Line 36 in the year indicated, and used for construction in the following year(s).

Lines 55-56: Payment of Service on Bonds Sold.

These two lines show the total interest and principal payments on bonds sold to date. Table 28 provides a summary of general obligation bonds (Series A through V), Oroville Revenue Bonds, Devil Canyon-Castaic Revenue Bonds, Pyramid Hydro-electric Project Revenue Bonds, Reid Gardner Project Bonds, Small Hydroelectric Project I Bonds, South Geysers Project Bonds, Bottle Rock Project Bonds, and Alamo Project Bonds. The last bonds sold were Alamo, South Geysers, and Bottle Rock Project Bonds in April, 1983.

Annual interest and principal payments on individual series of water bonds 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 28 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
1981	2,865,000	1,805,862
1982	15,890,000	9,623,312

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 54), which is held by the trustee and does not affect the basic validity of the financial analysis.

Line 56 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 57-58: Assumed Payments of Service on Future Power Revenue Bond Sales.

These lines show the projected annual service for the supplemental power revenues bonds discussed in Line 26. Assumptions concerning the service on these future bonds are as follows:

- The net interest cost for the power revenues bonds would average 9.0 percent.
- The service pattern would provide for no maturities during the first two years after issuance, with the bond repaid by 2022.

Lines 59-60: Assumed Payments of Service on Future Water Bond Sales.

These lines show the projected annual service on future Supplemental Water Revenue Bonds and general obligation bonds (Series W and X).

Assumptions concerning the service on future Supplemental Water Revenue Bonds are as follows:

- The net interest cost would average 9.0 percent.
- The service pattern would provide for no maturities during the first four years after issuance, with the bond repaid by 2035.

Assumptions concerning the service on future general obligation bonds are as follows:

- The net interest cost would average 8.5 percent.
- The service pattern would provide for no maturities during the first nine years after issuance, with a final maturity for Series W and X general obligation bonds 20 years thereafter.

Lines 61-62: Total Payments of Bond Service.

The total of interest payments shown on Lines 56, 58, and 60 and the total of principal payments shown on Lines 55, 57, and 59, respectively.

Line 63: Subtotal Debt Service.

The total of Lines 61 and 62.

TABLE 28: ANNUAL SERVICE ON BONDS

(in thousands of dollars)

Calendar Year	Bonds Sold Through June 30, 1983									
	Series A Through V Water Bonds		Oroville Revenue Bonds		Devil Canyon-Castaic Project Revenue Bonds		Pyramid Hydroelectric Bonds Sold October 23, 1979		Reid Gardner Project Revenue Bonds Sold July 7, 1982	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest
1964	0	3,333	0	0	0	0	0	0	0	0
1965	0	11,114	0	0	0	0	0	0	0	0
1966	0	16,742	0	0	0	0	0	0	0	0
1967	0	26,912	0	0	0	0	0	0	0	0
1968	0	37,760	0	3,876	0	0	0	0	0	0
1969	0	47,461	0	10,448	0	0	0	0	0	0
1970	0	53,291	0	13,145	0	0	0	0	0	0
1971	0	63,035	0	13,145	0	0	0	0	0	0
1972	0	69,148	1,260	13,112	0	0	0	0	0	0
1973	1,200	69,348	1,330	13,042	0	7,708	0	0	0	0
1974	3,000	69,533	1,400	12,969	0	7,708	0	0	0	0
1975	5,000	69,366	1,475	12,893	0	7,708	0	0	0	0
1976	7,000	69,408	1,555	12,811	0	7,708	0	0	0	0
1977	10,200	69,323	1,635	12,727	0	7,708	0	0	0	0
1978	12,700	69,312	1,725	12,637	0	7,708	0	0	0	0
1979	13,650	68,690	1,815	12,540	0	7,708	0	0	0	0
1980	16,050	67,968	1,915	12,441	0	7,708	0	7,900	0	0
1981	18,050	67,109	2,020	12,334	0	7,708	0	7,292[b]	0	0
1982	19,250	66,162	2,130	12,221	0	7,708	0	7,292[b]	0	7,972
1983	20,520	65,148	2,245	12,101	900	7,708	0	7,292[b]	0	23,917
1984	21,785	64,068	2,365	11,982	955	7,647	640	7,292	0	23,917
1985	22,555	62,932	2,485	11,862	1,010	7,583	675	7,238	1,235	23,917
1986	23,830	61,742	2,605	11,737	1,070	7,515	715	7,180	1,345	23,769
1987	25,495	60,492	2,735	11,602	1,135	7,442	755	7,120	1,470	23,607
1988	26,770	59,165	2,870	11,464	1,205	7,366	795	7,055	1,615	23,431
1989	28,145	57,825	3,015	11,314	1,275	7,284	840	6,988	1,770	23,237
1990	29,385	56,473	3,175	11,152	1,355	7,198	890	6,916	1,955	23,025
1991	30,365	55,070	3,335	10,983	1,435	7,107	940	6,841	2,165	22,790
1992	31,295	53,640	3,510	10,806	1,520	7,010	995	6,761	2,390	22,530
1993	32,940	52,183	3,695	10,618	1,610	6,907	1,050	6,693	2,655	22,267
1994	34,525	50,660	3,885	10,421	1,705	6,799	1,115	6,622	2,945	21,970
1995	35,660	49,073	4,085	10,215	1,810	6,684	1,180	6,545	3,280	21,634
1996	36,900	47,436	4,300	9,996	1,920	6,561	1,250	6,464	3,650	21,254
1997	36,595	45,818	4,525	9,767	2,035	6,432	1,325	6,376	4,075	20,823
1998	36,675	44,226	4,760	9,524	2,155	6,295	1,405	6,283	4,555	20,334
1999	37,600	42,655	5,005	9,265	2,285	6,160	1,490	6,184	5,090	19,787
2000	38,890	41,033	5,280	8,987	2,420	6,040	1,580	6,078	5,700	19,177
2001	39,980	39,351	5,565	8,693	2,565	5,912	1,680	5,964	6,385	18,493
2002	41,120	37,620	5,865	8,384	2,720	5,773	1,785	5,842	7,150	17,726
2003	42,970	35,835	6,180	8,057	2,885	5,626	1,900	5,712	8,015	16,868
2004	45,160	33,957	6,520	7,714	3,055	5,470	2,020	5,573	8,970	15,907
2005	46,450	31,995	6,870	7,349	3,240	5,305	2,150	5,424	10,045	14,830
2006	47,740	29,971	7,245	6,968	3,435	5,130	2,290	5,268	11,255	13,625
2007	49,230	27,883	7,635	6,564	3,640	4,945	2,445	5,102	12,605	12,274
2008	51,220	25,727	8,050	6,138	3,860	4,749	2,605	4,925	14,115	10,762
2009	53,560	23,478	8,490	5,690	4,090	4,540	2,780	4,736	15,810	9,068
2010	55,250	21,134	8,950	5,216	4,335	4,319	2,960	4,534	17,710	7,171
2011	56,740	18,717	9,435	4,717	4,595	4,085	3,160	4,305	19,830	5,045
2012	58,530	16,216	9,945	4,192	4,875	3,837	3,370	4,060	22,215	2,666
2013	60,370	13,676	10,485	3,636	5,165	3,574	3,600	3,799	0	0
2014	57,900	11,244	11,055	3,051	5,475	3,303	3,840	3,520	0	0
2015	53,690	8,838	11,655	2,435	5,805	3,015	4,095	3,222	0	0
2016	46,130	6,626	12,290	1,782	6,150	2,710	4,370	2,905	0	0
2017	38,060	4,614	12,960	1,097	6,520	2,388	4,665	2,566	0	0
2018	25,350	2,980	13,665	371	6,910	2,045	4,975	2,204	0	0
2019	16,890	1,778	0	0	7,325	1,682	5,310	1,819	0	0
2020	17,320	934	0	0	7,765	1,298	5,665	1,407	0	0
2021	8,510	301	0	0	8,230	890	6,045	968	0	0
2022	1,800	48	0	0	8,725	458	6,450	500	0	0
TOTAL	1,570,000	2,377,577	244,995	466,191	139,165	283,872	95,800	228,767	200,000	553,793

a) Serial maturities or mandatory redemption requirements for term bonds.
b) Interest on the Series B bonds is capitalized to August 1, 1984.
c) Interest on the Series C bonds is capitalized to August 1, 1984.
d) Interest on the Series D bonds is capitalized to December 1, 1985.
e) Interest on the Series E bonds is capitalized to October 1, 1985.
f) Interest on the Series F bonds is capitalized to December 1, 1985.

SOLD AS OF JULY 1, 1983

Calendar Year	Bonds Sold Through June 30, 1983									
	Reid Gardner Project Revenue Bonds Sold November 16, 1982		South Geysers and Small Hydro I Revenue Bonds Sold November 16, 1982		Bottle Rock Project Revenue Bonds Sold April 27, 1983		South Geysers and Alamo Project Revenue Bonds Sold April 27, 1983		Total	
	Principal	Interest	Principal	Interest	Principal	Interest	Principal	Interest	Principal[a]	Interest
1964	0	0	0	0	0	0	0	0	0	3,333
1965	0	0	0	0	0	0	0	0	0	11,114
1966	0	0	0	0	0	0	0	0	0	16,742
1967	0	0	0	0	0	0	0	0	0	26,912
1968	0	0	0	0	0	0	0	0	0	41,636
1969	0	0	0	0	0	0	0	0	0	57,909
1970	0	0	0	0	0	0	0	0	0	66,436
1971	0	0	0	0	0	0	0	0	0	76,180
1972	0	0	0	0	0	0	0	0	1,260	82,260
1973	0	0	0	0	0	0	0	0	2,530	90,098
1974	0	0	0	0	0	0	0	0	4,400	90,210
1975	0	0	0	0	0	0	0	0	6,475	89,967
1976	0	0	0	0	0	0	0	0	8,555	89,927
1977	0	0	0	0	0	0	0	0	11,835	89,758
1978	0	0	0	0	0	0	0	0	14,425	89,657
1979	0	0	0	0	0	0	0	0	15,465	88,938
1980	0	0	0	0	0	0	0	0	17,965	96,017
1981	0	0	0	0	0	0	0	0	20,070	94,443
1982	0	0	0	0	0	0	0	0	21,380	101,355
1983	0	11,802[e]	0	7,286[d]	0	6,017[e]	0	3,666[f]	23,665	144,937
1984	0	11,802[e]	0	7,286[d]	0	10,315[e]	0	6,285[f]	25,745	150,594
1985	1,070	11,802	0	7,286[d]	0	10,315[e]	0	6,285[f]	29,030	149,220
1986	1,175	11,678	0	7,286	1,240	10,315	0	6,285	31,980	147,507
1987	1,285	11,543	0	7,286	1,305	10,253	255	6,285	34,435	145,624
1988	1,405	11,428	480	7,286	1,390	10,181	500	6,271	37,030	143,647
1989	1,540	11,319	520	7,249	1,470	10,098	535	6,241	39,110	141,555
1990	1,685	11,196	570	7,208	1,575	10,002	570	6,206	41,200	139,376
1991	1,830	11,057	615	7,161	1,680	9,892	610	6,166	42,975	137,067
1992	2,005	10,904	665	7,108	1,805	9,771	655	6,122	44,840	134,652
1993	2,170	10,731	725	7,050	1,940	9,637	700	6,074	47,485	132,160
1994	2,350	10,540	790	6,985	2,085	9,490	755	6,021	50,155	129,508
1995	2,555	10,329	860	6,913	2,245	9,328	815	5,962	52,490	126,683
1996	2,780	10,094	945	6,834	2,425	9,151	880	5,898	55,050	123,688
1997	3,030	9,835	1,030	6,746	2,625	8,957	955	5,827	56,195	120,581
1998	3,310	9,547	1,120	6,649	2,840	8,744	1,025	5,750	57,845	117,352
1999	3,615	9,230	1,230	6,543	3,075	8,511	1,115	5,666	60,505	114,001
2000	3,950	8,879	1,345	6,425	3,340	8,256	1,215	5,573	63,720	110,448
2001	4,310	8,492	1,475	6,294	3,625	7,979	1,310	5,473	66,895	106,651
2002	4,710	8,069	1,615	6,150	3,945	7,675	1,430	5,362	70,340	102,601
2003	5,150	7,608	1,770	5,990	4,285	7,343	1,555	5,242	74,710	98,281
2004	5,640	7,080	1,940	5,875	4,675	6,979	1,695	5,110	79,675	93,665
2005	6,180	6,502	2,125	5,749	5,085	6,582	1,845	4,966	83,990	88,702
2006	6,755	5,868	2,325	5,610	5,545	6,149	2,010	4,809	88,600	83,398
2007	7,405	5,176	2,555	5,459	6,045	5,678	2,190	4,638	93,750	77,719
2008	8,110	4,417	2,800	5,197	6,585	5,164	2,390	4,452	99,735	71,531
2009	8,880	3,586	3,070	4,910	7,185	4,604	2,605	4,249	106,470	64,861
2010	9,735	2,676	3,365	4,596	7,830	3,994	2,840	4,028	112,975	57,668
2011	10,675	1,678	3,690	4,251	8,545	3,328	3,095	3,786	119,765	49,912
2012	11,695	877	4,050	3,873	9,325	2,602	3,380	3,523	127,385	41,846
2013	0	0	4,440	3,457	10,175	1,809	3,685	3,236	97,920	33,187
2014	0	0	4,870	2,997	11,110	944	4,030	2,923	98,280	27,982
2015	0	0	5,350	2,492	0	0	4,395	2,580	84,990	22,582
2016	0	0	1,980	1,936	0	0	4,800	2,207	75,720	18,166
2017	0	0	2,175	1,731	0	0	2,795	1,799	67,175	14,195
2018	0	0	2,390	1,505	0	0	3,055	1,561	56,345	10,666
2019	0	0	2,620	1,257	0	0	3,335	1,301	35,480	7,837
2020	0	0	2,880	986	0	0	3,645	1,018	37,275	5,643
2021	0	0	3,155	687	0	0	3,980	708	29,920	3,554
2022	0	0	3,465	359	0	0	4,350	370	24,790	1,735
TOTAL	125,000	255,745	75,000	207,948	125,000	240,063	75,000	179,924	2,649,960	4,793,880

Line 64: California Water Fund Appropriation to Non SWP Purposes.

The Legislature appropriated $52 million in 1982 and $28 million in 1983 from the California Water Fund to the State's General Fund (total of $80 million in fiscal year 1982-1983). Of the $28 million appropriated in 1983, $10 million was unused tidelands revenues from 1982 (funds became available in late 1982). Therefore the net appropriation of CWF transfers from project operating revenues in 1983 was $18 million.

Line 65: Total Operating Expenses.

The total of Lines 52, 53, 54, 63, and 64.

Line 66: Operating Reserves Added.

The Department's policy for proper fiscal management of the SWP and to ensure protection of the interests of bondholders is to maintain reserves of $48 million for operations, maintenance, and debt service. The financial analysis indicates that the maximum reserve amount will have been reached by the end of 1984. Entries in this line are the annual transfers into or out of the reserve.

Lines 67-68: Repayment of the California Water Fund.

The Burns-Porter Act requires that, after operation, maintenance, and replacement 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 1990 (Line 67), together with the $25 million of tidelands revenue appropriated each year to the California Water Fund, are required for financing capital expenditures. Line 67 is the same as Line 32. Line 68 shows that in 1989 some revenues in excess of expenses are available beyond construction requirements to repay the California Water Fund. The $4.4 billion amount in Line 68 for the period 1952-2035 includes funds to repay the California Water Fund monies (third priority) shown in Line 30. The remaining funds would be available for future SWP construction (fourth priority).

Line 69: Miscellaneous Receipts Used For Construction.

This line is the same as Line 31.

Line 70: Total Project Expenses.

This is equal to the sum of Lines 65 through 69.

Control over SWP Operation

Tulare Lake Basin Water Storage District v. State of California, filed October 19, 1976, Sacramento County Superior Court, No. 263582.

A decision in favor of the Department on all counts has been rendered by the trial court. The intended decision, which the judge adopted, was fully discussed in Bulletin 132-81. The judge's final decision was entered on September 25, 1981.

The judge held that the Department did not breach its water supply contracts by releasing stored water to control salinity levels in the Delta because: (1) the Department has broad discretion to operate and manage the SWP to protect the public interest; (2) the Porter-Cologne Water Quality Control Act is a proper exercise of the police power and does not impair the obligations of the water supply contracts; and (3) the Porter-Cologne Act specifically requires State agencies to comply with Basin Plan objectives.

The court also held that 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. The court further concluded that the Department did not violate the injunction that restrained operation of Decision 1379 of the State Water Resources Control Board, because the Department is authorized to voluntarily operate the SWP to meet the most recent and most comprehensive water quality standards.

The plaintiffs and intervenor appealed. All briefs have been submitted to the Third District Court of Appeal, including an amicus brief by The Metropolitan Water District of Southern California in support of the appellants and intervenor. Oral argument, originally scheduled for September 20, 1983, has been postponed.

Salyer Land Company v. Department of Water Resources, filed May 9, 1977, Sacramento County Superior Court, No. 267012.

The issues in this suit are very similar to those in the Tulare Lake case. However, the plaintiff, a landowner in the service area of the Tulare Lake Basin Water Storage District, is pursuing this action on his own behalf and as a class action on behalf of all other similarly situated landowners. On August 21, 1978 the Department filed its answer to the complaint. The plaintiffs have since taken no action in this case.

Department of Water Resources v. Contra Costa County Water Agency, et al., filed June 22, 1979, San Francisco County Superior Court No. 765609.

This suit was filed by the Attorney General on behalf of the Department against the Contra Costa County 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 SWP water used in excess of that available in the absence of the SWP. The suit also seeks damages to compensate the Department for water illegally used by the defendants during July and August of 1977.

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

The case was originally filed in Sacramento County. On March 12, 1980, a motion for change of venue was granted and the case was 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 causes of action, three of which were sustained. The court ruled that the State can seek a declaration of the parties' rights and obligations, including whether the water agencies must contract with the Department to pay for the benefits they received from the SWP. In sustaining the three demurrers, the court ruled that three water agencies--the South Delta Water Agency, the Central Delta Water Agency, and the Contra Costa Water Agency--could not be sued as representatives of the landowners within their boundaries for unauthorized diversion of water.

The City of Vallejo, North Delta Water Agency, and East Contra Costa Irrigation District were dropped from the suit as they signed contracts to pay for SWP benefits.

The State Attorney General authorized the Department to represent itself through its Office of the Chief Counsel. Approximately 50 additional defendants originally named as Does were served. These defendants were landowners or farm operators in the Delta during 1977. They were served after the court's ruling on the demurrers that the three water agencies could not be sued as the representatives of these defendants.

Demurrers were filed by most of the additional defendants, who raised the statute of limitations and claimed that the Department had failed to join other parties indispensable to the resolution of the lawsuit. On August 31, 1982, the court ruled on these demurrers in favor of the Department. The defendants then answered. Discovery is proceeding. A hearing on a Motion for Summary Adjudication of Issues filed by the Department is scheduled to be heard on December 2, 1983.

South Delta Water Agency v. United States, et al, filed July 9, 1982. Federal District Court for the Eastern District of California, Civ. S-82-567 MLS.

This suit was filed in Sacramento by the South Delta Water Agency against the United States Bureau of Reclamation and the Department. It involves the effects of the operation of the Central Valley Project (CVP) and SWP on the southern Delta.

As to the Department and the SWP, South Delta Water Agency alleges that operation of the SWP pumps violates southern Delta rights by lowering water levels, reversing flows, and diminishing the influence of the tides. The suit seeks a declaration that: (1) the CVP and SWP must be operated in a manner that will neither diminish the quantity nor degrade the quality of the in-channel water of the southern Delta below that which would exist in the channels in the absence of the two projects; and (2) the United States and the State of California may not appropriate or divert water from the Delta or any Delta tributary needed for the reasonable uses of the southern Delta. The suit also seeks preliminary and permanent injunctions along the same lines and seeks further relief against the Bureau.

The case was assigned to Judge Milton Schwartz. On February 4, 1984 the Department filed its answer. The United States Motion to Dismiss was denied and the United States has asked the court to reconsider its denial.

Project Financial Feasibility

Goodman v. County of Riverside, filed November 15, 1979, Riverside County Superior Court, No. 133871.

This suit was filed in Riverside County seeking recovery of taxes collected by the County for the Desert Water Agency (Desert). Desert does not receive water directly from the SWP but gives its Project entitlement to The Metropolitan Water District of Southern California (MWD) in exchange for MWD water from the Colorado River.

Desert needs the tax revenues to meet its contract obligations to the State. The plaintiffs contend that the taxes were collected in violation of Article XIII A of the California Constitution (Proposition 13).

The Department, through the Attorney General, filed a complaint in intervention seeking to preserve the financial integrity of the SWP. 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.

On August 3, 1981, judgment was entered for defendants and intervenors. The judgment holds that the taxes levied by local agencies to provide funds for payment under the State Water Contracts are taxes levied to pay interest and redemption charges on an indebtedness approved by the voters prior to July 1, 1978, falling within the exception granted by Section 1(b) of Article XIII A. The judge further held that if such taxes did not fall within the exception, Article XIII A would unconstitutionally impair the obligations of the Burns-Porter Act Bonds. Thus, the decision upholds the validity of taxes levied to meet payment obligations of the water supply contracts. This, of course, is of utmost importance to the continued financial integrity of the SWP.

The plaintiffs appealed the decision and the Court of Appeal upheld the trial court. The California Supreme Court has refused to grant a hearing.

Corps of Engineers Permits for Delta Pumps

Sierra Club v. Watt (formerly Sierra Club v. Morton and Sierra Club v. Andrus,) filed March 16, 1971, Northern District California, No. C-71-0500-WWS (Supreme Court opinion found at 451 US 287) (1981).

This suit seeks to enjoin Federal and State defendants, including the Director of the Department, from constructing or continuing to construct or operate the Delta Pumping Plant, the proposed Peripheral Canal, and certain existing or proposed federal CVP facilities, because of an alleged failure to meet environmental requirements. The principal statutes involved are the National Environmental Policy Act of 1969 (NEPA), the California Environmental Quality Act (CEQA), the Rivers and Harbors Act of 1899, and the Civil Rights Act.

The Sierra Club prevailed in the lower courts regarding certain causes of action arising from the River and Harbor Act of 1899. In 1981, the Supreme Court found that the Act did not create a private right of action and sent the case back to the District Court to dispose of in a manner consistent with the Supreme Court's ruling.

The judge ruled on several issues on July 2, 1982. The first was the Sierra Club's claim that the Corps' action violated the plaintiff's civil rights. The judge found there was no such violation. With regard to the Peripheral Canal, the judge found its construction was too speculative to fall within NEPA and CEQA. With regard to the new pumps, he found the Department had already agreed that CEQA required an EIR and the Department was proceeding with its preparation.

The final issue involved the Administrative Procedure Act. The judge found the Corps' decision that the Tracy Pumping Plant and the existing Delta Pumping Plant did not need a permit, was not an abuse of discretion, and he would not overturn the Corps' decision. On December 30, 1982, the judge upheld the Corps' decision not to require a permit for the additional pumps as long as the Corps monitored the operation and effects of the new pumps and require the State to apply for a permit if there was evidence that operation of the pumping plant significantly affected the course, location, condition, or capacity of Delta waters. The plaintiffs did not appeal the judge's decision.

Sacramento-San Joaquin Delta Water Cases

Eight cases have been brought to challenge the merits of Decision 1485 of the State Water Resources Control Board (SWRCB) establishing conditions of water rights permits of the SWP and federal CVP and the SWRCB's revised water quality control plan for the Delta and Suisun Marsh. Following is a list of the cases:

a. 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.

b. Central Valley East Side Project Assoc. v. State Water Resources Control Board, filed November 13, 1978, Sacramento County Superior Court No. 277506.

c. Contra Costa County Water Agency v. State Water Resources Control Board, filed November 13, 1978, Contra Costa County Superior Court No. 193298.

d. Crown Zellerbach Corp. v. State Water Resources Control Board, filed November 13, 1978, Contra Costa County Superior Court No. 193368.

e. Fibreboard Corp. v. State Water Resources Control Board, filed November 13, 1978, Contra Costa Superior Court No. 193313.

f. Kern County Water Agency v. State Water Resources Control Board filed November 13, 1978, Sacramento County Superior Court No. 277555.

g. South Delta Water Agency v. State Water Resources Control Board, filed November 13, 1978, Contra Costa Superior Court, No. 193342.

h. United States v. State Water Resources Control Board, filed November 13, 1978, Sacramento County Superior Court No. 277544.

Six other cases have been brought to invalidate the EIR on which Decision 1485 and the revised water quality control plans are based. Following is a list of these cases:

i. 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.

j. 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.

k. 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.

l. 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.

m. 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 Users Assoc. v. State Water Resources Control Board, filed October 11, 1978, Sacramento County Superior Court No. 276337.

n. 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.

The Department is either a real party in interest or an intervenor in all fourteen of these cases in which the Attorney General has authorized the Department to represent itself. The cases have been coordinated and an 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. The merits cases and the EIR cases were bifurcated to allow the merits cases to proceed first.

On November 10, 1982, Judge Figone issued a further trial conference order. The judge ruled January 17, 1983, on the scope of review of the merits cases. He found that the independent judgment test applies to the Delta petitioners and the substantial evidence test applies to the project operators and their contractors.

On February 18, 1983, the judge made several further pretrial decisions. He denied the United States' motion to introduce new evidence on the issue of consistency with congressional directions, denied motions to consolidate the merits cases, and ruled on objections to lodged exhibits. The judge issued a list of key issues and established a briefing schedule leading to oral argument in December, 1983.

Oroville Wyandotte Irrigation District v. State of California, Department of Water Resources, filed January 4, 1982, Sacramento County Superior Court No. 301927.

The Oroville Wyandotte Irrigation District, owner of the Palermo Canal, has sued the Department, alleging that construction of the proposed Palermo Powerplant would violate a 1963 agreement between the Department and the District. If constructed, the Palermo Powerplant would consist of a 500-kilowatt hydroelectric power plant at the tunnel exit of Palermo Canal on the left abutment of Oroville Dam. The agreement provided for substitute water service to the District for the portion of the Palermo Canal inundated by the construction of Oroville Dam. The District claimed in its suit that a trust should be imposed on the proceeds of the power plant for the benefit of the District. The District also sought an order preventing the Department from proceeding with construction of the plant until obtaining permission from the California Public Utilities Commission and authorization from SWRCB to use the water for hydropower generation. Finally, the District sought to rescind the agreement for substitute water service, alleging misrepresentation. Trial of this case was held in December 1982. The Department's motion for summary judgment was denied from the bench. On April 29, 1983, the

court rendered a decision in favor of the Department, denying all relief sought by the plaintiff. Because of a motion for reconsideration by the District, final judgment has not yet been entered.

State of California v. Oroville Wyandotte Irrigation District, filed July 23, 1982, Sacramento County Superior Court No. 305174.

The Department filed this suit to obtain a writ of mandate to compel the Oroville Wyandotte Irrigation District (OWID) to prepare an EIR on OWID's proposed Kelly Ridge II Powerplant. If it proceeds as proposed, the Kelly Ridge II plant would divert 50 cfs of water around Lake Oroville and the Edward Hyatt Powerplant. The Department currently uses the water to generate approximately 10 million kilowatt hours of energy annually at the Hyatt plant. The Department contends that OWID violated the California Environmental Quality Act by failing to consult with the Department during preparation of its Initial Study of the Kelly Ridge II project. The Department also contends that an EIR should have been prepared to examine the significant environmental impacts of the proposed project. These include the possibility that the Department would have to resort to additional consumption of fossil fuels and other nonrenewable resources to replace lost energy and firming capacity. A hearing on OWID's demurrer to the Department's petition and on the merits of the case as a whole was held on March 10, 1983 in Butte County Superior Court.

A Decision in favor of OWID was rendered April 8, 1983, from the bench. Final judgment has not yet been entered.

Seepage Suits, Sacramento and Feather Rivers

During 1975 and 1976, several suits were filed against the State and the United States by more than 25 landowners adjacent to the Sacramento and Feather Rivers for damage alleged to have been caused by erosion and seepage in March and April of 1974. The plaintiffs claim damages in excess of $30,000,000, resulting from the coordinated operation of the Federal and State water projects.

One such case is H. S. Sanborn, et al. v. United States, filed March 22, 1976, U. S. District Court CIV. 5-76-154, a complaint in inverse condemnation, negligence, and trespass.

The claim arose from damage allegedly caused by high flows in the Sacramento River in March and April of 1974 due to a heavy and late storm. The levels were partially controlled by releases from Shasta Dam and diversions from the Federal Government's Trinity Project. The plaintiffs contend that the federal CVP kept the river levels high for an extended period causing erosion and seepage, which damaged their orchards and crops. The defendants also sued the State of California, claiming that the Department participated as a joint venturer in the planning and operation of the CVP.

On September 19, 1977, the judge ruled in favor of the defendants. The only remaining basis the plaintiffs have for recovery is to show they suffered damage resulting from activity of the U.S. that was unrelated to the operation of the CVP.

Department of Water Resources v. Westinghouse, filed February 21, 1979, Sacramento Superior Court, No. 279649.

The Department filed suit against Westinghouse Electric Corporation to recover $1 million in damages for the failure of Hyatt Powerplant motor/-generators. Damage to motor/generator coils supplied by Westinghouse caused the coils to be replaced sooner than expected. The suit was settled on September 20, 1982.

Without admitting liability, Westinghouse has agreed to a commercial settlement. Westinghouse will supply two bearing feasibility studies (valued at $100,000) without cost to the Department and provide credits totaling $370,000 against future purchases of Westinghouse equipment. The suit was dismissed on September 28, 1982.

Kern River Intertie

River West Inc. v. State of California, et al., filed August 5, 1980, Kern County Superior Court, No. 174778, injunctive relief.

This case involves local water rights and the Department's operation of the Kern River Intertie, a flood control project. The plaintiffs have sued the Department and several landowners upstream of them on the Kern River, alleging that the Department and the upstream landowners are infringing upon the riparian and appropriative rights of the plaintiffs to Kern River water. Plaintiffs contend, as to the Department, that water in excess of flood waters and subject to appropriation is being accepted into the Intertie contrary to the Intertie's flood control purpose.

As to the upstream landowners, the plaintiffs contend they are diverting water to which the plaintiffs have rights and that some of these defendants have made improper transfers of water.

The Department and each of the other defendants have filed answers to the plaintiff's complaint and discovery is in progress. The plaintiffs and some of the other defendants are attempting to have a judge assigned to the case to hear various pending motions.

On December 29, 1982, Kern Property Corporation v. State of California, Department of Water Resources, et al, Kern County Superior Court No. 181265, was filed by Kern Property Corporation against the Department and eight other named defendants.

Some of the issues in this case are similar to those in River West, Inc. v. State of California. This suit is also a controversy over rights to the use of Kern River water and over the Department's operation of the Kern River Intertie. The plaintiffs are claiming that the defendants are, in various ways, interfering with rights of the plaintiffs to Kern River water.

As to the Department, they are specifically alleging that the Department is violating the Watershed of Origin statute, Water Code Section 11460, by accepting water into the Intertie before the needs of Kern Property Corporation are met.

The Department operates the Intertie under contracts with the Federal Government and a number of local agencies and districts. Under these contracts, the Department accepts flood waters into the Intertie as requested by the local interests through the Kern River Watermaster. The River West and Kern Property corporations were not party to these contracts and are suing to establish their rights.

Construction Claims

Pascal and Ludwig, Inc. (formerly Zurn Engineers) v. Department of Water Resources, filed January 8, 1980, L. A. Superior Court, No. C309428.

Pascal and Ludwig, Incorporated (formerly Zurn Engineers), has refiled its claims arising out of the construction of the Grizzly Valley Dam Complex (see Bulletin 132-79). Plaintiff, who was the contractor for construction of the dam, contended in the first lawsuit that the Department owed it an additional $1.4 million for work done because of changes in the work, forced acceleration, and added quantities of excavation and fill. In this first

suit filed in state court, the District Court of Appeal found in favor of the Department. The California and United States Supreme Courts denied petitions to hear the case.

Pascal and Ludwig, Inc. is now contending in this suit that Civil Code Section 1670 provides additional rights to resolve its claims through arbitration.

The Department's answer, filed on March 31, 1980, contests the retroactive application of Civil Code Section 1670 and relies on law of the case, res judicata, and other affirmative defenses. An at issue memorandum was filed on September 23, 1980. However, no action has been taken by either party to move the case to trial.

Wild and Scenic Rivers Cases

In July of 1980, Governor Brown requested that then United States Secretary of the Interior, Cecil Andrus, add approximately 4,006 miles of rivers in the California Wild and Scenic Rivers System to the National Wild and Scenic Rivers System. Governor Brown took this action under the authority of the National Wild and Scenic Rivers Act (16 U. S. Code 1271, et seq.). 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 California's application by adding approximately 1,235 miles of California rivers to the national system.

After Secretary Andrus' decision, three lawsuits were filed in federal court. County of Del Norte v. United States (N. D. Cal., No. C-81-0467 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. The lawsuit claims 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 regulations of the Council on Environmental Quality. The plaintiffs seek a declaration that California's application violated federal law.

County of Josephine v. Watt (D. Ore., No. 81085, filed January 28, 1981) was brought by the southern tier of Oregon counties and by timber interests seeking a declaration that Secretary Andrus' decision was illegal and seeking an injunction overturning his action. On July 29, 1981, this case was transferred to Northern California Federal District Court, where the other wild and scenic rivers cases are pending.

On April 7, 1981, the Association of California Water Agencies (ACWA) and ten State Water Project water contractors filed ACWA v. United States, (N. D. Cal. No. C-81-1457 WAI), in Northern California Federal District Court. This suit claims that inclusion of the rivers in the national system jeopardizes the plaintiffs' maximum annual entitlements from the SWP. It claims California's application for national status for the rivers was defective and claims violations of the National Environmental Policy Act and of rules promulgated by the Council on Environmental Quality. Like the other federal lawsuits, it seeks a declaration and an injunction against implementation of Secretary Andrus' decision.

The State of California was originally not a party to any of these lawsuits. However, the State, as well as four environmental groups -- the Environmental Defense Fund, the Sierra Club, California Trout, and Save the American River Association -- have intervened in each of the suits.

In March, Judge Ingram of the Federal District Court in San Francisco issued a decision in the County of Del Norte and ACWA, cases. The main issues in the two cases were: (1) the plaintiffs' standing to sue; (2) whether the Environmental Impact Statement (EIS) on adding the rivers to the national system was available to the public long enough before Secretary Cecil Andrus made his decision; (3) whether the State made an adequate showing of its ability to administer the rivers; and (4) whether the EIS was properly prepared.

The judge ruled against the federal defendants and intervenor, State of California, on the first three grounds and held that a trial must be held on the adequacy of the EIS. The judge ordered California's application remanded to the Department of the Interior for reconsideration by the current Secretary, James Watt.

The United States and the four private intervenors (Environmental Defense Fund, Sierra Club, California Trout, and Save the American River Association) have appealed the District Court judgment to the Ninth Circuit Court of Appeals. The State has remained neutral on the appeal. The Appellate Court has stayed operation of the District Court judgment pending appeal. This means that the rivers will remain in the National Wild and Scenic Rivers System during the appeal. Oral argument in the appeal will take place in October, 1983.

In the third case brought by the Oregon plaintiffs, the court has ruled in favor of the State and the United States on every point except the adequacy of the EIS. The court has ordered a trial to be held on this issue. However, the court has ordered postponement of the trial until the appeals in the two other wild rivers cases are resolved.

Federal-State Water Rights Relationships

California v. United States (formerly U.S. 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 SWRCB in Decision 1422 on the U. S. Bureau of Reclamation's water rights for the New Melones Dam 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 SWRCB's jurisdiction over the federal CVP 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 (an action by the State to compel CVP compliance with SWRCB water rights permits); and San Joaquin County Flood Control and Water Conservation District v. SWRCB (to set aside the Lower American River Water Rights Decision 1400).

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 SWRCB's decision on the merits and, if not, whether any conditions in the New Melones permits are inconsistent with congressional directives.

On February 26, 1981, Judge Price of the U. S. District Court in Fresno decided that the Bureau was not bound

by conditions in D-1422 relating to power, but that most other significant conditions were binding.

Both the State and the U. S. filed an appeal of the District Court decision in the Ninth Circuit Court of Appeals. The Ninth Circuit decided in favor of the State on December 20, 1982. The Court held that none of the conditions imposed by the SWRCB have been shown to be invalid.

On March 8, 1983, the SWRCB issued a decision allowing increased storage of water in New Melones Reservoir for generation of power and increased storage of water for consumptive uses.

Electrical Power Cases

State of California v. Los Angeles City Department of Water and Power, filed September 26, 1978, L. A. Superior Court No. C-255911.

The Department filed this suit to obtain monies owed by the Los Angeles Department of Water and Power (LADWP) under the Cooperative Development Contract for Hydroelectric Facilities at Castaic Lake. Since 1975, LADWP has withheld portions of its Peaking Capacity Foregone payment owed to the Department. LADWP has asserted that the clause, which permits a reduction in that payment if there is a failure to schedule water through the Angeles Tunnel for forty-five days or longer, has been triggered in these instances.

On May 27, 1982, the parties agreed upon a process for settlement of the litigation. This process involves amendment of the Castaic contract in accordance with principles already agreed upon and payment by LADWP of a specified amount of money to the Department. As part of this settlement process, the Department has signed contract amendments and submitted the amendments to LADWP for signature.

Southern California Edison Company v. Los Angeles City Department of Water and Power, filed October 18, 1979, Los Angeles Superior Court No. C-301654.

This suit was filed by Southern California Edison Company (Edison) to compel LADWP to continue to meet its obligations to supply the Department with electrical power under the Suppliers Contract. LADWP has claimed that under the legal doctrine of commercial impracticability it is entitled to be excused from its obligations under this contract. LADWP had earlier given notice to the Department that, unless the Department paid a higher price for the power than that set in the Contract, it would no longer provide the Department with service. After the Department refused to deviate from the terms of the Suppliers Contract, LADWP informed the Department and the other parties to the Contract that as of October 21, 1979, it would terminate service. PGandE and San Diego Gas and Electric, which, along with Edison and LADWP, are the Suppliers under the Contract, are named as defendants in the lawsuit.

On October 18, 1979, Edison obtained a temporary restraining order and on November 7, 1979, a preliminary injunction requiring LADWP to continue to supply power under the Suppliers Contract. LADWP continued to supply power to DWR until the termination of the Suppliers Contract on March 31, 1983. The case is in the discovery stage and the parties are attempting to reach agreement on a Statement of Stipulated Facts.

State of California v. Pacific Gas and Electric Company, U. S. District Court, E. D. CAL., No. Civ. S-82-164 (LKK), February 25, 1982.

The Department filed, but did not serve, this lawsuit against PGandE to obtain relief from certain restrictions on the Department's use of 300 MW of

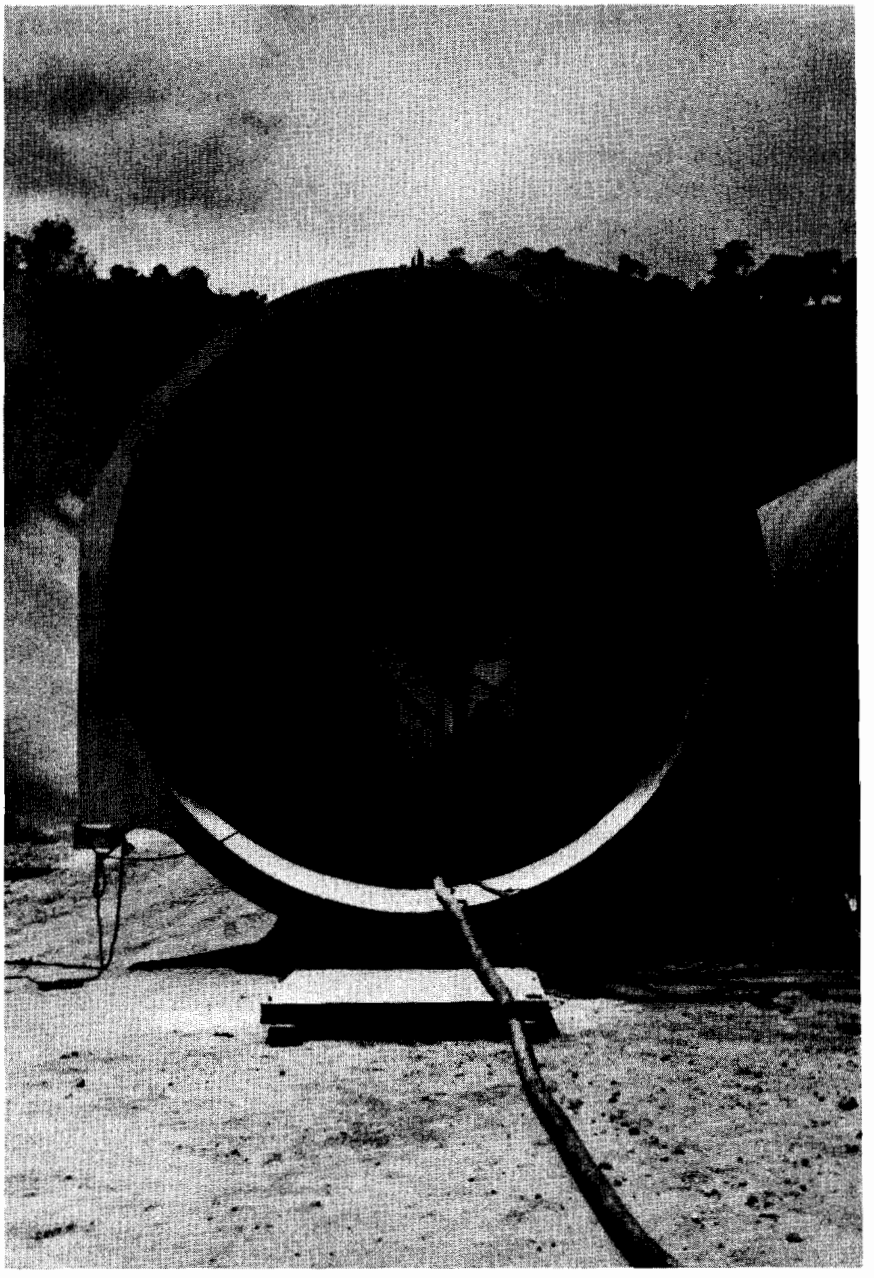
Pacific Transmission Intertie capacity contained in the Contract Between the State of California and California Companies for the Sale, Interchange and Extra High Voltage Transmission of Electric Capacity and Energy, dated August 1, 1967. The Department claims that these restrictions violate the antitrust laws.

On December 31, 1982, the Department and PGandE signed an agreement involving, among other things, settlement of this litigation. The Department has dismissed the lawsuit.

In the matter of Pacific Gas and Electric Company (Stanislaus Nuclear Project), October 15, 1976, Nuclear Regulatory Commission No. P-564-A.

On April 15, 1977, the Department, along with several California municipal utilities, was permitted to intervene in a proceeding before the Nuclear Regulatory Commission (NRC) investigating the antitrust implications of granting a nuclear power plant license to PGandE for its proposed Stanislaus Nuclear Project. The thrust of the proceeding involves a review of the adequacy of license conditions that were negotiated between PGandE and the U. S. Attorney General to eliminate the anticompetitive consequences of the issuance of the nuclear power plant license.

On May 3, 1982, PGandE requested the NRC to permit it to withdraw from the proceeding. The primary ground for the withdrawal was that the estimated operation date for the Stanislaus Nuclear Project has drastically slipped to the late 1990s and, therefore, a license from the NRC will not be required in the foreseeable future. As part of the settlement agreement entered into by the Department and PGandE on December 31, 1982, the Department has agreed to take all necessary steps to cooperate with PGandE's withdrawal from this proceeding. The NRC granted PGandE's request to withdrawal on January 19,1983.



Inside the giant bore of the Pastoria Siphon's second barrel. The second barrel, which was begun in November 1981, brings the California Aqueduct to its full capacity in the Tehachapi Crossing.

CHAPTER X
STATE WATER CONTRACTORS ACTIVITIES

In discussing the activities of the SWP for the year 1982 it seems appropriate to also include a chapter devoted to activities of the State Water Project Contractors. The information presented includes a list of the long-term contracting agencies with respective data, a discussion of the newly formed State Water Contractors Corporation, and profiles of six of the individual water contractors.

In 1982 the State had long-term contracts with 30 local water agencies for annual water supplies from the SWP. The location of each of these 30 water agencies with its proximity to SWP facilities is shown on the following Figure 25. The figure also provides other information concerning each agency and its service area as it existed in 1982. The total cumulative deliveries to date, column 2, includes both Project and nonproject water deliveries from SWP facilities. The net totals show that the SWP service areas which cover only 24.3 percent of the gross area of the State, supplied water to 68.1 percent of the population of California.

State Water Contractors Corporation

In November, 1982 the new State Water Contractors Corporation was formed. The corporation, successor to the Association of State Water Project Agencies, is headquartered in Sacramento. Upon formulation, the corporation elected Ronald R. Esau of San Jose as its first president with David Schuster, General Manager, and John C. Coburn, Staff Engineer. Both Mr. Schuster and Mr. Coburn formerly held positions with the USBR. Both are familiar with California water problems and are specifically knowledgeable in operation and management of the CVP and the SWP.

Members of the nonprofit corporation represent 25 of the 30 public agencies that have contracted for water service from the SWP. These 25 agencies represent 90 percent of the total entitlement water contracted for under the SWP.

The corporation has indicated several key objectives which it will pursue:

1. Timely completion of the project facilities defined in the respective contracts for water supply between the members of the Corporation and the State of California, made pursuant to the California Water Resources Development Bond Act, as amended (Water Code, Sections 12930, et seq.), and any amendments to such contracts.

2. Assuring proper and effective operation of the SWP.

3. Acquiring and protecting the water rights needed for the delivery of water through the SWP.

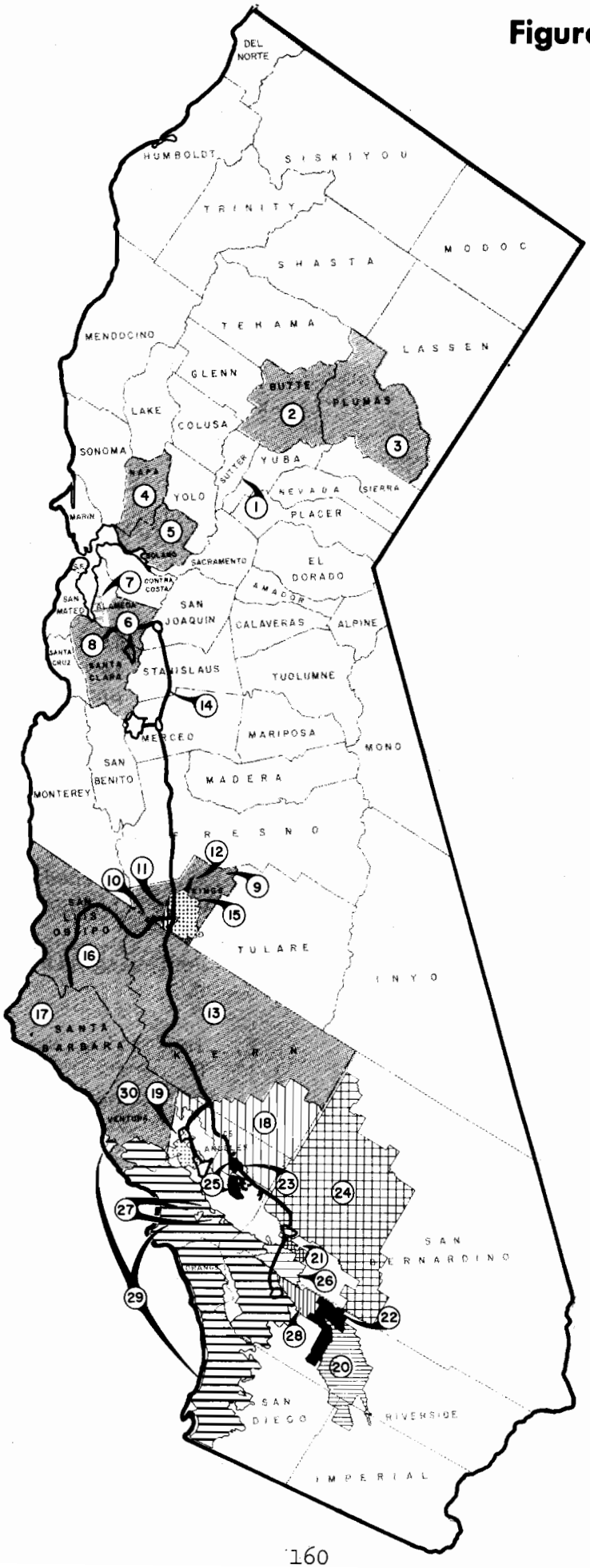
4. Reviewing litigation affecting the SWP.

5. Presenting the views of the Corporation's membership to legislative and administrative agencies, and the public.

6. Undertaking studies affecting the SWP.

7. Establish and maintain a public information program about the SWP.

Figure 25. LONG-TERM



WATER SUPPLY CONTRACTING AGENCIES

Location No.	Contracting Agency	Total Cumulative Deliveries through Dec. 31, 1982 (acre-feet)	Maximum Annual Entitlement (acre-feet)	Total Payments through Dec. 31, 1982 (dollars)	Gross Area as of July 1, 1983 (acres)	Assessed Valuation 1982-1983 (dollars) [a]	Estimated Population (July 1, 1983)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	UPPER FEATHER AREA						
1	City of Yuba City	0	9,600	0	3,300	456,098,000	19,658
2	County of Butte	3,747	27,500	300,036	1,068,000	4,105,130,000	151,000
3	Plumas County Flood Control and Water Conservation District	4,617	2,700	324,318	1,644,000 [b]	200,850,000 [b]	17,000 [b]
	Subtotal	8,364	39,800	624,354	2,715,300	4,762,078,000	187,658
	NORTH BAY AREA						
4	Napa County Flood Control and Water Conservation District	74,053	25,000	4,193,217	508,000	3,116,481,000	99,700
5	Solano County Flood Control and Water Conservation District	0	42,000	604,185	527,000	6,344,000,000	250,000
	Subtotal	74,053	67,000	4,797,402	1,035,000	9,460,481,000	349,700
	SOUTH BAY AREA						
6	Alameda County Flood Control and Water Conservation District, Zone 7	242,128	46,000	13,625,830	272,000	3,117,790,000	110,000
7	Alameda County Water District	327,912	42,000	15,283,015	63,000	1,407,000,000	208,000
8	Santa Clara Valley Water District	1,468,093	100,000	57,726,017	849,000	42,520,000,000	1,322,000
	Subtotal	2,038,133	188,000	86,634,862	1,184,000	47,044,790,000	1,640,000
	SAN JOAQUIN VALLEY AREA						
9	County of Kings	24,150	4,000	514,245	893,000 [c]	1,792,118,400 [c]	75,800 [c]
10	Devil's Den Water District	223,249	12,700	5,066,815	8,500	- [d]	50
11	Dudley Ridge Water District	800,830	57,700	11,014,193	29,900	- [d]	50
12	Empire West Side Irrigation District	56,599	3,000	800,829	7,500	- [d]	50
13	Kern County Water Agency	9,778,738	1,153,400	202,422,512	5,057,200	23,272,542,300 [f]	426,400 [f]
14	Oak Flat Water District	86,162	5,700	937,534	4,000	- [d]	50
15	Tulare Lake Basin Water Storage District [e]	1,789,756	118,500	22,470,618	188,800	- [d]	50
	Subtotal	12,759,484	1,355,000	243,226,746	6,188,900	25,064,660,700	502,450
	CENTRAL COASTAL AREA						
16	San Luis Obispo County Flood Control and Water Conservation District	0	25,000	3,407,753	2,131,300	6,094,592,345	168,100
17	Santa Barbara County Flood Control and Water Conservation District	0	45,486	7,760,204	1,756,900	10,305,721,272	309,200
	Subtotal	0	70,486	11,167,957	3,888,200	16,400,313,617	477,300
	SOUTHERN CALIFORNIA AREA						
18	Antelope Valley-East Kern Water Agency	377,239	138,400	47,726,501	1,524,000	3,474,381,279	106,200
19	Castaic Lake Water Agency	16,494	41,500	17,571,616	125,000	2,662,921,475	82,000
20	Coachella Valley Water District	83,262	23,100	11,623,344	637,500	5,020,903,762	97,600
21	Crestline-Lake Arrowhead Water Agency	10,846	5,800	3,164,063	55,100	730,541,181	12,100
22	Desert Water Agency	129,300	38,100	18,924,920	208,900	3,013,514,175	57,500
23	Littlerock Creek Irrigation District	4,800	2,300	819,177	43,300	47,784,112	1,700
24	Mojave Water Agency	19,233	50,800	20,750,564	3,160,400	3,849,947,662	125,300
25	Palmdale Water District	0	17,300	5,540,714	73,900	537,498,938	26,700
26	San Bernardino Valley Municipal Water District	136,223	102,600	63,596,175	210,200	6,193,613,711	390,700
27	San Gabriel Valley Municipal Water District	46,493	28,800	16,860,827	16,300	3,503,519,207	168,000
28	San Gorgonio Pass Water Agency	0	17,300	9,307,435	140,600	684,820,106	36,500
29	The Metropolitan Water District of Southern California	4,942,211	2,011,500	1,030,824,063	3,273,600 [g]	353,335,259,307 [g]	12,400,000 [g]
30	Ventura County Flood Control District	0	20,000	7,131,734	1,179,500 [g]	18,085,877,416 [g]	559,600 [g]
	Subtotal	5,766,101	2,497,500	1,253,841,133	10,648,300	401,140,582,331	14,063,900
	TOTAL STATE WATER PROJECT	20,646,136	4,217,786	1,600,292,454	25,659,700 [h]	503,872,905,648 [h]	17,221,008 [h]
	NET TOTALS STATE WATER PROJECT SERVICE AREA				24,337,100 [i]	491,347,001,017 [i]	16,829,408 [i]
	TOTALS, STATE OF CALIFORNIA				100,314,000	737,112,000,000	24,724,000
	PERCENT, STATE WATER PROJECT OF TOTAL				24.3	66.7	68.1

a) Statutes of 1978, Chapter 1207, added Section 135 to the Revenue and Taxation Code. "135(a) 'Assessed value' shall mean ... 100 percent of full value for the 1981-82 fiscal year and fiscal years thereafter ..."
b) Total for Plumas County Flood Control and Water Conservation District including Last Chance Creek Water District.
c) Total for County of Kings including Dudley Ridge Water District, Empire West Side Irrigation, Hacienda Water District, most of Tulare Lake Basin Water Storage District and about 40% of Devil's Den Water District.
d) Assessed valuation not available on an agency area breakdown.
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.

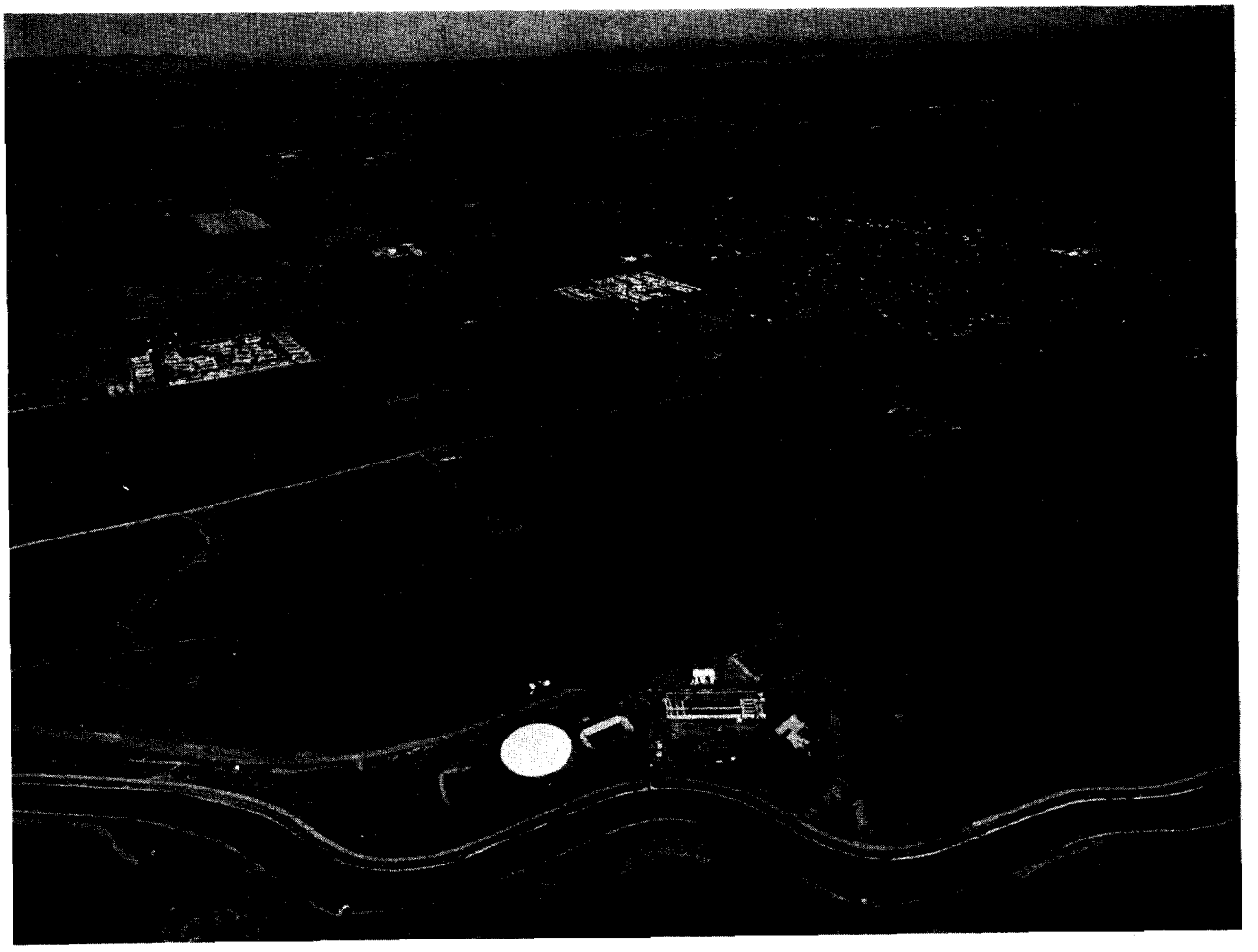
Profiles of Water Contractors

Antelope Valley-East Kern Water Agency

The Antelope Valley-East Kern Water Agency (Agency) is located in the southwestern part of the Antelope-Mojave Desert area. Approximately 45 percent of the Agency's service area is in northern Los Angeles County, 50 percent in southeastern Kern County, and 5 percent in eastern Ventura County (Figure 25). The land area of the Agency encompasses more than 2,350 square miles. The Agency is bordered on the north by the El Paso Mountains, on the northwest by the Sierra Nevada and Tehachapi mountain ranges, on the south by the San Gabriel Mountains, and on the east by the San Bernardino County boundary.

The population of the Agency's Service area increased from about 76,000 in 1970 to over 102,000 in 1980. Total urban water demand in this area was about 31,000 acre-feet in 1980.

The climate in the service area is characterized by wide termperature fluctuations, high summer temperatures, high wind velocity, low humidity, and scant rainfall. Most of the precipitation is during the winter and spring. Snow falls generally in the mountains and foothills but occasionally light snows fall on the valley floors. Summer rains are infrequent and irregular, and usually occur as cloudbursts or thunderstorms. Average annual precipitation on the valley floors range from 5 to 8 inches.



Air view of Antelope Valley, looking easterly toward the community of Quartz Hill. The California Aqueduct and the AVEK water treatment plant are in the foreground.

The Agency was established by the California Legislature in 1959, with power to acquire its water supply, construct necessary transportation and distribution works, and contract from other entities for water supplies. The Agency is governed by a seven-member board of directors. The Agency is a water wholesaler which contracted with the State to buy SWP water and sells it to five major and seven minor subcontractors, and numerous agricultural users.

The major subcontractors are:

- California City
- Los Angeles County Waterworks Districts No. 4, 24, 27, 33, 34, 35, 37 and 38
- Mojave Public Utilities District
- Palm Ranch Irrigation District
- Quartz Hill County Water District

The Agency's service area presently has two main sources of water. The primary source is natural ground water, which is supplemented with imported SWP entitlement supplies. Since the 1920s, water levels have been declining in Antelope Valley Basin due to the persistent overdraft situation. Annual decline rates have ranged from 3 feet to 20 feet, depending on annual precipitation and location. Annual recharge is estimated at 58,000 acre-feet compared to pumping in excess of 200,000 acre-feet per year. Delivery of SWP water, beginning in 1973, has reduced the annual overdraft to some degree. Starting in 1976, the Agency offered untreated SWP water directly to agricultural water users at slightly discounted prices in an effort to encourage the users to switch from ground water. The unpumped ground water would be available for future use.

The Agency began receiving SWP water in 1973. The principal use of water in the Agency is agricultural, with smaller demands for urban use. There are about 44,000 acres of irrigated agricultural land within the Agency's service area; 35,800 acres in the Antelope Valley and 8,200 acres in the Fremont Valley.

Crops receiving SWP water are located only in the Antelope Valley portion of the Agency. Estimated acreage figures for irrigated crops in the Antelope Valley are:

Crop	Acres
Alfalfa	25,300
Pasture	500
Sugar Beets	2,500
Deciduous Orchard	700
Truck Crops	1,300
Grain	5,500
TOTAL	35,800

Total estimated water demand for agriculture in 1980 was about 183,000 acre-feet. About 30 percent of this amount was provided by the SWP.

Urban water use in the Agency's service area is almost entirely residential, with small amounts of commercial use, and very little industrial use. Urban per capita water use is high, reflecting the large amounts of water used to support residential landscapes, school yards, public parks and golf courses that are exposed to the intense summer heat and strong drying winds common to the valley floor.

Desert Water Agency

The Desert Water Agency (Agency) is located in the western portion of the upper Coachella Valley. The Agency is flanked by the San Bernardino Mountains on the northwest, the San Jacinto Mountains on the west, and the Santa Rosa Mountains on the southwest. The

Agency encompasses a total of about 208,900 acres. The topography of the Agency includes part of the San Jacinto Mountains, with a maximum elevation of 10,804 feet above sea level at Mount San Jacinto. The Coachella Valley portion of the Agency is generally flat, with a constant downward slope to the south. Elevations in the Coachella Valley portion range from nearly 1,400 feet at Whitewater, to about 250 feet at Rancho Mirage. The only major stream in the area is the Whitewater River. Minor streams include Chino Canyon, Snow Creek and Falls Creek, which drain the San Jacinto Mountains and are tributary to the Whitewater River. The Agency overlies the northwest portion of the Coachella Valley ground water basin.

The climate in the Coachella Valley is characterized by long, extremely hot summers and mild winters. Average annual precipitation in the valley is 3 inches per year. Most of this precipitation occurs during thunderstorms, and average runoff and percolation on the valley floor is of little consequence to the hydrologic balance of the basin.

The Agency was established by the State Legislature through the enactment of the Desert Water Agency law in September 1961. The Agency is governed by a five-member board of directors. The primary purpose of the Agency is to plan and develop the long-range water supply for its service area.

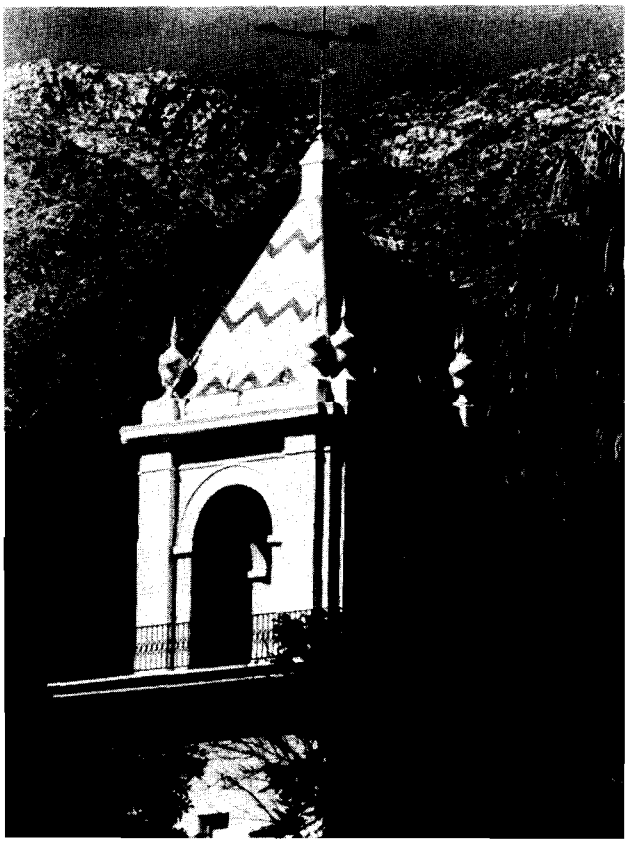
The service area includes the cities of Palm Springs, Cathedral City, and Desert Hot Springs. Total population served by the Agency has increased from about 18,600 in 1960 to about 55,200 in 1983. Primary cause for the increasing population has been development of new resort communities and the expansion of the Palm Springs area.

The service area of the Agency has three main sources of water: natural ground water, local surface water, and imported water under contract with the State Water Project. Because the cost to convey SWP water from the California Aqueduct to Coachella Valley would be high, the Agency has deferred construction of the necessary transportation facilities to a later date. In the interim, a water exchange agreement with the Metropolitan Water District has been in effect. Under the agreement, Desert's SWP entitlements are transported to the Metropolitan Water District through the California Aqueduct. In exchange, water from Metropolitan's Colorado River Aqueduct is released into the Whitewater River where it is conveyed through natural channels to replenishment spreading grounds that recharge the Coachella Valley ground water basin. This exchange agreement was executed prior to completion of the California Aqueduct into Southern California in 1972. This Colorado River water has been used to supplement natural ground water replenishment since 1973. In 1982, 21,000 acre-feet of this water was delivered to the Agency giving a total of 129,300 acre-feet delivered under the exchange program since 1973.

The Desert Water Agency has an effective urban water conservation program in operation. Since more than two-thirds of the water used in the Agency's service area is for landscape irrigation, the majority of the Agency's efforts in water conservation are directed towards reducing outdoor use. This includes working directly with large users such as golf courses and condominium developments to improve irrigation methods, and correct system defects. Other conservation measures include development of ordinances against water runoff, review of new projects to ensure water-efficient design, and a program of public relations and education.

Since the conservation program began in 1975, there has been a 20 percent re-

duction in per capita water use. This reduction is primarily attributed to the Agency's conservation program. Additional savings are expected from further development and implementation of the program.



The landmark El Mirador Tower in Palm Springs with the rugged San Jacinto Mountains in the background.

Devil's Den Water District

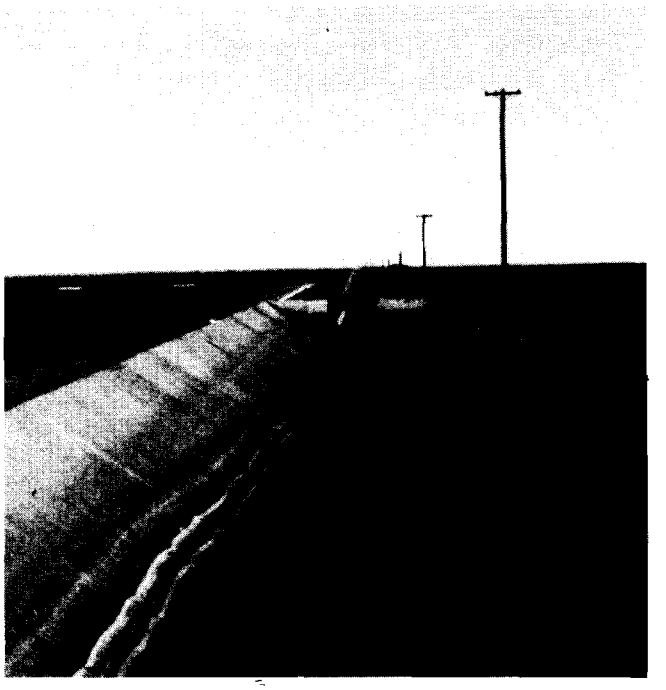
The Devil's Den Water District (District) is located on the western edge of the San Joaquin Valley in Kern and Kings counties (Figure 25). The District encompasses about 8,700 acres, of which 5,100 acres are in Kern County, and 3,600 acres are in Kings County. The irrigable land is relatively level at elevations ranging from 420 to 550 feet above sea level. There are no major streams in the District.

The summers are hot and dry, and the winters are mild. Average annual precipitation is about six inches.

The District's water distribution system consists of farm turnouts from the Coastal Branch of the California Aqueduct.

The population of the District totals about 50. The economy of the district is based almost entirely on irrigated agricuture, and no significant industrial or urban development is anticipated for the area in the future. In 1980, the crop acreages included: cotton (3,700), grain (2,400), alfalfa (100), and other (100).

The District was formed in 1962 under the California Water District Law. The primary purpose for forming the district was to negotiate and contract with the State for a water supply from the State Water Project. The District can also acquire, construct, and operate facilities to provide water and related drainage within the service area.



Concrete lined distribution channel for Devil's Den Water District. Viewed from turnout on the Coastal Branch of the California Aqueduct.

Prior to the forming of the District, irrigated agriculture within the service area relied on water from a limited and saline ground water supply. In 1958, only about 2,900 acres of land were irrigated for crop production. This was less than half the acreage under irrigation in 1982.

In 1968, the District received its initial SWP water deliveries. Because of this supply, the agricultural interests reduced its use of lower quality ground water for irrigation. There are presently 6,470 acres of irrigable land served by the District with about 80 percent of this amount being served with SWP water. SWP entitlement deliveries amount to 12,700 acre-feet per year out of a total agricultural demand of about 17,500 acre-feet per year. This demand is not expected to change significantly in future years since essentially all irrigable land in the District's service area is currently being farmed, and no drastic changes in crop patterns are anticipated.

Oak Flat Water District

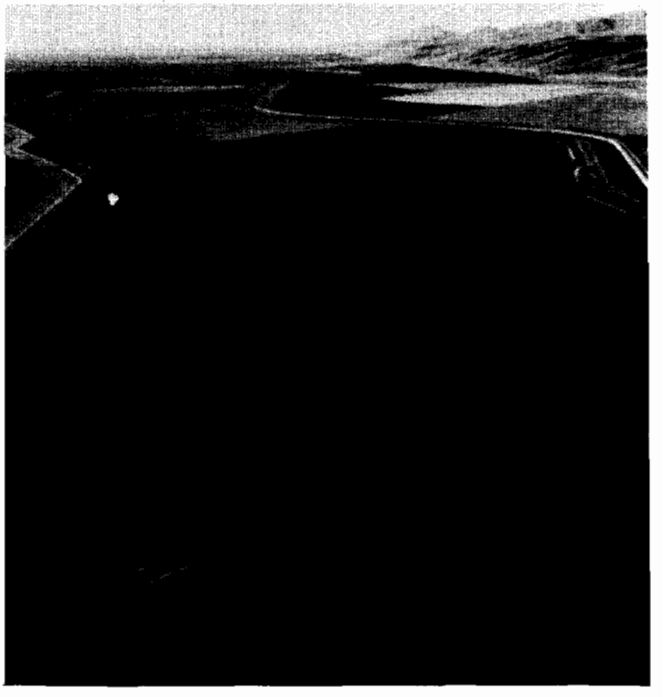
The Oak Flat Water District is located in Stanislaus County on the west edge of the San Joaquin Valley (Figure 25). The District lies south of the community of Patterson and adjacent to the California Aqueduct. The District encompasses 4,000 acres of land that gently slope to the north and northeast with elevations ranging from about 180 to 400 feet above sea level.

Summers are hot and dry, and winters are mild and semi-arid, with some frost. Annual precipitation ranges from about 3 to 15.5 inches per year. Ground or tule fogs are common during the winter months, and occasionally persist for days or weeks.

There are no major streams in the District. The minor streams in the Diablo Range to the west only occasionally carry sufficient storm runoff to reach the District.

The District owns main conveyance laterals from the California Aqueduct to the irrigated portion of the District. Distribution from the main conveyance laterals to individual fields is provided by smaller, privately-owned systems.

The District was formed in 1964 under the California Water District Law for the purpose of contracting for SWP water supplies. The District may acquire, construct, and operate works necessary to provide water and related drainage and reclamation, and also works for sewage disposal. Portions of the District may be formed into improvement districts to bear the costs of certain works benefiting only those areas. The District obtains funds through water charges and by ad valorem assessments of land. Only landowners may vote in the District elections, on the basis of one vote for each dollar of assessed valuation.



Air view, looking southerly in the vicinity of Oak Flat Water District. Delta Mendota Canal to the left, California Aqueduct and the Diablo Range at upper right.

The population of the District consists of about 50 permanent residents, and some farm workers who occupy a few farm labor camps.

Before SWP water was served to the District, only about 500 acres of land were irrigated by ground water and about 1,000 acres were dry farmed. Currently, 2,500 acres receive irrigation water from the SWP, and ground water is used only as a supplemental supply - usually during dry years.

The saline-free soils and good quality water permit a variety of crops to be grown in the District. A list of crops and acreages for 1980 are listed below. No significant changes are expected in total irrigated acreage or in the crops grown.

Crop	Acres
Fruits and Nuts	600
Field	1,600
Truck	300
Seed (Vegetable)	200
Gross Irrigated	2,700
Double Cropped	200
Net Irrigated	2,500

Plumas County Flood Control and Water Conservation District

The Plumas County Flood Control and Water Conservation District covers an area of approximately 2,600 square miles. The District includes all of Plumas County, except for the area served by the Last Chance Creek Water District. The District is primarily a mountain environment interrupted by occasional valleys. The Sierra Nevada Mountains occupy most of the District, with a transition to the Cascade Mountains in the north. Elevations range from approximately 1,000 feet in the Feather River Canyon to 8,370 feet at Mt. Ingalls in the east-central section. Major communities in the District include Quincy, Portola, Greenville, and Chester. Isolated settlements are numerous in the valleys throughout the District.

The principal streams in the District are North, Middle, and South Forks of the Feather River, with the North Fork the major tributary. The North Fork of the Feather River drains the north-central and northern portions of the District. The Middle Fork of the Feather River drains the eastern and central portions of the District, and the South Fork drains the southwest corner of the District. Numerous minor perennial streams are tributary to the three branches of the Feather River. Several major reservoirs are located in the District: Lake Almanor, Buck's Lake, Butt Valley Reservoir, and three SWP reservoirs - Lake Davis, Antelope Lake, and Frenchman Reservoir. There are, in addition, many smaller lakes and reservoirs in the District.

The climate of the District is characterized by a wide variation in temperature and precipitation. Winter precipitation is extremely heavy in the western portion of the District, amounting to as much as 90 inches per season near Buck's Lake, but is as little as 10 inches per season along the eastern boundary of the District in Sierra Valley. Much of the precipitation falls in the form of snow. The winters are quite cold, and the summers have warm days and cool nights.

The District was organized under the Plumas County Flood Control and Water Conservation Act of 1959. The District has the power to contract from other entities for water supplies and construct necessary transportation and distribution works. The District has the power to levy ad valorem taxes, within the limits of Proposition 13, on assessed valuation of property within the service area. The District has contracted with the State for imported water from the SWP, and acts only as a wholesaler of SWP supplies. The District has signed contracts with two water retailers for delivery of SWP entitlement water for urban use: City of Portola (Portola) and Grizzly Lake Resort Improvement District (Grizzly) (Figure 25). Urban water use in the

District's service area is mainly residential with some commercial and, potentially, some future industrial use. Total 1980 population in the service area was 2,085.

The Grizzly Valley Project Service Area presently has two main sources of water; local water from Willow Creek and SWP water from Lake Davis. The largest retailer, Portola, holds the water right permit which entitles it to divert Willow Creek supplies, with no provision for long-term storage.

Portola receives SWP water from the District via a conduit from Lake Davis. The SWP water is first treated along with Willow Creek water by Portola, and then delivered directly to the consumer for domestic use. Grizzly also receives SWP water via a conduit from Lake Davis. The SWP water is treated by Grizzly and then delivered directly to the consumer. Deliveries first began in 1970. In 1982 approximately 300 acre-feet was received and wholesaled by the District.

Santa Clara Valley Water District

The Santa Clara Valley Water District (District) which has the same boundaries as Santa Clara County (Figure 25), covers about 1,300 square miles, including the Santa Clara Valley from San Francisco Bay south to the Pajaro River and portions of the Diablo Range and Santa Cruz mountains. Most of the development and water use occurs in the 250-square mile valley floor. Streams in the District include Pajaro River, Guadalupe River, Coyote Creek, Llagas Creek, Uvas Creek, and Los Gatos Creek. The valley's climate is characterized by warm, dry summers and mild, wet winters. Average annual precipitation ranges from 14 inches around San Jose to 45 inches along the crest of the Santa Cruz mountains.

The District was originally established in 1951 as the Santa Clara County Flood Control and Water Conservation District by special act of the Legislature. It merged with the Santa Clara Valley Water Conservation District in 1968, and in 1974 changed its name to the Santa Clara Valley Water District. Its purposes are to reduce flood hazards, conserve local water resources, and provide an adequate water supply for all of Santa Clara County. The District is governed by a board of directors consisting of five persons elected from supervisorial districts and two appointed at large by the county board of supervisors.

The service areas that currently receive or have future plans to receive SWP water directly or indirectly are in the northern part of the District overlying the Santa Clara Valley Ground Water Subbasin. These include the California Water Service Company serving the City of Los Altos (Cal Water), San Jose Water Works, Great Oaks Water Company (Great Oaks), Purissima Hills County Water District (Purissima Hills), and the cities of San Jose, Santa Clara, Sunnyvale, Mountain View, Milpitas, and Cupertino, and agricultural developments scattered throughout these areas. The City of Palo Alto and Moffett Field are also in this area, but they plan to rely solely on San Francisco Hetch Hetchy supplies.

SWP deliveries started in 1965. The District treats part of the SWP water for direct delivery to local water retailers. The remainder is used primarily to recharge the Santa Clara Valley Ground Water Subbasin. A small portion of untreated SWP water is delivered to individual agricultural users and park lands. The District received about 88,600 acre-feet of SWP water in 1982.

The area within the District has undergone rapid growth with water use changing from primarily agricultural to urban and industrial uses. The population of the District has increased from

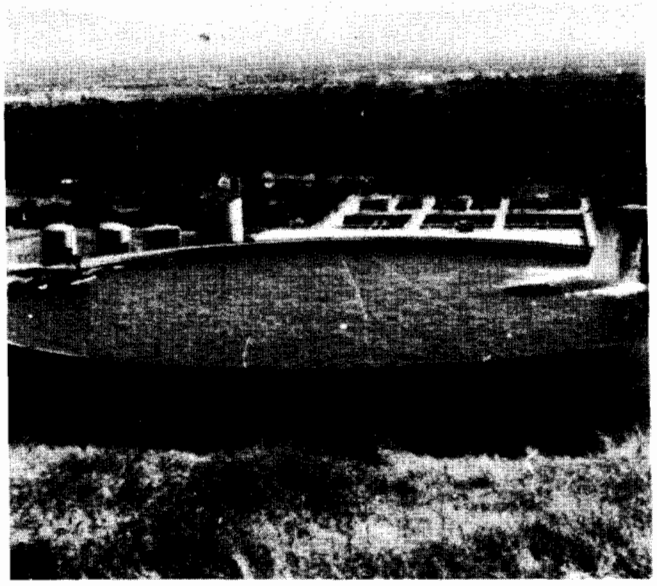
605,000 in 1960 to about 1,300,000 in 1980. The assessed valuation has grown from $1.0 billion in 1960 to about $7.8 billion in 1980. Much of this growth has been in the burgeoning electronic industry of "Silicon Valley".

Currently, about 9,000 acres of irrigated agriculture in the District service area receive SWP water. These agricultural lands are located in the northern portion of the District overlying the Santa Clara Ground Water Subbasin. In the southern portion of the District, an additional 28,000 acres of irrigated land receive water from local supplies. Orchards and truck crops are still the predominant crops in the Santa Clara Valley Subbasin portion of the District, but many of the growers now operate on scattered parcels of 10 to 20 acres. The Department's 1980 crop acreage estimates for this region are:

Crop	Acres
Vineyard	600
Orchard	3,400
Truck (including flowers)	3,400
Pasture	200
Grain	1,200
TOTAL	8,800

The continuing heavy demand for urban expansion onto agricultural land is expected to reduce irrigated agriculture to about 4,000 acres by the year 2010 according to Department estimates. The District estimates even greater reductions.

The service area of the District currently has four main sources of water: natural ground water, captured local surface flows, SWP water imported via the South Bay Aqueduct, and imported water from San Francisco's Hetch Hetchy Aqueduct. Future imports are planned from the federal San Felipe Project. The District currently has facilities for utilizing local surface flows and imported SWP supplies, and additional facilities are planned for the San Felipe supplies. The District also has a strong water conservation program which it began in 1975. The District's recent conservation activities include a district-wide in-school education program, distribution of conservation literature, a public speakers' bureau, and a recent district-wide kit distribution program carried out by the district in conjunction with the Department and the cities of San Jose and Santa Clara.



View of the South Bay Aqueduct terminal reservoir and Santa Clara Valley Water District water treatment plant in East San Jose.

APPENDIX B

DATA AND COMPUTATIONS USED IN

DETERMINING WATER CHARGES FOR 1984

APPENDIX B

DATA AND COMPUTATIONS USED
IN DETERMINING WATER CHARGES FOR 1984

TABLE OF CONTENTS

	Page
Types of Water Charges	174
Composition of Water Charges	175
Bases for Allocating Reimbursable Costs Among Contractors	178
Proportionate Maximum Use of Facilities	179
Proportionate Annual Use of Facilities	179
Special Treatment of Certain Plant Costs	180
Water Conveyance	181
Bases for Reimbursable Costs	183
Capital Costs	183
Costs of Delivery Structures	183
Costs of Requested Excess Capacity	183
Annual Operating Costs	184
Minimum Operating Costs	184
Costs to be Returned to the State Through Payments Under the Transportation Charge and the Devil Canyon-Castaic Contract	185
Costs to be Returned Through Payments Under the Delta Water Charge and the Oroville Power Sale Contract	185
Project Water Charges	185
Transportation Charge	185
Allocated Capital Costs	185
Capital Cost Components	186
Minimum OMP&R Components	187
Variable OMP&R Components	189
Total Transportation Charges	189
Delta Water Rates per Acre-foot of Entitlement	190
Delta Water Charges	190
Total Delta Water Charges	190
Total Transportation and Delta Water Charges	190
Equivalent Total Water Charges	190
Equivalent Water Costs, by Reach	190
Surplus Water Service	191
Actual Deliveries	191
Surplus Water Costs	191
Surplus Water Charges	191

FIGURES

B-1	Relationships of Data Used to Substantiate Statements of Charges	176
B-2	Criteria for Amortization Schedules	186
B-3	Kilowatt-Hours Per Acre-Foot Required to Pump SWP Deliveries Through Project Pumping Plants	188
B-4	Repayment Reaches and Descriptions	193

TABLE OF CONTENTS (CONTINUED)

TABLES

		Page
B-1	Factors for Distributing Reach Capital Costs Among Contractors	194
B-2	Factors for Distributing Reach Minimum OMP&R Costs Among Contractors	196
		196
B-3	Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant	198
B-4	Annual Entitlements to Project Water	200
B-5A	Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor	204
B-5B	Annual Water Quantities Delivered to Each Contractor	212
B-6	Annual Water Quantities Conveyed Thru Each Pumping and Power Recovery Plant of Project Transportation Facilities	216
B-7	Reconciliation of Capital Costs Allocated to Water Supply and Power Generation	224
B-8	Capital Costs of Requested Delivery Structures	225
B-9	Capital Costs of Requested Excess Peaking Capacity	226
B-10	Capital Costs of Each Aqueduct Reach to be Reimbursed thru Capital Cost Component of Transportation Charge	228
B-11	Minimum OMP&R Costs of Each Aqueduct Reach to be Reimbursed Thru Minimum OMP&R Component of Transportation Charge	236
B-12	Variable OMP&R Costs to be Reimbursed Thru Variable OMP&R Component of Transportation Charge	244
B-13	Capital and Operating Costs of Project Conservation Facilities to be Reimbursed Thru Delta Water Charge	248
B-14	Capital Costs of Transportation Facilities Allocated to Each Contractor	250
B-15	Capital Cost Component of Transportation Charge for Each Contractor	254
B-16A	Minimum OMP&R Component of Transportation Charge for Each Contractor	258
B-16B	Off-Aqueduct Component of Transportation Charge for Each Contractor	262
B-17	Unit Variable OMP&R Component of Transportation Charge	266
B-18	Variable OMP&R Component of Transportation Charge For Each Contractor	270
B-19	Total Transportation Charge For Each Contractor	274
B-20A	Calculation of Delta Water Rates	278
B-20B	Delta Water Rates by Facility	279
B-21	Total Delta Water Charge For Each Contractor	280
B-22	Total Transportation and Delta Water Charge for Each Contractor	284
B-23	Equivalent Unit Charge for Water Supply for Each Contractor	288
B-24	Equivalent Unit Transportation Costs of Water Delivered From or Thru Each Aqueduct Reach	289
B-25	Annual Surplus Water Deliveries	290
B-26	Power Costs for Pumping Surplus Water	291
B-27	Power, Replacement and Administrative Charge for Surplus Water Deliveries	292

APPENDIX B

DATA AND COMPUTATIONS USED IN DETERMINING WATER CHARGES

Statements of charges are furnished each year by the State to 30 long-term State Water Project water supply contractors. These statements, which are described in Article 29(e) of the "Standard Provisions for Water Supply Contract", provide 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."

To comply with Article 29(e), the Department, each year, performs a comprehensive review and redetermination of all water supply and financial aspects of the State Water Project for the entire project repayment period. This annual redetermination is provided for in Water Contract 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.

Appendix B documents the redetermination of water charges to be paid by contractors during calendar year 1984 and is based on established data, both known and projected, on the State Water Project as of July 1, 1983. The computational procedures and interrelationships between tabulations in this appendix are outlined in Figure B-1. All B-tables shown on Figure B-1 are included at the end of this report.

This report also documents payments by contractors, under amended Article 21 of the Standard Provisions for surplus water deliveries from the State Water Project.

Types of Water Charges

Costs of State Water Project facilities which are necessary either for the conservation and development of a project water supply, or for the conveyance of such supply to Project service areas, are included in charges to water contractors. The Standard Provisions classify these facilities as "Project conservation facilities" and "Project transportation facilities."

Following is a list of existing Project facilities in each classification.

Project Conservation Facilities

- Frenchman Dam and Lake
- Grizzly Valley Dam and Lake Davis
- Antelope Dam and Lake
- Oroville Dam and Lake
- 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 share of the California Aqueduct 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 remainder of the California Aqueduct (the remaining share of the facilities from the Delta through O'Neill Forebay and all facilities south, including Project dams and lakes in Southern California)
- All Off-Aqueduct Power Facilities:
  1. Reid Gardner Unit No. 4
  2. Bottle Rock Powerplant
  3. South Geysers Powerplant
  4. Lake Isabella Powerplant

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 rate applied to each acre-foot of Project water the contractors are entitled to receive under their contracts. The unit charge, if applied to each acre-foot of all such entitlements for the remainder of the Project repayment period, will repay all outstanding reimbursable costs of the Project conservation facilities with appropriate interest, by the end of the period.

The Transportation Charge is a charge for use of the Project facilities to transport and deliver water 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 capital costs and operating costs of State Water Project transportation facilities. Reimbursable capital costs are allocated to water contractors. Each contractor's share of these reimbursable capital costs is amortized for repayment to the State and certain variations are allowed in the amortization methods. The contractors' 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 consist of the following components:

- Conservation and Transportation capital cost components, which will return to the State all reimbursable capital costs.
- Conservation and Transportation minimum operation, maintenance, power, and replacement (OMP&R) components, which will return to the State all reimbursable operating costs that do not depend on water quantities actually delivered to the contractors.
- A Transportation variable OMP&R component, which will return to the State all reimbursable operating costs that depend on, and vary with, water quantities actually delivered to the contractors.

Figure B-1: RELATIONSHIPS OF DATA USED TO SUBSTANTIATE STATEMENTS OF 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 about July 1 of the preceding year.

- The minimum OMP&R component of the Transportation Charge and the operating component of the Delta Water Charge are paid in 12 equal installments, due the first of each month, on the basis of statements furnished by the State about 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 about July 1 of the preceding year. This unit charge is 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 that exceed actual construction costs of such structures.

2. Payments for State construction of requested excess capacity in project transportation facilities that exceed actual construction costs of such excess capacity.

3. Payments under the Devil Canyon-Castaic contract.

Article 28 of the Standard Provisions provides that Transportation Charges be redetermined each year. Transportation Charges for prior years through 1982, do not equal those amounts actually paid by contractors. All differences between actual payments and amounts computed in this redetermination are accumulated, with interest credits or debits, and through a "one-shot" adjustment are deducted from or added to the redetermined amounts of the Transportation Charge to be paid by respective contractors during 1984. An exception to this procedure is adjustment to the capital cost component associated with agricultural use by Kern County Water Agency, Devil's Den Water District, Dudley Ridge Water District, Empire West Side Irrigation District, Oak Flat Water District and Tulare Lake Basin Water Storage District. Differences between actual payments and amounts computed in this redetermination are amortized for these water contractors and paid during the remaining years of their contract repayment period. All 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 amortized during the remainder of the Project repayment period. This report includes a redetermination of the Delta Water Rate for 1984.

These redeterminations exclude charges associated with Project water service other than the Delta Water Charge and the Transportation Charge. These excluded charges (and the manner in which such excluded 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.

- 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 in this Appendix 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 the annual statements.

- Payments for sale and service of surplus project water to entities other than contractors pursuant to Article 21 of the Standard Provisions. These payments are generally based on the unit rates shown in Table B-24. Net revenues resulting from "noncontractor" service are applied as described on page 24, Bulletin 132-71.

- 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 participating contractors.

Bases for Allocating Reimbursable Costs Among Contractors

This section discusses the Department's procedures for allocating reimbursable costs of Project transportation facilities to water contractors for the purpose of determining water contractor Transportation Charges. These costs do not include annual costs of Off-Aqueduct power facilities. Allocation of Off-Aqueduct costs is discussed in the "Project Water Charges" section.

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, following the text in this Appendix, shows repayment reaches in which are the basis for allocating reimbursable costs of Project transportation facilities 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 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 reaches of the California Aqueduct, from the Delta to the Coastal Branch, and for reaches of the South Bay Aqueduct and for the Coastal Branch.

Revised ratios for the first reach of the California Aqueduct and for the South Bay Aqueduct 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).

This Appendix shows revised ratios for reaches in the Coastal Branch and in the California Aqueduct from the Delta to the Coastal Branch. These revisions reflect a contract amendment with Santa Barbara County Flood Control and Water Conservation District. The amendment reduced Santa Barbara County's maximum annual entitlement from 57,700 acre-feet to 45,486 acre-feet.

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 omitted from B-1 (since the capital costs for the excess capacity 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 incurred in an amount that depends upon and varies with the amount of Project water delivered to the contractor. (The minimum OMP&R component returns those operating costs incurred in an amount that 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 water 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 that 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 delivered to on-shore recreation developments,

b. Water stored in the initial fill of aqueduct reaches, and

c. Water lost through evaporation and seepage from aqueduct reaches, 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 water 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 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 unit costs are taken to equal the variable OMP&R unit 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 procedures require an initial allocation of certain plant costs among capital cost, minimum OMP&R, and variable OMP&R components. This is based on annual water quantities conveyed through respective plants for various aqueduct functions. Plant costs allocated 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 were based on a schedule determined in 1970. Sinking fund payments for 1980 through 1982 plus amounts projected from 1983 through 2035 are based on a revised replacement schedule. This schedule was updated for the 1983 water charges. The Department plans to review and periodically update this schedule in the future at five-year intervals. Replacement costs in the current 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" (see Table B-6 discussion below).

Beginning May 1, 1973, the rate structure for surplus water service was significantly changed. Since that time capacity and energy costs for pumping surplus water have been allocated di-

rectly to those water contractors receiving that water service.

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 water quantities delivered from each aqueduct reach to each contractor. Quantities for 1962 through 1982 are actual deliveries. Projected deliveries for 1983 through 2035 are based on annual requests for future water deliveries received from each water contractor.

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 deliveries to annual entitlements, see Bulletin 132-83, Chapter VI.)

Table B-5B presents a summary of annual water quantities requested by each contractor by service area as shown in Table B-5A.

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").
- Delivered to 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 after initial filling of the reservoirs ("Reservoir Storage Changes"). Except at the 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 1982 (as plus amounts), and water withdrawn from storage and delivered to contractors, between 1979 and 1982 (as negative amounts).

In addition, Table B-6 summarizes the following under the heading "Conservation Water":

- Net annual water amounts stored and projected to be stored in San Luis Reservoir (a project conservation facility with costs of this facility reimbursed through the Delta Water Charge).
- Water lost and projected to be lost through evaporation and seepage from San Luis Reservoir and from the water conservation portion of the Aqueduct.

San Luis Reservoir is operated to conserve and store water for future delivery to downstream contractors. To account for costs associated with reservoir storage, the State has implemented the following allocation and repayment procedure.

Under the State's procedures, power and replacement costs of the Banks Delta Pumping Plant (a joint transportation-conservation facility), which are allocated 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 water releases from San Luis Reservoir result in a decrease in the year-end total water stored in the reservoir, (when compared to the year-end total of the prior year) a portion of the minimum OMP&R costs of the reservoir is transferred to the transportation variable OMP&R costs of the Banks Delta Pumping Plant. This transfer is equal to the variable OMP&R cost per acre-foot of delivery through the Banks Delta Pumping Plant for that year, multiplied by the acre-feet of deliveries derived from San Luis Reservoir storage for that year.

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
Cottonwood Creek Project	100.0	100.0	0	0
Transportation Facilities				
Grizzly Valley Pipeline	100.0	100.0	0	0
North Bay Aqueduct	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
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

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.

Bases for Reimbursable Costs

The capital and OMP&R costs of all Project facilities are allocated among the various Project purposes. Allocation percentages applicable to the State's costs for each Project facility are shown in the above tabulation. These percentages are subject to future revision.

The redeterminations in this report are 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 transportation facility as estimated for current redetermination of water charges.

Costs of Delivery Structures. Costs incurred by the State for 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.

Cost of Requested Excess Capacity. Amendments to contracts with MWD, San Gabriel Valley Municipal Water District, and Antelope Valley-East Kern Water Agency provide for excess capacity in the Project transportation facilities.

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	23	1	1	8	10	3
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	128	1	5	23	72	27

a) Will be completed at a later date. Temporary facilities for delivery of water have been installed at several of the stubs.

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 were applied to the respective contractor's installment of the capital cost component of the Transportation Charge in 1981.

Under Amendment 2 of MWD's contract, 809 cfs of excess capacity originally was constructed in reaches of the West Branch at MWD's request. Under Amendment 7, this capacity was reclassified as basic capacity of the Project transportation facilities. MWD paid $16.3 million as a prepayment of the capital cost component of the Transportation Charge in lieu of advancing of funds for the originally requested capacity.

Amendment 5 to MWD's contract requires that additional costs for modifications to the Santa Ana Valley Pipeline (required for enlargement of Lake Perris) are to be allocated to MWD and returned to the State through payments of the Transportation Charge. The additional costs to be repaid through MWD's capital cost component for the aqueduct reach from Devil Canyon Powerplant to Barton Road total about $6.7 million as shown on page 98, Bulletin 132-72.

Annual Operating Costs

Annual operating costs allocable to water supply and power generation are 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 energy 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 discusses 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. These costs are classified as minimum OMP&R costs:

- All direct labor charges for field operations and maintenance personnel, including associated indirect costs.
- A distributed share of general and direct operating costs which cannot be identified solely with one facility or aqueduct reach.
- Escalation of projected general and direct operating costs at 6 percent per year through 1985.
- Electric power transmission and station service costs.
- All costs for equipment, materials, and supplies and for replacement of electronic control systems.
- 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 in (b) above, for deliveries drawn from reservoir storage.

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 actual and projected costs to be reimbursed through payments of (1) the minimum OMP&R component under the Transportation Charge, and (2) allocated operating costs under the Devil Canyon-Castaic Contract are shown 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 1978. Also included are representative costs of small hydroelectric powerplants to be recovered through the Delta Water Charge.

Ground water storage costs shown in columns (9) and (10) are projections of those costs 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. These amounts

are determined by applying proportionate-use ratios set forth in Table B-1 to the costs shown in Table B-10. The resulting allocated costs are set forth in Table C of the respective water supply contracts.

Prepayments of the capital cost component, required under MWD's Amendment 7, are included as negative capital costs in Table B-14 and in Table C of MWD's Statement of Charges for 1984. Empire West Side Irrigation District and Devil's Den Water Agency also prepaid capital costs. See footnotes (a) and (b) to 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 Project water service below the Devil Canyon and Castaic Facilities include the capital costs reimbursable under the Devil Canyon-Castaic Contract.

Capital Cost Components. Criteria for the types of amortization schedules applicable to the allocated capital costs for the respective contractors are summarized in Figure B-2.

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								●	
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.

Table B-15 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 water supply 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-15. Both Table B-15 and Table D of the six Devil Canyon-Castaic contracts include the debt service payments due under the Devil Canyon-Castaic Contract.

Minimum OMP&R Components. Table B-16A 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. The total amounts shown in Table B-16A are determined by applying the proportionate-use ratios shown for each reach, and for each contractor in Table B-2, to the reach costs presented in Table B-11.

Both Table B-16A and Table E for the six contractors down-aqueduct from Devil Canyon and Castaic powerplants include the portion of operating costs payable under the Devil Canyon-Castaic Contract.

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 for any additional operating costs caused by early installation of the units. 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	1981	$ 71,419
1970	46,302	1982	79,529
1971	139,682	1983	102,691
1972	109,782	1984	98,019
1973	71,716	1985	99,695
1974	98,851	1986	102,092
1975	125,003	1987	102,480
1976	137,531	1988	102,625
1977	120,168	1989	102,732
1978	152,760	1990	102,850
1979	118,799	1991	102,962
1980	144,511	TOTAL	$ 2,378,709

Table B-16B projects the annual costs of Off-Aqueduct Power Facilities allocated to each water contractor. These costs include bond service, deposits for reserves, operation and maintenance costs, fuel costs and taxes and insurance. The bond holders require that sufficient revenues be collected each year to cover all of these costs plus 25 percent of the annual bond service costs. Any revenues collected and not needed for bond service or bond reserves at the end of the year will be refunded to the contractors in the following year. The following table shows the total annual Off-Aqueduct costs and an amount equal to 25 percent of the bond service costs for each year.

YEAR	TOTAL ANNUAL COST	25% OF BOND SERVICE
1983	$26,952,400	$3,721,000
1984	$74,151,300	$8,947,000
1985	$106,071,000	$11,987,000
1986	$126,686,000	$14,593,000
1987	$142,906,000	$15,253,000
1988	$145,822,000	$15,749,000
1989	$146,914,000	$15,775,250
1990	$146,018,000	$15,777,250
1991	$146,896,000	$15,771,250
1992	$145,976,000	$15,769,250
1993	$146,875,000	$15,767,250
1994	$145,950,000	$15,764,250
1995	$146,840,000	$15,760,250
1996	$145,916,000	$15,757,250
1997	$146,812,000	$15,755,250
1998	$145,130,000	$15,749,250
1999	$144,373,000	$15,745,250
2000	$141,824,000	$15,743,250
2001	$141,070,000	$15,739,250
2002	$138,529,000	$15,738,250
2003	$137,789,000	$15,735,250
2004	$135,259,000	$15,738,250
2005	$134,599,000	$15,753,250
2006	$132,012,000	$15,744,250
2007	$131,314,000	$15,749,250
2008	$128,738,000	$15,742,250
2009	$127,974,000	$15,736,250
2010	$125,408,000	$15,731,250
2011	$124,660,000	$15,726,250
2012	$122,464,000	$15,796,250
2013	$74,494,000	$6,446,250
2014	$60,279,500	$6,464,250
2015	$31,192,600	$3,449,250
2016	$25,861,000	$2,473,250
2017	$3,018,250	$586,250
2018	$3,018,250	$586,250
2019	$3,018,250	$586,250
2020	$3,018,250	$586,250
2021	$3,018,250	$586,250
2022	$3,018,250	$586,250

The annual costs of Off-Aqueduct Power Facilities are allocated among contractors in the same proportion as the electrical energy (kilowatt hours) required to pump entitlement water for the year. The initial allocation for the Statement of Charges will be based on estimates of energy to pump requested entitlement water deliveries. An interim adjustment in the allocation of power costs may be made in May of each year based on April revisions in water delivery schedules for annual entitlement. A further adjustment will be made the following year based on actual entitlement water deliveries. If no entitlement water is delivered through a pumping plant, the adjustment will not be made for that year at that plant.

The kilowatt hours required to pump each contractor's entitlement water are calculated by multiplying the delivery amount in acre-feet by the cumulative kWh/AF factor for the pumping plants upstream from the delivery turnout.

Following is a table showing kilowatt hours per acre-foot required to pump water through SWP pumping plants.

FIGURE B-3

KILOWATT-HOURS PER ACRE-FOOT REQUIRED TO PUMP SWP DELIVERIES THROUGH PROJECT PUMPING PLANTS
(includes transmission losses)

Pumping Plant	Plant Requirement	Cumulative Requirement from Delta
Cache Slough	276	276
Cordelia	(308)* 543	760
South Bay and Del Valle	869	2,258
H. O. Banks	296	296
Delta	138	434
Buena Vista	242	676
Wheeler Ridge	295	971
Wind Gap	639	1,610
A. D. Edmonston	2,246	3,856
Pearblossom	703	4,434
Oso	281	4,137
Las Perillas	77	511
Badger Hill	200	711

* *Interim facility.*

Variable OMP&R Component. 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 to the contractor downstream of the reach.

Table B-17 presents a summary of actual and projected total variable OMP&R costs for each acre-foot of water conveyed 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-3 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
	Tulare Lake Basin W.S.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 water supply 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-15, B-16A, B-16B and B-18.) These estimated payments, subsequently adjusted for prior overpayments or underpayments, are set forth in Table G of the respective water supply contracts. Both Table B-19 and Table G for six contractors down-aqueduct from Devil Canyon and Castaic powerplants 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 1984 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.

One contract has not yet been amended (Solano Co. FC&WCD). 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 on rates determined under original provisions of the water supply contract.

Ground water storage costs shown in columns (9) and (10) of Table B-13 are projections of those costs to be determined as proper charges to conservation under the water supply contracts.

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 by application of the total rate per acre-foot, as shown in Table B-20A, to 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 repayment of annual costs of off-aqueduct power facilities).

Table B-22 summarizes for each contractor the total annual Transportation Charge shown in Table B-19, and Total Delta Water Charges in B-21.

Equivalent Total Water Charges

Table B-23 presents the Transportation and Delta Water Charges in terms of the equivalent unit charge for each acre-foot of Project entitlement water now estimated to be delivered 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 equivalent unit Delta Water Charges are greater than those in Table B-20A because current estimates of future entitlement water service are appreciably less than the amounts shown in Table A for most contractors.

Equivalent Water Costs by Reach

Table 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 "extra service" (such as for delivery of entitlements down-aqueduct from a contractor's turnout) and, (b) together with the Delta Water Charge per acre-foot, for surplus water service to entities other than the thirty long-term water supply contractors. It should be noted that the cumu-

lative 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 rate of water demand buildup and cost allocation factors of the individual contractors, whereas the unit costs of Table B-24 meld the effect of the respective buildups and allocation criteria of all contractors whose entitlements are conveyed through a given reach.

Surplus Water Service

Actual Deliveries. Surplus water has been delivered from project supplies during each of the years 1968 through 1982, except for 1977, when none was available because of the severity of the drought.

Table B-25 shows the quantities of surplus water delivered to long-term contractors during the period of May 1, 1973 through December 31, 1982.

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.

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.

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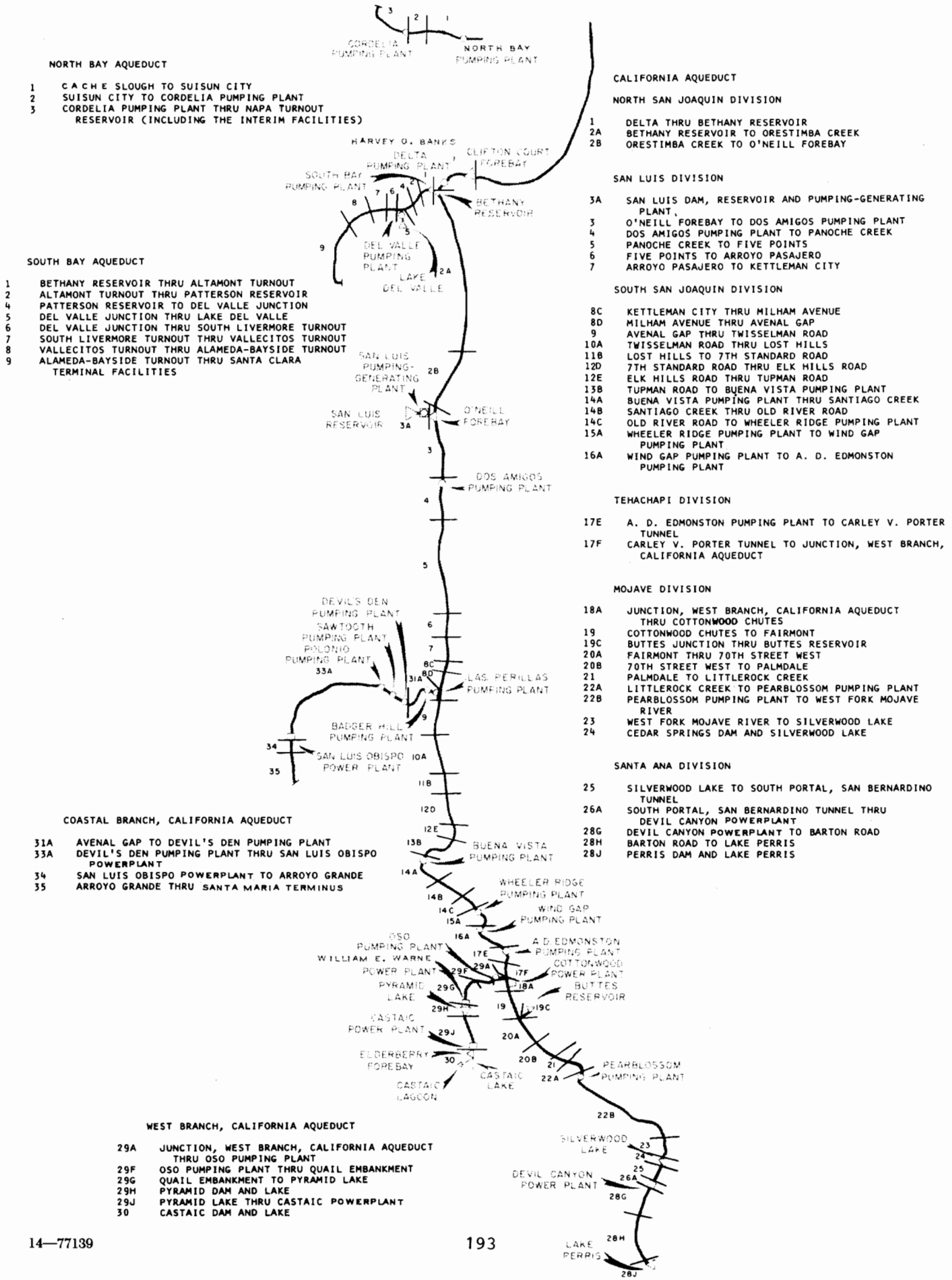
Figure B-4: REPAYMENT REACHES AND DESCRIPTIONS

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	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			.22599612	.20663022	.49237698	.07499668	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663060	.49237783	.07499500	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504794	.21450018	.51113249	.07931939	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	.00872977	.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 County Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency
California Aqueduct								
1	Delta Thru Bethany Reservoir	.00533047	.00983404	.02939503	.00890866	.00528393	.00133628	.00871425
2A	Bethany Reservoir to Orestimba Creek	.00557252	.01028060	.03072975	.00931319	.00552151	.00139638	.00910607
2B	Orestimba Creek to O'Neill Forebay	.00557864	.01029191	.03076360	.00932344	.00552915	.00139831	.00911867
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00557758	.01028995	.03075777	.00932168	.00552856	.00139816	.00911771
4	Dos Amigos Pumping Plant to Panoche Creek	.00557646	.01028790	.03075165	.00931982	.00552794	.00139801	.00911670
5	Panoche Creek to Five Points	.00557506	.01028534	.03074401	.00931751	.00552717	.00139781	.00911543
6	Five Points to Arroyo Pasajero	.00557297	.01028147	.03073244	.00931400	.00552602	.00139750	.00911351
7	Arroyo Pasajero to Kettleman City	.00557229	.01028022	.03072873	.00931287	.00552565	.00139740	.00911289
8C	Kettleman City thru Milham Avenue	.00557143	.01027864	.03072405	.00931145	.00552517	.00139729	.00911211
8D	Milham Avenue thru Avenal Gap	.00568653	.01049097	.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	.01228043	.00731580	.00185010	.01206514
13B	Tupman Road to Buena Vista Pumping Plant			.04397523	.01332721	.00794772	.00200992	.01310729
14A	Buena Vista Pumping Plant thru Santiago Creek			.04618687	.01399742	.00835456	.00211281	.01377821
14B	Santiago Creek thru Old River Road			.04702647	.01425185	.00851020	.00215219	.01403490
14C	Old River Road to Wheeler Ridge Pumping Plant			.04846556	.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			.05113509	.01549688	.00927017	.00234438	.01528821
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	.00606795	.03957043
19	Cottonwood Chutes to Fairmont			.13237766		.02399451	.00606811	.03957141
19C	Buttes Junction thru Buttes Reservoir			1.00000000				
20A	Fairmont thru 70th Street West			.06847930		.02576425	.00651573	.04249001
20B	70th Street West to Palmdale			.02276024		.02702917	.00683555	.04457607
21	Palmdale to Littlerock Creek			.02318952		.02754717	.00696651	.04543034
22A	Littlerock Creek to Pearblossom Pumping Plant			.01181870		.02794143	.00706621	.04608044
22B	Pearblossom Pumping Plant to West Fork Mojave River					.02827552	.00715074	.04663153
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818122	.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	.10560302	.19482503					
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.35150790	.64849210					
34	San Luis Obispo Powerplant to Arroyo Grande	.24688802	.75311198					
35	Arroyo Grande thru Santa Maria Terminal	.18022524	.81977476					

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	Future Contractor San Joaquin	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	.00254710	.02742073	.30633442	.00090702	.00167139	.03505306
2A	.00394038	.01781205	.00092491	.00266276	.02864588	.31948963	.00094755	.00174305	.03655686
2B	.00395099	.01786013	.00092740	.00266569	.02869070	.32034362	.00094904		.03665560
3	.00395208	.01786513	.00092766	.00266517	.02868917	.32043064	.00094899		.03666585
4	.00395323	.01787039	.00092794	.00266463	.02868756	.32052214	.00094893		.03667664
5	.00395466	.01787694	.00092828	.00266396	.02868556	.32063639	.00094886		.03669011
6	.00395684	.01788685	.00092879	.00266296	.02868253	.32080926	.00094875		.03671048
7	.00395753	.01789003	.00092896	.00266264	.02868156	.32086471	.00094872		.03671701
8C	.00395842	.01789405	.00092918	.00266223	.02868032	.32093468	.00094867		.03672526
8D	.00404591	.01828966		.00271722	.02928492	.32802221			.01821042
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			.05046239		.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	.00650449	.00398446	.43940271	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932579	.00448830	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985088	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472605	.00680580	.00416893	.45976950	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968394	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957709	.00449037	1.00000000
6	.00051427	.01151416	.00385978	.02471455	.00680178	.00416698	.45941542	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936358	.00448816	1.00000000
8C	.00051414	.01151103	.00385874	.02471073	.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	.00438660	.02812958	.00773752	.00474279	.52223261	.00510129	1.00000000
11B	.00064401	.01442004	.00483371	.03104405	.00853455	.00523416	.57558975	.00562119	1.00000000
12D	.00067713	.01516215	.00508241	.03266922	.00897859	.00550818	.60527969	.00591035	1.00000000
12E	.00067804	.01518261	.00508926	.03271816	.00899156	.00551643	.60610827	.00591831	1.00000000
13B	.00073586	.01647710	.00552311	.03554404	.00976456	.00599288	.65787670	.00642277	1.00000000
14A	.00077287	.01730602	.00580090	.03736329	.01026124	.00629961	.69105032	.00674576	1.00000000
14B	.00078692	.01762073	.00590636	.03805925	.01045073	.00641694	.70365858	.00686838	1.00000000
14C	.00081102	.01816015	.00608712	.03924904	.01077498	.00661755	.72526113	.00707853	1.00000000
15A	.00082461	.01846415	.00618901	.03992156	.01095807	.00673092	.73744044	.00719696	1.00000000
16A	.00085571	.01916080	.00642247	.04145755	.01137675	.00698987	.76533786	.00746838	1.00000000
17E	.00089617	.02006742	.00672629	.04346097	.01192239	.00732766	.80165539	.00782162	1.00000000
17F	.00089809	.02011032	.00674067	.04355439	.01194796	.00734341	.80337045	.00783834	1.00000000
18A	.00221525	.04960424	.01662681	.10730448	.02944860	.01809191	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730707	.02944876	.01809229	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784830	.11522152	.03161799	.01942666	.61700971		1.00000000
20B	.00249470	.05586075	.01872390	.12087843	.03316986	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319480	.03380324	.02077093	.65963498		1.00000000
22A		.05773081		.12495766	.03428605	.02106816	.66905054		1.00000000
22B		.05842135		.12645207	.03469614	.02132008	.67705257		1.00000000
23				.14467451	.03969010	.02439237	.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

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			.22599612	.20663022	.49237698	.07499668	1.00000000
2	Altamont Turnout thru Patterson Reservoir			.22599657	.20663060	.49237783	.07499500	1.00000000
4	Patterson Reservoir to Del Valle Junction			.19504794	.21450018	.51113249	.07931939	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	.00872977	.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 County Water District	Crestline Lake Arrowhead Water Agency	Desert Water Agency
California Aqueduct								
1	Delta Thru Bethany Reservoir	.00533047	.00983404	.02939503	.00890866	.00528393	.00133628	.00871425
2A	Bethany Reservoir to Orestimba Creek	.00557252	.01028060	.03072975	.00931319	.00552151	.00139638	.00910607
2B	Orestimba Creek to O'Neill Forebay	.00557864	.01029191	.03076360	.00932344	.00552915	.00139831	.00911867
3	O'Neill Forebay to Dos Amigos Pumping Plant	.00557758	.01028995	.03075777	.00932168	.00552856	.00139816	.00911771
4	Dos Amigos Pumping Plant to Panoche Creek	.00557646	.01028790	.03075165	.00931982	.00552794	.00139801	.00911670
5	Panoche Creek to Five Points	.00557506	.01028534	.03074401	.00931751	.00552717	.00139781	.00911543
6	Five Points to Arroyo Pasajero	.00557297	.01028147	.03073244	.00931400	.00552602	.00139750	.00911351
7	Arroyo Pasajero to Kettleman City	.00557229	.01028022	.03072873	.00931287	.00552565	.00139740	.00911289
8C	Kettleman City thru Milham Avenue	.00551634	.01017702	.03042012	.00921937	.00546665	.00138249	.00901561
8D	Milham Avenue thru Avenal Gap	.00562864	.01038416	.03103938	.00940703	.00557923	.00141095	.00920128
9	Avenal Gap thru Twisselman Road			.03398204	.01029883	.00611262	.00154585	.01008095
10A	Twisselman Road thru Lost Hills			.03451663	.01046082	.00621065	.00157063	.01024262
11B	Lost Hills to 7th Standard Road			.03796305	.01150525	.00684053	.00172992	.01128139
12D	7th Standard Road thru Elk Hills Road			.03987187	.01208371	.00719023	.00181834	.01185809
12E	Elk Hills Road thru Tupman Road			.03992308	.01209924	.00720053	.00182095	.01187505
13B	Tupman Road to Buena Vista Pumping Plant			.04324825	.01310695	.00780757	.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			.04753264	.01440528	.00859629	.00217396	.01417689
15A	Wheeler Ridge Pumping Plant to Wind Gap Pumping Plant			.04830162	.01463830	.00873856	.00220995	.01441151
16A	Wind Gap Pumping Plant to A.D. Edmonston Pumping Plant			.05006206	.01517177	.00906311	.00229202	.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			.05245355	.01589650	.00950462	.00240367	.01567491
18A	Junction, West Branch, Calif. Aqueduct thru Cottonwood Chutes			.13238112		.02399390	.00606795	.03957043
19	Cottonwood Chutes to Fairmont			.13237766		.02399451	.00606811	.03957141
19C	Buttes Junction thru Buttes Reservoir			1.00000000				
20A	Fairmont thru 70th Street West			.06847930		.02576425	.00651573	.04249001
20B	70th Street West to Palmdale			.02276024		.02702917	.00683555	.04457607
21	Palmdale to Littlerock Creek			.02318952		.02754717	.00696651	.04543034
22A	Littlerock Creek to Pearblossom Pumping Plant			.01181870		.02794143	.00706621	.04608044
22B	Pearblossom Pumping Plant to West Fork Mojave River					.02827552	.00715074	.04663153
23	West Fork Mojave River to Silverwood Lake					.00324449	.00818122	.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	.10560302	.19482503					
33A	Devil's Den Pumping Plant thru San Luis Obispo Powerplant	.35150790	.64849210					
34	San Luis Obispo Powerplant to Arroyo Grande	.24688802	.75311198					
35	Arroyo Grande thru Santa Maria Terminal	.18022524	.81977476					

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	Future Contractor San Joaquin	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	.00254710	.02742073	.30633442	.00090702	.00167139	.03505306
2A	.00394038	.01781205	.00092491	.00266276	.02864588	.31948963	.00094755	.00174305	.03655686
2B	.00395099	.01786013	.00092740	.00266569	.02869070	.32034362	.00094904		.03665560
3	.00395208	.01786513	.00092766	.00266517	.02868917	.32043064	.00094899		.03666585
4	.00395323	.01787039	.00092794	.00266463	.02868756	.32052214	.00094893		.03667664
5	.00395466	.01787694	.00092828	.00266396	.02868556	.32063639	.00094886		.03669011
6	.00395684	.01788685	.00092879	.00266296	.02868253	.32080926	.00094875		.03671048
7	.00395753	.01789003	.00092896	.00266264	.02868156	.32086471	.00094872		.03671701
8C	.00390372	.01764648	.00091632	.00263593	.02836374	.31651560	.00093819		.03621709
8D	.00398843	.01802948		.00268958	.02895220	.32337797			.01795137
9					.03173493	.32315570			
10A					.03225002	.31237848			
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	.03933050			
17E					.00208231				
31A	.07364766			.05046239		.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	.00650449	.00398446	.43940271	.00429334	1.00000000
2A	.00051421	.01151300	.00385943	.02469456	.00679800	.00416362	.45932579	.00448830	1.00000000
2B	.00051477	.01152575	.00386368	.02472869	.00680672	.00416938	.45985088	.00449324	1.00000000
3	.00051469	.01152359	.00386296	.02472605	.00680580	.00416893	.45976950	.00449238	1.00000000
4	.00051459	.01152131	.00386218	.02472327	.00680482	.00416846	.45968394	.00449149	1.00000000
5	.00051448	.01151846	.00386122	.02471980	.00680361	.00416788	.45957709	.00449037	1.00000000
6	.00051427	.01151416	.00385978	.02471455	.00680178	.00416698	.45941542	.00448869	1.00000000
7	.00051421	.01151278	.00385931	.02471286	.00680118	.00416671	.45936358	.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	.00433507	.02777636	.00764260	.00468324	.52938182	.00504140	1.00000000
11B	.00063524	.01422367	.00476794	.03059312	.00841338	.00515813	.58274744	.00554474	1.00000000
12D	.00066717	.01493906	.00500769	.03215687	.00884093	.00542180	.61234745	.00582351	1.00000000
12E	.00066803	.01495830	.00501414	.03220286	.00885312	.00542956	.61318897	.00583099	1.00000000
13B	.00072369	.01620441	.00543178	.03491750	.00959624	.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	.00079541	.01781020	.00596992	.03844447	.01055888	.00648190	.73127981	.00694231	1.00000000
15A	.00080829	.01809845	.00606653	.03908064	.01073222	.00658915	.74327705	.00705461	1.00000000
16A	.00083775	.01875829	.00628766	.04053196	.01112817	.00683383	.77068316	.00731170	1.00000000
17E	.00087593	.01961383	.00657438	.04241764	.01164221	.00715176	.80626315	.00764506	1.00000000
17F	.00087775	.01965466	.00658807	.04250631	.01166651	.00716671	.80794577	.00766097	1.00000000
18A	.00221525	.04960424	.01662681	.10730448	.02944860	.01809191	.57469531		1.00000000
19	.00221522	.04960300	.01662640	.10730707	.02944876	.01809229	.57469557		1.00000000
19C									1.00000000
20A	.00237800	.05324853	.01784830	.11522152	.03161799	.01942666	.61700971		1.00000000
20B	.00249470	.05586075	.01872390	.12087843	.03316986	.02038045	.64729088		1.00000000
21	.00254199	.05692052		.12319480	.03380324	.02077093	.65963498		1.00000000
22A		.05773081		.12495766	.03428605	.02106816	.66905054		1.00000000
22B		.05842135		.12645207	.03469614	.02132008	.67705257		1.00000000
23				.14467451	.03969010	.02439237	.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

TABLE B-3: POWER COSTS AND CREDITS AND ANNUAL REPLACEMENT

(in

Calendar Year	NORTH BAY AQUEDUCT		SOUTH BAY AQUEDUCT	CALIFORNIA					
	Reach 1 Calhoun and Travis Pumping Plants	Reach 3 Cordelia Pumping Plant (b	Reach 1 South Bay and Del Valle Pumping Plants (c	Reach 1 Delta Pumping Plant	Reach 4 Dos Amigos Pumping Plant	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
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1952	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
1962	0	0	38,130	0	0	0	0	0	0
1963	0	0	58,871	0	0	0	0	0	0
1964	0	0	75,239	0	0	0	0	0	0
1965	0	0	146,297	0	0	0	0	0	0
1966	0	0	198,643	0	0	0	0	0	0
1967	0	0	229,629	26,982	0	0	0	0	0
1968	0	7,128	342,761	1,324,777	239,505	0	0	0	0
1969	0	8,557	279,751	855,304	143,403	0	0	0	0
1970	0	13,666	448,383	368,508	217,820	2,940	0	0	0
1971	0	10,626	422,057	597,946	229,306	156,540	23,021	18,577	29,067
1972	0	14,430	623,564	1,110,833	575,291	348,668	187,825	385,935	1,263,087
1973	0	14,453	485,534	918,234	493,776	511,904	514,487	883,725	3,139,297
1974	0	17,508	510,873	997,269	560,461	556,968	595,585	1,048,196	3,700,573
1975	0	14,801	387,106	1,353,916	561,089	650,781	707,038	1,394,918	4,853,538
1976	0	20,867	589,007	916,728	596,426	701,061	687,677	1,414,902	4,917,776
1977	0	22,640	541,803	653,304	191,906	170,689	173,496	337,890	1,130,422
1978	0	21,701	569,046	4,138,817	839,257	1,094,676	1,056,850	1,993,335	7,061,284
1979	0	16,249	621,602	3,421,367	1,019,385	849,644	832,056	1,669,651	5,751,042
1980	0	19,961	523,756	2,462,139	1,160,206	1,018,905	1,008,746	2,058,353	6,842,479
1981	0	21,711	607,892	2,170,078	1,318,352	1,301,307	1,281,282	2,570,724	9,021,773
1982	0	12,230	650,434	3,585,099	1,630,852	1,763,698	1,783,526	3,466,047	11,664,808
1983	0	15,204	1,716,927	9,629,081	4,195,822	3,470,596	3,426,266	6,978,450	23,368,746
1984	0	15,000	2,290,716	11,636,077	5,527,846	5,052,220	5,142,430	10,782,150	36,348,716
1985	0	18,231	2,390,405	16,084,295	7,534,177	8,388,900	9,366,510	19,337,742	65,746,100
1986	0	39,064	2,461,492	17,379,416	7,797,052	8,540,340	9,454,057	19,515,921	66,297,010
1987	65,744	40,972	2,425,438	16,963,328	7,811,218	8,432,576	9,253,443	19,095,513	64,829,099
1988	74,673	44,284	2,462,737	17,836,816	8,144,611	8,771,203	9,573,431	19,801,201	67,295,139
1989	134,621	57,139	2,547,208	18,169,263	8,692,899	9,595,000	10,557,068	21,821,522	73,390,581
1990	163,209	64,361	2,688,552	22,251,856	9,315,828	10,324,382	11,383,697	23,553,329	79,116,364
1991	169,073	74,982	2,820,892	20,404,508	9,661,286	10,638,406	11,743,494	24,323,814	81,854,747
1992	174,613	85,922	2,958,824	21,751,023	9,920,680	10,753,356	11,869,737	24,589,130	82,852,819
1993	179,428	96,397	3,074,386	22,641,788	10,367,222	11,377,564	12,621,323	26,189,489	88,652,419
1994	182,890	106,298	3,155,302	22,695,053	10,416,162	11,350,660	12,588,106	26,142,614	88,550,895
1995	188,577	113,977	3,131,261	22,727,607	10,354,935	11,274,287	12,524,498	26,020,212	88,170,489
1996	193,099	124,150	3,184,489	23,304,874	10,688,367	11,760,200	13,095,620	27,180,262	92,226,734
1997	200,432	133,733	3,225,451	23,641,376	11,165,454	12,247,785	13,669,014	28,458,933	96,259,751
1998	207,331	145,650	3,278,975	23,923,085	11,531,064	12,528,675	13,949,588	29,217,430	98,414,001
1999	210,043	154,492	3,266,238	24,009,876	11,617,276	12,442,165	13,852,571	29,076,519	97,398,176
2000	217,662	167,210	3,329,650	24,683,277	12,110,966	13,048,059	14,570,244	30,735,603	102,330,975
2001	221,608	174,938	3,352,751	25,176,620	12,371,506	13,350,370	14,897,900	31,390,225	104,382,762
2002	227,025	184,405	3,397,361	25,613,375	12,543,007	13,503,065	15,060,828	31,707,871	105,022,763
2003	241,735	201,252	3,578,580	27,088,865	13,532,859	14,932,522	16,726,316	35,115,902	116,708,394
2004	252,775	210,396	3,609,609	27,506,840	13,564,582	15,012,891	16,805,885	35,132,295	116,720,217
2005	303,383	251,960	4,181,244	31,975,320	15,525,436	17,481,257	19,603,950	40,909,998	136,413,297
2006	309,410	258,697	4,253,668	32,744,495	15,766,361	17,831,736	19,999,717	41,627,317	138,731,066
2007	322,027	271,075	4,412,942	34,091,173	16,662,441	19,005,107	21,372,932	44,699,748	149,280,503
2008	329,566	278,881	4,501,054	35,194,684	16,809,644	19,120,335	21,483,805	44,915,291	149,987,990
2009	332,249	283,040	4,526,472	35,400,920	17,127,827	19,608,644	22,067,687	46,161,988	154,181,527
2010	344,299	294,966	4,677,409	36,411,784	17,824,206	20,538,778	23,146,314	48,455,275	162,023,096
2011	341,089	295,801	4,605,392	35,973,748	17,349,542	19,859,037	22,345,578	46,748,698	156,148,977
2012	362,620	314,474	4,896,103	42,304,864	18,658,511	21,599,901	24,361,670	51,035,285	170,844,217
2013	376,106	326,169	5,078,192	40,242,399	19,596,341	22,887,339	25,863,806	54,233,999	181,731,550
2014	386,261	334,976	5,215,303	40,951,680	19,989,866	23,338,856	26,366,700	55,296,894	185,337,227
2015	405,968	354,637	5,465,121	41,984,370	21,051,041	24,733,143	27,976,450	58,720,156	197,063,177
2016	419,714	366,645	5,650,168	48,406,770	21,824,274	25,745,698	29,144,558	61,203,869	205,561,239
2017	427,105	396,629	5,566,888	44,463,532	21,305,485	25,250,038	28,570,168	59,981,950	201,362,846
2018	437,917	410,685	5,673,278	47,012,912	21,889,533	26,328,454	29,844,280	62,702,150	210,711,698
2019	439,348	413,264	5,616,300	43,788,533	21,503,889	26,038,896	29,511,566	61,901,639	208,281,233
2020	450,419	427,843	5,724,603	49,149,109	21,956,317	26,794,827	30,393,505	63,683,700	214,623,345
2021	443,669	421,430	5,638,802	45,118,553	21,461,591	26,139,988	29,654,518	62,247,479	209,897,703
2022	450,583	427,998	5,726,678	47,363,730	21,559,252	26,734,504	30,383,190	63,656,597	215,800,582
2023	445,350	423,028	5,660,176	47,811,722	20,823,061	26,103,874	29,639,081	61,691,613	210,033,833
2024	445,932	423,580	5,667,573	46,986,521	20,700,129	26,419,925	30,020,715	62,120,101	212,734,062
2025	445,106	422,796	5,657,077	48,120,850	20,659,852	26,367,955	29,961,082	61,614,809	212,247,912
2026	435,585	413,752	5,536,061	44,203,137	20,227,564	25,827,159	29,344,613	60,052,961	207,699,138
2027	439,294	417,275	5,583,199	45,396,777	20,511,581	26,244,639	29,836,246	60,836,232	211,310,078
2028	439,409	417,385	5,584,671	46,695,585	20,404,772	25,958,081	29,600,126	60,345,228	209,564,302
2029	439,693	417,654	5,588,270	46,103,246	20,485,192	26,001,571	29,635,849	60,689,999	210,784,170
2030	439,678	417,640	5,588,083	45,996,191	20,262,498	25,812,546	29,389,635	60,443,403	209,672,550
2031	439,261	417,244	5,582,784	45,895,538	20,136,413	25,738,174	29,365,958	60,661,223	210,013,128
2032	438,284	416,315	5,570,364	44,797,664	19,867,846	25,423,150	28,994,372	60,217,700	208,143,587
2033	442,258	420,090	5,620,875	46,950,979	20,183,606	25,734,931	29,365,167	61,348,347	211,400,024
2034	431,818	410,173	5,488,185	41,970,246	19,460,600	24,546,607	27,971,377	58,718,107	201,977,483
2035	448,380	425,906	5,698,684	51,867,141	20,566,224	25,959,085	29,628,027	62,590,433	215,335,532

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.*

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 Pyramid Powerplant	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
(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	
0	0	0	0	0	0	0	0	0	0	1952
0	0	0	0	0	0	0	0	0	0	1953
0	0	0	0	0	0	0	0	0	0	1954
0	0	0	0	0	0	0	0	0	0	1955
0	0	0	0	0	0	0	0	0	0	1956
0	0	0	0	0	0	0	0	0	0	1957
0	0	0	0	0	0	0	0	0	0	1958
0	0	0	0	0	0	0	0	0	0	1959
0	0	0	0	0	0	0	0	0	0	1960
0	0	0	0	0	0	0	0	0	0	1961
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	318,880	0	-1,216,060	53,119	0	-1,233,043	85,538	0	1,230,584	1977
0	1,783,155	0	-3,298,247	355,285	0	-3,828,774	197,521	0	11,983,906	1978
0	1,807,731	0	-3,335,069	158,795	0	-2,642,118	208,639	0	10,378,974	1979
0	1,850,905	0	-3,508,195	169,185	0	-3,211,549	183,228	0	10,578,119	1980
0	2,012,938	0	-2,417,354	435,742	0	-4,065,927	178,894	0	14,437,412	1981
0	2,563,761	0	-3,537,234	657,732	-973,609	-3,474,627	245,406	0	20,038,123	1982
0	5,659,946	0	-12,867,434	471,362	-1,165,429	-1,514,693	558,802	0	43,943,646	1983
0	5,781,328	0	-12,220,125	2,158,308	-5,298,875	-10,000,900	713,442	0	57,928,333	1984
-1,458,076	10,621,113	0	-21,865,325	4,236,260	-9,665,375	-17,466,275	745,603	0	94,014,285	1985
-4,035,522	9,726,477	-986,080	-20,274,600	4,632,927	-10,486,850	-18,683,650	782,938	0	92,159,992	1986
-3,993,005	9,352,370	-3,028,830	-20,152,850	4,604,402	-10,697,300	-18,761,375	790,387	0	87,031,130	1987
-4,049,376	9,435,981	-3,136,662	-19,966,700	4,876,450	-11,249,725	-19,600,100	814,634	0	91,128,597	1988
-4,263,395	10,017,645	-3,160,652	-19,992,500	5,450,982	-12,594,075	-21,739,550	797,460	0	99,481,216	1989
-4,411,832	10,655,119	-3,526,393	-19,958,825	5,933,816	-13,291,800	-22,803,700	820,781	0	112,278,744	1990
-6,351,486	15,869,207	-6,063,898	-31,050,900	3,949,442	-8,727,400	-15,227,050	1,037,359	0	115,126,476	1991
-6,128,988	15,456,136	-5,988,365	-29,304,000	4,241,555	-9,253,575	-16,063,475	1,255,690	0	119,171,082	1992
-5,916,102	15,000,577	-5,589,630	-28,348,750	5,205,569	-11,313,225	-19,423,500	1,265,977	0	126,080,932	1993
-5,765,145	14,568,575	-5,515,038	-27,099,600	5,342,734	-11,576,850	-19,889,350	1,266,521	0	126,519,827	1994
-5,695,022	14,192,948	-5,434,783	-27,150,025	5,558,201	-12,252,525	-20,973,700	1,243,199	0	123,994,136	1995
-5,746,512	14,392,831	-5,661,299	-27,832,150	5,996,520	-13,185,250	-22,450,650	1,250,695	0	128,521,980	1996
-5,872,641	14,705,758	-5,732,348	-27,888,450	6,385,028	-13,964,750	-23,763,925	1,252,386	0	134,122,987	1997
-5,879,436	14,922,252	-5,721,740	-27,487,350	6,578,684	-14,078,050	-23,953,650	1,273,169	0	138,849,678	1998
-5,903,375	14,889,824	-5,996,448	-27,894,925	6,477,553	-13,794,900	-23,500,350	1,268,223	0	137,572,958	1999
-5,870,589	15,041,999	-5,678,034	-27,323,200	7,075,024	-14,800,975	-25,145,325	1,292,845	0	145,785,391	2000
-5,761,423	14,802,019	-5,496,414	-26,992,275	7,460,340	-15,397,275	-26,245,900	1,301,815	0	148,989,567	2001
-5,472,364	14,198,239	-5,133,847	-25,612,900	7,828,367	-15,863,400	-27,119,300	1,319,136	0	151,403,931	2002
-5,392,564	14,703,833	-5,353,270	-24,758,425	9,180,231	-16,072,475	-30,171,525	1,389,500	0	171,651,730	2003
-5,236,156	14,386,921	-4,918,682	-23,929,575	9,396,305	-16,096,325	-30,369,300	1,401,548	0	173,450,226	2004
-5,109,981	16,166,710	-4,948,342	-22,974,000	11,196,158	-16,911,950	-31,614,900	1,623,504	0	214,073,044	2005
-5,040,532	16,193,218	-4,912,705	-22,923,225	11,464,688	-17,047,975	-31,929,650	1,651,625	0	218,977,911	2006
-5,265,067	17,480,086	-4,972,697	-23,398,350	12,231,152	-17,656,250	-32,991,775	1,713,469	0	237,258,516	2007
-5,279,932	17,794,944	-4,940,348	-23,578,650	12,125,184	-17,133,000	-32,170,225	1,747,682	0	241,186,905	2008
-5,266,116	17,770,972	-4,956,336	-23,927,100	12,687,573	-17,777,150	-33,422,375	1,757,550	0	246,557,372	2009
-5,510,896	19,216,890	-5,300,151	-24,308,625	13,037,907	-17,708,700	-33,364,850	1,816,157	0	261,593,859	2010
-5,327,904	18,159,762	-4,914,423	-24,188,175	12,692,899	-17,504,200	-32,949,350	1,788,194	0	251,424,665	2011
-5,662,015	20,539,167	-5,779,416	-25,103,325	13,503,400	-17,646,425	-33,215,450	1,901,072	0	282,914,653	2012
-5,649,292	21,143,488	-5,217,671	-24,928,225	14,599,721	-18,354,950	-34,723,550	1,971,775	0	299,177,197	2013
-5,627,678	21,520,181	-5,052,039	-25,027,900	14,812,064	-18,217,175	-34,462,700	2,025,012	0	307,187,528	2014
-5,595,028	22,287,199	-5,310,237	-24,856,575	15,926,508	-18,678,450	-35,466,950	2,122,012	0	328,182,542	2015
-5,814,684	23,933,591	-5,419,762	-25,500,475	16,242,078	-18,573,325	-35,135,450	2,193,862	0	350,248,770	2016
-5,701,094	22,966,617	-5,292,157	-25,208,000	16,083,839	-18,625,250	-35,253,800	2,161,526	0	338,456,322	2017
-5,917,648	24,295,283	-5,549,757	-25,627,600	16,684,029	-18,955,625	-35,912,650	2,202,835	0	356,229,774	2018
-5,853,672	23,657,950	-5,224,096	-25,449,325	16,612,253	-18,963,275	-36,061,975	2,180,712	0	348,393,240	2019
-5,879,618	24,116,702	-5,206,988	-25,348,500	17,190,810	-19,257,025	-36,648,950	2,222,764	0	364,392,863	2020
-5,816,690	23,360,044	-5,319,352	-25,454,200	16,886,776	-19,246,375	-36,513,550	2,189,449	0	351,109,835	2021
-5,984,316	24,386,250	-5,485,507	-25,610,450	17,187,833	-19,274,150	-36,636,575	2,223,570	0	362,909,769	2022
-3,240,775	23,657,105	-5,216,401	-25,489,825	16,743,331	-18,933,225	-36,082,125	2,197,748	0	356,267,571	2023
-3,244,875	23,607,540	-5,378,671	-25,472,950	17,096,893	-19,263,325	-36,763,475	2,200,620	0	358,300,295	2024
-3,333,900	24,176,982	-5,422,601	-25,495,800	16,736,943	-19,020,775	-36,104,000	2,196,545	0	359,230,833	2025
-3,277,325	23,127,816	-1,774,950	-25,424,600	16,613,510	-19,186,075	-36,511,450	2,149,557	0	349,456,453	2026
-3,318,875	23,590,026	-1,807,950	-25,571,600	16,846,721	-19,214,800	-36,715,675	2,167,860	0	356,551,028	2027
-3,307,775	23,503,728	-1,811,625	-25,546,275	16,334,300	-19,111,750	-36,307,850	2,168,431	0	354,930,743	2028
-3,288,450	23,356,101	-1,813,750	-25,453,825	16,247,265	-19,264,000	-36,747,675	2,169,828	0	355,351,138	2029
-3,336,000	23,753,241	-1,843,100	-25,633,000	15,874,812	-18,997,050	-36,152,800	2,169,756	0	353,858,083	2030
-3,293,225	23,374,457	-1,800,925	-25,443,275	16,043,684	-19,273,825	-36,743,975	2,167,698	0	353,280,337	2031
-3,326,875	23,477,938	-1,827,275	-25,593,950	15,630,407	-19,085,025	-36,237,100	2,162,875	0	349,070,277	2032
-3,311,075	23,430,231	-1,788,875	-25,562,875	15,965,596	-19,345,650	-36,963,225	2,182,489	0	356,072,893	2033
-3,263,900	22,385,591	-1,770,375	-25,464,875	14,948,590	-18,979,400	-36,148,650	2,130,968	0	334,812,545	2034
-3,349,875	23,835,588	-1,904,500	-25,407,225	15,670,810	-19,483,925	-37,156,425	2,212,700	0	366,936,560	2035

b) *Power costs for the period 1968 through 1986 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.*

TABLE B-4: ANNUAL ENTITLE-

(in acre-feet)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA (b				CENTRAL COASTAL AREA		
	Napa County FC & WCD (c	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	946	1,946
1981	0	650	650	23,000	26,000	88,000	137,000	1,000	1,813	2,813
1982	0	800	800	24,000	27,200	88,000	139,200	2,000	3,626	5,626
1983	0	950	950	25,000	28,400	88,000	141,400	3,000	5,439	8,439
1984	0	950	950	26,000	29,600	88,000	143,600	4,500	8,198	12,698
1985	0	950	950	27,000	30,800	88,000	145,800	7,500	13,638	21,138
1986	5,045	950	5,995	28,000	32,100	88,000	148,100	10,000	18,210	28,210
1987	5,395	20,000	25,395	29,000	33,300	88,000	150,300	12,500	22,704	35,204
1988	5,745	27,000	32,745	30,000	34,500	88,000	152,500	15,500	28,222	43,722
1989	6,195	34,500	40,695	31,000	35,700	90,000	156,700	20,000	36,342	56,342
1990	6,745	42,000	48,745	32,000	36,900	92,000	160,900	25,000	45,486	70,486
1991	7,290	42,000	49,290	34,000	38,400	94,000	166,400	25,000	45,486	70,486
1992	7,840	42,000	49,840	36,000	39,900	96,000	171,900	25,000	45,486	70,486
1993	8,490	42,000	50,490	38,000	41,400	98,000	177,400	25,000	45,486	70,486
1994	9,135	42,000	51,135	40,000	42,000	100,000	182,000	25,000	45,486	70,486
1995	9,780	42,000	51,780	42,000	42,000	100,000	184,000	25,000	45,486	70,486
1996	10,425	42,000	52,425	44,000	42,000	100,000	186,000	25,000	45,486	70,486
1997	11,065	42,000	53,065	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1998	11,710	42,000	53,710	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1999	12,330	42,000	54,330	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2000	13,050	42,000	55,050	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2001	13,665	42,000	55,665	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2002	14,185	42,000	56,185	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2003	14,800	42,000	56,800	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2004	15,400	42,000	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2005	16,000	42,000	58,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2006	16,450	42,000	58,450	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2007	17,100	42,000	59,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2008	17,650	42,000	59,650	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2009	18,200	42,000	60,200	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2010	18,750	42,000	60,750	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2011	19,400	42,000	61,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2012	19,950	42,000	61,950	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2013	20,600	42,000	62,600	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2014	21,250	42,000	63,250	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2015	21,900	42,000	63,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2016	22,500	42,000	64,500	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2017	23,100	42,000	65,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2018	23,700	42,000	65,700	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2019	24,300	42,000	66,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2020	24,900	42,000	66,900	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2021	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2022	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2023	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2024	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2025	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2026	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2027	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2028	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2029	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2030	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2031	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2032	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2033	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2034	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2035	25,000	42,000	67,000	46,000	42,000	100,000	188,000	25,000	45,486	70,486
TOTAL	889,040	2,019,250	2,908,290	2,494,607	2,459,248	6,510,783	11,464,638	1,227,000	2,231,494	3,458,494

a) *From Tables A and Article 6(a) of water supply contracts as of April 1, 1983.*

b) *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.*

c) *District's Table A quantities exclude those during the period 1968 through 1985 which are assumed to be supplied by nonproject water.*

MENTS TO PROJECT WATER [a]

(in acre-feet)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	Kern County Water Agency		Total	County of Kings	Oak Flat Water District	Tulare Lake Basin Water Storage District	Total
				M&I	Ag.					
	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
1967	0	0	0	0	0	0	0	0	0	0
1968	3,700	14,300	1,000	0	46,600	46,600	900	2,300	12,250	81,050
1969	5,000	14,325	3,000	0	95,700	95,700	1,200	2,500	46,350	168,075
1970	5,700	15,700	3,000	28,700	116,400	145,100	1,300	2,600	34,300	207,700
1971	6,700	17,900	3,000	35,700	154,600	190,300	1,300	2,800	36,500	258,500
1972	7,700	20,000	3,000	39,200	231,500	270,700	1,400	5,366	112,600	420,766
1973	8,700	22,000	3,000	43,500	267,000	310,500	1,500	3,100	43,552	392,352
1974	9,700	33,390	3,000	48,000	299,000	347,000	1,500	3,471	72,289	470,350
1975	10,700	40,555	3,000	52,700	358,120	410,820	1,600	3,576	86,258	556,509
1976	11,700	30,921	3,000	56,100	386,050	442,150	1,600	4,039	61,707	555,117
1977	12,700	30,400	3,000	60,600	423,000	483,600	1,700	3,700	59,000	594,100
1978	11,362	32,500	0	64,100	470,200	534,300	1,900	3,900	63,300	647,262
1979	12,700	38,544	3,000	67,600	516,300	583,900	2,000	4,000	71,241	715,385
1980	12,700	41,000	3,000	71,100	563,400	634,500	2,200	5,700	71,700	770,800
1981	12,700	41,000	3,000	74,800	616,600	691,400	2,300	4,300	76,000	830,700
1982	12,700	41,000	3,000	79,600	665,700	745,300	2,500	4,500	80,200	889,200
1983	12,700	42,900	3,000	83,500	721,600	805,100	2,800	4,600	9,548	880,648
1984	12,700	45,100	3,000	88,600	772,000	860,600	3,100	4,800	88,600	1,017,900
1985	12,700	47,200	3,000	93,900	821,100	915,000	3,400	4,900	92,900	1,079,100
1986	12,700	49,300	3,000	98,400	869,800	968,200	3,700	5,100	97,200	1,139,200
1987	12,700	51,400	3,000	104,100	919,400	1,023,500	4,000	5,200	101,400	1,201,200
1988	12,700	53,500	3,000	108,900	965,700	1,074,600	4,000	5,400	105,600	1,258,800
1989	12,700	55,600	3,000	113,200	999,100	1,112,300	4,000	5,600	109,900	1,303,100
1990	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1991	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1992	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1993	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1994	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1995	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1996	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1997	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1998	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1999	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2000	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2001	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2002	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2003	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2004	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2005	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2006	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2007	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2008	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2009	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2010	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2011	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2012	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2013	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2014	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2015	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2016	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2017	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2018	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2019	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2020	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2021	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2022	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2023	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2024	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2025	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2026	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2027	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2028	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2029	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2030	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2031	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2032	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2033	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2034	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2035	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
TOTAL	817,562	3,432,735	199,000	6,913,900	58,833,670	65,747,570	233,900	353,652	6,983,395	77,767,814

TABLE B-4: ANNUAL ENTITLE-

(in acre-feet)

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	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	0	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	23,100	11,700	68,500	18,300
1982	81,300	22,100	13,326	3,480	21,000	1,380	25,969	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	2,813,169	983,720	5,909,177	1,641,322

MENTS TO PROJECT WATER (a

(in acre-feet)

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	11,538
1968	0	0	0	0	0	300	250	550	0	191,500
1969	0	0	0	0	0	350	270	620	0	267,395
1970	0	0	0	0	0	400	300	700	0	322,600
1971	0	0	0	0	0	450	440	890	0	375,590
1972	0	154,772	0	201,723	0	500	470	970	0	741,759
1973	0	354,600	0	472,400	0	600	500	1,100	0	986,252
1974	0	454,900	0	588,220	0	700	530	1,230	0	1,182,200
1975	0	555,200	0	704,250	0	1,050	560	1,610	0	1,386,869
1976	0	655,600	0	824,780	0	1,400	590	1,990	0	1,508,387
1977	0	755,900	0	942,201	0	1,800	620	2,420	0	1,667,321
1978	0	856,300	0	1,038,222	0	1,200	650	1,850	0	1,818,034
1979	0	956,600	0	1,177,873	0	1,450	680	2,130	0	2,028,088
1980	6,800	1,057,000	1,000	1,304,914	0	1,100	710	1,810	0	2,214,770
1981	7,800	1,157,300	2,000	1,419,365	0	1,200	740	1,940	0	2,392,468
1982	8,800	1,257,600	3,000	1,540,875	0	1,200	770	1,970	0	2,577,671
1983	9,800	1,358,000	4,000	1,668,557	0	1,200	800	2,000	0	2,701,994
1984	10,800	1,458,300	5,000	1,790,398	1,600	1,200	830	3,630	0	2,969,176
1985	11,800	1,558,700	6,000	1,912,549	1,700	1,200	860	3,760	0	3,163,297
1986	12,900	1,659,300	8,000	2,035,890	2,100	1,200	890	4,190	0	3,361,585
1987	14,000	1,759,800	10,000	2,160,241	2,500	1,200	920	4,620	0	3,576,960
1988	15,100	1,860,400	13,000	2,286,182	2,900	1,200	960	5,060	0	3,779,009
1989	16,200	1,961,000	16,000	2,411,933	3,300	1,200	1,000	5,500	0	3,974,270
1990	17,300	2,011,500	20,000	2,487,900	3,800	1,200	1,040	6,040	0	4,129,071
1991	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,080	38,180	0	4,176,856
1992	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,120	38,220	0	4,182,946
1993	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,160	38,260	0	4,189,136
1994	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,200	38,300	0	4,194,421
1995	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,250	38,350	0	4,197,116
1996	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,300	38,400	0	4,199,811
1997	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,350	38,450	0	4,202,501
1998	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,400	38,500	0	4,203,196
1999	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,450	38,550	0	4,203,866
2000	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,510	38,610	0	4,204,646
2001	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,570	38,670	0	4,205,321
2002	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,630	38,730	0	4,205,901
2003	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,690	38,790	0	4,206,576
2004	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,750	38,850	0	4,207,236
2005	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,810	38,910	0	4,207,896
2006	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,880	38,980	0	4,208,416
2007	17,300	2,011,500	20,000	2,497,500	9,600	27,500	1,950	39,050	0	4,209,136
2008	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,020	39,120	0	4,209,756
2009	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,090	39,190	0	4,210,376
2010	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,160	39,260	0	4,210,996
2011	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,240	39,340	0	4,211,726
2012	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,320	39,420	0	4,212,356
2013	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,410	39,510	0	4,213,096
2014	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,500	39,600	0	4,213,836
2015	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,600	39,700	0	4,214,586
2016	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,215,286
2017	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,215,886
2018	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,216,486
2019	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,086
2020	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,686
2021	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2022	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2023	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2024	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2025	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2026	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2027	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2028	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2029	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2030	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2031	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2032	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2033	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2034	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,217,786
TOTAL	909,800	112,360,272	988,000	139,355,973	449,900	1,260,800	112,820	1,823,520	0	236,778,729

TABLE B—5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)

Calendar Year	Grizzly Valley Pipeline PC FC&WCD	NORTH BAY AQUEDUCT Reach 2 SC FC&WCD[b]	NORTH BAY AQUEDUCT Reach 3 NC FC&WCD[c]	TOTAL NORTH BAY AQUEDUCT	SOUTH BAY AQUEDUCT[d] 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	353	0	9,001	9,001	0	1,250	4,648	5,273	5,752	1,157	7,262
1982	305	0	1,213	1,213	0	473	3,043	4,406	0	630	4,571
1983	758	0	2,299	2,299	0	190	6,398	2,253	0	509	12,933
1984	830	0	2,538	2,538	0	198	7,425	2,653	0	734	14,990
1985	860	0	2,990	2,990	0	198	7,425	2,941	0	832	15,604
1986	890	13,590	3,361	16,951	0	198	7,425	3,258	0	989	16,130
1987	920	15,650	3,627	19,277	0	198	7,425	3,541	0	1,232	16,604
1988	960	17,900	3,940	21,840	0	198	7,425	3,630	0	1,321	17,426
1989	1,000	30,700	5,100	35,800	0	2,200	5,770	6,550	0	4,600	11,880
1990	1,040	36,400	5,600	42,000	0	2,200	5,940	6,800	0	4,760	12,300
1991	1,080	36,400	6,460	42,860	0	2,200	6,200	7,100	0	5,060	13,440
1992	1,120	36,400	7,320	43,720	0	2,200	6,600	7,400	0	5,360	14,440
1993	1,160	36,400	8,180	44,580	0	2,200	7,000	7,700	0	5,660	15,440
1994	1,200	36,400	9,040	45,440	0	2,200	7,400	8,000	0	5,960	16,440
1995	1,250	36,400	9,900	46,300	0	2,200	7,800	8,300	0	6,260	17,440
1996	1,300	36,400	10,730	47,130	0	2,200	8,200	8,600	0	6,560	18,440
1997	1,350	36,400	11,560	47,960	0	2,200	8,600	8,900	0	6,860	19,440
1998	1,400	36,400	12,390	48,790	0	2,200	8,600	8,900	0	6,860	19,440
1999	1,450	36,400	13,220	49,620	0	2,200	8,600	8,900	0	6,860	19,440
2000	1,510	36,400	14,050	50,450	0	2,200	8,600	8,900	0	6,860	19,440
2001	1,570	36,400	14,620	51,020	0	2,200	8,600	8,900	0	6,860	19,440
2002	1,630	36,400	15,190	51,590	0	2,200	8,600	8,900	0	6,860	19,440
2003	1,690	36,400	15,760	52,160	0	2,200	8,600	8,900	0	6,860	19,440
2004	1,750	36,400	16,330	52,730	0	2,200	8,600	8,900	0	6,860	19,440
2005	1,810	36,400	16,900	53,300	0	2,200	8,600	8,900	0	6,860	19,440
2006	1,880	36,400	17,060	53,460	0	2,200	8,600	8,900	0	6,860	19,440
2007	1,950	36,400	17,220	53,620	0	2,200	8,600	8,900	0	6,860	19,440
2008	2,020	36,400	17,380	53,780	0	2,200	8,600	8,900	0	6,860	19,440
2009	2,090	36,400	17,540	53,940	0	2,200	8,600	8,900	0	6,860	19,440
2010	2,160	36,400	17,700	54,100	0	2,200	8,600	8,900	0	6,860	19,440
2011	2,240	36,400	18,030	54,430	0	2,200	8,600	8,900	0	6,860	19,440
2012	2,240	36,400	18,030	54,430	0	2,200	8,600	8,900	0	6,860	19,440
2013	2,410	36,400	18,030	54,430	0	2,200	8,600	8,900	0	6,860	19,440
2014	2,500	36,400	18,030	54,430	0	2,200	8,600	8,900	0	6,860	19,440
2015	2,600	36,400	18,200	54,600	0	2,200	8,600	8,900	0	6,860	19,440
2016	2,700	36,400	18,200	54,600	0	2,200	8,600	8,900	0	6,860	19,440
2017	2,700	36,400	20,010	56,410	0	2,200	8,600	8,900	0	6,860	19,440
2018	2,700	36,400	20,340	56,740	0	2,200	8,600	8,900	0	6,860	19,440
2019	2,700	36,400	20,670	57,070	0	2,200	8,600	8,900	0	6,860	19,440
2020	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2021	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2022	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2023	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2024	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2025	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2026	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2027	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2028	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2029	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2030	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2031	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2032	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2033	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2034	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440
2035	2,700	36,400	21,000	57,400	0	2,200	8,600	8,900	0	6,860	19,440

a) Includes entitlement water, surplus water (delivered prior to May 1, 1973), and nonproject water.

b) 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.

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

Calendar Year	SOUTH BAY AQUEDUCT (d (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	TLBWSD	EWSID	CK	KCWA (Ag.)	DRWD	CK
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
1962	0	0	0	8,906	J	0	0	0	0	0	0
1963	0	0	0	12,645	0	0	0	0	0	0	0
1964	0	0	0	20,911	0	0	0	0	0	0	0
1965	1,127	0	15,014	34,026	0	0	0	0	0	0	0
1966	14,864	0	34,538	54,913	0	0	0	0	0	0	0
1967	12,882	0	39,101	56,763	0	0	0	0	0	0	0
1968	24,817	0	70,105	101,055	3,084	25,100	1,978	900	0	26,360	0
1969	813	0	62,264	69,712	3,016	7,081	56	100	0	31,375	0
1970	0	0	80,311	89,560	5,911	0	3,942	0	0	40,407	0
1971	5,961	0	87,606	98,584	7,212	80,906	5,990	3,700	0	41,053	0
1972	26,182	0	100,266	138,426	8,166	144,843	5,795	1,400	0	42,443	0
1973	2,521	0	88,582	94,078	3,214	26,317	3,000	1,500	1,500	22,057	0
1974	0	4	88,000	89,318	3,471	32,603	3,000	1,500	0	33,390	0
1975	393	593	88,000	93,604	3,576	41,536	3,000	1,600	0	40,555	0
1976	13,774	7,526	88,000	126,431	4,112	26,595	3,000	1,600	0	41,421	0
1977	11,284	7,556	76,220	107,704	1,472	12,984	738	1,530	0	11,153	0
1978	854	5,009	95,727	112,574	3,906	3,934	454	2,070	0	51,747	0
1979	3,430	7,444	91,991	122,190	6,149	74,758	1,739	2,000	0	38,544	0
1980	2,824	6,702	88,000	115,824	5,700	35,140	894	2,200	0	41,000	0
1981	7,595	8,570	88,000	129,507	4,300	50,888	5,859	2,300	0	41,000	0
1982	1,776	4,540	87,261	106,700	3,838	4,405	361	1,536	0	41,000	214
1983	15,200	7,225	88,000	132,708	4,600	2,782	3,300	3,550	0	42,900	0
1984	20,825	8,775	88,000	143,600	4,800	48,700	3,000	3,100	0	45,100	0
1985	22,025	8,775	88,000	145,800	4,900	53,000	3,000	3,400	0	47,200	0
1986	23,225	8,775	88,000	148,000	5,100	57,300	3,000	3,700	0	49,300	0
1987	24,525	8,775	88,000	150,300	5,200	61,500	3,000	4,000	0	51,400	0
1988	25,725	8,775	88,000	152,500	5,400	65,700	3,000	4,000	0	53,500	0
1989	26,900	8,800	90,000	156,700	5,600	68,360	3,000	4,000	0	55,600	0
1990	28,100	8,800	92,000	160,900	5,700	73,700	3,000	4,000	0	57,700	0
1991	29,600	8,800	94,000	166,400	5,700	109,888	3,000	4,000	0	57,700	0
1992	31,100	8,800	96,000	171,900	5,700	109,888	3,000	4,000	0	57,700	0
1993	32,600	8,800	98,000	177,400	5,700	109,888	3,000	4,000	0	57,700	0
1994	33,200	8,800	100,000	182,000	5,700	109,888	3,000	4,000	0	57,700	0
1995	33,200	8,800	100,000	184,000	5,700	109,888	3,000	4,000	0	57,700	0
1996	33,200	8,800	100,000	186,000	5,700	109,888	3,000	4,000	0	57,700	0
1997	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
1998	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
1999	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2000	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2001	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2002	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2003	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2004	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2005	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2006	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2007	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2008	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2009	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2010	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2011	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2012	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2013	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2014	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2015	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2016	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2017	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2018	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2019	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2020	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2021	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2022	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2023	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2024	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2025	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2026	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2027	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2028	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2029	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2030	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2031	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2032	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2033	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2034	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0
2035	33,200	8,800	100,000	188,000	5,700	109,888	3,000	4,000	0	57,700	0

c) For the period 1968 through 1986, annual quantities delivered are nonproject water pumped through an interim facility.

d) For the period June 1962 through November 1967, deliveries were supplied by nonproject water.

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)

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.)	TLBWSD	KCWA (M&I)	KCWA (Ag.)	TLBWSD	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)	KCWA (M&I)	KCWA (Ag.)
	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0
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	3,408	46,114	1,855	0	158	4,315	0	72,279	0	9,279	0	4,891
1971	41,579	58,356	0	0	9,973	0	0	63,773	0	28,056	0	0
1972	113,550	75,464	0	0	5,876	0	0	72,358	0	62,342	0	17,388
1973	24,147	54,583	0	0	22,948	0	0	67,544	0	13,082	0	9,297
1974	39,686	63,814	0	10,019	22,719	0	0	87,476	2,651	4,248	8,038	4,246
1975	44,722	50,021	0	2,791	72,121	0	0	85,675	0	10,787	8,538	7,059
1976	32,216	53,465	0	74	50,444	0	0	85,067	37,519	20,555	5,626	8,855
1977	5,097	24,668	0	201	34,451	0	3,981	29,603	20,280	1,737	0	5,024
1978	8,119	72,231	0	0	161,889	0	0	88,753	47,133	15,011	21,773	7,601
1979	80,363	74,524	0	285	153,245	0	484	108,379	50,740	61,567	5,663	17,766
1980	40,304	79,946	0	3,780	131,836	0	3,112	103,207	32,039	22,252	0	22,515
1981	32,550	76,508	0	341	133,500	0	494	104,395	59,917	58,470	7,844	14,037
1982	14,146	76,877	0	4,700	164,832	0	798	99,081	36,139	75,587	0	25,553
1983	1,800	74,078	0	7,589	176,422	0	2,120	127,356	64,086	59,137	0	25,818
1984	39,900	98,600	0	1,500	163,609	0	775	133,423	59,700	67,880	1,525	22,688
1985	39,900	101,380	0	1,500	177,138	0	775	136,744	63,680	75,631	2,495	24,937
1986	39,900	82,500	0	10,300	198,948	0	0	140,900	75,100	80,827	1,700	27,125
1987	39,900	82,500	0	9,250	213,633	0	0	144,667	82,750	88,337	1,800	29,563
1988	39,900	85,300	0	11,275	223,133	0	0	147,167	87,125	98,125	2,850	31,875
1989	41,540	99,200	0	9,250	233,060	0	0	155,500	83,450	93,200	0	27,140
1990	44,800	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1991	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1992	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1993	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1994	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1995	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1996	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1997	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1998	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
1999	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2000	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2001	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2002	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2003	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2004	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2005	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2006	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2007	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2008	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2009	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2010	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2011	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2012	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2013	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2014	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2015	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2016	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2017	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2018	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2019	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2020	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2021	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2022	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2023	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2024	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2025	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2026	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2027	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2028	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2029	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2030	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2031	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2032	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2033	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2034	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140
2035	8,612	105,500	0	9,250	243,660	0	0	160,200	85,850	96,800	0	27,140

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

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
	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)	(43)	(44)
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	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	4,511	13,007	42,761	18,736	39,033	2,636	18,156	0	2,340	65,690
1982	5,373	22,602	57,923	26,479	47,782	1,289	17,209	0	1,669	41,127
1983	4,015	24,729	59,873	26,249	42,492	2,400	13,457	0	0	31,217
1984	8,500	21,800	60,000	27,200	47,200	2,600	26,000	0	926	18,143
1985	8,500	24,700	68,000	31,000	47,200	2,600	26,400	0	925	17,157
1986	8,500	27,400	75,100	34,100	48,000	2,800	27,900	0	923	17,044
1987	7,500	35,450	67,950	49,000	48,000	2,800	28,400	0	925	15,054
1988	4,250	38,000	94,600	38,000	46,000	2,800	27,900	0	919	14,681
1989	7,500	38,700	78,500	51,900	52,000	13,000	37,900	2,000	920	14,847
1990	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	15,094
1991	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	15,417
1992	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	15,739
1993	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	16,061
1994	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	16,383
1995	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	16,705
1996	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	17,201
1997	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	17,697
1998	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	18,193
1999	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	18,688
2000	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	19,184
2001	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	19,804
2002	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	20,423
2003	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	21,043
2004	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	21,662
2005	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	22,282
2006	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	23,026
2007	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	23,769
2008	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	24,513
2009	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	25,256
2010	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	26,000
2011	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	26,867
2012	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	27,735
2013	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	28,602
2014	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	29,470
2015	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	30,337
2016	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	31,329
2017	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	32,320
2018	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	33,311
2019	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	34,303
2020	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	35,294
2021	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	36,360
2022	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	37,426
2023	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	38,493
2024	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	39,557
2025	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	40,871
2026	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	41,615
2027	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2028	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2029	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2030	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2031	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2032	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2033	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2034	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333
2035	7,500	41,100	79,800	53,400	53,000	15,000	41,200	2,000	920	42,333

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)										
	MOJAVE DIVISION (continued)										
	Reach 20A	Reach 20B	Reach 20B	Reach 21	Reach 22A	Reach 22B				Reach 23	Reach 24
	AVEKWA	PWD	AVEKWA	LCID	AVEKWA	MWD-SC (e	CVCWD (e	DWA (e	MWA	MWA	CLAWA
	(45)	(46)	(47)	(48)	(49)	(50)	(51)	(52)	(53)	(54)	(55)
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	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	338	0	0	0	0	55	0	464
1973	0	0	0	290	0	14,800-	5,800	9,000	0	0	389
1974	0	0	0	400	0	16,400-	6,400	10,000	0	14	627
1975	420	0	0	520	0	18,000-	7,000	11,000	0	0	825
1976	471	0	416	589	0	19,600-	7,600	12,000	0	0	1,002
1977	773	0	271	111	0	0	0	0	22	58	1,109
1978	5,549	0	934	208	0	25,384-	10,084	15,300	0	0	1,209
1979	7,555	0	930	133	0	25,063-	10,063	15,000	4,000	0	1,260
1980	7,605	0	655	191	3	27,884-	10,884	17,000	4,000	0	1,239
1981	10,333	0	966	1,270	46	31,105-	12,105	19,000	4,000	0	1,485
1982	7,313	0	8	0	174	34,326-	13,326	21,000	10,500	0	1,238
1983	8,726	0	0	1,500	451	37,547-	14,547	23,000	0	0	1,609
1984	9,175	0	0	1,610	450	40,768-	15,768	25,000	0	0	1,850
1985	9,563	0	0	1,730	495	43,989-	16,989	27,000	100	0	2,000
1986	9,959	850	0	1,840	530	47,210-	18,210	29,000	300	0	2,100
1987	10,319	4,750	0	1,960	560	50,931-	19,431	31,500	300	0	2,300
1988	10,647	5,700	0	2,070	590	54,652-	20,652	34,000	300	0	2,450
1989	11,115	6,850	0	2,190	618	58,373-	21,873	36,500	48,500	0	2,575
1990	11,829	8,000	0	2,300	657	61,200-	23,100	38,100	50,800	0	2,700
1991	12,754	8,800	0	2,300	709	61,200-	23,100	38,100	50,800	0	2,820
1992	13,681	9,600	0	2,300	760	61,200-	23,100	38,100	50,800	0	2,940
1993	14,607	10,400	0	2,300	812	61,200-	23,100	38,100	50,800	0	3,060
1994	15,534	11,200	0	2,300	863	61,200-	23,100	38,100	50,800	0	3,180
1995	16,460	12,000	0	2,300	915	61,200-	23,100	38,100	50,800	0	3,300
1996	17,885	12,600	0	2,300	994	61,200-	23,100	38,100	50,800	0	3,420
1997	19,310	13,200	0	2,300	1,073	61,200-	23,100	38,100	50,800	0	3,540
1998	20,735	13,800	0	2,300	1,152	61,200-	23,100	38,100	50,800	0	3,660
1999	22,160	14,400	0	2,300	1,232	61,200-	23,100	38,100	50,800	0	3,780
2000	23,585	15,000	0	2,300	1,311	61,200-	23,100	38,100	50,800	0	3,900
2001	25,366	15,200	0	2,300	1,410	61,200-	23,100	38,100	50,800	0	4,030
2002	27,148	15,400	0	2,300	1,509	61,200-	23,100	38,100	50,800	0	4,160
2003	28,930	15,600	0	2,300	1,607	61,200-	23,100	38,100	50,800	0	4,290
2004	30,711	15,800	0	2,300	1,707	61,200-	23,100	38,100	50,800	0	4,420
2005	32,492	16,050	0	2,300	1,806	61,200-	23,100	38,100	50,800	0	4,550
2006	34,630	16,300	0	2,300	1,924	61,200-	23,100	38,100	50,800	0	4,680
2007	36,768	16,550	0	2,300	2,043	61,200-	23,100	38,100	50,800	0	4,810
2008	38,905	16,800	0	2,300	2,162	61,200-	23,100	38,100	50,800	0	4,940
2009	41,043	17,050	0	2,300	2,281	61,200-	23,100	38,100	50,800	0	5,070
2010	43,180	17,300	0	2,300	2,400	61,200-	23,100	38,100	50,800	0	5,200
2011	45,675	17,300	0	2,300	2,538	61,200-	23,100	38,100	50,800	0	5,320
2012	48,168	17,300	0	2,300	2,677	61,200-	23,100	38,100	50,800	0	5,440
2013	50,662	17,300	0	2,300	2,816	61,200-	23,100	38,100	50,800	0	5,560
2014	53,156	17,300	0	2,300	2,954	61,200-	23,100	38,100	50,800	0	5,680
2015	55,650	17,300	0	2,300	3,093	61,200-	23,100	38,100	50,800	0	5,800
2016	58,500	17,300	0	2,300	3,251	61,200-	23,100	38,100	50,800	0	5,800
2017	61,351	17,300	0	2,300	3,409	61,200-	23,100	38,100	50,800	0	5,800
2018	64,201	17,300	0	2,300	3,568	61,200-	23,100	38,100	50,800	0	5,800
2019	67,051	17,300	0	2,300	3,726	61,200-	23,100	38,100	50,800	0	5,800
2020	69,901	17,300	0	2,300	3,885	61,200-	23,100	38,100	50,800	0	5,800
2021	72,965	17,300	0	2,300	4,055	61,200-	23,100	38,100	50,800	0	5,800
2022	76,029	17,300	0	2,300	4,225	61,200-	23,100	38,100	50,800	0	5,800
2023	79,093	17,300	0	2,300	4,394	61,200-	23,100	38,100	50,800	0	5,800
2024	82,157	17,300	0	2,300	4,566	61,200-	23,100	38,100	50,800	0	5,800
2025	85,934	17,300	0	2,300	4,775	61,200-	23,100	38,100	50,800	0	5,800
2026	88,071	17,300	0	2,300	4,894	61,200-	23,100	38,100	50,800	0	5,800
2027	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2028	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2029	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2030	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2031	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2032	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2033	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2034	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800
2035	90,138	17,300	0	2,300	5,009	61,200-	23,100	38,100	50,800	0	5,800

e) *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 Water District for such costs from the Delta through Reach 22B. The adjustment in deliveries shown in Column 50 provides for compliance with the repayment of the Agreement.*

FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

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
	(56)	(57)	(58)	(59)	(60)	(61)	(62)	(63)
1962	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0
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	395,678	16,021	3,619	0	0	0	4,365	149,405
1982	215,123	8,409	12,599	0	0	0	3,961	155,629
1983	334,012	8,758	14,060	0	0	0	12,996	135,340
1984	230,000	11,680	16,000	0	0	0	13,500	115,400
1985	378,619	28,820	16,000	0	0	0	16,400	290,411
1986	323,619	33,820	16,000	0	0	0	19,400	287,411
1987	323,619	33,820	16,000	0	0	0	20,900	285,911
1988	323,619	33,820	16,000	0	0	0	18,000	288,811
1989	249,689	97,000	18,500	10,800	0	0	18,000	288,811
1990	249,689	101,500	18,500	11,800	0	0	18,000	288,811
1991	495,000	102,600	18,780	12,900	0	0	25,000	350,000
1992	465,000	102,600	19,060	14,000	0	0	26,000	349,000
1993	435,000	102,600	19,340	15,100	0	0	27,000	348,000
1994	405,000	102,600	19,620	16,200	0	0	28,000	347,000
1995	375,000	102,600	39,800	17,300	0	0	29,000	346,000
1996	375,000	102,600	20,200	17,300	0	0	30,000	345,000
1997	375,000	102,600	20,500	17,300	0	0	31,000	344,000
1998	375,000	102,600	20,800	17,300	0	0	32,000	343,000
1999	375,000	102,600	21,100	17,300	0	0	33,000	342,000
2000	375,000	102,600	21,400	17,300	0	0	34,000	341,000
2001	343,000	102,600	21,720	17,300	0	0	35,000	340,000
2002	311,000	102,600	22,040	17,300	0	0	36,000	339,000
2003	279,000	102,600	22,360	17,300	0	0	37,000	338,000
2004	247,000	102,600	22,680	17,300	0	0	38,000	337,000
2005	215,000	102,600	23,000	17,300	0	0	39,000	336,000
2006	224,000	102,600	23,360	17,300	0	0	40,000	335,000
2007	233,000	102,600	23,720	17,300	0	0	41,000	334,000
2008	242,000	102,600	24,080	17,300	0	0	42,000	333,000
2009	251,000	102,600	24,440	17,300	0	0	43,000	332,000
2010	260,000	102,600	24,800	17,300	0	0	44,000	331,000
2011	266,000	102,600	25,180	17,300	0	0	45,000	330,000
2012	272,000	102,600	25,560	17,300	0	0	46,000	329,000
2013	278,000	102,600	25,940	17,300	0	0	47,000	328,000
2014	284,000	102,600	26,320	17,300	0	0	48,000	327,000
2015	290,000	102,600	26,700	17,300	0	0	49,000	326,000
2016	291,500	102,600	27,120	17,300	0	0	50,000	325,000
2017	293,000	102,600	27,540	17,300	0	0	51,000	324,000
2018	294,500	102,600	27,960	17,300	0	0	52,000	323,000
2019	296,000	102,600	28,380	17,300	0	0	53,000	322,000
2020	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2021	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2022	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2023	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2024	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2025	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2026	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2027	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2028	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2029	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2030	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2031	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2032	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2033	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2034	297,700	102,600	28,800	17,300	0	0	54,000	321,000
2035	297,700	102,600	28,800	17,300	0	0	54,000	321,000

TABLE B-5A: ANNUAL WATER QUANTITIES DELIVERED FROM EACH AQUEDUCT REACH TO EACH CONTRACTOR (a

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (continued)											Total California Aqueduct
	WEST BRANCH, CALIFORNIA AQUEDUCT					COASTAL BRANCH, CALIFORNIA AQUEDUCT						
	Reach 29F	Reach 29H	Reach 30			Reach 31A		Reach 33A	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	
	(64)	(65)	(66)	(67)	(68)	(69)	(70)	(71)	(72)	(73)	(74)	(75)
1962	0	0	0	0	0	0	0	0	0	0	0	8,906-
1963	0	0	0	0	0	0	0	0	0	0	0	12,645-
1964	0	0	0	0	0	0	0	0	0	0	0	20,911-
1965	0	0	0	0	0	0	0	0	0	0	0	34,026-
1966	0	0	0	0	0	0	0	0	0	0	0	54,913-
1967	0	0	0	0	0	0	0	0	0	0	0	45,225-
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	0	277,503	0	5,761	97,054	12,700	0	0	0	0	1,779,479
1982	0	0	351,362	0	9,516	83,076	12,700	0	0	0	0	1,642,128
1983	0	0	178,127	0	10,600	96,079	11,325	0	0	0	0	1,612,753
1984	0	0	257,000	0	11,800	117,600	12,700	0	0	0	0	1,705,134
1985	0	0	591,270	0	13,000	122,320	12,700	0	0	0	0	2,445,590
1986	0	0	673,370	0	14,500	127,000	12,700	0	0	0	0	2,540,866
1987	0	0	691,470	0	15,700	131,900	12,700	0	0	0	0	2,624,788
1988	0	250	713,170	750	17,000	136,200	12,700	0	0	0	0	2,707,577
1989	0	500	807,173	1,500	18,000	132,000	12,700	0	0	0	0	2,902,688
1990	0	750	838,500	2,250	19,000	132,000	12,700	0	0	0	0	2,996,100
1991	0	1,000	555,000	3,000	20,300	132,000	12,700	5,000	2,500	5,000	22,743	3,068,343
1992	0	1,250	615,000	3,750	22,600	132,000	12,700	10,000	5,000	10,000	45,486	3,140,486
1993	0	1,500	675,000	4,500	23,900	132,000	12,700	10,000	5,000	10,000	45,486	3,176,386
1994	0	2,000	735,000	6,000	24,200	132,000	12,700	10,000	5,000	10,000	45,486	3,212,286
1995	0	2,500	795,000	7,500	25,500	132,000	12,700	10,000	5,000	10,000	45,486	3,269,086
1996	0	3,250	821,000	9,750	26,800	132,000	12,700	10,000	5,000	10,000	45,486	3,282,506
1997	0	4,000	847,000	12,000	28,100	132,000	12,700	10,000	5,000	10,000	45,486	3,315,826
1998	0	5,000	873,000	15,000	29,400	132,000	12,700	10,000	5,000	10,000	45,486	3,350,146
1999	0	5,000	899,000	15,000	30,700	132,000	12,700	10,000	5,000	10,000	45,486	3,380,466
2000	0	5,000	925,000	15,000	32,000	132,000	12,700	10,000	5,000	10,000	45,486	3,410,786
2001	0	5,000	981,000	15,000	33,000	132,000	12,700	10,000	5,000	10,000	45,486	3,438,936
2002	0	5,000	1,037,000	15,000	34,000	132,000	12,700	10,000	5,000	10,000	45,486	3,467,086
2003	0	5,000	1,093,000	15,000	35,000	132,000	12,700	10,000	5,000	10,000	45,486	3,495,236
2004	0	5,000	1,149,000	15,000	36,000	132,000	12,700	10,000	5,000	10,000	45,486	3,523,386
2005	0	5,000	1,205,000	15,000	37,000	132,000	12,700	10,000	5,000	10,000	45,486	3,551,586
2006	0	5,000	1,218,000	15,000	37,900	132,000	12,700	10,000	5,000	10,000	45,486	3,578,226
2007	0	5,000	1,231,000	15,000	38,800	132,000	12,700	10,000	5,000	10,000	45,486	3,604,866
2008	0	5,000	1,244,000	15,000	39,700	132,000	12,700	10,000	5,000	10,000	45,486	3,631,506
2009	0	5,000	1,257,000	15,000	40,600	132,000	12,700	10,000	5,000	10,000	45,486	3,658,146
2010	0	5,000	1,270,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,684,786
2011	0	5,000	1,283,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,707,786
2012	0	5,000	1,296,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,730,786
2013	0	5,000	1,309,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,753,786
2014	0	5,000	1,322,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,776,786
2015	0	5,000	1,335,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,799,786
2016	0	5,000	1,348,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,818,706
2017	0	5,000	1,361,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,837,626
2018	0	5,000	1,374,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,856,546
2019	0	5,000	1,387,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,875,466
2020	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,894,586
2021	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,898,886
2022	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,903,186
2023	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,907,486
2024	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,911,786
2025	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,917,086
2026	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,920,086
2027	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2028	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2029	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2030	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2031	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2032	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2033	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2034	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986
2035	0	5,000	1,400,000	15,000	41,500	132,000	12,700	10,000	5,000	10,000	45,486	3,922,986

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TABLE B-5B: ANNUAL WATER QUANTITIES

(in acre-feet)

Calendar Year	NORTH BAY AREA			SOUTH BAY AREA (d				CENTRAL COASTAL AREA		
	Napa (b County FC & WCD	Solano (c 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	9,001	0	9,001	19,590	21,917	88,000	129,507	0	0	0
1982	1,213	0	1,213	13,123	6,316	87,261	106,700	0	0	0
1983	2,299	0	2,299	22,283	22,425	88,000	132,708	0	0	0
1984	2,538	0	2,538	26,000	29,600	88,000	143,600	0	0	0
1985	2,990	0	2,990	27,000	30,800	88,000	145,800	0	0	0
1986	3,361	0	3,361	28,000	32,000	88,000	148,000	0	0	0
1987	3,627	15,650	19,277	29,000	33,300	88,000	150,300	0	0	0
1988	3,940	17,900	21,840	30,000	34,500	88,000	152,500	0	0	0
1989	5,100	30,700	35,800	31,000	35,700	90,000	156,700	0	0	0
1990	5,600	36,400	42,000	32,000	36,900	92,000	160,900	0	0	0
1991	6,460	36,400	42,860	34,000	38,400	94,000	166,400	12,500	22,743	35,243
1992	7,320	36,400	43,720	36,000	39,900	96,000	171,900	25,000	45,486	70,486
1993	8,180	36,400	44,580	38,000	41,400	98,000	177,400	25,000	45,486	70,486
1994	9,040	36,400	45,440	40,000	42,000	100,000	182,000	25,000	45,486	70,486
1995	9,900	36,400	46,300	42,000	42,000	100,000	184,000	25,000	45,486	70,486
1996	10,730	36,400	47,130	44,000	42,000	100,000	186,000	25,000	45,486	70,486
1997	11,560	36,400	47,960	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1998	12,390	36,400	48,790	46,000	42,000	100,000	188,000	25,000	45,486	70,486
1999	13,220	36,400	49,620	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2000	14,050	36,400	50,450	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2001	14,620	36,400	51,020	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2002	15,190	36,400	51,590	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2003	15,760	36,400	52,160	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2004	16,330	36,400	52,730	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2005	16,900	36,400	53,300	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2006	17,060	36,400	53,460	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2007	17,220	36,400	53,620	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2008	17,380	36,400	53,780	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2009	17,540	36,400	53,940	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2010	17,700	36,400	54,100	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2011	18,030	36,400	54,430	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2012	18,030	36,400	54,430	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2013	18,030	36,400	54,430	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2014	18,030	36,400	54,430	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2015	18,200	36,400	54,600	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2016	18,200	36,400	54,600	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2017	20,010	36,400	56,410	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2018	20,340	36,400	56,740	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2019	20,670	36,400	57,070	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2020	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2021	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2022	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2023	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2024	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2025	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2026	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2027	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2028	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2029	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2030	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2031	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2032	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2033	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2034	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
2035	21,000	36,400	57,400	46,000	42,000	100,000	188,000	25,000	45,486	70,486
TOTAL	877,598	1,738,650	2,616,248	2,426,094	2,380,559	6,566,986	11,373,639	1,112,500	2,024,127	3,136,627

a) *Includes entitlement water, surplus water (delivered prior to May 1, 1973), and nonproject water.*

DELIVERED TO EACH CONTRACTOR [a]

(in acre-feet)

Calendar Year	SAN JOAQUIN VALLEY AREA									
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation District	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)	(15)	(16)	(17)	(18)	(19)	(20)	(21)
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	7,382	26,360	1,978	0	127,384	127,384	900	3,084	25,100	192,188
1969	9,970	31,375	56	0	141,265	141,265	100	3,016	9,923	195,705
1970	11,739	40,407	3,942	0	204,634	204,634	0	5,911	9,578	276,211
1971	12,490	41,053	5,990	0	360,151	360,151	3,700	7,212	122,485	553,081
1972	13,905	42,443	5,795	0	490,781	490,781	1,400	8,166	258,393	820,883
1973	9,418	22,057	3,000	0	341,469	341,469	1,500	3,214	50,464	431,122
1974	9,700	33,390	3,000	23,708	323,292	347,000	1,500	3,471	72,289	470,350
1975	10,700	40,555	3,000	14,529	396,291	410,820	1,600	3,576	86,258	556,509
1976	11,700	41,421	3,000	46,719	392,531	439,250	1,600	4,112	58,811	559,894
1977	5,075	11,153	738	27,882	163,425	191,307	1,530	1,472	18,081	229,356
1978	11,362	51,747	454	76,895	590,452	667,347	2,070	3,906	12,053	748,939
1979	19,138	38,544	1,739	62,997	683,049	746,046	2,000	6,149	155,121	968,737
1980	13,882	41,000	894	45,943	588,557	634,500	2,200	5,700	75,444	773,620
1981	12,700	41,000	5,859	75,758	615,642	691,400	2,300	4,300	83,438	840,997
1982	12,700	41,000	361	48,483	696,817	745,300	1,750	3,838	18,551	823,500
1983	11,325	42,900	3,300	80,210	724,890	805,100	3,550	4,600	4,582	875,357
1984	12,700	45,100	3,000	74,600	786,000	860,600	3,100	4,800	88,600	1,017,900
1985	12,700	47,200	3,000	79,550	835,450	915,000	3,400	4,900	92,900	1,079,100
1986	12,700	49,300	3,000	98,400	869,800	968,200	3,700	5,100	97,200	1,139,200
1987	12,700	51,400	3,000	104,100	919,400	1,023,500	4,000	5,200	101,400	1,201,200
1988	12,700	53,500	3,000	108,300	966,300	1,074,600	4,000	5,400	105,600	1,258,800
1989	12,700	55,600	3,000	115,200	999,100	1,114,300	4,000	5,600	109,900	1,305,100
1990	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1991	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1992	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1993	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1994	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1995	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1996	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1997	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1998	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
1999	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2000	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2001	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2002	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2003	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2004	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2005	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2006	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2007	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2008	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2009	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2010	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2011	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2012	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2013	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2014	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2015	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2016	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2017	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2018	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2019	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2020	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2021	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2022	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2023	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2024	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2025	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2026	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2027	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2028	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2029	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2030	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2031	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2032	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2033	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2034	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
2035	12,700	57,700	3,000	119,600	1,033,800	1,153,400	4,000	5,700	118,500	1,355,000
TOTAL	843,586	3,542,705	199,106	6,584,874	59,771,480	66,356,354	233,900	364,927	7,107,171	78,647,749

b) *For the period 1968 through 1986, annual quantities delivered are nonproject water pumped through an interim facility.*

c) *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.*

d) *For the period June 1962 through November 1967, deliveries were supplied by nonproject water.*

TABLE B-5B: ANNUAL WATER QUANTITIES

(in acre-feet)

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	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	79,375	5,761	12,105	1,485	19,000	1,270	4,000	0	16,021	3,619
1982	50,291	9,516	13,326	1,238	21,000	0	10,500	0	8,409	12,599
1983	40,394	10,600	14,547	1,609	23,000	1,500	0	0	8,758	14,060
1984	28,694	11,800	15,768	1,850	25,000	1,610	0	0	11,680	16,000
1985	28,140	13,000	16,989	2,000	27,000	1,730	100	0	28,820	16,000
1986	28,456	14,500	18,210	2,100	29,000	1,840	300	850	33,820	16,000
1987	26,858	15,700	19,431	2,300	31,500	1,960	300	4,750	33,820	16,000
1988	26,837	17,000	20,652	2,450	34,000	2,070	300	5,700	33,820	16,000
1989	27,500	18,000	21,873	2,575	36,500	2,190	48,500	6,850	97,000	18,500
1990	28,500	19,000	23,100	2,700	38,100	2,300	50,800	8,000	101,500	18,500
1991	29,800	20,300	23,100	2,820	38,100	2,300	50,800	8,800	102,600	18,780
1992	31,100	22,600	23,100	2,940	38,100	2,300	50,800	9,600	102,600	19,060
1993	32,400	23,900	23,100	3,060	38,100	2,300	50,800	10,400	102,600	19,340
1994	33,700	24,200	23,100	3,180	38,100	2,300	50,800	11,200	102,600	19,620
1995	35,000	25,500	23,100	3,300	38,100	2,300	50,800	12,000	102,600	39,800
1996	37,000	26,800	23,100	3,420	38,100	2,300	50,800	12,600	102,600	20,200
1997	39,000	28,100	23,100	3,540	38,100	2,300	50,800	13,200	102,600	20,500
1998	41,000	29,400	23,100	3,660	38,100	2,300	50,800	13,800	102,600	20,800
1999	43,000	30,700	23,100	3,780	38,100	2,300	50,800	14,400	102,600	21,100
2000	45,000	32,000	23,100	3,900	38,100	2,300	50,800	15,000	102,600	21,400
2001	47,500	33,000	23,100	4,030	38,100	2,300	50,800	15,200	102,600	21,720
2002	50,000	34,000	23,100	4,160	38,100	2,300	50,800	15,400	102,600	22,040
2003	52,500	35,000	23,100	4,290	38,100	2,300	50,800	15,600	102,600	22,360
2004	55,000	36,000	23,100	4,420	38,100	2,300	50,800	15,800	102,600	22,680
2005	57,500	37,000	23,100	4,550	38,100	2,300	50,800	16,050	102,600	23,000
2006	60,500	37,900	23,100	4,680	38,100	2,300	50,800	16,300	102,600	23,360
2007	63,500	38,800	23,100	4,810	38,100	2,300	50,800	16,550	102,600	23,720
2008	66,500	39,700	23,100	4,940	38,100	2,300	50,800	16,800	102,600	24,080
2009	69,500	40,600	23,100	5,070	38,100	2,300	50,800	17,050	102,600	24,440
2010	72,500	41,500	23,100	5,200	38,100	2,300	50,800	17,300	102,600	24,800
2011	76,000	41,500	23,100	5,320	38,100	2,300	50,800	17,300	102,600	25,180
2012	79,500	41,500	23,100	5,440	38,100	2,300	50,800	17,300	102,600	25,560
2013	83,000	41,500	23,100	5,560	38,100	2,300	50,800	17,300	102,600	25,940
2014	86,500	41,500	23,100	5,680	38,100	2,300	50,800	17,300	102,600	26,320
2015	90,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	26,700
2016	94,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	27,120
2017	98,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	27,540
2018	102,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	27,960
2019	106,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,380
2020	110,000	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2021	114,300	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2022	118,600	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2023	122,900	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2024	127,200	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2025	132,500	41,500	23,100	5,800	38,100	2,300	50,800	17,300	102,600	28,800
2026	135,500	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	4,474,066	1,810,594	1,273,332	251,981	2,087,900	122,750	2,408,949	741,700	5,095,998	1,331,853

DELIVERED TO EACH CONTRACTOR (a

(in acre-feet)

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		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	795,846	0	938,482	0	221	355	576	0	1,918,563
1982	0	691,749	0	818,628	0	334	305	639	0	1,750,680
1983	0	622,928	0	737,396	0	1,200	758	1,958	0	1,749,718
1984	0	575,132	0	687,534	1,200	1,200	830	3,230	0	1,854,802
1985	0	1,232,711	0	1,366,490	1,500	1,200	860	3,560	0	2,597,940
1986	0	1,256,590	0	1,401,666	1,800	1,200	890	3,890	0	2,696,117
1987	0	1,270,969	0	1,423,588	2,200	1,200	920	4,320	0	2,798,685
1988	0	1,288,948	1,000	1,448,777	2,900	1,200	960	5,060	0	2,886,977
1989	10,800	1,305,300	2,000	1,597,588	3,300	1,200	1,000	5,500	0	3,100,688
1990	11,800	1,333,800	3,000	1,641,100	3,800	1,200	1,040	6,040	0	3,205,040
1991	12,900	1,363,800	4,000	1,678,100	4,100	27,100	970	32,170	0	3,309,773
1992	14,000	1,393,800	5,000	1,715,000	4,300	26,700	1,000	32,000	0	3,388,106
1993	15,100	1,423,800	6,000	1,750,900	4,600	26,300	1,030	31,930	0	3,430,296
1994	16,200	1,453,800	8,000	1,786,800	4,800	25,900	1,060	31,760	0	3,471,486
1995	17,300	1,483,800	10,000	1,843,600	5,100	25,400	1,100	31,600	0	3,530,986
1996	17,300	1,509,800	13,000	1,857,020	5,400	25,000	1,140	31,540	0	3,547,176
1997	17,300	1,535,800	16,000	1,890,340	5,600	24,600	1,180	31,380	0	3,583,166
1998	17,300	1,561,800	20,000	1,924,660	5,900	24,200	1,220	31,320	0	3,618,256
1999	17,300	1,587,800	20,000	1,954,980	6,200	23,800	1,260	31,260	0	3,649,346
2000	17,300	1,613,800	20,000	1,985,300	6,600	23,400	1,310	31,310	0	3,680,546
2001	17,300	1,637,800	20,000	2,013,450	7,100	23,600	1,370	32,070	0	3,710,026
2002	17,300	1,661,800	20,000	2,041,600	7,500	23,700	1,430	32,630	0	3,739,306
2003	17,300	1,685,800	20,000	2,069,750	8,000	23,900	1,490	33,390	0	3,768,786
2004	17,300	1,709,800	20,000	2,097,900	8,400	24,000	1,550	33,950	0	3,798,066
2005	17,300	1,733,800	20,000	2,126,100	8,500	24,200	1,610	34,310	0	3,827,196
2006	17,300	1,755,800	20,000	2,152,740	8,500	24,300	1,680	34,480	0	3,854,166
2007	17,300	1,777,800	20,000	2,179,380	8,600	24,500	1,850	34,950	0	3,881,436
2008	17,300	1,799,800	20,000	2,206,020	8,600	24,700	1,920	35,220	0	3,908,506
2009	17,300	1,821,800	20,000	2,232,660	8,700	24,800	1,990	35,490	0	3,935,576
2010	17,300	1,843,800	20,000	2,259,300	8,700	25,000	2,060	35,760	0	3,962,646
2011	17,300	1,862,800	20,000	2,282,300	8,800	25,100	2,140	36,040	0	3,986,256
2012	17,300	1,881,800	20,000	2,305,300	8,800	25,300	2,220	36,320	0	4,009,536
2013	17,300	1,900,800	20,000	2,328,300	8,900	25,400	2,310	36,610	0	4,032,826
2014	17,300	1,919,800	20,000	2,351,300	9,000	25,600	2,400	37,000	0	4,056,216
2015	17,300	1,938,800	20,000	2,374,300	9,000	25,800	2,500	37,300	0	4,079,686
2016	17,300	1,953,300	20,000	2,393,220	9,100	25,900	2,600	37,600	0	4,098,906
2017	17,300	1,967,800	20,000	2,412,140	9,100	26,100	2,600	37,800	0	4,119,836
2018	17,300	1,982,300	20,000	2,431,060	9,200	26,200	2,600	38,000	0	4,139,286
2019	17,300	1,996,800	20,000	2,449,980	9,200	26,400	2,600	38,200	0	4,158,736
2020	17,300	2,011,500	20,000	2,469,100	9,300	26,600	2,700	38,600	0	4,178,586
2021	17,300	2,011,500	20,000	2,473,400	9,300	26,700	2,700	38,700	0	4,182,986
2022	17,300	2,011,500	20,000	2,477,700	9,400	26,900	2,700	39,000	0	4,187,586
2023	17,300	2,011,500	20,000	2,482,000	9,400	27,000	2,700	39,100	0	4,191,986
2024	17,300	2,011,500	20,000	2,486,300	9,500	27,200	2,700	39,400	0	4,196,586
2025	17,300	2,011,500	20,000	2,491,600	9,500	27,300	2,700	39,500	0	4,201,986
2026	17,300	2,011,500	20,000	2,494,600	9,600	27,500	2,700	39,800	0	4,205,286
2027	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2028	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2029	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2030	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2031	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2032	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2033	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2034	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
2035	17,300	2,011,500	20,000	2,497,500	9,600	27,500	2,700	39,800	0	4,208,186
TOTAL	790,100	95,678,774	828,000	116,895,997	385,400	1,176,947	105,266	1,667,613	0	214,337,873

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

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 (b	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply (c	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	8	9,001	9,009	0	2,627	13,742	129,507	121	145,997
1982	0	0	0	0	-8	1,213	1,205	0	2,344	-23,928	106,700	129	85,245
1983	0	0	0	0	0	2,299	2,299	0	3,549	-18,154	132,708	0	118,103
1984	0	0	0	0	0	2,538	2,538	0	3,749	-3,519	143,600	0	143,830
1985	0	0	0	0	0	2,990	2,990	0	3,749	0	145,800	0	149,549
1986	350	16,951	17,301	0	0	3,361	3,361	0	3,749	0	148,000	0	151,749
1987	350	19,277	19,627	0	0	3,627	3,627	0	3,756	0	150,300	0	154,056
1988	350	21,840	22,190	0	0	3,940	3,940	0	3,758	0	152,500	0	156,258
1989	350	35,800	36,150	0	0	5,100	5,100	0	3,734	0	156,700	0	160,434
1990	350	42,000	42,350	0	0	5,600	5,600	0	3,629	0	160,900	0	164,529
1991	350	42,860	43,210	0	0	6,460	6,460	0	3,559	0	166,400	0	169,959
1992	350	43,720	44,070	0	0	7,320	7,320	0	3,596	0	171,900	0	175,496
1993	350	44,580	44,930	0	0	8,180	8,180	0	3,516	0	177,400	0	180,916
1994	350	45,440	45,790	0	0	9,040	9,040	0	3,405	0	182,000	0	185,405
1995	350	46,300	46,650	0	0	9,900	9,900	0	3,351	0	184,000	0	187,351
1996	350	47,130	47,480	0	0	10,730	10,730	0	3,292	0	186,000	0	189,292
1997	350	47,960	48,310	0	0	11,560	11,560	0	3,366	0	188,000	0	191,366
1998	350	48,790	49,140	0	0	12,390	12,390	0	3,366	0	188,000	0	191,366
1999	350	49,620	49,970	0	0	13,220	13,220	0	3,366	0	188,000	0	191,366
2000	350	50,450	50,800	0	0	14,050	14,050	0	3,366	0	188,000	0	191,366
2001	350	51,020	51,370	0	0	14,620	14,620	0	3,366	0	188,000	0	191,366
2002	350	51,590	51,940	0	0	15,190	15,190	0	3,366	0	188,000	0	191,366
2003	350	52,160	52,510	0	0	15,760	15,760	0	3,366	0	188,000	0	191,366
2004	350	52,730	53,080	0	0	16,330	16,330	0	3,366	0	188,000	0	191,366
2005	350	53,300	53,650	0	0	16,900	16,900	0	3,366	0	188,000	0	191,366
2006	350	53,460	53,810	0	0	17,060	17,060	0	3,366	0	188,000	0	191,366
2007	350	53,620	53,970	0	0	17,220	17,220	0	3,366	0	188,000	0	191,366
2008	350	53,780	54,130	0	0	17,380	17,380	0	3,366	0	188,000	0	191,366
2009	350	53,940	54,290	0	0	17,540	17,540	0	3,366	0	188,000	0	191,366
2010	350	54,100	54,450	0	0	17,700	17,700	0	3,366	0	188,000	0	191,366
2011	350	54,430	54,780	0	0	18,030	18,030	0	3,366	0	188,000	0	191,366
2012	350	54,430	54,780	0	0	18,030	18,030	0	3,366	0	188,000	0	191,366
2013	350	54,430	54,780	0	0	18,030	18,030	0	3,366	0	188,000	0	191,366
2014	350	54,430	54,780	0	0	18,030	18,030	0	3,366	0	188,000	0	191,366
2015	350	54,600	54,950	0	0	18,200	18,200	0	3,366	0	188,000	0	191,366
2016	350	54,600	54,950	0	0	18,200	18,200	0	3,366	0	188,000	0	191,366
2017	350	56,410	56,760	0	0	20,010	20,010	0	3,366	0	188,000	0	191,366
2018	350	56,740	57,090	0	0	20,340	20,340	0	3,366	0	188,000	0	191,366
2019	350	57,070	57,420	0	0	20,670	20,670	0	3,366	0	188,000	0	191,366
2020	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2021	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2022	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2023	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2024	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2025	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2026	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2027	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2028	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2029	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2030	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2031	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2032	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2033	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2034	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366
2035	350	57,400	57,750	0	0	21,000	21,000	0	3,366	0	188,000	0	191,366

Notes: "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)

Calendar Year	CALIFORNIA AQUEDUCT														
	NORTH SAN JOAQUIN DIVISION								SAN LUIS DIVISION						
	HARVEY O. BANKS DELTA PUMPING PLANT								DOS AMIGOS PUMPING PLANT						
	Transportation Water														
				Deliveries								Deliveries			
	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply	Recreation	Total	Conservation Water	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Water Supply	Recreation	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	46,060	85,350	40,536	1,908,986	4,974	2,085,906	-931,878	1,154,028	46,060	36,962	23,359	1,775,179	4,348	1,885,908	
1982	5,979	45,662	90,901	1,748,828	4,646	1,896,016	337,775	2,233,791	5,979	33,526	108,407	1,638,290	4,205	1,790,407	
1983	0	92,965	-156,664	1,745,461	9,211	1,690,973	859,096	2,550,069	0	74,093	-138,510	1,608,153	8,885	1,552,621	
1984	0	93,979	75,753	1,849,034	12,727	2,031,493	-34,518	1,996,975	0	77,168	79,272	1,700,634	12,380	1,869,454	
1985	0	79,925	36,220	2,591,390	14,027	2,721,562	-41,588	2,679,974	0	63,114	36,220	2,440,690	13,680	2,553,704	
1986	0	79,989	-4,041	2,688,866	14,143	2,778,957	29,451	2,808,408	0	63,178	-4,041	2,535,766	13,780	2,608,683	
1987	0	79,972	-24,016	2,775,088	17,573	2,848,617	-7,566	2,841,051	0	63,154	-24,016	2,619,588	17,210	2,675,936	
1988	0	79,884	14,861	2,860,077	17,743	2,972,565	61,920	3,034,485	0	63,064	14,861	2,702,177	17,380	2,797,482	
1989	0	78,833	-45,250	3,059,388	17,743	3,110,714	-122,933	2,987,781	0	62,037	-45,250	2,897,088	17,380	2,931,255	
1990	0	78,393	27,574	3,157,000	17,743	3,280,710	188,708	3,469,418	0	61,702	27,574	2,990,400	17,380	3,097,056	
1991	0	79,464	14,162	3,234,743	17,743	3,346,112	-123,568	3,222,544	0	62,843	14,162	3,062,643	17,380	3,157,028	
1992	0	79,938	-24,723	3,312,386	17,743	3,385,344	7,108	3,392,452	0	63,280	-24,723	3,134,786	17,380	3,190,723	
1993	0	79,980	38,698	3,353,786	17,743	3,490,207	7,984	3,498,191	0	63,402	38,698	3,170,686	17,380	3,290,166	
1994	0	79,816	-2,956	3,394,286	17,743	3,488,889	9,932	3,498,821	0	63,349	-2,956	3,206,586	17,380	3,284,359	
1995	0	79,685	-42,499	3,453,086	17,743	3,508,015	54,292	3,562,307	0	63,272	-42,499	3,263,386	17,380	3,301,539	
1996	0	79,486	-7,202	3,468,506	17,743	3,558,533	49,139	3,607,672	0	63,132	-7,202	3,276,806	17,380	3,350,116	
1997	0	79,824	37,603	3,503,826	17,743	3,638,996	13,733	3,652,729	0	63,396	37,603	3,310,126	17,380	3,428,505	
1998	0	79,781	13,326	3,538,146	17,743	3,648,996	-10,478	3,638,518	0	63,353	13,326	3,344,446	17,380	3,438,505	
1999	0	79,631	-31,046	3,568,466	17,743	3,634,794	30,083	3,664,877	0	63,203	-31,046	3,374,766	17,380	3,424,303	
2000	0	79,674	-216	3,598,786	17,743	3,695,987	1,364	3,697,351	0	63,246	-216	3,405,086	17,380	3,485,496	
2001	0	79,556	-1,955	3,626,936	17,743	3,722,280	21,973	3,744,253	0	63,128	-1,955	3,433,236	17,380	3,511,789	
2002	0	79,388	-44,158	3,655,086	17,743	3,708,059	50,927	3,758,986	0	62,960	-44,158	3,461,386	17,380	3,497,568	
2003	0	79,344	42,168	3,683,236	17,743	3,822,491	-39,187	3,783,304	0	62,916	42,168	3,489,536	17,380	3,612,000	
2004	0	79,576	-4,257	3,711,386	17,743	3,804,448	7,006	3,811,454	0	63,148	-4,257	3,517,686	17,380	3,593,957	
2005	0	79,331	-2,872	3,739,586	17,743	3,833,788	10,307	3,844,095	0	62,903	-2,872	3,545,886	17,380	3,623,297	
2006	0	79,432	-28,062	3,766,226	17,743	3,835,339	36,419	3,871,758	0	63,004	-28,062	3,572,526	17,380	3,624,848	
2007	0	79,348	29,842	3,792,866	17,743	3,919,799	-29,861	3,889,938	0	62,920	29,842	3,599,166	17,380	3,709,308	
2008	0	79,344	-28,311	3,819,506	17,743	3,888,282	51,419	3,939,701	0	62,916	-28,311	3,625,806	17,380	3,677,791	
2009	0	79,398	-4,029	3,846,146	17,743	3,939,258	1,987	3,941,245	0	62,970	-4,029	3,652,446	17,380	3,728,767	
2010	0	79,279	10,235	3,872,786	17,743	3,980,043	-53,294	3,926,749	0	62,851	10,235	3,679,086	17,380	3,769,552	
2011	0	79,061	-62,226	3,895,786	17,743	3,930,364	8,377	3,938,741	0	62,633	-62,226	3,702,086	17,380	3,719,873	
2012	0	78,778	-15,376	3,918,786	17,743	3,999,931	364,981	4,364,912	0	62,350	-15,376	3,725,086	17,380	3,789,440	
2013	0	79,069	24,368	3,941,786	17,743	4,062,966	-57,031	4,005,935	0	62,641	24,368	3,748,086	17,380	3,852,475	
2014	0	79,271	-13,743	3,964,786	17,743	4,048,057	-75,857	3,972,200	0	62,843	-13,743	3,771,086	17,380	3,837,566	
2015	0	78,960	1,201	3,987,786	17,743	4,085,690	-195,020	3,890,670	0	62,532	1,201	3,794,086	17,380	3,875,199	
2016	0	79,111	5,816	4,006,706	17,743	4,109,376	234,189	4,343,565	0	62,683	5,816	3,813,006	17,380	3,898,885	
2017	0	78,846	-27,645	4,025,626	17,743	4,094,570	-47,341	4,047,229	0	62,418	-27,645	3,831,926	17,380	3,884,079	
2018	0	78,964	19,516	4,044,546	17,743	4,160,769	48,099	4,208,868	0	62,536	19,516	3,850,846	17,380	3,950,278	
2019	0	78,866	-3,534	4,063,466	17,743	4,156,541	-188,584	3,967,957	0	62,438	-3,534	3,869,766	17,380	3,946,050	
2020	0	78,759	7,094	4,082,586	17,743	4,186,182	196,590	4,382,772	0	62,331	7,094	3,888,886	17,380	3,975,691	
2021	0	78,720	-14,458	4,086,886	17,743	4,168,891	-86,324	4,082,567	0	62,292	-14,458	3,893,186	17,380	3,958,400	
2022	0	78,712	16,143	4,091,186	17,743	4,203,784	17,733	4,221,517	0	62,284	16,143	3,897,486	17,380	3,993,293	
2023	0	78,667	-24,033	4,095,486	17,743	4,167,863	143,141	4,311,004	0	62,239	-24,033	3,901,786	17,380	3,957,372	
2024	0	78,639	2,144	4,099,786	17,743	4,198,312	32,765	4,231,077	0	62,211	2,144	3,906,086	17,380	3,987,821	
2025	0	78,620	-3,709	4,105,086	17,743	4,197,740	143,484	4,341,224	0	62,192	-3,709	3,911,386	17,380	3,987,249	
2026	0	78,553	-6,894	4,108,086	17,743	4,197,488	-121,769	4,075,719	0	62,125	-6,894	3,914,386	17,380	3,986,997	
2027	0	78,535	12,865	4,110,986	17,743	4,220,129	-65,806	4,154,323	0	62,107	12,865	3,917,286	17,380	4,009,638	
2028	0	78,515	-8,954	4,110,986	17,743	4,198,290	87,962	4,286,252	0	62,087	-8,954	3,917,286	17,380	3,987,799	
2029	0	78,523	4,209	4,110,986	17,743	4,211,461	31,088	4,242,549	0	62,095	4,209	3,917,286	17,380	4,000,970	
2030	0	78,531	-6,325	4,110,986	17,743	4,200,935	45,408	4,246,343	0	62,103	-6,325	3,917,286	17,380	3,990,444	
2031	0	78,427	5,625	4,110,986	17,743	4,212,781	41,745	4,254,526	0	61,999	5,625	3,917,286	17,380	4,002,290	
2032	0	78,537	-5,989	4,110,986	17,743	4,201,277	-26,110	4,175,167	0	62,109	-5,989	3,917,286	17,380	3,990,786	
2033	0	78,601	20,869	4,110,986	17,743	4,228,199	108,514	4,336,713	0	62,173	20,869	3,917,286	17,380	4,017,708	
2034	0	78,552	-29,275	4,110,986	17,743	4,178,006	-208,223	3,969,783	0	62,124	-29,275	3,917,286	17,380	3,967,515	
2035	0	78,524	41,197	4,110,986	17,743	4,248,450	478,103	4,726,553	0	62,096	41,197	3,917,286	17,380	4,037,959	

a) *Includes entitlement water, surplus water (delivered prior to May 1, 1973), and nonproject water.*

b) *For the period 1968 through 1986, deliveries are from nonproject water.*

c) *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)

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: Water Supply	Deliveries: Recreation	Total	Initial Fill Water	Operational Losses	Reservoir Storage Changes	Deliveries: Water Supply	Deliveries: Recreation	Total
	(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	38,942	23,359	1,077,322	4,112	1,143,735	0	51,600	23,359	998,307	4,112	1,077,378
1982	0	29,424	108,407	997,285	4,045	1,139,161	0	44,876	108,407	884,908	4,045	1,042,236
1983	0	48,860	-138,510	909,811	7,890	828,051	0	45,728	-138,510	795,745	7,890	710,853
1984	0	55,481	79,272	880,834	11,380	1,026,967	0	51,851	79,272	763,334	11,380	905,837
1985	0	41,427	36,220	1,574,890	12,680	1,665,217	0	37,797	36,220	1,442,690	12,680	1,529,387
1986	0	41,491	-4,041	1,625,466	12,780	1,675,696	0	37,861	-4,041	1,480,366	12,780	1,526,966
1987	0	41,467	-24,016	1,662,688	16,210	1,696,349	0	37,837	-24,016	1,502,788	16,210	1,532,819
1988	0	41,377	14,861	1,700,327	16,380	1,772,945	0	37,747	14,861	1,525,477	16,380	1,594,465
1989	0	40,350	-45,250	1,879,088	16,380	1,890,568	0	36,720	-45,250	1,702,488	16,380	1,710,338
1990	0	40,015	27,574	1,934,100	16,380	2,018,069	0	36,385	27,574	1,752,300	16,380	1,832,639
1991	0	40,606	14,162	1,971,100	16,380	2,042,248	0	36,976	14,162	1,789,300	16,380	1,856,818
1992	0	41,043	-24,723	2,008,000	16,380	2,040,700	0	37,413	-24,723	1,826,200	16,380	1,855,270
1993	0	41,165	38,698	2,043,900	16,380	2,140,143	0	37,535	38,698	1,862,100	16,380	1,954,713
1994	0	41,112	-2,956	2,079,800	16,380	2,134,336	0	37,482	-2,956	1,898,000	16,380	1,948,906
1995	0	41,035	-42,499	2,136,600	16,380	2,151,516	0	37,405	-42,499	1,954,800	16,380	1,966,086
1996	0	40,895	-7,202	2,150,020	16,380	2,200,093	0	37,265	-7,202	1,968,220	16,380	2,014,663
1997	0	41,159	37,603	2,183,340	16,380	2,278,482	0	37,529	37,603	2,001,540	16,380	2,093,052
1998	0	41,116	13,326	2,217,660	16,380	2,288,482	0	37,486	13,326	2,035,860	16,380	2,103,052
1999	0	40,966	-31,046	2,247,980	16,380	2,274,280	0	37,336	-31,046	2,066,180	16,380	2,088,850
2000	0	41,009	-216	2,278,300	16,380	2,335,473	0	37,379	-216	2,096,500	16,380	2,150,043
2001	0	40,891	-1,955	2,306,450	16,380	2,361,766	0	37,261	-1,955	2,124,650	16,380	2,176,336
2002	0	40,723	-44,158	2,334,600	16,380	2,347,545	0	37,093	-44,158	2,152,800	16,380	2,162,115
2003	0	40,679	42,168	2,362,750	16,380	2,461,977	0	37,049	42,168	2,180,950	16,380	2,276,547
2004	0	40,911	-4,257	2,390,900	16,380	2,443,934	0	37,281	-4,257	2,209,100	16,380	2,258,504
2005	0	40,666	-2,872	2,419,100	16,380	2,473,274	0	37,036	-2,872	2,237,300	16,380	2,287,844
2006	0	40,767	-28,062	2,445,740	16,380	2,474,825	0	37,137	-28,062	2,263,940	16,380	2,289,395
2007	0	40,683	29,842	2,472,380	16,380	2,559,285	0	37,053	29,842	2,290,580	16,380	2,373,855
2008	0	40,679	-28,311	2,499,020	16,380	2,527,768	0	37,049	-28,311	2,317,220	16,380	2,342,338
2009	0	40,733	-4,029	2,525,660	16,380	2,578,744	0	37,103	-4,029	2,343,860	16,380	2,393,314
2010	0	40,614	10,235	2,552,300	16,380	2,619,529	0	36,984	10,235	2,370,500	16,380	2,434,099
2011	0	40,396	-62,226	2,575,300	16,380	2,569,850	0	36,766	-62,226	2,393,500	16,380	2,384,420
2012	0	40,113	-15,376	2,598,300	16,380	2,639,417	0	36,483	-15,376	2,416,500	16,380	2,453,987
2013	0	40,404	24,368	2,621,300	16,380	2,702,452	0	36,774	24,368	2,439,500	16,380	2,517,022
2014	0	40,606	-13,743	2,644,300	16,380	2,687,543	0	36,976	-13,743	2,462,500	16,380	2,502,113
2015	0	40,295	1,201	2,667,300	16,380	2,725,176	0	36,665	1,201	2,485,500	16,380	2,539,746
2016	0	40,446	5,816	2,686,220	16,380	2,748,862	0	36,816	5,816	2,504,420	16,380	2,563,432
2017	0	40,181	-27,645	2,705,140	16,380	2,734,056	0	36,551	-27,645	2,523,340	16,380	2,548,626
2018	0	40,299	19,516	2,724,060	16,380	2,800,255	0	36,669	19,516	2,542,260	16,380	2,614,825
2019	0	40,201	-3,534	2,742,980	16,380	2,796,027	0	36,571	-3,534	2,561,180	16,380	2,610,597
2020	0	40,094	7,094	2,762,100	16,380	2,825,668	0	36,464	7,094	2,580,300	16,380	2,640,238
2021	0	40,055	-14,458	2,766,400	16,380	2,808,377	0	36,425	-14,458	2,584,600	16,380	2,622,947
2022	0	40,047	16,143	2,770,700	16,380	2,843,270	0	36,417	16,143	2,588,900	16,380	2,657,840
2023	0	40,002	-24,033	2,775,000	16,380	2,807,349	0	36,372	-24,033	2,593,200	16,380	2,621,919
2024	0	39,974	2,144	2,779,300	16,380	2,837,798	0	36,344	2,144	2,597,500	16,380	2,652,368
2025	0	39,955	-3,709	2,784,600	16,380	2,837,226	0	36,325	-3,709	2,602,800	16,380	2,651,796
2026	0	39,888	-6,894	2,787,600	16,380	2,836,974	0	36,258	-6,894	2,605,800	16,380	2,651,544
2027	0	39,870	12,865	2,790,500	16,380	2,859,615	0	36,240	12,865	2,608,700	16,380	2,674,185
2028	0	39,850	-8,954	2,790,500	16,380	2,837,776	0	36,220	-8,954	2,608,700	16,380	2,652,346
2029	0	39,858	4,209	2,790,500	16,380	2,850,947	0	36,228	4,209	2,608,700	16,380	2,665,517
2030	0	39,866	-6,325	2,790,500	16,380	2,840,421	0	36,236	-6,325	2,608,700	16,380	2,654,991
2031	0	39,762	5,625	2,790,500	16,380	2,852,267	0	36,132	5,625	2,608,700	16,380	2,666,837
2032	0	39,872	-5,989	2,790,500	16,380	2,840,763	0	36,242	-5,989	2,608,700	16,380	2,655,333
2033	0	39,936	20,869	2,790,500	16,380	2,867,685	0	36,306	20,869	2,608,700	16,380	2,682,255
2034	0	39,887	-29,275	2,790,500	16,380	2,817,492	0	36,257	-29,275	2,608,700	16,380	2,632,062
2035	0	39,859	41,197	2,790,500	16,380	2,887,936	0	36,229	41,197	2,608,700	16,380	2,702,506

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES (a

(in acre-feet)

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	48,844	23,359	959,274	4,112	1,035,589	0	40,602	23,359	938,482	4,112	1,006,555
1982	0	34,009	108,407	837,126	4,045	983,587	0	37,731	108,407	818,628	4,045	968,811
1983	0	45,512	-138,510	753,253	7,890	668,145	0	44,175	-138,510	737,396	7,890	650,951
1984	0	51,601	79,272	716,134	11,380	858,387	0	50,051	79,272	687,534	11,380	828,237
1985	0	37,547	36,220	1,395,490	12,680	1,481,937	0	35,997	36,220	1,366,490	12,680	1,451,387
1986	0	37,611	-4,041	1,432,366	12,780	1,478,716	0	36,061	-4,041	1,401,666	12,780	1,446,466
1987	0	37,587	-24,016	1,454,788	16,210	1,484,569	0	36,037	-24,016	1,423,588	16,210	1,451,819
1988	0	37,497	14,861	1,479,477	16,380	1,548,215	0	35,947	14,861	1,448,777	16,380	1,515,965
1989	0	36,470	-45,250	1,650,488	16,380	1,658,088	0	34,920	-45,250	1,599,588	16,380	1,605,638
1990	0	36,135	27,574	1,699,300	16,380	1,779,389	0	34,585	27,574	1,643,100	16,380	1,721,639
1991	0	36,726	14,162	1,736,300	16,380	1,803,568	0	35,176	14,162	1,680,100	16,380	1,745,818
1992	0	37,163	-24,723	1,773,200	16,380	1,802,020	0	35,613	-24,723	1,717,000	16,380	1,744,270
1993	0	37,285	38,698	1,809,100	16,380	1,901,463	0	35,735	38,698	1,752,900	16,380	1,843,713
1994	0	37,232	-2,956	1,845,000	16,380	1,895,656	0	35,682	-2,956	1,788,800	16,380	1,837,906
1995	0	37,155	-42,499	1,901,800	16,380	1,912,836	0	35,605	-42,499	1,845,600	16,380	1,855,086
1996	0	37,015	-7,202	1,915,220	16,380	1,961,413	0	35,465	-7,202	1,859,020	16,380	1,903,663
1997	0	37,279	37,603	1,948,540	16,380	2,039,802	0	35,729	37,603	1,892,340	16,380	1,982,052
1998	0	37,236	13,326	1,982,860	16,380	2,049,802	0	35,686	13,326	1,926,660	16,380	1,992,052
1999	0	37,086	-31,046	2,013,180	16,380	2,035,600	0	35,536	-31,046	1,956,980	16,380	1,977,850
2000	0	37,129	-216	2,043,500	16,380	2,096,793	0	35,579	-216	1,987,300	16,380	2,039,043
2001	0	37,011	-1,955	2,071,650	16,380	2,123,086	0	35,461	-1,955	2,015,450	16,380	2,065,336
2002	0	36,843	-44,158	2,099,800	16,380	2,108,865	0	35,293	-44,158	2,043,600	16,380	2,051,115
2003	0	36,799	42,168	2,127,950	16,380	2,223,297	0	35,249	42,168	2,071,750	16,380	2,165,547
2004	0	37,031	-4,257	2,156,100	16,380	2,205,254	0	35,481	-4,257	2,099,900	16,380	2,147,504
2005	0	36,786	-2,872	2,184,300	16,380	2,234,594	0	35,236	-2,872	2,128,100	16,380	2,176,844
2006	0	36,887	-28,062	2,210,940	16,380	2,236,145	0	35,337	-28,062	2,154,740	16,380	2,178,395
2007	0	36,803	29,842	2,237,580	16,380	2,320,605	0	35,253	29,842	2,181,380	16,380	2,262,855
2008	0	36,799	-28,311	2,264,220	16,380	2,289,088	0	35,249	-28,311	2,208,020	16,380	2,231,338
2009	0	36,853	-4,029	2,290,860	16,380	2,340,064	0	35,303	-4,029	2,234,660	16,380	2,282,314
2010	0	36,734	10,235	2,317,500	16,380	2,380,849	0	35,184	10,235	2,261,300	16,380	2,323,099
2011	0	36,516	-62,226	2,340,500	16,380	2,331,170	0	34,966	-62,226	2,284,300	16,380	2,273,420
2012	0	36,233	-15,376	2,363,500	16,380	2,400,737	0	34,683	-15,376	2,307,300	16,380	2,342,987
2013	0	36,524	24,368	2,386,500	16,380	2,463,772	0	34,974	24,368	2,330,300	16,380	2,406,022
2014	0	36,726	-13,743	2,409,500	16,380	2,448,863	0	35,176	-13,743	2,353,300	16,380	2,391,113
2015	0	36,415	1,201	2,432,500	16,380	2,486,496	0	34,865	1,201	2,376,300	16,380	2,428,746
2016	0	36,566	5,816	2,451,420	16,380	2,510,182	0	35,016	5,816	2,395,220	16,380	2,452,432
2017	0	36,301	-27,645	2,470,340	16,380	2,495,376	0	34,751	-27,645	2,414,140	16,380	2,437,626
2018	0	36,419	19,516	2,489,260	16,380	2,561,575	0	34,869	19,516	2,433,060	16,380	2,503,825
2019	0	36,321	-3,534	2,508,180	16,380	2,557,347	0	34,771	-3,534	2,451,980	16,380	2,499,597
2020	0	36,214	7,094	2,527,300	16,380	2,586,988	0	34,664	7,094	2,471,100	16,380	2,529,238
2021	0	36,175	-14,458	2,531,600	16,380	2,569,697	0	34,625	-14,458	2,475,400	16,380	2,511,947
2022	0	36,167	16,143	2,535,900	16,380	2,604,590	0	34,617	16,143	2,479,700	16,380	2,546,840
2023	0	36,122	-24,033	2,540,200	16,380	2,568,669	0	34,572	-24,033	2,484,000	16,380	2,510,919
2024	0	36,094	2,144	2,544,500	16,380	2,599,118	0	34,544	2,144	2,488,300	16,380	2,541,368
2025	0	36,075	-3,709	2,549,800	16,380	2,598,546	0	34,525	-3,709	2,493,600	16,380	2,540,796
2026	0	36,008	-6,894	2,552,800	16,380	2,598,294	0	34,458	-6,894	2,496,600	16,380	2,540,544
2027	0	35,990	12,865	2,555,700	16,380	2,620,935	0	34,440	12,865	2,499,500	16,380	2,563,185
2028	0	35,970	-8,954	2,555,700	16,380	2,599,096	0	34,420	-8,954	2,499,500	16,380	2,541,346
2029	0	35,978	4,209	2,555,700	16,380	2,612,267	0	34,428	4,209	2,499,500	16,380	2,554,517
2030	0	35,986	-6,325	2,555,700	16,380	2,601,741	0	34,436	-6,325	2,499,500	16,380	2,543,991
2031	0	35,882	5,625	2,555,700	16,380	2,613,587	0	34,332	5,625	2,499,500	16,380	2,555,837
2032	0	35,992	-5,989	2,555,700	16,380	2,602,083	0	34,442	-5,989	2,499,500	16,380	2,544,333
2033	0	36,056	20,869	2,555,700	16,380	2,629,005	0	34,506	20,869	2,499,500	16,380	2,571,255
2034	0	36,007	-29,275	2,555,700	16,380	2,578,812	0	34,457	-29,275	2,499,500	16,380	2,521,062
2035	0	35,979	41,197	2,555,700	16,380	2,649,256	0	34,429	41,197	2,499,500	16,380	2,591,506

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	MOJAVE DIVISION											
	ALAMO POWER PLANT						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	4,992	-36,278	574,573	933	544,220
1982	0	0	0	0	0	0	0	4,891	48,383	407,459	1,919	462,652
1983	0	0	0	0	0	0	0	19,588	-43,161	506,775	3,160	486,362
1984	0	27,904	12,027	418,734	6,230	464,895	0	22,554	12,027	388,430	5,430	428,441
1985	0	21,071	3,126	762,220	7,430	793,847	0	15,721	3,126	732,350	6,430	757,627
1986	0	21,046	231	713,796	7,430	742,503	0	15,696	231	682,650	6,430	705,007
1987	0	21,119	-2,362	716,418	7,580	742,755	0	15,769	-2,362	682,850	6,430	702,687
1988	0	20,964	-7,973	717,607	10,580	741,178	0	15,614	-7,973	683,000	6,430	697,071
1989	0	20,022	-16,313	770,415	10,580	784,704	0	14,672	-16,313	733,875	6,430	738,664
1990	0	19,526	1,611	780,600	10,580	812,317	0	14,176	1,611	741,800	6,430	764,017
1991	0	20,174	25,085	1,098,800	10,580	1,154,639	0	14,824	25,085	1,057,900	6,430	1,104,239
1992	0	20,677	13,127	1,072,400	10,580	1,116,784	0	15,327	13,127	1,029,400	6,430	1,064,284
1993	0	20,812	3,255	1,046,000	10,580	1,080,647	0	15,462	3,255	1,000,900	6,430	1,026,047
1994	0	20,831	4,066	1,019,600	10,580	1,055,077	0	15,481	4,066	972,400	6,430	998,377
1995	0	20,788	-16,900	1,013,100	10,580	1,027,568	0	15,438	-16,900	963,800	6,430	968,768
1996	0	20,641	-11,764	996,220	10,580	1,015,677	0	15,291	-11,764	944,320	6,430	954,277
1997	0	20,806	7,140	999,240	10,580	1,037,766	0	15,456	7,140	944,740	6,430	973,766
1998	0	20,822	5,303	1,002,260	10,580	1,038,965	0	15,472	5,303	945,160	6,430	972,365
1999	0	20,762	6,518	1,005,280	10,580	1,043,140	0	15,412	6,518	945,580	6,430	973,940
2000	0	20,829	-2,300	1,008,300	10,580	1,037,409	0	15,479	-2,300	946,000	6,430	965,609
2001	0	20,808	7,460	979,450	10,580	1,018,298	0	15,458	7,460	914,450	6,430	943,798
2002	0	20,795	-14,283	950,600	10,580	967,692	0	15,445	-14,283	882,900	6,430	890,492
2003	0	20,629	735	921,750	10,580	953,694	0	15,279	735	851,350	6,430	873,794
2004	0	20,818	2,020	892,900	10,580	926,318	0	15,468	2,020	819,800	6,430	843,718
2005	0	20,658	8,876	864,100	10,580	904,214	0	15,308	8,876	788,250	6,430	818,864
2006	0	20,627	-15,991	876,840	10,580	892,056	0	15,277	-15,991	797,740	6,430	803,456
2007	0	20,704	10,514	889,580	10,580	931,378	0	15,354	10,514	807,230	6,430	839,528
2008	0	20,741	333	902,320	10,580	933,974	0	15,391	333	816,720	6,430	838,874
2009	0	20,753	-14,858	915,060	10,580	931,535	0	15,403	-14,858	826,210	6,430	833,185
2010	0	20,707	15,330	927,800	10,580	974,417	0	15,357	15,330	835,700	6,430	872,817
2011	0	20,676	-26,682	937,800	10,580	942,374	0	15,326	-26,682	842,200	6,430	837,274
2012	0	20,469	22,039	947,800	10,580	1,000,888	0	15,119	22,039	848,700	6,430	892,288
2013	0	20,672	9,586	957,800	10,580	998,638	0	15,322	9,586	855,200	6,430	886,538
2014	0	20,865	-4,388	967,800	10,580	994,857	0	15,515	-4,388	861,700	6,430	879,257
2015	0	20,576	-19,808	977,800	10,580	989,148	0	15,226	-19,808	868,200	6,430	870,048
2016	0	20,737	12,586	983,720	10,580	1,027,623	0	15,387	12,586	870,120	6,430	904,523
2017	0	20,537	-13,047	989,640	10,580	1,007,710	0	15,187	-13,047	872,040	6,430	880,610
2018	0	20,676	18,844	995,560	10,580	1,045,660	0	15,326	18,844	873,960	6,430	914,560
2019	0	20,619	1,775	1,001,480	10,580	1,034,454	0	15,269	1,775	875,880	6,430	899,354
2020	0	20,532	275	1,007,600	10,580	1,038,987	0	15,182	275	878,000	6,430	899,887
2021	0	20,499	-15,014	1,011,900	10,580	1,027,965	0	15,149	-15,014	878,000	6,430	884,565
2022	0	20,483	10,069	1,016,200	10,580	1,057,332	0	15,133	10,069	878,000	6,430	909,632
2023	0	20,488	-7,038	1,020,500	10,580	1,044,530	0	15,138	-7,038	878,000	6,430	892,530
2024	0	20,424	-9,983	1,024,800	10,580	1,045,821	0	15,074	-9,983	878,000	6,430	889,521
2025	0	20,425	13,137	1,030,100	10,580	1,074,242	0	15,075	13,137	878,000	6,430	912,642
2026	0	20,323	-7,790	1,033,100	10,580	1,056,213	0	14,973	-7,790	878,000	6,430	891,613
2027	0	20,350	2,533	1,036,000	10,580	1,069,463	0	15,000	2,533	878,000	6,430	901,963
2028	0	20,327	-982	1,036,000	10,580	1,065,925	0	14,977	-982	878,000	6,430	898,425
2029	0	20,322	-7,182	1,036,000	10,580	1,059,720	0	14,972	-7,182	878,000	6,430	892,220
2030	0	20,339	8,014	1,036,000	10,580	1,074,933	0	14,989	8,014	878,000	6,430	907,433
2031	0	20,230	-5,534	1,036,000	10,580	1,061,276	0	14,880	-5,534	878,000	6,430	893,776
2032	0	20,335	5,112	1,036,000	10,580	1,072,027	0	14,985	5,112	878,000	6,430	904,527
2033	0	20,405	6	1,036,000	10,580	1,066,991	0	15,055	6	878,000	6,430	899,491
2034	0	20,377	-15,028	1,036,000	10,580	1,051,929	0	15,027	-15,028	878,000	6,430	884,429
2035	0	20,298	12,468	1,036,000	10,580	1,079,346	0	14,948	12,468	878,000	6,430	911,846

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES (a

(in acre-feet)

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	8,401	-23,448	569,088	807	554,848
1982	0	0	0	0	0	0	0	5,012	48,521	395,721	1,798	451,052
1983	0	0	0	0	0	0	0	11,776	-22,561	505,166	2,993	497,374
1984	0	19,084	12,027	388,430	5,430	424,971	0	13,328	601	386,580	5,250	405,759
1985	0	12,251	3,126	732,250	6,430	754,057	0	8,382	-17,537	730,250	6,250	727,345
1986	0	12,226	231	682,350	6,430	701,237	0	8,322	1,949	680,250	6,250	696,771
1987	0	12,299	-2,362	682,550	6,430	698,917	0	8,390	-260	680,250	6,250	694,630
1988	0	12,144	-7,973	682,700	6,430	693,301	0	8,322	-10,828	680,250	6,250	683,994
1989	0	11,202	-16,313	685,375	6,430	686,694	0	7,389	-7,178	682,800	6,250	689,261
1990	0	10,706	1,611	691,000	6,430	709,747	0	6,984	-8,767	688,300	6,250	692,767
1991	0	11,354	25,085	1,007,100	6,430	1,049,969	0	7,536	35,451	1,004,280	6,250	1,053,517
1992	0	11,857	13,127	978,600	6,430	1,010,014	0	8,151	8,459	975,660	6,250	998,520
1993	0	11,992	3,255	950,100	6,430	971,777	0	8,164	7,090	947,040	6,250	968,544
1994	0	12,011	4,066	921,600	6,430	944,107	0	8,203	-3,417	918,420	6,250	929,456
1995	0	11,968	-16,900	913,000	6,430	914,498	0	8,197	-14,322	909,700	6,250	909,825
1996	0	11,821	-11,764	893,520	6,430	900,007	0	8,066	6,213	890,100	6,250	910,629
1997	0	11,986	7,140	893,940	6,430	919,496	0	8,175	7,646	890,400	6,250	912,471
1998	0	12,002	5,303	894,360	6,430	918,095	0	8,193	-5,776	890,700	6,250	899,367
1999	0	11,942	6,518	894,780	6,430	919,670	0	8,201	7,229	891,000	6,250	912,680
2000	0	12,009	-2,300	895,200	6,430	911,339	0	8,203	-11,752	891,300	6,250	894,001
2001	0	11,988	7,460	863,650	6,430	889,528	0	8,224	9,094	859,620	6,250	883,188
2002	0	11,975	-14,283	832,100	6,430	836,222	0	8,190	-4,258	827,940	6,250	838,122
2003	0	11,809	735	800,550	6,430	819,524	0	8,146	-451	796,260	6,250	810,205
2004	0	11,998	2,020	769,000	6,430	789,448	0	8,225	4,069	764,580	6,250	783,124
2005	0	11,838	8,876	737,450	6,430	764,594	0	8,186	4,565	732,900	6,250	751,901
2006	0	11,807	-15,991	746,940	6,430	749,186	0	8,158	-6,425	742,260	6,250	750,243
2007	0	11,884	10,514	756,430	6,430	785,258	0	8,141	-243	751,620	6,250	765,768
2008	0	11,921	333	765,920	6,430	784,604	0	8,171	-3,744	760,980	6,250	771,657
2009	0	11,933	-14,858	775,410	6,430	778,915	0	8,209	-1,756	770,340	6,250	783,043
2010	0	11,887	15,330	784,900	6,430	818,547	0	8,172	1,387	779,700	6,250	795,509
2011	0	11,856	-26,682	791,400	6,430	783,004	0	8,129	-8,887	786,080	6,250	791,572
2012	0	11,649	22,039	797,900	6,430	838,018	0	8,165	14,596	792,460	6,250	821,471
2013	0	11,852	9,586	804,400	6,430	832,268	0	8,118	2,542	798,840	6,250	815,750
2014	0	12,045	-4,388	810,900	6,430	824,987	0	8,239	-703	805,220	6,250	819,006
2015	0	11,756	-19,808	817,400	6,430	815,778	0	8,117	-12,556	811,600	6,250	813,411
2016	0	11,917	12,586	819,320	6,430	850,253	0	8,137	6,541	813,520	6,250	834,448
2017	0	11,717	-13,047	821,240	6,430	826,340	0	7,963	-4,762	815,440	6,250	824,891
2018	0	11,856	18,844	823,160	6,430	860,290	0	8,103	6,891	817,360	6,250	838,604
2019	0	11,799	1,775	825,080	6,430	845,084	0	8,025	-780	819,280	6,250	832,775
2020	0	11,712	275	827,200	6,430	845,617	0	7,953	-6,120	821,400	6,250	829,483
2021	0	11,679	-15,014	827,200	6,430	830,295	0	7,963	-2,675	821,400	6,250	832,938
2022	0	11,663	10,069	827,200	6,430	855,362	0	7,938	2,454	821,400	6,250	838,042
2023	0	11,668	-7,038	827,200	6,430	838,260	0	7,920	-1,467	821,400	6,250	834,103
2024	0	11,604	-9,983	827,200	6,430	835,251	0	7,896	-1,996	821,400	6,250	833,550
2025	0	11,605	13,137	827,200	6,430	858,372	0	7,851	-1,205	821,400	6,250	834,296
2026	0	11,503	-7,790	827,200	6,430	837,343	0	7,795	-3,476	821,400	6,250	831,969
2027	0	11,530	2,533	827,200	6,430	847,693	0	7,826	1,297	821,400	6,250	836,773
2028	0	11,507	-982	827,200	6,430	844,155	0	7,809	487	821,400	6,250	835,946
2029	0	11,502	-7,182	827,200	6,430	837,950	0	7,814	-2,539	821,400	6,250	832,925
2030	0	11,519	8,014	827,200	6,430	853,163	0	7,826	3,303	821,400	6,250	838,779
2031	0	11,410	-5,534	827,200	6,430	839,506	0	7,697	-2,766	821,400	6,250	832,581
2032	0	11,515	5,112	827,200	6,430	850,257	0	7,815	2,039	821,400	6,250	837,504
2033	0	11,585	6	827,200	6,430	845,221	0	7,877	962	821,400	6,250	836,489
2034	0	11,557	-15,028	827,200	6,430	830,159	0	7,849	-2,212	821,400	6,250	833,287
2035	0	11,478	12,468	827,200	6,430	857,576	0	7,778	-4,027	821,400	6,250	831,401

TABLE B-6: ANNUAL WATER QUANTITIES CONVEYED THRU EACH PUMPING

(in acre-feet)

Calendar Year	CALIFORNIA AQUEDUCT (Continued)											
	WEST BRANCH, CALIFORNIA AQUEDUCT											
	OSO PUMPING PLANT						WILLIAM E. WARNE POWERPLANT (PYRAMID)					
	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	
	(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	15,254	59,637	283,264	3,179	361,334	0	0	0	0	0	0
1982	0	24,292	60,024	360,878	2,126	447,320	0	24,420	60,024	360,878	2,126	447,448
1983	0	19,841	-95,349	188,727	4,190	117,409	0	18,202	-95,349	188,727	4,190	115,770
1984	0	22,097	67,245	268,800	5,150	363,292	0	20,187	67,245	268,800	5,150	361,382
1985	0	14,876	33,094	604,270	5,250	657,490	0	12,966	33,094	604,270	5,250	655,580
1986	0	14,965	-4,272	687,870	5,350	703,913	0	13,055	-4,272	687,870	5,350	702,003
1987	0	14,868	-21,654	707,170	8,630	709,014	0	12,958	-21,654	707,170	8,630	707,104
1988	0	14,933	22,834	731,170	5,800	774,737	0	13,023	22,834	731,170	5,800	772,827
1989	0	14,848	-28,937	827,173	5,800	818,884	0	12,938	-28,937	827,173	5,800	816,974
1990	0	15,009	25,963	860,500	5,800	907,272	0	13,099	25,963	860,500	5,800	905,362
1991	0	14,952	-10,923	579,300	5,800	589,129	0	13,042	-10,923	579,300	5,800	587,219
1992	0	14,886	-37,850	642,600	5,800	625,436	0	12,976	-37,850	642,600	5,800	623,526
1993	0	14,873	35,443	704,900	5,800	761,016	0	12,963	35,443	704,900	5,800	759,106
1994	0	14,801	-7,022	767,200	5,800	780,779	0	12,891	-7,022	767,200	5,800	778,869
1995	0	14,767	-25,599	830,500	5,800	825,468	0	12,857	-25,599	830,500	5,800	823,558
1996	0	14,774	4,562	860,800	5,800	885,936	0	12,864	4,562	860,800	5,800	884,026
1997	0	14,873	30,463	891,100	5,800	942,236	0	12,963	30,463	891,100	5,800	940,326
1998	0	14,814	8,023	922,400	5,800	951,037	0	12,904	8,023	922,400	5,800	949,127
1999	0	14,724	-37,564	949,700	5,800	932,660	0	12,814	-37,564	949,700	5,800	930,750
2000	0	14,700	2,084	977,000	5,800	999,584	0	12,790	2,084	977,000	5,800	997,674
2001	0	14,603	-9,415	1,034,000	5,800	1,044,988	0	12,693	-9,415	1,034,000	5,800	1,043,078
2002	0	14,448	-29,875	1,091,000	5,800	1,081,373	0	12,538	-29,875	1,091,000	5,800	1,079,463
2003	0	14,570	41,433	1,148,000	5,800	1,209,803	0	12,660	41,433	1,148,000	5,800	1,207,893
2004	0	14,613	-6,277	1,205,000	5,800	1,219,136	0	12,703	-6,277	1,205,000	5,800	1,217,226
2005	0	14,528	-11,748	1,262,000	5,800	1,270,580	0	12,618	-11,748	1,262,000	5,800	1,268,670
2006	0	14,660	-12,071	1,275,900	5,800	1,284,289	0	12,750	-12,071	1,275,900	5,800	1,282,379
2007	0	14,499	19,328	1,289,800	5,800	1,329,427	0	12,589	19,328	1,289,800	5,800	1,327,517
2008	0	14,458	-28,644	1,303,700	5,800	1,295,314	0	12,548	-28,644	1,303,700	5,800	1,293,404
2009	0	14,500	10,829	1,317,600	5,800	1,348,729	0	12,590	10,829	1,317,600	5,800	1,346,819
2010	0	14,427	-5,095	1,331,500	5,800	1,346,632	0	12,517	-5,095	1,331,500	5,800	1,344,722
2011	0	14,240	-35,544	1,344,500	5,800	1,328,996	0	12,330	-35,544	1,344,500	5,800	1,327,086
2012	0	14,164	-37,415	1,357,500	5,800	1,340,049	0	12,254	-37,415	1,357,500	5,800	1,338,139
2013	0	14,252	14,782	1,370,500	5,800	1,405,334	0	12,342	14,782	1,370,500	5,800	1,403,424
2014	0	14,261	-9,355	1,383,500	5,800	1,394,206	0	12,351	-9,355	1,383,500	5,800	1,392,296
2015	0	14,239	21,009	1,396,500	5,800	1,437,548	0	12,329	21,009	1,396,500	5,800	1,435,638
2016	0	14,229	-6,770	1,409,500	5,800	1,422,759	0	12,319	-6,770	1,409,500	5,800	1,420,849
2017	0	14,164	-14,598	1,422,500	5,800	1,427,866	0	12,254	-14,598	1,422,500	5,800	1,425,956
2018	0	14,143	672	1,435,500	5,800	1,456,115	0	12,233	672	1,435,500	5,800	1,454,205
2019	0	14,102	-5,309	1,448,500	5,800	1,463,093	0	12,192	-5,309	1,448,500	5,800	1,461,183
2020	0	14,082	6,819	1,461,500	5,800	1,488,201	0	12,172	6,819	1,461,500	5,800	1,486,291
2021	0	14,076	556	1,461,500	5,800	1,481,932	0	12,166	556	1,461,500	5,800	1,480,022
2022	0	14,084	6,074	1,461,500	5,800	1,487,458	0	12,174	6,074	1,461,500	5,800	1,485,548
2023	0	14,034	-16,995	1,461,500	5,800	1,464,339	0	12,124	-16,995	1,461,500	5,800	1,462,429
2024	0	14,070	12,127	1,461,500	5,800	1,493,497	0	12,160	12,127	1,461,500	5,800	1,491,587
2025	0	14,050	-16,846	1,461,500	5,800	1,464,504	0	12,140	-16,846	1,461,500	5,800	1,462,594
2026	0	14,085	896	1,461,500	5,800	1,482,281	0	12,175	896	1,461,500	5,800	1,480,371
2027	0	14,040	10,332	1,461,500	5,800	1,491,672	0	12,130	10,332	1,461,500	5,800	1,489,762
2028	0	14,043	-7,972	1,461,500	5,800	1,473,371	0	12,133	-7,972	1,461,500	5,800	1,471,461
2029	0	14,056	11,391	1,461,500	5,800	1,492,747	0	12,146	11,391	1,461,500	5,800	1,490,837
2030	0	14,047	-14,339	1,461,500	5,800	1,467,008	0	12,137	-14,339	1,461,500	5,800	1,465,098
2031	0	14,052	11,159	1,461,500	5,800	1,492,511	0	12,142	11,159	1,461,500	5,800	1,490,601
2032	0	14,057	-11,101	1,461,500	5,800	1,470,256	0	12,147	-11,101	1,461,500	5,800	1,468,346
2033	0	14,051	20,863	1,461,500	5,800	1,502,214	0	12,141	20,863	1,461,500	5,800	1,500,304
2034	0	14,030	-14,247	1,461,500	5,800	1,467,083	0	12,120	-14,247	1,461,500	5,800	1,465,173
2035	0	14,081	28,729	1,461,500	5,800	1,510,110	0	12,171	28,729	1,461,500	5,800	1,508,200

AND POWER RECOVERY PLANT OF PROJECT TRANSPORTATION FACILITIES [a]

(in acre-feet)

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	37,198	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	-44,416	47,244	283,264	2,704	288,796	0	13,232	109,754	122,986	0	0	0	
1982	0	-60,135	59,069	360,878	1,187	360,999	0	7,984	95,776	103,760	0	0	0	
1983	0	11,314	-99,428	188,727	2,100	102,713	0	509	107,404	107,913	0	0	0	
1984	0	12,690	67,245	268,800	2,330	351,065	0	590	130,300	130,890	0	0	0	
1985	0	6,739	33,094	604,270	2,430	646,533	0	590	135,020	135,610	0	0	0	
1986	0	6,828	-4,272	687,870	2,430	692,856	0	590	139,700	140,290	0	0	0	
1987	0	6,731	-21,654	707,170	5,630	697,877	0	590	144,600	145,190	0	0	0	
1988	0	6,796	22,834	730,920	2,800	763,350	0	590	148,900	149,490	0	0	0	
1989	0	6,711	-28,937	826,673	2,800	807,247	0	590	144,700	145,290	0	0	0	
1990	0	6,872	25,963	859,750	2,800	895,385	0	590	144,700	145,290	0	0	0	
1991	0	6,815	-10,923	578,300	2,800	576,992	0	1,140	179,943	181,083	550	35,243	35,793	
1992	0	6,749	-37,850	641,350	2,800	613,049	0	1,140	215,186	216,326	550	70,486	71,036	
1993	0	6,736	35,443	703,400	2,800	748,379	0	1,140	215,186	216,326	550	70,486	71,036	
1994	0	6,664	-7,022	765,200	2,800	767,642	0	1,140	215,186	216,326	550	70,486	71,036	
1995	0	6,630	-25,599	828,000	2,800	811,831	0	1,140	215,186	216,326	550	70,486	71,036	
1996	0	6,637	4,562	857,550	2,800	871,549	0	1,140	215,186	216,326	550	70,486	71,036	
1997	0	6,736	30,463	887,100	2,800	927,099	0	1,140	215,186	216,326	550	70,486	71,036	
1998	0	6,677	8,023	917,400	2,800	934,900	0	1,140	215,186	216,326	550	70,486	71,036	
1999	0	6,587	-37,564	944,700	2,800	916,523	0	1,140	215,186	216,326	550	70,486	71,036	
2000	0	6,563	2,084	972,000	2,800	983,447	0	1,140	215,186	216,326	550	70,486	71,036	
2001	0	6,466	-9,415	1,029,000	2,800	1,028,851	0	1,140	215,186	216,326	550	70,486	71,036	
2002	0	6,311	-29,875	1,086,000	2,800	1,065,236	0	1,140	215,186	216,326	550	70,486	71,036	
2003	0	6,433	41,433	1,143,000	2,800	1,193,666	0	1,140	215,186	216,326	550	70,486	71,036	
2004	0	6,476	-6,277	1,200,000	2,800	1,202,999	0	1,140	215,186	216,326	550	70,486	71,036	
2005	0	6,391	-11,748	1,257,000	2,800	1,254,443	0	1,140	215,186	216,326	550	70,486	71,036	
2006	0	6,523	-12,071	1,270,900	2,800	1,268,152	0	1,140	215,186	216,326	550	70,486	71,036	
2007	0	6,362	19,328	1,284,800	2,800	1,313,290	0	1,140	215,186	216,326	550	70,486	71,036	
2008	0	6,321	-28,644	1,298,700	2,800	1,279,177	0	1,140	215,186	216,326	550	70,486	71,036	
2009	0	6,363	10,829	1,312,600	2,800	1,332,592	0	1,140	215,186	216,326	550	70,486	71,036	
2010	0	6,290	-5,095	1,326,500	2,800	1,330,495	0	1,140	215,186	216,326	550	70,486	71,036	
2011	0	6,103	-35,544	1,339,500	2,800	1,312,859	0	1,140	215,186	216,326	550	70,486	71,036	
2012	0	6,027	-37,415	1,352,500	2,800	1,323,912	0	1,140	215,186	216,326	550	70,486	71,036	
2013	0	6,115	14,782	1,365,500	2,800	1,389,197	0	1,140	215,186	216,326	550	70,486	71,036	
2014	0	6,124	-9,355	1,378,500	2,800	1,378,069	0	1,140	215,186	216,326	550	70,486	71,036	
2015	0	6,102	21,009	1,391,500	2,800	1,421,411	0	1,140	215,186	216,326	550	70,486	71,036	
2016	0	6,092	-6,770	1,404,500	2,800	1,406,622	0	1,140	215,186	216,326	550	70,486	71,036	
2017	0	6,027	-14,598	1,417,500	2,800	1,411,729	0	1,140	215,186	216,326	550	70,486	71,036	
2018	0	6,006	672	1,430,500	2,800	1,439,978	0	1,140	215,186	216,326	550	70,486	71,036	
2019	0	5,965	-5,309	1,443,500	2,800	1,446,956	0	1,140	215,186	216,326	550	70,486	71,036	
2020	0	5,945	6,819	1,456,500	2,800	1,472,064	0	1,140	215,186	216,326	550	70,486	71,036	
2021	0	5,939	556	1,456,500	2,800	1,465,795	0	1,140	215,186	216,326	550	70,486	71,036	
2022	0	5,947	6,074	1,456,500	2,800	1,471,321	0	1,140	215,186	216,326	550	70,486	71,036	
2023	0	5,897	-16,995	1,456,500	2,800	1,448,202	0	1,140	215,186	216,326	550	70,486	71,036	
2024	0	5,933	12,127	1,456,500	2,800	1,477,360	0	1,140	215,186	216,326	550	70,486	71,036	
2025	0	5,913	-16,846	1,456,500	2,800	1,448,367	0	1,140	215,186	216,326	550	70,486	71,036	
2026	0	5,948	896	1,456,500	2,800	1,466,144	0	1,140	215,186	216,326	550	70,486	71,036	
2027	0	5,903	10,332	1,456,500	2,800	1,475,535	0	1,140	215,186	216,326	550	70,486	71,036	
2028	0	5,906	-7,972	1,456,500	2,800	1,457,234	0	1,140	215,186	216,326	550	70,486	71,036	
2029	0	5,919	11,391	1,456,500	2,800	1,476,610	0	1,140	215,186	216,326	550	70,486	71,036	
2030	0	5,910	-14,339	1,456,500	2,800	1,450,871	0	1,140	215,186	216,326	550	70,486	71,036	
2031	0	5,915	11,159	1,456,500	2,800	1,476,374	0	1,140	215,186	216,326	550	70,486	71,036	
2032	0	5,920	-11,101	1,456,500	2,800	1,454,119	0	1,140	215,186	216,326	550	70,486	71,036	
2033	0	5,914	20,863	1,456,500	2,800	1,486,077	0	1,140	215,186	216,326	550	70,486	71,036	
2034	0	5,893	-14,247	1,456,500	2,800	1,450,946	0	1,140	215,186	216,326	550	70,486	71,036	
2035	0	5,944	28,729	1,456,500	2,800	1,493,973	0	1,140	215,186	216,326	550	70,486	71,036	

TABLE B-7: RECONCILIATION OF CAPITAL COSTS ALLOCATED TO WATER SUPPLY AND POWER GENERATION

(in thousands of dollars)

	Project Costs Allocated to Water Supply and Power Generation								
	Misc. Income Credited to Construction (a	Allowance for Future Price Escalation (b	Costs of Construction of Water 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	Allocated to Other Purposes	State Water Project
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CONSERVATION FACILITIES:									
Upper Feather Division									
Frenchman Dam and Lake	173	0	0	0	568	0	741	2,760	3,501
Grizzly Valley Dam and Lake Davis	29	0	0	0	25	0	54	6,037	6,091
Antelope Dam and Lake	0	0	0	0	0	0	0	5,180	5,180
Abbey Bridge Dam and Reservoir	0	0	0	0	0	0	0	517	517
Dixie Refuge Dam and Reservoir	0	0	0	0	0	0	0	235	235
TOTAL, Upper Feather Division	202	0	0	0	593	0	795	14,729	15,524
Oroville Division									
Multipurpose Facilities	3,323	5,170	149	0	250,061	0	258,703	89,686	348,389
Specific Power Facilities	0	0	0	0	257,954	0	257,954	1,149	259,103
TOTAL, Oroville Division	3,323	5,170	149	0	508,015	0	516,657	90,835	607,492
California Aqueduct									
North San Joaquin Division	180	1,814	0	0	63,612	0	65,606	2,706	68,312
San Luis Division	395	120	0	0	93,423	0	93,938	4,144	98,082
TOTAL, California Aqueduct	575	1,934	0	0	157,035	0	159,544	6,850	166,394
Delta Facilities	2,638	8,814	0	0	111,081	0	122,533	19,647	142,180
Additional Conservation Facilities	22	1,717,048	0	0	2,219,795	0	3,936,865	0	3,936,865
TOTAL CONSERVATION FACILITIES	6,760	1,732,966	149	0	2,996,519	0	4,736,394	132,061	4,868,455
TRANSPORTATION FACILITIES									
Upper Feather Division									
Grizzly Valley Pipeline	0	0	0	0	0	341	341	0	341
North Bay Aqueduct	21	8,884	68	0	0	69,735	78,708	0	78,708
South Bay Aqueduct	1,609	28	400	0	0	48,918	50,955	21,072	72,027
California Aqueduct									
North San Joaquin Division	402	4,038	18	0	0	141,655	146,113	5,438	151,551
San Luis Division	84	25,854	0	0	0	173,572	199,510	12,190	211,700
South San Joaquin Division	291	38	3,285	2,093	0	248,501	254,208	15,153	269,361
Tehachapi Division	23	505	4	5,229	0	293,299	299,060	17,725	316,785
Mojave Division	558	154,073	475	308,078 (g)	0	290,429	753,613	19,077	772,690
Santa Ana Division	340	13	2,841	5,331	0	162,944	171,469	20,804	192,273
West Branch	35,205	5,157	2,744	37	0	445,454	488,597	33,105	521,702
Coastal Branch	10	1	89	0	0	16,813	16,913	105	17,018
TOTAL California Aqueduct	36,913	18,679	9,456	320,768	0	1,772,667	2,329,483	123,597	2,453,080
TOTAL, TRANSPORTATION FACILITIES	38,543	198,591	9,924	320,768	0	1,891,661	2,459,487	144,669	2,604,156
SAN JOAQUIN DRAINAGE FACILITIES	0	0	0	0	0	0	0	33,760	33,760
OFF-AQUEDUCT POWER GENERATING FACILITIES	15	193	0	0	0	421,567	421,775	0	421,775
UNASSIGNED AND DAVIS-GRUNSKY	0	0	0	0	0	0	0	153,733	153,733
TOTAL	45,318	1,931,750	10,073	320,768	2,996,519	2,313,228	7,617,656	464,223	8,081,879

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, 1979.*
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 - 1982	1983	1984	1985	1986	1987	
	(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	3,000	2,000	53,000	0	58,000
Subtotal	10,068	0	3,000	2,000	53,000	0	68,068
SOUTH BAY AREA							
Alameda County Flood Control and Water Conservation District, Zone 7	176,953	65,000	0	0	0	0	241,953
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	334,607	65,000	0	0	0	0	399,607
SAN JOAQUIN VALLEY AREA							
Devil's Den Water District	77,557	0	0	0	0	0	77,557
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
Kern County Water Agency	2,703,339	0	11,000	0	13,000	0	2,727,339
Oak Flat Water District	13,333	0	0	0	4,000	0	17,333
Tracy Golf and Country Club (c	1,028	0	0	0	0	0	1,028
Tulare Lake Basin Water Storage District	277,483	0	0	0	0	0	277,483
Subtotal	3,367,899	0	11,000	0	17,000	0	3,395,899
SOUTHERN CALIFORNIA AREA							
Antelope Valley-East Kern Water Agency	325,210	10,000	0	0	0	0	335,210
Castaic Lake Water Agency	346,979	0	0	0	0	0	346,979
Coachella Valley Water District	14,206	0	0	0	0	0	14,206
Crestline-Lake Arrowhead Water Agency	12,097	0	0	0	0	0	12,097
Desert Water Agency	23,438	0	0	0	0	0	23,438
Littlerock Creek Irrigation District	23,732	0	0	0	0	0	23,732
Mojave Water Agency	65,378	10,000	4,000	20,000	0	0	99,378
Palmdale Water District	24,232	0	0	0	0	0	24,232
San Bernardino Valley Municipal Water District	597,553	5,000	0	5,000	0	0	607,553
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	4,261,503	0	20,000	0	0	0	4,281,503
Ventura County Flood Control District	79,699	15,000	0	0	0	0	94,699
Subtotal	5,971,609	40,000	24,000	25,000	0	0	6,060,609
TOTAL	9,833,046	105,000	38,000	27,000	70,000	0	10,073,046

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.

(in dollars unless otherwise indicated) TABLE B-9: CAPITAL COSTS OF

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	1,286
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	51,986	75,611	13,181	140,778	104,248	2,846	8,915	12,700
1977	28	48,893	65,662	23,255	137,810	176,181	3,625	3,225	16,132
1978	38	56,618	57,158	27,003	140,779	237,250	4,494	3,668	12,903
1979	23	311,937	91,367	65,804	469,108	115,031	17,151	8,515	30,805
1980	26	381,554	104,726	123,163	609,443	399,123	17,708	8,249	31,079
1981	34	371,047	126,812	24,736	522,595	−162,838	3,587	6,517	17,345
1982	12	816,625	309,945	118,235	1,244,805	−47,713	17,197	4,326	39,482
1983	0	1,689,434	1,497,796	232,423	3,419,653	247,487	98,000	5,000	49,146
1984	0	1,872,450	5,598,899	2,269,191	9,740,540	151,125	21,000	15,000	19,910
1985	0	11,866,781	8,431,011	1,265,000	21,562,792	1,000	0	1,000	1,008
1986	0	19,685,063	4,583,290	867,000	25,135,353	0	0	0	504
1987	0	1,190,000	238,000	330,000	1,758,000	0	0	0	0
1988	0	271,000	142,000	0	413,000	0	0	0	0
1989	0	30,000	19,000	0	49,000	0	0	0	0
1990	0	17,000	8,000	0	25,000	0	0	0	0
1991	0	6,000	1,000	0	7,000	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	340,614	39,317,394	21,689,605	8,728,263	69,735,262	14,899,809	1,372,368	4,298,349	10,715,500

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	167,487	641,807	45,533	65,943	753,283
1977	270	1,310	8,651	24,938	234,332	272,226	20,283	22,568	315,077
1978	231	1,204	1,631	17,123	278,504	442,322	36,221	9,714	488,257
1979	1,367	1,721	2,134	7,322	184,046	975,174	59,695	26,106	1,060,975
1980	1,321	1,718	2,182	7,102	468,482	3,597,284	96,760	38,789	3,732,833
1981	307	1,461	1,396	5,067	−127,158	−63,193	1,487,432	202,256	1,626,495
1982	674	1,293	1,326	3,462	20,047	1,354,435	39,800	27,419	1,421,654
1983	0	1,000	1,000	4,000	405,633	1,553,832	11,998	138,640	1,704,470
1984	0	3,000	2,000	12,000	224,035	1,161,442	71,986	60,655	1,294,083
1985	0	0	1,000	1,000	5,008	1,830,985	3,333	2,000	1,836,318
1986	0	0	0	1,000	1,504	4,859,743	1,333	667	4,861,743
1987	0	0	0	0	0	8,623,028	667	667	8,624,362
1988	0	0	0	0	0	7,993,815	0	0	7,993,815
1989	0	0	0	0	0	3,212,057	0	0	3,212,057
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	518,293	3,806,181	4,801,685	8,506,294	48,918,479	81,340,644	40,525,197	19,788,738	141,654,579

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	940,074
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	79,382	13,041	5,138	41,687	156,733	17,978	78,234	62,164
1977	35,707	77,853	9,412	4,028	9,655	136,655	20,794	70,306	97,952
1978	8,539	78,585	7,006	3,536	6,994	104,660	4,268	43,769	17,395
1979	−35,394	306,075	19,463	9,485	−242,253	57,376	510	16,146	6,227
1980	66,622	1,656,025	191,307	75,209	185,384	2,174,547	558	19,091	17,706
1981	17,600	−970,071	−42,028	−14,767	881,574	−127,692	1,144	9,663	9,524
1982	190,259	−576,384	15,111	7,543	3,518,011	3,154,540	1,832	5,164	4,322
1983	3,526	440,941	1,475,795	656,328	5,295,888	7,872,478	1,886	3,772	3,772
1984	2,116	620,300	1,892,601	822,296	5,348,696	8,686,009	943	1,886	1,886
1985	1,410	258,382	321,563	115,989	2,231,138	2,928,482	943	1,886	1,886
1986	1,410	210,289	329,107	117,875	159,367	818,048	943	1,886	1,886
1987	705	2,249,055	3,529,649	1,261,734	1,709,659	8,750,802	943	943	943
1988	0	4,520,742	7,097,961	2,536,670	3,436,292	17,591,665	0	0	0
1989	0	4,847,020	7,609,067	2,719,612	3,684,301	18,860,000	0	0	0
1990	0	3,490,043	5,478,830	1,957,668	2,652,659	13,579,200	0	0	0
1991	0	1,025,041	1,609,701	575,230	778,918	3,988,890	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	14,804,276	43,699,146	50,882,807	16,247,167	47,939,156	173,572,552	656,969	12,477,860	8,280,962

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	507,538	59,753	42,776	434,581
1977	75,628	52,919	22,826	54,444	81,293	302,128	49,972	30,152	235,702
1978	48,754	16,469	−2,816	27,331	43,126	205,261	−653	1,500	145,512
1979	241	6,906	13,401	14,229	25,411	313,965	9,846	7,856	251,091
1980	18,165	18,813	15,608	27,498	34,190	1,831,436	29,169	23,023	1,763,683
1981	10,287	15,321	28,244	21,870	25,496	−1,163,192	28,971	34,592	−1,153,521
1982	5,293	4,035	2,840	4,097	13,631	−706,676	4,914	27,778	−709,748
1983	3,772	2,829	3,772	3,772	7,544	201,820	3,772	183,885	197,699
1984	1,886	1,886	1,886	1,886	1,886	10,270	1,886	1,886	9,170
1985	1,886	1,886	1,886	1,886	1,886	2,829	1,886	1,886	1,886
1986	1,886	1,886	1,886	1,886	1,886	1,886	1,886	1,886	1,886
1987	943	943	943	943	943	943	943	943	943
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	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	9,078,687	12,084,618	10,783,362	7,371,358	15,557,378	56,923,067	8,265,901	7,044,621	38,520,975

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	32,281	2,262	34,918
1962	171,396	1,127,293	353,119	82,610	435,729	68,508	266,284	1,841	10,323
1963	481,941	1,913,123	1,191,633	124,757	1,316,390	37,379	435,881	4,137	39,706
1964	1,778,952	5,834,889	1,866,000	775,005	2,641,005	95,693	706,369	8,564	43,342
1965	1,268,176	13,733,092	2,574,824	2,284,869	4,859,693	121,060	716,092	9,156	108,519
1966	2,896,274	27,347,168	5,537,412	9,323,517	14,860,929	366,116	1,644,699	13,373	159,282
1967	3,442,021	30,089,233	26,239,390	12,398,708	38,638,098	1,312,022	903,880	24,103	645,078
1968	7,578,498	48,226,580	33,363,479	7,416,464	40,779,943	136,804	7,109,653	71,388	1,889,601
1969	13,136,056	45,702,909	40,368,425	6,883,206	47,251,631	213,805	2,465,641	7,423	5,939,151
1970	13,890,751	36,322,844	35,446,706	6,786,231	42,232,937	2,211,077	1,210,665	6,217	3,652,478
1971	7,903,937	14,885,414	20,141,395	6,835,303	26,976,698	1,496,843	284,738	6,994	1,074,759
1972	3,025,555	5,783,019	10,002,935	34,791	10,037,726	129,417	409,903	3,620	471,963
1973	1,472,313	3,096,608	3,090,140	36,207	3,126,347	23,931	75,638	2,539	88,416
1974	1,031,843	2,546,985	4,798,348	152,494	4,950,842	28,399	205,581	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	618,075	2,154,156	1,124,510	174,629	1,299,139	121,043	84,593	6,786	59,967
1977	581,091	1,675,207	660,750	31,512	692,262	261,400	133,767	7,521	117,878
1978	252,222	802,138	752,973	27,956	780,929	553,014	57,150	5,872	51,615
1979	570,804	1,236,633	2,288,392	61,381	2,349,773	743,615	339,536	10,831	37,085
1980	3,991,560	7,790,500	18,884,203	6,046	18,890,249	1,330,429	1,073,430	3,604	308,188
1981	−2,635,188	−4,766,789	−4,700,498	6,895	−4,693,603	1,353,294	845,549	4,554	48,594
1982	−1,683,891	−3,026,409	11,709,195	5,452	11,714,647	8,397,652	741,004	4,161	29,859
1983	292,951	911,246	13,023,053	3,772	13,026,825	17,934,917	33,948	0	21,689
1984	17,887	55,244	6,047,526	943	6,048,469	6,094,609	9,430	0	9,430
1985	2,829	25,461	957,145	943	958,088	3,588,115	3,772	0	1,886
1986	1,886	23,575	1,886	943	2,829	23,575	1,886	0	1,886
1987	943	12,259	943	943	1,886	943	943	0	943
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	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	61,455,539	248,501,297	239,054,871	54,243,303	293,298,174	46,889,331	19,951,697	219,258	15,166,222

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	777,154	26,979	56,734
1962	10,730	8,197	4,186	164,168	4,336	279,421	817,994	9,964	36,235
1963	40,865	26,670	17,081	237,695	7,228	358,503	1,205,145	31,013	112,271
1964	71,116	33,912	22,793	262,996	6,863	244,003	1,495,651	69,669	202,642
1965	343,506	91,095	65,689	827,655	11,836	621,566	2,916,174	279,237	206,356
1966	1,311,628	160,388	178,538	1,746,245	31,078	1,018,628	6,629,975	415,066	364,004
1967	1,718,942	498,257	367,961	3,146,128	62,135	2,331,106	11,009,612	3,184,296	638,539
1968	2,291,691	1,141,929	1,145,768	4,588,850	102,207	2,600,293	21,078,184	8,264,126	1,268,194
1969	5,626,284	2,358,737	1,515,147	7,750,478	260,659	11,131,406	37,268,731	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	59,277,133	2,169,051	7,229,429
1971	1,091,123	825,070	432,464	16,772,680	1,922,115	5,385,721	29,292,507	1,135,248	9,811,736
1972	635,507	484,772	324,865	3,788,894	48,049	788,479	7,085,469	1,095,444	5,522,303
1973	83,840	63,774	36,179	1,623,274	24,333	4,225,877	6,247,801	136,994	1,810,729
1974	118,639	103,545	54,198	5,699,605	130,567	766,562	7,248,472	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	3,103,931	84,188	204,705	3,837,750	475,176	1,494,752
1977	120,160	71,389	49,445	1,654,593	60,112	232,230	2,708,495	76,255	776,086
1978	68,838	32,855	18,183	565,338	36,484	216,198	1,605,547	57,463	131,076
1979	36,225	18,948	10,675	576,019	10,634	103,615	1,887,183	29,960	80,482
1980	284,545	133,526	121,171	2,358,540	134,230	559,963	6,307,626	31,462	181,638
1981	32,174	13,204	6,455	−842,698	523,633	203,861	2,188,620	5,856	68,908
1982	74,221	10,652	12,687	295,571	1,919,451	70,447	11,555,705	8,946	138,698
1983	36,777	8,487	33,005	384,893	4,576,379	281,957	23,312,052	2,829	99,958
1984	10,373	8,487	30,176	1,127,447	7,138,510	35,834	14,464,296	1,886	97,129
1985	1,886	1,886	1,886	235,750	11,387,668	2,829	15,225,678	943	1,886
1986	1,886	1,886	1,886	3,772	7,120,593	2,829	7,160,199	943	943
1987	943	943	943	943	830,783	943	838,327	943	943
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	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	19,721,647	9,814,671	6,607,832	84,747,448	37,793,441	49,517,236	290,428,783	24,743,218	38,106,969

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	8,787,722	−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	396,829	650,417	1,274,484	706,244	650,209
1977	127,106	89,036	323,091	1,391,574	420,683	3,018,637	2,060,464	196,012	1,135,148
1978	147,112	153,867	367,163	856,681	1,337,521	2,219,135	6,705,325	57,817	149,932
1979	29,723	19,225	225,956	385,346	966,393	2,168,382	19,813,742	597,858	331,313
1980	137,833	154,821	1,077,900	1,583,654	1,541,006	4,108,143	24,619,601	550,337	204,751
1981	28,793	22,637	61,287	187,481	−831,300	2,699,608	19,803,779	94,856	28,859
1982	13,476	61,760	17,964	240,844	−521,640	347,747	17,091,779	187,988	40,182
1983	76,383	59,409	9,430	248,009	27,831	413,034	6,750,937	244,237	11,316
1984	2,829	3,772	6,601	112,217	162,331	364,941	580,888	888,306	4,715
1985	1,886	1,886	2,829	9,430	1,886	83,927	2,353,728	1,281,537	1,886
1986	943	943	943	4,715	943	7,544	3,387,256	3,772	1,886
1987	943	943	943	4,715	943	1,886	20,746	2,829	1,886
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	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	23,649,341	23,273,088	53,171,008	162,943,624	32,593,153	29,138,748	115,084,233	52,879,129	74,346,971

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	4,650,264	8,545,244
1962	348,366	671,447	10,121	7,798	524	1,689	20,132	5,827,774	8,875,171
1963	521,491	1,167,566	20,470	14,299	880	2,943	38,592	18,981,487	24,610,278
1964	1,372,464	2,232,275	315,418	26,963	1,687	5,639	349,707	31,550,813	41,736,060
1965	3,383,950	4,943,858	747,023	36,178	2,118	7,060	792,379	57,936,405	62,664,743
1966	9,364,753	14,872,117	2,258,915	35,864	1,736	5,764	2,302,279	124,748,128	129,110,330
1967	17,618,827	53,187,979	6,310,419	38,331	1,891	6,213	6,356,854	187,465,579	194,146,364
1968	15,736,691	57,595,765	2,707,580	30,784	1,324	4,369	2,744,057	192,593,076	197,978,908
1969	16,228,175	34,690,908	423,797	26,549	907	2,905	454,158	182,530,022	184,473,489
1970	22,330,328	50,497,652	269,194	24,368	851	2,787	297,200	206,720,773	207,082,649
1971	16,890,503	40,115,145	164,446	32,230	1,315	3,804	201,795	158,414,032	158,624,738
1972	3,818,001	2,874,264	131,332	17,601	522	1,660	151,115	68,216,531	68,350,152
1973	13,426,222	25,999,878	182,493	16,154	542	1,758	200,947	45,099,284	45,252,314
1974	2,988,318	4,334,592	190,866	18,799	463	1,405	211,533	24,036,200	24,402,167
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	4,931,250	198,266	68,907	5,088	14,988	287,249	17,183,988	17,492,304
1977	345,023	7,175,967	918,515	81,593	1,834	5,387	1,007,329	15,102,566	15,474,736
1978	665,616	11,135,346	37,342	81,164	1,302	3,852	123,660	15,897,218	16,316,539
1979	282,145	24,159,833	39,511	117,224	1,505	4,433	162,673	31,299,792	31,952,969
1980	2,055,206	33,079,044	199,363	399,019	1,029	3,038	602,449	74,160,902	75,238,853
1981	275,420	22,071,222	14,470	−253,281	1,253	3,699	−233,859	16,251,875	16,647,346
1982	330,738	17,476,794	19,554	−168,761	451	1,336	−147,420	42,390,355	43,655,219
1983	1,509,743	8,957,098	6,000	133,006	30	77	139,113	56,171,291	59,996,577
1984	528,080	2,529,261	4,614	110,045	31	78	114,768	33,304,347	43,268,922
1985	402,661	4,125,625	2,000	82,952	31	78	85,061	25,194,143	46,761,943
1986	99,958	3,501,359	1,000	71,892	31	78	73,001	16,445,469	41,582,326
1987	145,222	173,512	1,000	70,220	31	78	71,329	18,477,192	20,235,192
1988	2,366,930	2,366,930	0	7,760	48	121	7,929	27,960,339	28,373,339
1989	4,243,500	4,243,500	0	7,760	48	121	7,929	26,323,486	26,372,486
1990	782,690	782,690	0	7,760	48	121	7,929	14,369,819	14,394,819
1991	0	0	0	10,482	1,862	3,902	16,246	4,005,136	4,012,136
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	141,411,872	445,454,106	15,314,542	1,327,104	49,086	122,471	16,813,203	1,772,666,318	1,891,660,673

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	1,069	0	0	46,498	46,498	456,381	57,081	83,120	61,623
1975	143	0	0	37,707	37,707	624,989	46,111	81,361	36,682
1976	139	0	0	60,926	60,926	614,365	47,862	123,838	91,096
1977	892	0	0	79,893	79,893	511,097	48,926	104,280	102,085
1978	39	0	0	59,524	59,524	690,512	125,227	176,866	50,818
1979	3,235	0	0	74,927	74,927	650,974	76,849	212,826	91,375
1980	416	0	0	90,312	90,312	1,129,081	212,977	242,124	103,815
1981	5,956	0	0	109,481	109,481	886,261	129,977	166,911	196,067
1982	17,063	0	0	191,670	191,670	1,154,287	145,648	242,511	54,961
1983	1,000	0	0	162,939	162,939	1,727,748	201,658	246,739	146,102
1984	1,000	0	0	190,772	190,772	2,176,449	223,529	292,269	255,185
1985	2,000	0	0	190,204	190,204	2,412,807	203,436	310,531	300,423
1986	2,000	0	0	190,841	190,841	2,199,042	210,939	320,725	309,592
1987	2,000	113,717	71,084	188,097	372,898	2,236,285	212,106	322,429	310,732
1988	2,000	94,904	67,578	185,772	348,254	2,231,332	212,441	322,928	311,155
1989	2,000	98,171	67,668	186,854	352,693	2,226,830	212,754	323,417	311,673
1990	2,000	98,701	67,503	187,263	353,467	2,220,096	213,123	324,022	312,201
1991	2,000	98,022	67,192	188,099	353,313	2,222,409	213,476	324,561	312,446
1992	2,000	96,045	67,147	185,286	348,478	2,193,920	213,536	324,674	312,150
1993	2,000	95,719	67,063	185,435	348,217	2,189,482	213,266	324,283	311,486
1994	2,000	95,974	67,063	186,098	349,135	2,194,986	213,267	324,289	310,997
1995	2,000	97,474	67,068	187,289	351,831	2,212,078	213,247	324,231	310,488
1996	2,000	97,532	66,942	187,545	352,019	2,209,695	212,849	323,646	309,786
1997	2,000	97,582	66,950	187,898	352,430	2,204,676	212,852	323,653	310,210
1998	2,000	97,840	66,957	188,529	353,326	2,204,209	212,871	323,706	310,480
1999	2,000	98,113	66,955	189,197	354,265	2,204,926	212,866	323,694	310,418
2000	2,000	98,078	66,964	189,593	354,635	2,200,063	212,889	323,758	310,731
2001	2,000	98,106	66,966	189,898	354,970	2,197,849	212,897	323,781	310,847
2002	2,000	98,402	66,972	190,428	355,802	2,199,365	212,914	323,826	311,079
2003	2,000	98,178	66,995	190,399	355,572	2,277,995	220,018	339,546	318,849
2004	2,000	110,106	68,333	193,957	372,396	2,283,667	220,403	340,403	319,371
2005	2,000	111,145	68,422	194,328	373,895	2,283,624	220,607	340,976	322,287
2006	2,000	111,235	68,432	194,431	374,098	2,283,511	220,633	341,048	322,655
2007	2,000	111,016	68,454	194,211	373,681	2,278,110	220,690	341,207	323,453
2008	2,000	111,272	68,466	194,420	374,158	2,279,861	220,722	341,296	323,905
2009	2,000	111,097	68,469	194,336	373,902	2,276,745	220,731	341,322	324,027
2010	2,000	111,105	68,489	194,293	373,887	2,274,599	220,785	341,472	324,792
2011	2,000	111,261	68,357	194,389	374,007	2,274,570	220,371	340,819	323,898
2012	2,000	110,986	68,396	193,918	373,300	2,267,643	220,475	341,110	325,360
2013	2,000	111,161	68,421	193,923	373,505	2,267,930	220,540	341,292	326,293
2014	2,000	111,379	68,439	193,999	373,817	2,269,272	220,589	341,429	326,993
2015	2,000	111,562	68,473	194,045	374,080	2,268,332	220,679	341,680	328,266
2016	2,000	111,366	68,498	193,725	373,589	2,263,676	220,744	341,865	329,194
2017	2,000	111,987	68,487	195,123	375,597	2,266,800	220,715	341,782	328,780
2018	2,000	111,811	68,501	194,996	375,308	2,262,297	220,751	341,885	329,295
2019	2,000	112,078	68,499	195,323	375,900	2,263,705	220,730	341,825	328,991
2020	2,000	111,909	68,514	195,200	375,623	2,259,428	220,768	341,929	329,513
2021	2,000	112,117	68,502	195,473	376,092	2,129,256	209,847	317,805	318,465
2022	2,000	94,825	66,514	190,728	352,067	2,125,631	209,878	317,894	318,902
2023	2,000	94,898	66,505	190,856	352,259	2,127,230	209,855	317,827	318,567
2024	2,000	93,361	66,333	190,220	349,914	2,119,506	209,293	316,588	318,051
2025	2,000	93,275	66,332	190,149	349,756	2,118,554	209,289	316,578	317,994
2026	2,000	93,326	66,315	190,305	349,946	2,120,446	209,245	316,455	317,378
2027	2,000	93,201	66,322	190,146	349,669	2,118,403	209,262	316,502	317,607
2028	2,000	93,210	66,322	190,153	349,685	2,118,500	209,261	316,498	317,590
2029	2,000	93,177	66,322	190,117	349,616	2,118,029	209,260	316,496	317,585
2030	2,000	93,218	66,322	190,156	349,696	2,118,541	209,259	316,491	317,561
2031	2,000	93,203	66,322	190,149	349,674	2,118,431	209,255	316,481	317,510
2032	2,000	93,244	66,320	190,198	349,762	2,119,070	209,248	316,464	317,425
2033	2,000	93,115	66,327	190,031	349,473	2,116,925	209,267	316,515	317,677
2034	2,000	93,435	66,309	190,451	350,195	2,122,303	209,220	316,382	317,015
2035	2,000	92,896	66,337	189,755	348,988	2,113,378	209,295	316,592	318,062

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	963,432	1,519,828	217,348	453,400	2,190,576
1977	−240	2,228	8,391	89,579	866,346	1,918,273	292,380	196,564	2,407,217
1978	−1,404	16,766	−5,313	104,078	1,157,550	2,015,262	304,715	187,556	2,507,533
1979	1,269	29,294	7,351	106,835	1,176,773	1,846,727	223,999	142,764	2,213,490
1980	3,621	24,271	17,404	110,851	1,844,144	2,364,780	464,127	244,582	3,073,489
1981	4,033	20,166	17,628	98,338	1,519,381	2,663,609	425,146	150,199	3,238,954
1982	2,238	22,478	18,893	186,763	1,827,779	3,250,224	636,498	236,686	4,123,408
1983	12,622	27,313	27,902	190,926	2,581,010	5,522,846	774,232	360,310	6,657,388
1984	15,750	33,558	33,114	204,442	3,234,296	5,935,855	935,408	416,973	7,288,236
1985	18,754	31,364	30,866	115,743	3,423,924	5,805,099	1,058,670	445,423	7,309,192
1986	19,911	32,594	32,046	119,565	3,244,414	5,743,084	1,096,585	461,197	7,300,866
1987	20,021	32,777	32,224	120,190	3,286,764	5,812,374	1,101,530	463,437	7,377,341
1988	20,052	32,830	32,274	120,379	3,283,391	5,818,597	1,102,732	463,978	7,385,307
1989	20,079	32,876	32,318	120,545	3,280,492	5,748,405	1,105,306	464,943	7,318,654
1990	20,109	32,926	32,367	120,729	3,275,573	5,834,566	1,108,721	466,182	7,409,469
1991	20,141	32,978	32,418	120,922	3,279,351	5,719,843	1,110,041	466,793	7,296,677
1992	20,143	32,985	32,425	120,947	3,250,780	5,581,412	1,110,679	467,011	7,159,102
1993	20,119	32,942	32,383	120,790	3,244,751	5,564,389	1,109,577	466,507	7,140,473
1994	20,119	32,942	32,383	120,790	3,249,773	5,567,324	1,109,653	466,531	7,143,508
1995	20,119	32,942	32,383	120,790	3,266,278	5,609,374	1,109,095	466,360	7,184,829
1996	20,081	32,880	32,323	120,562	3,261,822	5,600,812	1,107,439	465,613	7,173,864
1997	20,081	32,880	32,323	120,562	3,257,237	5,578,533	1,107,503	465,632	7,151,668
1998	20,081	32,880	32,323	120,562	3,257,112	5,572,400	1,108,042	465,798	7,146,240
1999	20,081	32,880	32,323	120,562	3,257,750	5,583,222	1,107,918	465,760	7,156,900
2000	20,081	32,880	32,323	120,562	3,253,287	5,569,113	1,108,572	465,959	7,143,644
2001	20,081	32,880	32,323	120,562	3,251,220	5,571,326	1,108,823	466,036	7,146,185
2002	20,081	32,880	32,323	120,562	3,253,030	5,691,587	1,109,295	466,181	7,267,063
2003	21,847	34,794	35,113	127,578	3,375,740	5,660,263	1,111,106	466,735	7,238,104
2004	21,941	34,896	35,261	127,951	3,383,893	5,785,695	1,137,581	480,632	7,403,908
2005	21,941	34,896	35,261	127,951	3,387,543	5,794,641	1,143,348	482,395	7,420,384
2006	21,941	34,896	35,261	127,951	3,387,896	5,801,384	1,144,077	482,617	7,428,078
2007	21,941	34,896	35,261	127,951	3,383,509	5,778,952	1,145,683	483,110	7,407,745
2008	21,941	34,896	35,261	127,951	3,385,833	5,800,621	1,146,570	483,381	7,430,572
2009	21,941	34,896	35,261	127,951	3,382,874	5,785,064	1,146,826	483,458	7,415,348
2010	21,941	34,896	35,261	127,951	3,381,697	5,770,496	1,148,348	483,924	7,402,768
2011	21,907	34,836	35,203	127,734	3,379,338	5,783,201	1,145,645	482,867	7,411,713
2012	21,907	34,836	35,203	127,734	3,374,268	5,851,739	1,148,573	483,763	7,484,075
2013	21,907	34,836	35,203	127,734	3,375,735	5,765,970	1,150,424	484,328	7,400,722
2014	21,907	34,836	35,203	127,734	3,377,963	5,764,693	1,151,806	484,749	7,401,248
2015	21,907	34,836	35,203	127,734	3,378,637	5,740,174	1,154,329	485,521	7,380,024
2016	21,907	34,836	35,203	127,734	3,375,159	5,823,104	1,156,180	486,087	7,465,371
2017	21,907	34,836	35,203	127,734	3,377,757	5,769,964	1,155,350	485,834	7,411,148
2018	21,907	34,836	35,203	127,734	3,373,908	5,783,956	1,156,314	486,128	7,426,398
2019	21,907	34,836	35,203	127,734	3,374,931	5,735,073	1,155,610	485,913	7,376,596
2020	21,907	34,836	35,203	127,734	3,371,318	5,649,399	1,156,545	486,199	7,292,143
2021	19,176	31,876	30,888	116,881	3,174,194	5,599,220	1,155,694	485,938	7,240,852
2022	19,176	31,876	30,888	116,881	3,171,126	5,445,468	1,117,373	469,462	7,032,303
2023	19,176	31,876	30,888	116,881	3,172,300	5,474,950	1,116,698	469,256	7,060,904
2024	19,035	31,723	30,665	116,319	3,161,180	5,433,523	1,112,969	463,693	7,010,185
2025	19,035	31,723	30,665	116,319	3,160,157	5,453,559	1,112,862	463,660	7,030,081
2026	19,035	31,723	30,665	116,319	3,161,266	5,402,816	1,111,609	463,277	6,977,702
2027	19,035	31,723	30,665	116,319	3,159,516	5,409,968	1,112,040	463,409	6,985,417
2028	19,035	31,723	30,665	116,319	3,159,591	5,440,676	1,111,864	463,354	7,015,894
2029	19,035	31,723	30,665	116,319	3,159,112	5,428,080	1,111,722	463,312	7,003,114
2030	19,035	31,723	30,665	116,319	3,159,594	5,431,788	1,111,538	463,256	7,006,582
2031	19,035	31,723	30,665	116,319	3,159,419	5,433,083	1,111,305	463,184	7,007,572
2032	19,035	31,723	30,665	116,319	3,159,949	5,418,355	1,111,002	463,091	6,992,448
2033	19,035	31,723	30,665	116,319	3,158,126	5,443,414	1,111,509	463,248	7,018,171
2034	19,035	31,723	30,665	116,319	3,162,662	5,387,749	1,110,179	462,841	6,960,769
2035	19,035	31,723	30,665	116,319	3,155,069	5,509,855	1,112,279	463,482	7,085,616

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	883,970	220,832	90,305	174,835	1,424,880	39,348	133,933	123,424
1977	73,331	1,114,598	270,734	98,132	196,311	1,753,106	38,086	125,375	178,078
1978	39,948	974,878	204,195	107,331	203,654	1,530,006	45,546	182,451	129,552
1979	224,488	844,490	145,874	100,493	181,992	1,497,337	69,989	155,668	130,712
1980	240,760	1,147,575	219,324	126,096	279,402	2,013,157	57,736	281,305	186,371
1981	262,649	1,074,830	200,637	93,406	1,610,551	3,242,073	79,972	202,882	143,721
1982	305,733	1,258,945	204,508	112,727	1,469,694	3,351,607	63,698	275,346	225,753
1983	292,254	2,611,069	350,457	123,751	3,000,113	6,377,644	111,601	381,784	288,090
1984	296,958	2,748,618	339,601	142,680	4,609,963	8,137,820	123,816	431,439	326,229
1985	317,563	2,549,313	335,126	154,647	3,104,062	6,460,711	128,344	461,743	346,983
1986	329,934	2,580,126	349,246	161,679	1,164,166	4,585,151	133,085	472,896	355,398
1987	331,351	2,650,157	376,315	171,762	1,186,518	4,716,103	133,792	474,851	356,709
1988	331,552	2,652,177	383,522	174,450	1,192,612	4,734,313	134,752	480,015	360,159
1989	333,335	2,657,610	387,311	175,833	1,196,639	4,750,728	134,938	481,157	361,100
1990	335,906	2,639,439	382,391	174,096	1,196,642	4,728,474	135,148	482,600	362,311
1991	336,165	2,623,555	345,609	161,057	1,181,287	4,647,673	135,350	483,277	362,797
1992	336,704	2,523,069	341,166	159,476	1,179,425	4,539,840	135,381	483,623	363,104
1993	336,425	2,513,225	340,930	159,295	1,177,160	4,527,035	136,025	487,840	365,954
1994	336,502	2,514,009	341,061	159,335	1,177,212	4,528,119	136,026	487,907	366,018
1995	335,912	2,528,734	340,529	159,166	1,176,998	4,541,339	136,020	487,628	365,757
1996	335,458	2,525,397	340,126	158,884	1,173,665	4,533,530	135,784	487,023	365,362
1997	335,527	2,518,683	340,422	158,979	1,173,785	4,527,396	135,787	487,179	365,507
1998	336,097	2,520,883	341,173	159,218	1,174,087	4,531,458	135,795	487,573	365,876
1999	335,967	2,520,065	341,229	159,237	1,174,110	4,530,608	135,796	487,604	365,905
2000	336,658	2,518,841	342,006	159,485	1,174,423	4,531,413	135,804	488,012	366,288
2001	336,924	2,517,659	342,369	159,599	1,174,568	4,531,119	135,808	488,203	366,466
2002	337,424	2,521,035	342,945	159,783	1,174,800	4,535,987	135,814	488,506	366,751
2003	339,346	2,522,849	344,848	160,390	1,175,567	4,543,000	135,832	489,507	367,687
2004	349,716	2,568,417	357,255	164,339	1,183,307	4,623,034	136,240	491,101	369,022
2005	355,828	2,590,005	363,312	166,273	1,185,747	4,661,165	136,303	494,287	372,004
2006	356,602	2,591,996	364,077	166,516	1,186,054	4,665,245	138,550	507,512	381,000
2007	358,305	2,593,901	365,766	167,056	1,186,735	4,671,763	138,567	508,400	381,832
2008	359,246	2,596,645	366,698	167,352	1,187,110	4,677,051	138,576	508,890	382,291
2009	359,516	2,595,992	366,967	167,439	1,187,219	4,677,133	138,579	509,032	382,423
2010	361,131	2,600,121	368,567	167,950	1,187,863	4,685,632	138,595	509,873	383,211
2011	359,318	2,595,426	366,750	167,191	1,183,467	4,672,152	138,696	510,583	383,530
2012	362,419	2,592,461	369,827	168,174	1,184,707	4,677,588	138,728	512,202	385,044
2013	364,383	2,608,935	371,766	168,793	1,185,488	4,699,365	138,748	513,222	386,001
2014	365,848	2,614,849	373,219	169,256	1,186,073	4,709,245	138,762	513,986	386,716
2015	368,520	2,624,843	375,867	170,102	1,187,139	4,726,471	138,790	515,379	388,020
2016	370,483	2,617,888	377,815	170,724	1,187,924	4,724,834	138,810	516,404	388,980
2017	369,606	2,623,798	376,799	170,399	1,187,514	4,728,116	138,798	515,869	388,479
2018	370,624	2,621,675	377,700	170,686	1,187,877	4,728,562	138,809	516,344	388,924
2019	369,878	2,624,162	376,850	170,415	1,187,536	4,728,841	138,799	515,896	388,504
2020	370,869	2,616,777	377,797	170,718	1,187,917	4,724,078	138,810	516,394	388,970
2021	369,968	2,623,814	376,806	170,402	1,187,517	4,728,507	138,799	515,872	388,483
2022	356,457	2,555,697	359,826	165,067	1,176,581	4,613,628	138,805	516,160	388,751
2023	355,740	2,553,667	358,825	164,747	1,176,178	4,609,157	138,794	515,634	388,258
2024	353,797	2,545,937	356,329	163,894	1,174,766	4,594,723	133,768	488,064	369,368
2025	353,684	2,542,220	356,216	163,859	1,174,720	4,590,699	133,766	488,005	369,314
2026	352,356	2,545,463	354,912	163,442	1,174,196	4,590,369	133,754	487,319	368,671
2027	352,812	2,543,089	355,378	163,591	1,174,384	4,589,254	133,758	487,564	368,901
2028	352,627	2,539,996	355,258	163,553	1,174,334	4,585,768	133,757	487,500	368,841
2029	352,475	2,540,398	355,168	163,523	1,174,299	4,585,863	132,300	479,099	363,182
2030	352,281	2,540,380	354,878	163,430	1,174,181	4,585,150	132,296	478,947	363,039
2031	352,034	2,541,506	354,535	163,322	1,174,044	4,585,441	132,292	478,767	362,870
2032	351,712	2,541,434	354,119	163,188	1,173,876	4,584,329	132,288	478,547	362,665
2033	352,249	2,539,433	354,653	163,359	1,174,092	4,583,786	132,294	478,828	362,928
2034	350,840	2,546,832	353,253	162,912	1,173,527	4,587,364	132,279	478,092	362,239
2035	353,067	2,532,069	355,468	163,619	1,174,420	4,578,643	132,302	479,257	363,329

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	1,124,068	177,086	114,133	1,037,815
1977	194,086	108,644	91,547	175,039	137,975	1,397,180	203,837	119,467	1,339,378
1978	168,195	106,434	72,257	170,355	150,669	1,351,508	138,948	131,739	1,368,434
1979	176,150	86,534	57,272	174,842	150,888	1,492,165	202,610	261,559	1,217,121
1980	285,711	121,658	124,327	168,190	165,603	1,990,485	189,865	239,418	1,437,000
1981	199,329	76,714	33,083	112,928	171,492	1,744,790	166,457	162,976	1,799,740
1982	265,021	155,054	135,564	214,785	217,683	1,801,476	169,843	24,263	2,001,757
1983	330,761	218,002	179,104	284,022	351,376	3,311,955	257,454	211,455	3,114,206
1984	372,385	243,713	202,876	321,974	381,690	3,783,725	288,019	236,311	3,622,471
1985	395,292	257,915	213,039	343,637	392,541	3,783,809	304,614	248,584	3,711,605
1986	405,946	263,621	218,666	353,908	403,239	3,674,013	311,695	254,271	3,593,316
1987	407,446	264,650	219,265	355,461	404,929	3,723,633	312,810	255,228	3,641,566
1988	410,884	267,011	221,642	358,415	409,935	3,735,435	315,640	257,602	3,642,243
1989	411,918	267,635	222,382	359,185	410,893	3,755,317	316,507	258,273	3,668,999
1990	413,240	268,424	223,361	360,139	412,101	3,736,696	317,455	259,007	3,647,580
1991	413,789	268,787	223,639	360,656	412,683	3,746,937	318,002	259,454	3,661,400
1992	414,119	268,978	223,908	360,873	412,967	3,636,142	318,286	259,666	3,546,264
1993	416,871	270,868	226,064	363,077	417,146	3,653,879	320,601	261,595	3,562,362
1994	416,939	270,906	226,125	363,117	417,201	3,654,099	320,644	261,627	3,562,369
1995	416,660	270,750	225,874	362,955	416,974	3,655,294	320,382	261,435	3,559,053
1996	416,208	270,428	225,722	362,457	416,445	3,653,978	320,109	261,184	3,558,665
1997	416,365	270,514	225,861	362,546	416,572	3,655,171	320,239	261,278	3,562,574
1998	416,762	270,733	226,215	362,774	416,894	3,657,351	320,594	261,538	3,564,699
1999	416,792	270,750	226,242	362,792	416,920	3,655,121	320,608	261,548	3,561,769
2000	417,203	270,975	226,609	363,029	417,254	3,658,683	320,993	261,830	3,567,058
2001	417,394	271,081	226,780	363,138	417,410	3,659,501	321,187	261,972	3,568,497
2002	417,699	271,248	227,052	363,315	417,657	3,660,745	321,487	262,194	3,568,889
2003	418,705	271,804	227,949	363,893	418,477	3,669,824	322,464	262,907	3,580,643
2004	420,262	272,758	228,621	365,305	419,653	3,816,252	324,053	263,984	3,725,251
2005	423,464	274,523	231,478	367,147	422,261	3,828,789	327,076	266,194	3,734,120
2006	432,327	280,586	238,075	374,434	435,169	3,879,834	334,489	272,379	3,770,205
2007	433,219	281,077	238,871	374,947	435,895	3,885,706	335,289	272,962	3,777,531
2008	433,711	281,349	239,311	375,230	436,297	3,883,492	335,749	273,299	3,773,226
2009	433,853	281,427	239,437	375,312	436,412	3,886,793	335,882	273,396	3,778,070
2010	434,699	281,892	240,193	375,800	437,102	3,891,146	336,670	273,973	3,782,440
2011	434,892	282,106	240,403	376,013	437,965	3,892,954	336,821	274,147	3,781,624
2012	436,518	283,002	241,855	376,949	439,289	3,887,281	338,339	275,259	3,773,892
2013	437,545	283,568	242,771	377,540	440,125	3,907,526	339,296	275,958	3,796,432
2014	438,311	283,991	243,456	377,981	440,749	3,909,431	340,012	276,483	3,796,751
2015	439,711	284,762	244,706	378,786	441,890	3,917,539	341,320	277,438	3,804,172
2016	440,741	285,330	245,625	379,379	442,729	3,905,502	342,284	278,144	3,789,070
2017	440,204	285,033	245,146	379,071	442,292	3,914,060	341,806	277,794	3,799,386
2018	440,680	285,297	245,570	379,345	442,680	3,913,836	342,290	278,148	3,799,605
2019	440,231	285,048	245,170	379,086	442,314	3,918,381	341,914	277,874	3,805,389
2020	440,730	285,325	245,616	379,375	442,721	3,908,450	342,415	278,240	3,793,656
2021	440,208	285,036	245,148	379,074	442,294	3,918,340	341,894	277,859	3,805,528
2022	440,496	285,195	245,407	379,239	442,530	3,681,972	342,179	278,068	3,568,351
2023	439,968	284,904	244,935	378,935	442,099	3,678,727	341,737	277,747	3,564,696
2024	421,069	272,020	231,743	362,968	415,624	3,570,568	325,753	264,685	3,487,198
2025	421,011	271,987	231,690	362,934	415,575	3,566,227	325,697	264,644	3,482,355
2026	420,321	271,606	231,074	362,537	415,014	3,573,896	325,058	264,175	3,492,410
2027	420,569	271,743	231,296	362,679	415,214	3,571,327	325,294	264,349	3,489,483
2028	420,504	271,708	231,239	362,642	415,162	3,565,734	325,220	264,295	3,482,717
2029	414,946	267,879	227,134	358,021	406,930	3,534,267	320,594	260,417	3,461,068
2030	414,793	267,794	226,996	357,933	406,805	3,533,494	320,462	260,321	3,460,107
2031	414,611	267,694	226,835	357,828	406,659	3,536,022	320,278	260,186	3,463,478
2032	414,393	267,573	226,639	357,703	406,479	3,535,452	320,057	260,025	3,462,878
2033	414,675	267,729	226,890	357,864	406,710	3,533,466	320,255	260,171	3,460,709
2034	413,933	267,321	226,230	357,438	406,106	3,542,594	319,500	259,616	3,471,505
2035	415,105	267,966	227,275	358,113	407,060	3,523,321	320,532	260,372	3,448,857

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	1,727,465	5,001,747	2,776,325	149,758	2,926,083	111,632	188,382	0	171,318
1977	1,961,479	6,070,171	3,846,877	100,671	3,947,548	88,115	213,326	0	170,123
1978	2,150,120	6,166,208	3,744,064	49,106	3,793,170	88,965	193,730	0	208,040
1979	1,801,286	5,976,796	3,545,321	53,976	3,599,297	94,547	287,999	0	244,468
1980	2,235,550	7,483,219	4,769,389	65,423	4,834,812	111,993	417,227	0	274,834
1981	2,758,235	7,652,319	5,505,022	71,989	5,577,011	274,058	466,218	0	301,052
1982	2,952,402	8,502,645	6,240,191	62,987	6,303,178	346,241	576,237	0	365,377
1983	5,312,613	14,352,423	15,821,853	104,756	15,926,609	298,606	390,207	7,795	404,913
1984	6,208,080	16,542,728	19,255,399	99,857	19,355,256	304,017	769,984	7,911	454,091
1985	6,247,852	16,835,958	19,583,454	79,140	19,662,594	354,636	822,323	7,911	487,523
1986	5,937,774	16,377,828	19,427,637	81,664	19,509,301	341,866	842,245	7,911	498,213
1987	6,028,450	16,578,790	16,330,158	82,011	16,412,169	342,449	842,842	7,911	498,293
1988	6,025,975	16,619,708	15,230,182	82,055	15,312,237	342,885	842,956	7,911	498,261
1989	6,079,337	16,727,641	15,341,406	84,147	15,425,553	345,122	849,963	14,616	508,848
1990	6,032,772	16,650,834	15,161,163	84,305	15,245,468	345,728	852,450	14,616	510,366
1991	6,061,782	16,708,553	15,258,633	84,495	15,343,128	346,405	855,874	14,616	512,484
1992	5,808,983	16,232,294	14,400,752	84,563	14,485,315	346,577	857,840	14,616	513,737
1993	5,842,644	16,324,926	14,451,544	84,507	14,536,051	346,218	858,497	14,616	514,223
1994	5,842,583	16,325,561	14,450,548	84,514	14,535,062	346,235	858,780	14,616	514,404
1995	5,831,843	16,310,625	14,403,272	84,457	14,487,729	346,115	856,654	14,616	513,040
1996	5,835,218	16,308,583	14,422,287	84,385	14,506,672	345,598	857,719	14,616	513,824
1997	5,845,607	16,325,200	14,463,772	84,403	14,548,175	345,632	858,328	14,616	514,216
1998	5,850,765	16,337,569	14,478,043	84,478	14,562,521	345,779	861,001	14,616	515,934
1999	5,844,402	16,326,249	14,454,985	84,473	14,539,458	345,767	860,794	14,616	515,799
2000	5,857,505	16,351,243	14,500,037	84,556	14,584,593	345,943	863,891	14,616	517,787
2001	5,861,359	16,358,796	14,513,318	84,591	14,597,909	346,010	865,126	14,616	518,581
2002	5,862,297	16,363,654	14,511,595	84,653	14,596,248	346,135	867,361	14,616	520,020
2003	5,890,475	16,420,167	14,604,972	84,879	14,689,851	346,587	875,429	14,616	525,202
2004	6,037,427	16,869,929	14,602,395	85,828	14,688,223	347,002	877,617	15,959	527,328
2005	6,059,613	16,937,259	14,642,747	86,522	14,729,269	348,393	902,517	15,959	543,327
2006	6,122,561	17,167,121	14,957,535	86,611	15,044,146	348,574	905,703	15,959	545,374
2007	6,140,353	17,204,649	15,014,639	90,037	15,104,676	351,598	915,936	27,539	562,580
2008	6,131,074	17,192,495	14,974,820	90,145	15,064,965	351,809	919,688	27,539	564,991
2009	6,142,394	17,213,010	15,015,554	90,172	15,105,726	351,866	920,731	27,539	565,661
2010	6,153,103	17,238,697	15,045,158	90,355	15,135,513	352,231	927,259	27,539	569,854
2011	6,151,025	17,240,759	15,015,547	90,124	15,105,671	351,432	922,780	27,539	567,069
2012	6,137,286	17,225,644	14,954,043	90,475	15,044,518	352,136	935,380	27,539	575,161
2013	6,186,987	17,325,719	15,116,655	90,694	15,207,349	352,575	943,220	27,539	580,200
2014	6,188,069	17,334,698	15,110,384	90,860	15,201,244	352,904	949,133	27,539	583,999
2015	6,205,616	17,378,129	15,156,569	91,163	15,247,732	353,510	959,953	27,539	590,948
2016	6,174,862	17,327,860	15,040,263	91,383	15,131,646	353,955	967,945	27,539	596,087
2017	6,196,071	17,364,009	15,117,846	91,284	15,209,130	353,751	964,272	27,539	593,726
2018	6,198,025	17,369,553	15,121,854	91,408	15,213,262	354,002	968,780	27,539	596,621
2019	6,209,838	17,388,444	15,166,470	91,334	15,257,804	353,855	966,133	27,539	594,921
2020	6,185,805	17,346,507	15,078,944	91,459	15,170,403	354,103	970,591	27,539	597,784
2021	6,210,160	17,388,695	15,168,006	91,345	15,259,351	353,877	966,542	27,539	595,185
2022	5,965,875	16,673,028	15,118,098	91,432	15,209,530	354,046	969,583	27,539	597,140
2023	5,956,971	16,653,405	15,090,986	91,334	15,182,320	354,102	970,541	27,539	597,755
2024	5,826,296	16,169,124	14,479,773	89,961	14,569,734	353,592	969,323	25,512	595,882
2025	5,815,740	16,148,945	14,444,920	82,807	14,527,727	347,702	960,803	0	566,988
2026	5,836,337	16,182,172	14,524,222	82,653	14,606,875	347,397	955,340	0	563,476
2027	5,830,538	16,172,715	14,503,000	82,706	14,585,706	347,502	957,204	0	564,675
2028	5,815,789	16,145,108	14,451,329	82,704	14,534,033	347,498	957,149	0	564,638
2029	5,779,133	16,004,970	14,467,134	82,703	14,549,837	347,496	957,106	0	564,611
2030	5,776,780	15,999,767	14,459,287	82,690	14,541,977	347,471	956,664	0	564,328
2031	5,783,905	16,011,425	14,485,726	82,666	14,568,392	347,424	955,825	0	563,787
2032	5,782,182	16,006,881	14,481,081	82,630	14,563,711	347,356	954,595	0	562,999
2033	5,778,082	16,000,601	14,465,880	82,671	14,548,551	347,433	955,979	0	563,887
2034	5,799,446	16,036,299	14,545,898	82,496	14,628,394	347,082	949,700	0	559,852
2035	5,753,296	15,956,785	14,378,062	82,739	14,460,801	347,569	958,431	0	565,465

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	1,492,545	99,509	282,016	2,708,350	48,528	1,032,824
1977	105,448	92,700	80,485	1,776,736	65,462	41,920	2,634,315	59,044	1,339,311
1978	116,914	105,479	69,046	2,207,048	68,335	626,686	3,684,243	64,254	1,213,641
1979	181,772	190,348	113,950	1,969,064	71,825	186,821	3,340,794	78,985	1,166,290
1980	224,367	147,894	110,915	2,543,410	139,044	650,516	4,620,200	68,289	1,457,066
1981	268,872	167,232	109,720	2,927,917	160,967	98,439	4,774,475	33,224	1,493,077
1982	331,300	191,701	127,361	3,308,354	236,441	578,144	6,061,156	27,764	1,776,276
1983	306,440	233,173	161,248	4,688,314	245,993	−502,054	6,234,635	43,812	1,754,250
1984	365,543	242,364	167,203	5,122,120	259,829	2,128,178	9,821,240	39,772	1,959,882
1985	392,509	262,608	181,082	5,416,874	277,471	2,848,600	11,051,537	41,920	2,069,388
1986	399,586	268,363	184,727	5,309,176	280,473	901,385	9,033,945	43,184	2,141,515
1987	399,093	268,318	184,531	5,167,176	454,356	864,119	9,029,088	43,434	2,153,829
1988	398,903	268,257	184,428	5,072,137	450,680	1,244,013	9,310,431	43,448	2,157,254
1989	408,538	273,278	188,648	5,180,723	453,758	311,847	8,535,341	44,697	2,187,085
1990	409,901	274,118	189,267	5,147,905	455,093	1,880,070	10,079,514	44,764	2,190,455
1991	411,853	275,292	190,146	5,522,164	456,160	205,096	8,790,090	44,833	2,193,979
1992	413,087	276,000	190,692	5,389,800	456,538	1,434,003	9,892,890	44,841	2,194,419
1993	413,706	276,292	190,958	5,303,678	456,160	739,179	9,113,527	44,786	2,191,560
1994	413,887	276,392	191,036	5,281,121	456,169	1,688,270	10,040,910	44,786	2,191,560
1995	412,523	275,623	190,433	5,157,060	455,726	838,518	9,060,308	44,786	2,191,560
1996	413,500	276,090	190,851	5,106,904	455,034	−459,674	7,714,462	44,702	2,187,388
1997	413,892	276,312	191,025	5,095,293	455,066	1,018,156	9,182,536	44,702	2,187,388
1998	415,610	277,283	191,785	5,097,783	455,461	2,024,480	10,199,732	44,702	2,187,388
1999	415,475	277,207	191,726	5,101,867	455,367	998,761	9,177,379	44,702	2,187,388
2000	417,463	278,330	192,609	5,079,591	455,835	1,908,060	10,074,125	44,702	2,187,388
2001	418,257	278,779	192,961	5,052,187	456,006	928,092	9,070,615	44,702	2,187,388
2002	419,696	279,592	193,597	5,013,142	456,335	172,990	8,283,484	44,702	2,187,388
2003	424,878	282,522	195,897	4,985,425	457,674	1,201,895	9,310,125	44,702	2,187,388
2004	426,828	283,796	197,209	4,976,418	458,742	907,775	9,018,674	44,989	2,194,523
2005	442,827	292,838	204,303	5,010,885	462,964	1,642,170	9,866,183	44,989	2,194,523
2006	444,874	293,993	205,210	5,004,104	463,498	58,407	8,285,696	44,989	2,194,523
2007	460,683	302,089	212,116	5,231,481	468,655	2,503,470	11,036,147	47,040	2,240,790
2008	463,094	303,453	213,185	5,246,043	469,307	1,722,908	10,282,017	47,040	2,240,790
2009	463,764	303,830	213,481	5,231,817	469,495	−389,359	8,158,825	47,040	2,240,790
2010	467,957	306,201	215,342	5,272,781	470,609	3,011,874	11,621,647	47,040	2,240,790
2011	465,358	304,649	214,174	5,241,649	469,281	−1,000,531	7,563,400	46,962	2,236,817
2012	473,450	309,225	217,765	5,290,722	471,428	2,217,833	10,870,639	46,962	2,236,817
2013	478,489	312,071	219,997	5,304,846	472,773	2,260,430	10,952,140	46,962	2,236,817
2014	482,288	314,219	221,684	5,317,474	473,786	780,646	9,503,672	46,962	2,236,817
2015	489,237	318,147	224,764	5,330,706	475,631	222,379	8,992,814	46,962	2,236,817
2016	494,376	321,049	227,043	5,358,711	476,997	2,287,630	11,111,332	46,962	2,236,817
2017	492,015	319,716	225,996	5,343,324	476,382	71,494	8,868,215	46,962	2,236,817
2018	494,910	321,352	227,280	5,363,136	477,168	3,207,775	12,038,563	46,962	2,236,817
2019	493,210	320,391	226,526	5,350,659	476,747	1,739,069	10,549,050	46,962	2,236,817
2020	496,073	322,012	227,797	5,344,063	477,546	2,359,157	11,176,665	46,962	2,236,817
2021	493,474	320,539	226,641	5,336,667	476,914	−566,991	8,230,387	46,962	2,236,817
2022	495,429	321,646	227,508	5,349,265	477,562	2,536,465	11,356,183	46,962	2,236,817
2023	496,044	321,993	227,784	5,343,062	477,071	477,533	9,293,424	46,962	2,236,817
2024	494,436	320,825	226,395	5,321,167	475,860	90,125	8,873,117	46,530	2,226,049
2025	468,623	308,087	215,182	4,893,806	467,011	3,533,234	11,761,436	42,011	2,124,113
2026	465,111	306,104	213,626	4,872,429	466,117	612,076	8,801,676	42,011	2,124,113
2027	466,310	306,779	214,158	4,876,746	466,466	1,487,023	9,686,863	42,011	2,124,113
2028	466,273	306,759	214,142	4,874,263	466,477	1,058,881	9,256,080	42,011	2,124,113
2029	466,246	306,742	214,127	4,867,450	466,503	556,284	8,746,565	42,011	2,124,113
2030	465,963	306,584	214,003	4,880,659	466,502	2,031,384	10,233,558	42,011	2,124,113
2031	465,422	306,277	213,763	4,867,732	466,463	855,484	9,042,177	42,011	2,124,113
2032	464,634	305,833	213,412	4,875,784	466,371	1,765,167	9,956,151	42,011	2,124,113
2033	465,522	306,334	213,807	4,866,111	466,744	1,139,425	9,325,242	42,011	2,124,113
2034	461,487	304,053	212,018	4,861,049	465,764	−685,477	7,475,528	42,011	2,124,113
2035	467,100	307,226	214,505	4,866,272	467,319	3,907,571	12,101,458	42,011	2,124,113

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	275,557	133,955
1974	147,048	32,837	814,384	1,779,501	960,785	175,869	124,047	374,832	9,444
1975	103,028	65,232	671,469	1,700,377	1,146,986	192,954	211,203	867,156	87,379
1976	129,043	93,810	588,125	1,892,330	1,363,187	238,715	223,740	708,546	107,559
1977	119,398	86,683	772,088	2,376,524	1,378,141	127,570	229,163	743,086	11,246
1978	159,645	65,159	803,814	2,306,513	1,292,774	358,890	271,003	429,385	33,554
1979	133,382	87,141	242,298	1,708,096	1,469,316	307,370	291,553	1,035,537	79,364
1980	149,289	122,757	1,060,019	2,857,420	1,886,302	249,215	469,619	984,188	307,126
1981	150,093	188,542	296,092	2,161,028	1,918,885	155,918	741,626	2,233,327	17,940
1982	191,456	303,275	2,222,552	4,521,323	2,038,900	260,419	1,034,205	3,897,637	286,851
1983	167,180	125,226	108,438	2,198,906	2,964,694	467,328	934,929	2,073,855	507,642
1984	247,770	150,053	1,476,850	3,874,327	3,523,679	829,706	1,169,400	2,079,934	698,695
1985	279,080	158,686	202,562	2,751,636	3,860,015	738,170	1,230,368	1,773,290	624,286
1986	228,786	164,672	1,336,408	3,914,565	3,938,052	441,848	1,257,111	1,572,568	630,315
1987	230,093	165,628	1,179,626	3,772,610	3,571,253	439,377	942,603	1,566,745	467,413
1988	230,405	165,842	646,617	3,243,566	3,444,795	438,512	843,498	1,568,192	412,912
1989	235,781	167,474	797,405	3,432,442	3,500,353	455,555	849,860	1,589,413	425,044
1990	236,136	167,736	693,162	3,332,253	3,498,779	457,155	852,075	1,599,966	425,529
1991	236,508	168,008	3,076,531	5,719,859	3,369,857	460,288	853,857	1,610,300	426,038
1992	236,555	168,041	1,691,831	4,335,687	3,310,547	462,296	854,546	1,617,339	426,101
1993	236,253	167,821	1,636,127	4,276,547	3,348,561	463,638	854,045	1,620,875	425,689
1994	236,253	167,821	1,054,854	3,695,274	3,356,810	463,912	854,075	1,622,032	425,689
1995	236,253	167,821	458,128	3,098,548	3,395,963	461,707	853,266	1,614,474	425,689
1996	235,813	167,499	1,566,506	4,201,908	3,413,837	463,923	852,320	1,620,833	425,087
1997	235,813	167,499	1,657,267	4,292,669	3,423,985	464,556	852,408	1,623,358	425,087
1998	235,813	167,499	923,750	3,559,152	3,426,807	467,505	853,179	1,633,464	425,087
1999	235,813	167,499	1,655,528	4,290,930	3,420,848	467,347	853,024	1,632,997	425,087
2000	235,813	167,499	578,525	3,213,927	3,438,436	470,707	853,924	1,644,305	425,087
2001	235,813	167,499	1,816,146	4,451,548	3,451,655	472,062	854,267	1,649,349	425,087
2002	235,813	167,499	1,026,366	3,661,768	3,468,389	474,493	854,912	1,657,980	425,087
2003	235,813	167,499	1,294,254	3,929,656	3,500,541	483,264	857,573	1,695,973	425,087
2004	236,780	168,168	1,618,969	4,263,429	3,654,484	486,444	859,381	1,707,611	425,683
2005	236,780	168,168	1,857,405	4,501,865	3,673,796	513,561	867,354	1,798,911	425,683
2006	236,780	168,168	939,892	3,584,352	3,678,568	516,981	868,367	1,810,725	425,683
2007	245,509	170,585	1,529,195	4,233,119	3,736,243	545,102	879,208	1,850,531	445,877
2008	245,509	170,585	1,226,837	3,930,761	3,728,404	549,177	880,438	1,864,668	445,877
2009	245,509	170,585	1,418,959	4,122,883	3,739,788	550,313	880,795	1,868,799	445,877
2010	245,509	170,585	1,749,387	4,453,311	3,733,987	557,401	882,904	1,893,008	445,877
2011	245,089	170,278	741,930	3,441,076	3,731,158	553,467	880,656	1,878,665	445,305
2012	245,089	170,278	3,170,230	5,869,376	3,718,654	567,138	884,711	1,925,026	445,305
2013	245,089	170,278	1,979,554	4,678,700	3,741,269	575,612	887,254	1,954,403	445,305
2014	245,089	170,278	1,668,680	4,367,826	3,740,913	582,005	889,164	1,976,050	445,305
2015	245,089	170,278	281,323	2,980,469	3,753,061	593,739	892,653	2,016,277	445,305
2016	245,089	170,278	2,657,072	5,356,218	3,736,348	602,419	895,227	2,045,336	445,305
2017	245,089	170,278	1,208,504	3,907,650	3,745,938	598,435	894,065	2,031,898	445,305
2018	245,089	170,278	2,704,132	5,403,278	3,743,536	603,337	895,546	2,048,672	445,305
2019	245,089	170,278	1,716,928	4,416,074	3,749,451	600,477	894,744	2,039,312	445,305
2020	245,089	170,278	1,048,321	3,747,467	3,746,180	605,334	896,249	2,055,903	445,305
2021	245,089	170,278	1,473,767	4,172,913	3,753,413	600,964	895,031	2,040,809	445,305
2022	245,089	170,278	2,131,682	4,830,828	3,515,158	604,323	896,222	2,052,373	445,305
2023	245,089	170,278	1,635,174	4,334,320	3,512,029	600,594	895,265	2,039,896	445,305
2024	243,630	169,269	1,555,992	4,241,470	3,505,365	598,229	893,301	2,031,532	444,407
2025	224,400	163,945	1,594,294	4,148,763	3,374,529	551,494	874,118	1,994,825	399,916
2026	224,400	163,945	1,301,854	3,856,323	3,385,151	545,584	872,425	1,975,052	399,916
2027	224,400	163,945	1,923,459	4,477,928	3,382,693	547,619	873,076	1,982,319	399,916
2028	224,400	163,945	1,817,064	4,371,533	3,377,158	547,200	873,065	1,980,359	399,916
2029	224,400	163,945	1,429,489	3,983,958	3,381,984	546,798	873,094	1,979,400	399,916
2030	224,400	163,945	2,177,361	4,731,830	3,375,201	546,241	873,060	1,977,242	399,916
2031	224,400	163,945	1,381,830	3,936,299	3,382,916	545,269	872,952	1,974,155	399,916
2032	224,400	163,945	2,000,830	4,555,299	3,377,536	543,817	872,730	1,968,840	399,916
2033	224,400	163,945	1,880,217	4,434,686	3,381,836	545,215	873,393	1,974,183	399,916
2034	224,400	163,945	1,448,022	4,002,491	3,384,895	538,092	871,492	1,949,684	399,916
2035	224,400	163,945	1,236,515	3,790,984	3,374,635	547,252	874,395	1,980,951	399,916

REIMBURSED THRU MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(in dollars)

Calendar Year	CALIFORNIA AQUEDUCT (continued)								GRAND TOTAL
	WEST BRANCH (continued)		COASTAL BRANCH					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	18,567
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	646,995	2,357,305	641,626	0	0	0	641,626	14,602,548	15,206,093
1974	792,341	2,437,318	669,279	0	0	0	669,279	16,598,762	17,373,487
1975	923,724	3,429,402	806,429	0	0	0	806,429	19,569,999	20,516,497
1976	−623,498	2,018,249	840,928	0	0	0	840,928	19,003,143	20,027,640
1977	724,990	3,214,196	872,189	0	0	0	872,189	23,275,266	24,222,397
1978	2,838,101	5,223,707	946,711	0	0	0	946,711	26,158,091	27,375,204
1979	1,047,683	4,230,823	871,677	0	0	0	871,677	23,438,310	24,693,245
1980	634,224	4,530,674	1,057,930	0	0	0	1,057,930	30,470,901	32,405,773
1981	1,130,140	6,197,836	985,319	0	0	0	985,319	33,829,015	35,463,833
1982	1,031,143	8,549,155	995,157	0	0	0	995,157	42,407,629	44,444,141
1983	−2,306,970	4,641,478	1,379,705	0	0	0	1,379,705	57,768,788	60,513,737
1984	4,738,121	13,039,535	1,340,814	0	0	0	1,340,814	79,399,956	82,826,024
1985	3,268,518	11,494,647	1,315,746	0	0	0	1,315,746	76,882,021	80,498,149
1986	1,449,729	9,289,623	1,352,367	0	0	0	1,352,367	71,363,646	74,800,901
1987	722,902	7,710,293	1,363,740	0	0	0	1,363,740	66,960,134	70,621,796
1988	2,631,792	9,339,701	1,375,874	0	0	0	1,375,874	67,321,137	70,954,782
1989	437,255	7,257,480	1,372,013	0	0	0	1,372,013	64,819,852	68,455,037
1990	2,874,541	9,708,045	1,370,313	0	0	0	1,370,313	68,524,370	72,155,410
1991	1,179,634	7,899,974	1,384,810	0	0	0	1,384,810	67,790,764	71,425,428
1992	−109,036	6,561,793	1,387,327	10,519	1,887	3,951	1,403,684	64,610,605	68,211,863
1993	3,415,759	10,128,567	1,382,493	10,545	1,905	3,990	1,398,933	67,446,059	71,041,027
1994	1,351,349	8,073,867	1,382,749	10,553	1,910	3,999	1,399,211	65,741,512	69,342,420
1995	467,025	7,218,124	1,388,365	10,507	1,880	3,937	1,404,689	63,306,191	66,926,300
1996	1,915,138	8,691,138	1,385,777	10,538	1,900	3,979	1,402,194	64,532,351	68,148,192
1997	3,207,249	9,996,643	1,382,882	10,553	1,911	4,000	1,399,346	67,423,633	71,035,300
1998	2,117,786	8,923,828	1,383,145	10,606	1,945	4,075	1,399,771	66,660,271	70,272,709
1999	−216,266	6,583,037	1,383,360	10,605	1,944	4,073	1,399,982	64,004,543	67,618,558
2000	1,823,599	8,656,058	1,381,940	10,663	1,983	4,153	1,398,739	65,953,742	69,563,664
2001	1,207,163	8,059,583	1,381,258	10,687	2,000	4,188	1,398,133	65,613,888	69,222,078
2002	64,463	6,945,324	1,382,228	10,731	2,028	4,245	1,399,232	63,052,760	66,663,592
2003	4,311,279	11,273,717	1,380,557	10,879	2,128	4,454	1,398,018	68,802,638	72,535,950
2004	1,380,016	8,513,619	1,388,079	11,994	2,151	4,506	1,406,730	66,787,546	70,545,835
2005	952,494	8,231,799	1,392,547	12,469	2,468	5,165	1,412,649	67,760,573	71,524,011
2006	926,909	8,227,233	1,424,696	19,933	2,554	5,364	1,452,547	65,854,418	69,618,412
2007	3,548,207	11,005,168	1,423,798	20,067	2,643	5,548	1,452,056	72,115,323	75,874,513
2008	−510,481	6,958,083	1,425,187	20,139	2,690	5,650	1,453,666	66,989,610	70,751,601
2009	2,890,632	10,376,204	1,424,145	20,160	2,705	5,680	1,452,690	68,521,819	72,280,595
2010	1,511,943	9,025,120	1,424,477	20,285	2,788	5,854	1,453,404	71,016,092	74,773,676
2011	−1,204,803	6,284,448	1,423,026	20,226	2,749	5,769	1,451,770	63,170,989	66,926,334
2012	−1,614,400	5,926,434	1,422,552	20,467	2,910	6,104	1,452,033	68,550,307	72,299,875
2013	3,510,096	11,113,939	1,424,097	20,619	3,010	6,315	1,454,041	72,831,975	76,583,215
2014	1,063,569	8,697,006	1,425,706	20,733	3,086	6,473	1,455,998	68,670,937	72,424,717
2015	4,411,487	12,112,522	1,427,294	20,940	3,225	6,762	1,458,221	70,276,382	74,031,099
2016	1,322,548	9,047,183	1,426,892	21,093	3,327	6,975	1,458,287	71,622,731	75,373,479
2017	427,620	8,143,261	1,427,459	21,018	3,276	6,870	1,458,623	67,090,152	70,845,506
2018	2,177,860	9,914,256	1,426,468	21,095	3,328	6,977	1,457,868	73,551,740	77,302,956
2019	1,476,351	9,205,640	1,426,543	21,036	3,289	6,894	1,457,762	70,380,211	74,133,042
2020	2,901,295	10,650,266	1,425,661	21,117	3,343	7,007	1,457,128	71,564,657	75,313,598
2021	2,148,391	9,883,913	1,426,360	21,041	3,293	6,902	1,457,596	68,362,214	71,914,500
2022	2,807,007	10,320,388	1,425,549	21,096	3,328	6,979	1,456,952	71,492,840	75,018,033
2023	125,665	7,618,754	1,425,615	21,026	3,282	6,882	1,456,805	66,209,089	69,735,648
2024	3,473,472	10,946,306	1,352,567	4,764	3,177	6,617	1,367,125	67,771,784	71,284,878
2025	68,221	7,263,103	1,352,106	4,756	3,170	6,604	1,366,636	66,837,390	70,349,303
2026	2,079,019	9,257,147	1,351,905	4,654	3,102	6,463	1,366,124	65,638,388	69,151,600
2027	3,142,262	10,327,885	1,351,456	4,692	3,128	6,516	1,365,792	68,191,560	71,702,745
2028	1,086,974	8,264,672	1,351,487	4,686	3,124	6,509	1,365,806	65,538,894	69,050,170
2029	3,254,734	10,435,926	1,351,307	4,684	3,122	6,504	1,365,617	66,675,850	70,186,578
2030	378,623	7,550,283	1,351,466	4,669	3,113	6,484	1,365,732	66,014,879	69,526,169
2031	3,213,717	10,388,925	1,351,336	4,652	3,100	6,460	1,365,548	66,905,779	70,416,872
2032	747,845	7,910,684	1,351,448	4,627	3,085	6,426	1,365,586	65,935,089	69,446,800
2033	4,291,266	11,465,809	1,350,992	4,669	3,113	6,485	1,365,259	68,742,105	72,251,704
2034	424,464	7,568,543	1,352,090	4,559	3,040	6,332	1,366,021	62,625,409	66,140,266
2035	5,206,167	12,383,316	1,350,190	4,733	3,155	6,574	1,364,652	71,722,255	75,228,312

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	14,779	14,779	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	22,635	22,635	512,996	801,033	205,643	165,314	172,120
1978	0	21,713	21,713	587,041	2,368,135	664,018	712,883	629,805
1979	0	16,246	16,246	604,247	3,421,964	974,032	760,947	725,556
1980	0	19,970	19,970	523,680	3,606,554	1,166,005	872,752	846,405
1981	0	21,692	21,692	539,232	2,189,599	1,164,790	1,203,523	1,167,514
1982	0	12,385	12,385	656,705	3,169,779	1,543,991	1,624,409	1,620,772
1983	0	15,204	15,204	1,997,797	5,983,908	3,960,558	3,215,645	3,148,170
1984	0	15,000	15,000	2,307,558	10,753,541	5,028,657	4,333,310	4,333,442
1985	0	18,231	18,231	2,330,481	15,447,393	7,149,013	7,845,512	8,728,144
1986	0	39,064	39,064	2,400,680	16,602,580	7,561,208	8,253,810	9,128,451
1987	64,572	40,972	105,544	2,366,304	16,426,082	7,576,631	8,145,863	8,927,168
1988	73,495	44,284	117,779	2,403,508	16,747,992	7,835,615	8,358,375	9,094,203
1989	133,318	57,139	190,457	2,487,923	18,329,545	8,457,381	9,307,084	10,229,308
1990	161,860	64,361	226,221	2,629,251	20,191,867	8,968,640	9,849,946	10,830,202
1991	167,204	74,982	242,686	2,761,822	20,346,952	9,307,295	10,156,887	11,181,831
1992	173,226	85,922	259,148	2,898,196	20,994,994	9,629,075	10,381,596	11,441,593
1993	178,030	96,397	274,427	3,014,637	21,682,315	9,978,660	10,845,524	11,998,571
1994	181,492	106,298	287,790	3,097,354	21,949,276	10,136,402	11,005,114	12,191,875
1995	187,162	113,977	301,139	3,075,255	21,759,630	10,101,978	10,973,423	12,181,873
1996	191,676	124,150	315,826	3,129,107	22,289,760	10,397,121	11,396,452	12,676,880
1997	198,980	133,733	332,713	3,168,717	22,674,364	10,778,287	11,733,638	13,068,076
1998	205,854	145,650	351,504	3,221,300	23,225,167	11,196,266	12,109,327	13,465,590
1999	208,572	154,492	363,064	3,208,787	23,127,500	11,319,366	12,088,887	13,448,404
2000	216,162	167,210	383,372	3,271,084	23,946,808	11,790,733	12,662,983	14,127,757
2001	220,098	174,938	395,036	3,293,778	24,313,478	12,055,852	12,975,228	14,468,453
2002	225,495	184,405	409,900	3,337,604	24,604,809	12,254,891	13,174,609	14,688,346
2003	240,124	201,252	441,376	3,515,635	26,369,137	13,072,340	14,327,949	16,020,628
2004	251,108	210,396	461,504	3,546,118	26,724,573	13,245,289	14,635,961	16,376,307
2005	301,404	251,960	553,364	4,107,699	31,008,290	15,143,399	17,015,316	19,070,186
2006	307,397	258,697	566,094	4,178,849	31,614,655	15,416,729	17,419,978	19,532,202
2007	319,939	271,075	591,014	4,335,321	33,238,310	16,166,584	18,357,950	20,620,980
2008	327,435	278,881	606,316	4,421,883	33,831,609	16,424,010	18,657,895	20,956,362
2009	330,107	283,040	613,147	4,446,854	34,413,267	16,709,003	19,092,016	21,474,695
2010	342,086	294,966	637,052	4,595,137	35,864,154	17,372,349	19,971,711	22,493,089
2011	338,910	295,801	634,711	4,524,386	35,013,097	16,976,360	19,420,289	21,847,521
2012	360,303	314,474	674,777	4,809,984	37,618,368	18,157,419	20,957,228	23,618,088
2013	373,703	326,169	699,872	4,988,870	39,597,978	19,065,347	22,200,055	25,067,225
2014	383,793	334,976	718,769	5,123,569	40,733,560	19,571,985	22,843,985	25,804,446
2015	403,382	354,637	758,019	5,368,993	42,818,604	20,502,814	24,028,099	27,160,711
2016	417,041	366,645	783,686	5,550,785	44,577,204	21,305,665	25,095,589	28,396,659
2017	424,471	396,629	821,100	5,468,970	43,922,485	20,867,766	24,727,676	27,976,810
2018	435,232	410,685	845,917	5,573,489	45,177,440	21,338,554	25,612,057	29,016,061
2019	436,670	413,264	849,934	5,517,513	44,775,329	21,055,000	25,488,173	28,884,097
2020	447,689	427,843	875,532	5,623,911	45,714,144	21,443,125	26,134,000	29,633,068
2021	440,980	421,430	862,410	5,539,619	45,000,357	21,026,611	25,609,524	29,051,229
2022	447,852	427,998	875,850	5,625,950	45,901,468	21,042,003	26,052,148	29,595,100
2023	442,651	423,028	865,679	5,560,617	45,154,952	20,404,118	25,579,611	29,042,754
2024	443,229	423,580	866,809	5,567,884	45,417,659	20,224,036	25,782,367	29,286,702
2025	442,408	422,796	865,204	5,557,573	45,303,259	20,173,238	25,711,113	29,203,557
2026	432,945	413,752	846,697	5,438,685	44,469,686	19,819,659	25,306,751	28,752,153
2027	436,632	417,275	853,907	5,484,994	44,923,207	20,039,147	25,610,324	29,105,620
2028	436,746	417,385	854,131	5,486,440	44,683,337	19,995,663	25,439,272	29,007,677
2029	437,028	417,654	854,682	5,489,976	44,595,521	20,019,952	25,384,772	28,924,293
2030	437,013	417,640	854,653	5,489,792	44,374,691	19,818,210	25,228,578	28,718,486
2031	436,599	417,244	853,843	5,484,587	44,287,408	19,680,896	25,130,866	28,664,842
2032	435,628	416,315	851,943	5,472,385	43,989,921	19,446,666	24,873,978	28,363,958
2033	439,578	420,090	859,668	5,522,008	44,496,818	19,674,317	25,033,685	28,549,425
2034	429,201	410,173	839,374	5,391,651	43,153,597	19,070,634	24,056,397	27,411,995
2035	445,663	425,906	871,569	5,598,448	45,067,985	19,931,099	25,047,054	28,555,467

a) *Costs for the period 1968 through 1986 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 Tulare Lake Basin Water Storage 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	349,754	1,152,422	0	296,678	0	260,257	-1,115,096	49,907	18,075
1978	1,155,259	4,081,337	0	1,535,391	0	0	-3,038,194	0	92,807
1979	1,441,324	4,973,712	0	1,706,786	0	32,024	-3,121,218	408,299	119,617
1980	1,683,561	5,610,748	0	1,729,828	0	61,609	-3,318,152	0	45,457
1981	2,329,369	8,182,384	0	2,003,589	0	179,545	-2,374,626	383,657	381,646
1982	3,124,995	10,339,471	0	2,444,176	0	0	-3,537,234	0	605,021
1983	6,378,089	21,353,210	0	5,395,220	0	1,513,501	-12,485,349	1,073,907	358,508
1984	8,995,318	30,173,705	0	5,241,424	0	0	-11,642,517	0	1,596,933
1985	17,980,859	61,105,962	-1,367,775	10,020,907	0	0	-21,425,461	1,062,430	3,893,360
1986	18,825,143	63,969,112	-3,870,161	9,394,332	-957,105	148,525	-19,793,873	0	4,499,220
1987	18,403,540	62,496,076	-3,838,721	9,056,913	-2,947,666	170,292	-19,728,109	13,519	4,451,804
1988	18,783,576	63,831,934	-3,861,440	9,098,933	-3,039,712	0	-19,541,324	555,250	4,602,225
1989	21,125,981	71,045,758	-4,097,131	9,731,463	-3,079,497	755,366	-19,596,891	385,340	5,313,537
1990	22,377,164	75,104,296	-4,191,956	10,223,011	-3,389,689	0	-19,577,550	479,348	5,627,914
1991	23,129,490	77,775,321	-5,987,303	15,054,290	-5,756,449	874,822	-29,599,710	0	3,810,324
1992	23,679,397	79,759,620	-5,885,405	14,949,532	-5,802,112	0	-28,633,118	0	4,101,268
1993	24,864,522	84,101,399	-5,705,429	14,576,867	-5,442,886	332,291	-27,719,340	0	4,821,719
1994	25,300,065	85,681,998	-5,552,620	14,139,650	-5,363,602	0	-26,678,202	196,602	5,201,765
1995	25,291,978	85,699,691	-5,521,173	13,872,570	-5,325,445	220,224	-26,718,913	796,064	5,419,715
1996	26,291,026	89,192,984	-5,534,717	13,971,518	-5,507,413	1,562,822	-27,204,709	0	5,826,385
1997	27,178,602	91,878,251	-5,651,762	14,259,768	-5,569,872	44,206	-27,213,879	0	6,038,508
1998	28,180,923	94,898,065	-5,639,039	14,416,114	-5,537,822	0	-27,045,928	338,391	6,380,591
1999	28,209,551	94,485,612	-5,685,092	14,445,380	-5,829,524	63,054	-27,232,304	0	6,335,009
2000	29,782,149	99,144,429	-5,639,361	14,553,465	-5,504,261	0	-26,881,475	710,808	6,915,176
2001	30,466,373	101,303,086	-5,532,380	14,316,114	-5,326,417	150,192	-26,271,981	0	7,314,680
2002	30,907,636	102,376,963	-5,294,936	13,849,458	-5,020,852	937,399	-25,171,616	268,025	7,681,786
2003	33,602,820	111,629,061	-5,209,389	14,318,565	-5,226,383	0	-24,318,509	30,708	8,711,257
2004	34,216,571	113,680,333	-5,035,673	13,944,137	-4,778,514	204,954	-23,362,934	0	9,238,975
2005	39,774,160	132,622,527	-4,883,285	15,562,302	-4,772,670	0	-22,393,432	0	11,017,030
2006	40,635,716	135,437,469	-4,864,198	15,755,725	-4,793,118	1,138,308	-22,482,997	568,233	11,282,044
2007	43,095,831	143,889,568	-5,027,410	16,802,539	-4,788,604	0	-22,958,627	22,649	11,866,571
2008	43,791,843	146,243,497	-5,079,820	17,245,572	-4,799,128	0	-23,138,004	358,627	11,935,552
2009	44,898,249	149,958,535	-5,088,986	17,305,297	-4,839,490	1,663,881	-23,485,283	169,345	12,394,741
2010	47,062,297	157,357,616	-5,247,250	18,399,682	-5,082,284	0	-23,825,545	0	12,842,072
2011	45,687,935	152,622,297	-5,151,192	17,687,893	-4,799,653	2,302,564	-23,748,794	878,363	12,501,502
2012	49,448,320	165,513,819	-5,361,697	19,535,835	-5,502,740	0	-24,216,778	0	13,302,227
2013	52,533,042	176,012,120	-5,418,272	20,396,093	-5,042,961	0	-24,411,478	0	14,237,838
2014	54,097,726	181,341,077	-5,449,800	20,983,068	-4,938,902	543,638	-24,585,132	82,228	14,598,936
2015	56,977,228	191,200,644	-5,418,797	21,732,458	-5,191,856	1,120,569	-24,417,542	1,556,439	15,471,740
2016	59,606,052	200,198,310	-5,566,264	23,023,291	-5,222,586	0	-24,860,922	0	16,013,429
2017	58,715,644	197,139,112	-5,525,050	22,402,838	-5,175,937	1,305,541	-24,773,662	604,867	15,858,959
2018	60,932,026	204,756,404	-5,634,119	23,216,745	-5,310,231	0	-24,978,387	0	16,447,824
2019	60,564,144	203,806,130	-5,662,668	23,019,936	-5,095,615	0	-25,013,086	100,260	16,386,282
2020	62,063,710	209,170,610	-5,667,367	23,366,123	-5,055,899	0	-24,914,465	805,567	16,882,376
2021	60,960,936	205,589,278	-5,640,831	22,790,174	-5,203,336	1,964,540	-25,019,857	344,150	16,653,950
2022	61,977,802	210,111,631	-5,751,516	23,538,231	-5,304,901	0	-25,101,873	0	16,887,884
2023	60,430,674	205,771,791	-3,144,383	23,085,431	-5,103,779	901,390	-25,056,796	192,530	16,516,547
2024	60,576,108	207,456,158	-3,148,678	23,036,832	-5,262,539	1,290,146	-25,040,654	261,419	16,730,605
2025	60,030,968	206,797,439	-3,193,166	23,227,352	-5,218,066	0	-25,064,878	157,394	16,510,089
2026	58,821,437	203,469,687	-3,181,436	22,572,637	-1,736,937	697,455	-24,995,391	455,749	16,380,595
2027	59,322,019	206,059,860	-3,215,029	22,963,296	-1,764,243	0	-25,101,804	0	16,505,963
2028	59,118,471	205,335,077	-3,210,353	22,930,959	-1,772,086	239,315	-25,101,753	0	16,114,313
2029	59,208,937	205,651,864	-3,192,557	22,795,850	-1,774,936	756,262	-25,024,036	335,968	15,907,169
2030	59,040,660	204,823,855	-3,215,174	22,982,793	-1,787,011	0	-25,101,900	0	15,660,043
2031	59,189,225	204,929,188	-3,197,619	22,817,148	-1,762,654	448,799	-25,017,061	363,946	15,710,333
2032	58,887,398	203,567,809	-3,215,070	22,789,403	-1,777,723	0	-25,101,815	0	15,419,306
2033	59,615,452	205,421,969	-3,211,937	22,845,525	-1,748,711	155,017	-25,101,760	0	15,532,885
2034	57,525,285	197,904,624	-3,167,848	21,842,498	-1,732,017	2,022,079	-25,034,016	281,406	14,746,536
2035	60,284,970	207,355,879	-3,202,848	22,845,590	-1,828,098	0	-24,978,536	535,565	15,166,372

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	-531,222	-831,024	63,079	0	1,056,940	1,592,571
1978	0	1,191,706	-2,060,574	0	180,202	0	7,512,775	8,121,529
1979	0	0	-2,292,587	3,281	191,713	0	9,345,450	9,965,943
1980	0	476,901	-1,247,275	-530,892	168,671	0	11,172,172	11,715,822
1981	0	0	-4,018,743	0	159,647	0	12,951,894	13,512,818
1982	0	0	-4,995,871	0	230,634	0	16,170,143	16,839,233
1983	-898,952	0	-2,754,979	4,079,992	556,166	0	40,877,594	42,890,595
1984	-3,941,363	0	-7,973,127	0	710,226	0	47,609,549	49,932,107
1985	-8,908,899	0	-16,406,422	0	742,359	0	85,867,382	88,216,094
1986	-10,211,907	0	-18,449,499	195,866	779,645	0	86,075,347	88,515,091
1987	-10,370,710	0	-18,445,739	936,428	787,175	0	82,060,546	84,532,394
1988	-10,643,342	0	-18,803,976	0	811,419	0	83,829,728	86,351,015
1989	-12,305,219	0	-21,492,579	1,285,882	794,222	0	96,189,550	98,867,930
1990	-12,633,172	0	-21,923,850	0	817,448	0	102,753,619	105,609,091
1991	-8,447,365	0	-14,984,906	523,824	1,030,828	0	108,416,131	111,420,639
1992	-8,974,926	0	-15,823,136	1,858,640	1,249,073	0	112,926,091	116,083,435
1993	-10,505,374	0	-18,294,191	0	1,259,306	0	116,793,954	120,083,018
1994	-11,299,033	0	-19,651,952	353,214	1,259,847	0	118,870,399	122,255,543
1995	-11,974,954	0	-20,737,435	1,255,890	1,236,648	0	118,531,764	121,908,158
1996	-12,838,834	0	-22,100,220	0	1,244,104	0	121,663,159	125,108,092
1997	-13,233,696	0	-22,764,276	0	1,245,786	0	124,466,001	127,967,431
1998	-13,681,619	0	-23,516,390	0	1,266,460	0	130,056,096	133,628,900
1999	-13,519,017	0	-23,265,744	1,979,856	1,261,540	0	131,232,478	134,804,329
2000	-14,494,266	0	-24,859,556	0	1,286,032	0	137,541,421	141,195,877
2001	-15,124,293	0	-26,014,875	522,681	1,294,955	0	140,911,146	144,599,960
2002	-15,593,911	0	-26,892,369	1,702,654	1,312,184	0	145,785,076	149,532,580
2003	-15,275,526	0	-28,915,792	0	1,382,178	0	160,519,044	164,476,055
2004	-15,851,645	0	-30,139,657	405,399	1,394,162	0	164,898,238	168,905,860
2005	-16,666,429	0	-31,387,567	939,371	1,614,948	0	203,664,146	208,325,209
2006	-16,801,371	0	-31,699,231	989,416	1,642,921	0	210,792,481	215,537,424
2007	-17,154,607	0	-32,288,701	0	1,704,439	0	223,547,472	228,473,807
2008	-16,889,955	0	-31,944,993	2,535,021	1,738,472	0	231,866,560	236,894,759
2009	-17,391,478	0	-32,929,700	0	1,748,288	0	236,092,380	241,152,381
2010	-17,467,483	0	-33,140,879	475,472	1,806,586	0	248,881,587	254,113,776
2011	-17,265,066	0	-32,729,858	3,246,657	1,778,771	0	246,268,686	251,427,783
2012	-17,408,342	0	-32,997,874	3,709,432	1,891,054	0	268,264,359	273,749,120
2013	-17,924,348	0	-34,141,170	0	1,961,384	0	284,132,853	289,821,595
2014	-17,979,682	0	-34,243,301	1,008,343	2,014,341	0	296,426,516	302,268,854
2015	-18,169,243	0	-34,732,870	0	2,110,829	0	316,749,827	322,876,839
2016	-18,336,473	0	-34,917,022	808,734	2,182,301	0	332,303,967	338,638,438
2017	-18,389,436	0	-35,037,014	1,710,937	2,150,135	0	328,481,671	334,771,741
2018	-18,711,804	0	-35,680,105	0	2,191,226	0	338,373,691	344,793,097
2019	-18,729,774	0	-35,847,057	629,063	2,169,220	0	336,529,434	342,896,881
2020	-18,935,822	0	-36,267,622	0	2,211,050	0	346,582,598	353,082,041
2021	-19,005,513	0	-36,285,702	0	2,177,911	0	340,013,421	346,415,450
2022	-18,962,140	0	-36,273,392	0	2,211,852	0	345,924,297	352,426,097
2023	-18,701,174	0	-35,868,936	2,015,523	2,186,166	0	343,406,419	349,832,715
2024	-18,874,762	0	-36,252,607	0	2,189,023	0	343,671,815	350,106,508
2025	-18,787,468	0	-35,890,311	1,987,890	2,184,970	0	343,133,380	349,556,157
2026	-18,941,501	0	-36,275,117	0	2,138,229	0	337,753,656	344,039,038
2027	-18,850,279	0	-36,249,542	0	2,156,436	0	341,504,975	347,843,876
2028	-18,878,831	0	-36,094,415	921,406	2,157,004	0	340,885,056	347,225,627
2029	-18,884,919	0	-36,255,140	0	2,158,393	0	340,607,393	346,952,051
2030	-18,764,472	0	-35,939,261	1,649,785	2,158,322	0	339,647,605	345,992,050
2031	-18,897,542	0	-36,257,192	0	2,156,275	0	338,246,858	344,585,288
2032	-18,851,757	0	-36,023,288	1,261,511	2,151,477	0	335,781,774	342,106,102
2033	-18,845,292	0	-36,239,149	0	2,170,988	0	338,349,232	344,730,908
2034	-18,747,270	0	-35,935,564	1,573,231	2,119,738	0	327,091,305	333,322,330
2035	-18,880,624	0	-36,239,049	0	2,201,039	0	341,861,865	348,331,882

e) Includes extra peaking costs assigned directly to Kern County Water Agency. Refer to Appendix B text "Project Water Charges, Variable OMP&R Components".

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TABLE B-13: CAPITAL AND OPERATING COSTS OF PROJECT CONSERVATION

Calendar Year	INITIAL PROJECT CONSERVATION FACILITIES (Portions of Upper Feather Lakes, Oroville-Thermalito Facilities and California Aqueduct)					Planning and Pre-Operating Costs
	CAPITAL COSTS (a	CAPITAL COST CREDITS (b	OPERATING COSTS (c	Application of Oroville Power Revenues to: CAPITAL COSTS	Application of Oroville Power Revenues to: OPERATING COSTS	(a & (d
	(1)	(2)	(3)	(4)	(5)	(6)
1952	171,322	0	0	0	0	0
1953	312,190	0	0	0	0	0
1954	308,624	0	0	0	0	0
1955	194,645	0	0	0	0	0
1956	1,357,077	0	0	0	0	0
1957	6,210,708	0	0	0	0	0
1958	9,510,880	0	0	0	0	0
1959	11,390,564	0	0	0	0	0
1960	14,454,839	-4,850,000	0	0	0	0
1961	18,678,804	-431,527	0	0	0	0
1962	8,999,984	-479,280	0	0	0	0
1963	72,948,811	-478,743	-14,000	0	0	0
1964	62,471,768	-751,330	-14,000	0	0	107,780
1965	70,880,091	-763,541	-14,000	0	0	551,850
1966	124,997,857	-748,649	-14,000	0	0	1,081,023
1967	93,993,248	-812,145	-13,442	0	0	1,189,212
1968	39,863,673	-431,574	1,293,463	-951,000	0	793,399
1969	5,260,258	-259,015	2,870,059	-11,007,000	0	601,867
1970	4,129,092	-203,733	4,797,924	-14,650,000	-1,500,000	516,659
1971	3,876,702	-193,631	6,005,770	-14,650,000	-1,500,000	408,754
1972	4,568,902	-196,361	5,357,692	-14,650,000	-1,500,000	287,374
1973	3,985,245	-136,997	6,062,679	-14,650,000	-1,500,000	203,384
1974	6,659,788	-137,503	6,852,839	-17,950,000	-1,500,000	201,907
1975	8,084,283	-234,567	7,601,707	-14,650,000	-1,500,000	146,188
1976	5,870,396	-204,944	7,086,420	-14,650,000	-1,500,000	55,097
1977	21,235,971	-150,214	11,299,029	-14,650,000	-1,500,000	3,036
1978	7,377,553	-64,566	16,225,732	-14,650,000	-1,500,000	4,546
1979	8,529,669	0	12,078,205	-14,650,000	-1,500,000	4,869
1980	9,510,504	0	16,962,730	-14,650,000	-1,500,000	5,179
1981	10,866,039	0	16,139,164	-14,650,000	-1,500,000	5,181
1982	17,042,923	0	21,014,075	-14,650,000	-3,215,000	5,599
1983	16,910,522	0	27,310,011	-34,964,000	-7,522,000	4,576,567
1984	20,551,764	0	23,961,617	-15,427,000	-7,886,000	4,956,666
1985	36,778,232	0	21,748,992	-15,427,000	-6,997,000	6,476,791
1986	35,055,158	0	19,032,400	-15,427,000	-7,103,000	6,517,398
1987	5,276,854	0	16,930,682	-15,427,000	-6,860,000	5,481,295
1988	4,730,923	0	17,025,826	-15,427,000	-6,709,000	3,888,974
1989	2,561,097	0	14,644,776	-15,427,000	-6,627,000	2,825,147
1990	1,118,000	0	20,013,773	-15,427,000	-6,619,000	2,294,323
1991	0	0	16,537,653	-15,427,000	-6,624,000	1,304,514
1992	0	0	18,326,969	-15,427,000	-6,639,000	1,304,880
1993	0	0	18,439,926	-15,427,000	-6,639,000	1,302,507
1994	0	0	18,572,043	-15,427,000	-6,671,000	1,302,507
1995	0	0	19,141,506	-15,427,000	-6,712,000	1,302,507
1996	0	0	19,315,181	-15,427,000	-6,762,000	1,299,044
1997	0	0	19,204,568	-15,427,000	-6,818,000	1,299,044
1998	0	0	19,174,882	-15,427,000	-6,818,000	1,299,044
1999	0	0	19,999,277	-15,427,000	-6,896,000	1,299,044
2000	0	0	20,082,499	-15,427,000	-6,977,000	1,299,044
2001	0	0	19,705,852	-15,427,000	-7,188,000	1,299,044
2002	0	0	20,665,928	-15,427,000	-7,324,000	1,299,044
2003	0	0	21,244,042	-15,427,000	-7,929,000	1,299,044
2004	0	0	22,132,827	-15,427,000	-7,913,000	1,299,044
2005	0	0	22,904,069	-15,427,000	-7,798,000	1,299,044
2006	0	0	23,269,827	-15,427,000	-7,686,000	1,299,044
2007	0	0	22,386,822	-15,427,000	-7,688,000	1,299,044
2008	0	0	24,184,984	-15,427,000	-7,784,000	1,299,044
2009	0	0	23,372,349	-15,427,000	-7,824,000	1,299,044
2010	0	0	22,568,517	-15,427,000	-7,733,000	1,299,044
2011	0	0	22,640,751	-15,427,000	-7,639,000	0
2012	0	0	29,095,930	-15,427,000	-7,542,000	0
2013	0	0	21,428,548	-15,427,000	-7,542,000	0
2014	0	0	21,832,072	-15,427,000	-7,542,000	0
2015	0	0	20,425,018	-15,427,000	-7,544,000	0
2016	0	0	29,389,096	-15,427,000	-7,544,000	0
2017	0	0	23,651,584	-15,427,000	-7,544,000	0
2018	0	0	25,138,879	-15,427,000	-7,544,000	0
2019	0	0	21,005,806	-15,427,000	-7,441,000	0
2020	0	0	28,368,948	-15,427,000	-7,334,000	0
2021	0	0	19,714,225	-15,427,000	-6,315,000	0
2022	0	0	22,956,910	-15,427,000	-6,015,000	0
2023	0	0	23,607,753	-15,427,000	-5,829,000	0
2024	0	0	21,018,265	-15,427,000	-5,767,000	0
2025	0	0	23,099,844	-15,427,000	-5,767,000	0
2026	0	0	17,201,765	-15,427,000	-5,767,000	0
2027	0	0	18,258,507	-15,427,000	-5,419,000	0
2028	0	0	20,294,328	-15,427,000	-5,071,000	0
2029	0	0	18,684,531	-15,427,000	-4,724,000	0
2030	0	0	18,457,517	-15,427,000	-4,636,000	0
2031	0	0	16,471,997	-15,427,000	-4,438,000	0
2032	0	0	15,621,489	-15,427,000	-4,240,000	0
2033	0	0	17,364,700	-15,427,000	-4,131,000	0
2034	0	0	9,970,340	-15,427,000	-4,023,000	0
2035	0	0	23,358,104	-15,427,000	-4,023,000	0
TOTAL	776,724,960	-11,528,320	1,242,532,751	-1,042,876,000	-373,342,000	69,192,640

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 entitlements as to the magnitude of project planning costs from 1952 through 1978 to be reimbursed through water charges. Credits are applied to the Initial Conservation Facilities.*

FACILITIES TO BE REIMBURSED THRU DELTA WATER CHARGE

CONTRACTOR PAYMENTS	TOTAL	Additional Project Conservation Facilities		TOTAL	GRAND TOTAL	Calendar Year
		COTTONWOOD CREEK PROJECT				
		Capital Costs	Operating Costs			
(7)	(8)	(9)	(10)	(11)	(12)	
0	171,322	0	0	0	171,322	1952
0	312,190	0	0	0	312,190	1953
0	308,624	0	0	0	308,624	1954
0	194,645	0	0	0	194,645	1955
0	1,357,077	0	0	0	1,357,077	1956
0	6,210,708	0	0	0	6,210,708	1957
0	9,510,880	0	0	0	9,510,880	1958
0	11,390,564	0	0	0	11,390,564	1959
0	9,604,839	0	0	0	9,604,839	1960
0	18,247,277	0	0	0	18,247,277	1961
0	8,520,704	0	0	0	8,520,704	1962
0	72,456,068	0	0	0	72,456,068	1963
0	61,814,218	0	0	0	61,814,218	1964
0	70,654,400	0	0	0	70,654,400	1965
0	125,316,231	0	0	0	125,316,231	1966
-241,150	94,115,723	0	0	0	94,115,723	1967
-583,631	39,984,330	0	0	0	39,984,330	1968
-827,578	-3,361,409	0	0	0	-3,361,409	1969
-2,160,886	-9,070,944	0	0	0	-9,070,944	1970
-2,696,792	-8,749,197	0	0	0	-8,749,197	1971
-7,206,052	-13,338,445	0	0	0	-13,338,445	1972
-7,456,998	-13,492,687	0	0	0	-13,492,687	1973
-10,683,514	-16,556,483	0	0	0	-16,556,483	1974
-12,440,851	-12,993,240	0	0	0	-12,993,240	1975
-15,299,760	-18,642,791	0	0	0	-18,642,791	1976
-15,869,924	367,898	0	0	0	367,898	1977
-19,425,531	-12,032,266	0	0	0	-12,032,266	1978
-23,095,855	-18,633,112	0	0	0	-18,633,112	1979
-27,556,606	-17,228,193	0	0	0	-17,228,193	1980
-43,335,911	-32,475,527	0	0	0	-32,475,527	1981
-49,109,855	-28,912,258	0	0	0	-28,912,258	1982
-34,186,735	-27,875,635	0	0	0	-27,875,635	1983
0	26,157,047	0	0	0	26,157,047	1984
0	42,580,015	0	0	0	42,580,015	1985
0	38,074,956	0	0	0	38,074,956	1986
0	5,401,831	0	0	0	5,401,831	1987
0	3,509,723	0	0	0	3,509,723	1988
0	-2,022,980	0	0	0	-2,022,980	1989
0	1,380,096	0	0	0	1,380,096	1990
0	-4,208,833	0	0	0	-4,208,833	1991
0	-2,434,151	0	0	0	-2,434,151	1992
0	-2,323,567	50,014,000	1,668,665	51,682,665	49,359,098	1993
0	-2,223,450	50,014,000	1,668,665	51,682,665	49,459,215	1994
0	-1,694,987	50,014,000	1,668,665	51,682,665	49,987,678	1995
0	-1,574,775	50,014,000	1,665,400	51,679,400	50,104,625	1996
0	-1,741,388	50,014,000	1,665,400	51,679,400	49,938,012	1997
0	-1,771,074	50,014,000	1,665,400	51,679,400	49,908,326	1998
0	-1,024,679	50,014,000	1,665,400	51,679,400	50,654,721	1999
0	-1,022,457	50,014,000	1,665,400	51,679,400	50,656,943	2000
0	-1,610,104	50,014,000	1,665,400	51,679,400	50,069,296	2001
0	-786,028	50,014,000	1,665,400	51,679,400	50,893,372	2002
0	-812,914	50,014,000	1,665,400	51,679,400	50,866,486	2003
0	91,871	50,014,000	1,665,400	51,679,400	51,771,271	2004
0	978,113	50,014,000	1,665,400	51,679,400	52,657,513	2005
0	1,455,871	50,014,000	1,665,400	51,679,400	53,135,271	2006
0	570,866	50,014,000	1,665,400	51,679,400	52,250,266	2007
0	2,273,028	50,014,000	1,665,400	51,679,400	53,952,428	2008
0	1,420,393	50,014,000	1,665,400	51,679,400	53,099,793	2009
0	707,561	50,014,000	1,665,400	51,679,400	52,386,961	2010
0	-425,249	50,014,000	1,662,292	51,676,292	51,251,043	2011
0	6,126,930	50,014,000	1,662,292	51,676,292	57,803,222	2012
0	-1,540,452	50,014,000	1,662,292	51,676,292	50,135,840	2013
0	-1,136,928	50,014,000	1,662,292	51,676,292	50,539,364	2014
0	-2,545,982	50,014,000	1,662,292	51,676,292	49,130,310	2015
0	6,418,096	50,014,000	1,662,292	51,676,292	58,094,388	2016
0	680,584	50,014,000	1,662,292	51,676,292	52,356,876	2017
0	2,167,879	50,014,000	1,662,292	51,676,292	53,844,171	2018
0	-1,862,194	50,014,000	1,662,292	51,676,292	49,814,098	2019
0	5,607,948	50,014,000	1,662,292	51,676,292	57,284,240	2020
0	-2,027,775	50,014,000	1,662,292	51,676,292	49,648,517	2021
0	1,514,910	50,014,000	1,662,292	51,676,292	53,191,202	2022
0	2,351,753	50,014,000	1,662,292	51,676,292	54,028,045	2023
0	-175,735	50,014,000	1,662,292	51,676,292	51,500,557	2024
0	1,905,844	50,014,000	1,662,292	51,676,292	53,582,136	2025
0	-3,992,235	50,014,000	1,662,292	51,676,292	47,684,057	2026
0	-2,587,493	50,014,000	1,662,292	51,676,292	49,088,799	2027
0	-203,672	50,014,000	1,662,292	51,676,292	51,472,620	2028
0	-1,466,469	50,014,000	1,662,292	51,676,292	50,209,823	2029
0	-1,605,483	50,014,000	1,662,292	51,676,292	50,070,809	2030
0	-3,393,003	50,014,000	1,662,292	51,676,292	48,283,289	2031
0	-4,045,511	50,014,000	1,662,292	51,676,292	47,630,781	2032
0	-2,193,300	50,014,000	1,662,292	51,676,292	49,482,992	2033
0	-9,479,660	50,014,000	1,662,292	51,676,292	42,196,632	2034
0	3,908,104	50,014,000	1,662,292	51,676,292	55,584,396	2035
-272,177,629	388,526,402	150,602,000	71,544,295	2,222,146,295	2,610,672,697	TOTAL

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 revenue 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 (1982) 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	224	345
1953	0	0	0	324	406	1,808	2,538	336	619	955
1954	0	0	0	819	1,088	5,150	7,057	422	779	1,201
1955	0	0	0	976	1,321	6,297	8,594	211	388	599
1956	0	0	0	8,844	12,069	63,816	84,729	227	419	646
1957	16,594	10,040	26,634	21,563	29,313	649,598	700,474	290	535	825
1958	35,437	14,574	50,011	67,764	67,955	733,415	869,134	721	1,330	2,051
1959	21,488	5,800	27,288	154,254	142,959	493,049	790,262	25,853	53,921	79,774
1960	10,049	7,878	17,927	296,492	274,637	1,018,662	1,589,791	37,106	77,941	115,047
1961	7,250	7,145	14,395	853,505	797,749	1,914,710	3,565,964	15,637	31,208	46,845
1962	-197	-923	-1,120	545,123	576,571	1,686,044	2,807,738	19,640	37,213	56,853
1963	1,559	871	2,430	657,427	1,077,895	3,243,842	4,979,164	73,105	136,569	209,674
1964	42,604	31,255	73,859	712,653	1,244,064	7,251,805	9,208,522	146,715	273,922	420,637
1965	206,465	54,589	261,054	360,783	468,128	3,414,466	4,243,377	261,459	486,434	747,893
1966	467,845	43,691	511,536	592,720	562,232	2,245,228	3,400,180	598,330	1,107,174	1,705,504
1967	1,574,452	35,425	1,609,877	797,000	772,107	2,401,877	3,970,984	947,517	1,751,645	2,699,162
1968	867,044	54,260	921,304	736,474	681,350	1,997,934	3,415,758	359,892	666,477	1,026,369
1969	81,172	52,534	133,706	269,700	258,156	764,957	1,292,813	84,316	157,240	241,556
1970	49,950	61,288	111,238	58,678	56,854	135,572	251,104	54,665	102,459	157,124
1971	29,314	31,501	60,815	12,086	14,386	84,090	110,562	37,650	71,704	109,354
1972	21,400	17,148	38,548	12,291	11,723	63,612	87,626	24,098	45,422	69,520
1973	58,790	28,594	87,384	10,494	10,525	39,380	60,399	27,479	51,711	79,190
1974	173,078	58,584	231,662	15,721	17,774	73,122	106,617	30,087	56,332	86,419
1975	99,218	81,840	181,058	16,730	15,572	41,395	73,697	25,396	50,761	76,157
1976	63,976	76,802	140,778	34,005	32,853	109,615	176,473	54,578	109,510	164,088
1977	68,858	68,952	137,810	46,231	43,246	133,381	222,858	130,070	243,134	373,204
1978	72,296	68,483	140,779	61,469	56,729	153,593	271,791	36,959	70,449	107,408
1979	226,355	242,753	469,108	45,492	42,504	110,696	198,692	52,642	99,724	152,366
1980	316,745	292,698	609,443	134,838	124,183	305,143	564,164	194,281	360,213	554,494
1981	222,928	299,667	522,595	-32,773	-29,289	-63,440	-125,502	-78,101	-141,910	-220,011
1982	566,710	678,095	1,244,805	12,677	12,120	34,210	59,007	-31,694	-57,684	-89,378
1983	1,501,224	1,918,429	3,419,653	100,985	92,716	226,881	420,582	100,438	185,339	285,777
1984	5,243,450	4,497,090	9,740,540	55,789	52,387	138,538	246,714	94,546	174,475	269,021
1985	9,345,321	12,217,471	21,562,792	18,049	16,600	41,152	75,801	55,518	102,472	157,990
1986	10,527,958	14,607,395	25,135,353	46,474	42,489	102,265	191,228	55,892	103,158	159,050
1987	898,471	859,529	1,758,000	82,333	75,277	179,381	336,991	119,577	220,649	340,226
1988	164,411	248,589	413,000	76,325	69,784	166,292	312,401	143,440	264,699	408,139
1989	19,507	29,493	49,000	30,669	28,041	66,819	125,529	125,020	230,719	355,739
1990	9,953	15,047	25,000	0	0	0	0	78,460	144,822	223,282
1991	2,787	4,213	7,000	0	0	0	0	27,084	52,421	79,505
1992	0	0	0	0	0	0	0	0	0	0
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	33,014,462	36,720,800	69,735,262	6,915,067	7,754,573	30,034,764	44,704,404	3,929,983	7,324,617	11,254,600

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	Future Contractor San Joaquin Valley	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	59	938	9,257	19	13	784	11,565
1953	238	1,076	53	161	2,892	27,760	56	33	2,158	34,427
1954	298	1,350	67	200	3,379	32,820	70	42	2,719	40,945
1955	150	676	36	100	1,499	14,928	36	22	1,371	18,818
1956	160	727	33	107	2,709	24,572	34	26	1,417	29,785
1957	205	932	38	139	6,067	50,551	38	30	1,707	59,707
1958	511	2,308	100	345	14,412	120,493	103	61	4,368	142,701
1959	3,700	7,387	363	2,517	26,276	256,904	372	381	14,758	312,658
1960	5,396	12,942	629	3,666	34,105	356,732	644	498	25,699	440,311
1961	5,850	21,851	1,063	3,957	51,474	545,803	1,087	599	43,381	675,065
1962	11,657	49,324	2,410	7,867	95,002	1,031,605	2,466	1,879	98,151	1,300,361
1963	47,693	208,777	10,688	32,174	364,163	3,991,682	10,933	5,991	425,371	5,097,472
1964	95,861	328,316	16,963	64,894	600,500	6,728,447	17,352	11,944	672,079	8,536,356
1965	174,091	538,267	27,484	118,001	1,099,973	12,161,680	28,118	21,804	1,095,233	15,264,651
1966	411,444	1,107,866	52,591	279,183	2,220,602	25,213,130	53,793	38,895	2,173,302	31,550,806
1967	653,362	852,621	39,542	445,568	2,015,229	23,934,870	40,446	34,779	1,653,578	29,669,995
1968	243,377	198,761	9,732	166,271	1,107,263	11,640,537	9,954	12,239	395,951	13,784,085
1969	52,106	94,448	4,791	35,474	618,550	6,462,282	4,899	7,302	191,528	7,471,380
1970	31,850	54,352	2,712	21,687	416,145	4,173,642	2,775	3,999	109,315	4,816,477
1971	17,745	25,467	1,288	12,096	191,240	1,634,090	1,319	540	51,585	1,935,370
1972	12,235	11,592	587	8,354	83,180	728,957	599	343	23,489	869,336
1973	14,913	6,658	334	10,202	40,106	461,541	339	220	13,408	547,721
1974	16,154	9,478	469	11,045	45,558	487,524	478	326	18,978	590,010
1975	7,706	13,329	678	5,246	36,537	386,943	692	426	27,041	478,598
1976	18,475	17,506	835	12,617	53,183	660,537	854	1,152	34,414	799,573
1977	69,750	9,513	427	47,768	36,329	888,472	437	490	18,166	1,071,352
1978	-8,877	11,120	-31,052	3,543	27,773	307,199	548	802	21,978	333,034
1979	7,225	19,510	997	4,906	45,795	472,422	1,020	1,734	39,730	593,339
1980	37,486	103,080	5,335	25,432	260,913	2,539,654	5,456	6,181	211,190	3,194,727
1981	7,031	26,958	-13,782	4,756	4,003	174,006	1,423	2,487	55,144	262,026
1982	19,336	80,900	4,195	13,032	135,100	1,256,905	4,287	2,333	165,936	1,682,024
1983	38,079	170,141	8,832	25,641	307,281	3,131,887	9,022	2,618	349,117	4,042,618
1984	39,631	177,606	9,222	26,686	298,424	3,194,107	9,421	2,066	364,480	4,121,643
1985	18,686	83,799	4,351	12,586	136,919	1,507,963	4,445	3,066	171,952	1,943,767
1986	21,691	97,713	5,072	14,621	157,292	1,756,820	5,187	8,125	200,509	2,267,030
1987	67,279	303,790	15,776	45,334	487,773	5,451,146	16,127	14,413	623,474	7,025,112
1988	99,781	451,054	23,421	67,221	723,810	8,090,016	23,943	13,361	925,731	10,418,338
1989	86,730	392,062	20,359	58,419	629,073	7,031,924	20,807	5,369	804,657	9,049,400
1990	53,708	242,786	12,607	36,171	389,517	4,354,531	12,885	0	498,287	5,600,492
1991	15,777	71,319	3,703	10,625	114,421	1,279,143	3,785	0	146,372	1,645,145
1992	0	0	0	0	0	0	0	0	0	0
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	2,398,577	5,807,751	242,968	1,638,671	12,885,405	142,573,482	296,269	206,589	11,678,508	177,728,220

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; $12,129 in 1980; and $15,173 in 1981; in accordance with letters of agreement with the District.*

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 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)
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	116,929	33,184	192,841	9,842	235,199	73,346	610,869	160,783
1964	1,096,289	355,355	209,810	55,533	346,024	18,471	430,329	138,008	1,027,622	276,545
1965	1,911,872	669,374	386,223	103,929	636,955	32,882	788,408	245,063	1,916,155	513,707
1966	3,968,188	1,501,127	814,083	216,216	1,342,588	69,454	1,667,540	518,255	3,949,958	1,064,169
1967	4,990,835	2,823,458	1,080,012	296,716	1,781,155	88,543	2,187,592	655,042	5,833,249	1,553,415
1968	5,944,192	2,981,440	1,354,311	369,052	2,233,524	107,681	2,745,397	786,415	7,998,775	2,127,322
1969	5,844,556	2,409,562	1,694,216	540,851	2,794,154	121,674	3,264,693	868,198	10,915,870	2,774,504
1970	5,051,810	2,606,252	2,054,204	696,208	3,387,878	106,696	3,879,431	739,143	13,811,075	3,461,298
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	2,693,167	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	238,304	192,620	136,888	37,269	225,759	4,259	278,096	31,098	962,899	256,072
1977	200,165	234,432	91,508	25,889	150,918	3,764	183,867	26,911	592,004	155,691
1978	189,100	333,220	55,003	16,327	90,715	3,345	108,918	24,461	324,633	83,016
1979	377,216	726,722	85,803	22,804	141,506	6,291	175,159	46,862	421,440	113,306
1980	1,926,278	1,379,199	438,139	117,348	722,578	33,417	893,096	248,278	2,114,722	568,331
1981	-142,668	469,457	-44,971	-5,495	-74,167	-2,308	-100,554	-17,581	-84,305	-27,170
1982	1,833,694	664,334	349,528	103,222	576,439	30,829	708,330	231,188	1,848,195	505,624
1983	3,415,856	556,824	649,644	200,771	1,071,384	57,278	1,306,929	429,732	3,570,070	973,663
1984	1,441,137	259,315	317,579	133,212	523,752	24,160	608,627	181,184	2,370,733	649,894
1985	672,108	170,858	165,424	125,682	272,817	11,256	265,942	84,454	2,223,091	609,948
1986	172,806	146,991	54,472	66,213	89,836	2,900	65,295	21,741	1,171,281	321,389
1987	523,503	163,150	96,924	30,636	159,847	8,765	196,356	65,770	542,121	149,069
1988	775,769	297,530	139,467	35,271	230,008	12,982	290,648	97,432	623,751	171,676
1989	674,200	316,234	121,210	30,653	199,900	11,283	252,594	84,674	542,100	149,201
1990	417,443	147,155	75,051	18,980	123,774	6,986	156,398	52,427	335,659	92,382
1991	122,624	37,163	22,046	5,575	36,358	2,052	45,942	15,400	98,599	27,138
1992	0	0	0	0	0	0	0	0	0	0
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	47,452,744	23,091,413	12,626,524	3,962,778	20,823,834	870,613	24,826,796	6,347,129	80,396,184	20,890,571

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	69,159	373	86,777	0	0	0	0	75	99,353
1953	3,014	218,082	1,191	273,556	0	0	0	0	336	311,812
1954	3,907	280,542	1,499	351,956	0	0	0	0	984	402,143
1955	1,475	111,865	672	140,113	0	0	0	0	1,218	169,342
1956	2,128	179,874	1,303	224,828	0	0	0	0	11,563	351,551
1957	6,540	517,533	3,381	647,713	0	0	0	0	29,099	1,464,452
1958	11,720	948,401	6,420	1,186,074	0	0	2	2	36,650	2,286,623
1959	15,842	1,368,069	9,934	1,698,725	0	0	14	14	58,691	2,967,412
1960	23,334	1,919,115	12,849	2,373,554	0	0	28	28	124,175	4,660,833
1961	36,199	3,218,434	18,835	3,921,818	0	0	10	10	321,147	8,545,244
1962	40,053	3,551,496	29,158	4,444,535	0	0	32	32	266,772	8,875,171
1963	99,364	11,203,614	87,001	13,589,616	0	0	51	51	731,871	24,610,278
1964	170,271	18,105,750	165,131	22,395,138	0	0	7,791	7,791	1,093,757	41,736,060
1965	316,598	33,844,561	308,320	41,674,047	0	0	3,139	3,139	470,582	62,664,743
1966	655,265	74,677,454	683,955	91,128,252	0	0	-48	-48	814,100	129,110,330
1967	960,355	131,149,098	1,285,557	154,685,027	0	0	47	47	1,511,272	194,146,364
1968	1,317,528	148,176,674	1,368,588	177,510,899	0	0	51,573	51,573	1,268,920	197,978,908
1969	1,729,871	140,617,670	1,090,679	174,666,498	0	0	234,232	234,232	433,304	184,473,489
1970	2,162,696	162,541,532	1,153,881	201,652,104	0	0	16,227	16,227	78,375	207,082,649
1971	1,238,982	134,243,136	742,668	156,365,136	0	0	27,204	27,204	16,297	158,624,738
1972	434,860	43,862,829	65,840	50,842,230	0	0	9	9	14,222	51,921,491
1973	256,916	39,814,008	291,175	44,467,885	0	0	25	25	9,710	45,252,314
1974	264,599	18,919,537	86,529	23,352,217	0	0	45	45	35,197	24,402,167
1975	253,967	16,772,098	84,435	20,500,849	0	0	21	21	8,459	21,318,839
1976	158,952	13,585,717	85,114	16,193,047	0	0	51	51	18,294	17,492,304
1977	96,611	11,773,833	110,847	13,646,440	0	0	28	28	23,044	15,474,736
1978	51,503	13,954,398	157,661	15,392,300	0	0	38	38	25,513	16,270,863
1979	69,860	27,978,796	346,872	30,512,637	0	0	23	23	26,804	31,952,969
1980	350,277	60,812,852	654,262	70,258,777	0	0	26	26	57,222	75,238,853
1981	-16,311	16,018,675	224,771	16,197,373	0	0	34	34	-4,342	16,632,173
1982	310,858	33,259,776	318,121	40,740,138	0	0	12	12	18,611	43,655,219
1983	598,709	38,684,700	261,289	51,776,849	0	0	0	0	51,098	59,996,577
1984	399,361	21,835,819	119,543	28,864,316	0	0	0	0	26,688	43,268,922
1985	374,775	17,962,229	75,976	23,014,560	0	0	0	0	7,033	46,761,943
1986	197,447	11,432,034	70,418	13,812,823	0	0	0	0	16,842	41,582,326
1987	91,388	8,639,776	78,022	10,745,327	0	0	0	0	29,536	20,235,192
1988	105,167	13,880,646	133,734	16,794,081	0	0	0	0	27,380	28,373,339
1989	91,401	14,173,272	135,094	16,781,816	0	0	0	0	11,002	26,372,486
1990	56,594	6,995,471	67,725	8,546,045	0	0	0	0	0	14,394,819
1991	16,625	1,833,054	17,910	2,280,486	0	0	0	0	0	4,012,136
1992	0	0	0	0	0	0	0	0	0	0
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	12,959,664	1,299,131,579	10,356,733	1,563,736,562	0	0	340,614	340,614	7,671,501	1,875,171,163

c) *Costs from Table B-10, allocated to MWD, are reduced herein by $16,428,661 in 1972 under provisions of Contract Amendment No. 7.*

TABLE B-15 : 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	107,280	104,754	374,119	586,153	0	0	0
1964	0	0	0	126,943	160,751	542,636	830,330	9,104	18,026	27,130
1965	0	0	0	160,304	225,380	919,368	1,305,052	14,995	29,064	44,059
1966	19,499	0	19,499	177,193	249,699	1,096,750	1,523,642	24,480	46,774	71,254
1967	43,804	0	43,804	204,940	278,907	1,213,390	1,697,237	43,170	81,429	124,599
1968	125,597	0	125,597	242,249	319,018	1,338,167	1,899,434	57,775	108,558	166,333
1969	170,640	0	170,640	276,725	354,414	1,441,960	2,073,099	61,617	115,777	177,394
1970	174,856	0	174,856	289,350	367,826	1,481,700	2,138,876	63,672	119,657	183,329
1971	177,451	0	177,451	292,097	370,779	1,488,743	2,151,619	65,035	122,255	187,290
1972	178,974	0	178,974	337,923	371,527	1,493,111	2,202,561	66,089	124,316	190,405
1973	180,086	28,577	208,663	338,561	372,136	1,496,416	2,207,113	66,620	125,346	191,966
1974	183,140	30,062	213,202	339,106	372,682	1,498,462	2,210,250	67,047	126,185	193,232
1975	192,132	33,105	225,237	339,923	373,606	1,502,260	2,215,789	67,563	127,180	194,743
1976	197,286	37,357	234,643	340,792	374,415	1,504,411	2,219,618	177,910	330,962	508,872
1977	200,609	41,347	241,956	342,559	376,121	1,510,105	2,228,785	180,746	336,651	517,397
1978	204,187	44,929	249,116	344,961	378,368	1,517,034	2,240,363	187,503	349,281	536,784
1979	207,942	48,487	256,429	348,154	381,315	1,525,014	2,254,483	189,423	352,941	542,364
1980	219,702	61,098	280,800	350,517	383,523	1,530,764	2,264,804	192,158	358,122	550,280
1981	236,157	76,303	312,460	357,522	389,975	1,546,616	2,294,113	202,250	376,835	579,085
1982	247,738	91,871	339,609	355,819	388,453	1,543,321	2,287,593	198,193	369,463	567,656
1983	277,178	127,098	404,276	356,478	389,083	1,545,098	2,290,659	196,547	366,466	563,013
1984	355,167	226,761	581,928	361,724	393,899	1,556,884	2,312,507	201,764	376,094	577,858
1985	627,565	460,385	1,087,950	364,622	396,621	1,564,082	2,325,325	206,676	385,158	591,834
1986	1,113,055	1,095,083	2,208,138	365,560	397,483	1,566,219	2,329,262	209,560	390,482	600,042
1987	1,662,841	1,857,904	3,520,745	367,987	399,702	1,571,560	2,339,249	212,479	395,869	608,348
1988	1,710,018	1,903,037	3,613,055	372,310	403,655	1,580,979	2,356,944	218,758	407,455	626,213
1989	1,718,701	1,916,165	3,634,866	376,341	407,340	1,589,761	2,373,442	226,333	421,435	647,768
1990	1,719,738	1,917,732	3,637,470	377,971	408,830	1,593,312	2,380,113	232,976	433,694	666,670
1991	1,720,270	1,918,537	3,638,807	377,971	408,830	1,593,312	2,380,113	237,172	441,439	678,611
1992	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
1993	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
1994	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
1995	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
1996	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
1997	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
1998	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
1999	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2000	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2001	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2002	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2003	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2004	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2005	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2006	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2007	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2008	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2009	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2010	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2011	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2012	1,720,420	1,918,764	3,639,184	377,971	408,830	1,593,312	2,380,113	238,631	444,261	682,892
2013	1,720,420	1,918,764	3,639,184	264,834	304,076	1,219,193	1,788,103	238,631	444,261	682,892
2014	1,720,420	1,918,764	3,639,184	228,914	248,079	1,050,675	1,527,668	229,527	426,235	655,762
2015	1,720,420	1,918,764	3,639,184	190,269	183,450	673,944	1,047,663	223,635	415,197	638,832
2016	1,700,921	1,918,764	3,619,685	170,844	159,131	496,562	826,537	214,151	397,488	611,639
2017	1,676,616	1,918,764	3,595,380	139,147	129,923	379,922	648,992	195,460	362,833	558,293
2018	1,594,824	1,918,764	3,513,588	96,797	89,812	255,144	441,753	180,856	335,704	516,560
2019	1,549,781	1,918,764	3,468,545	57,902	54,416	151,352	263,670	177,014	328,484	505,498
2020	1,545,564	1,918,764	3,464,328	43,740	41,004	111,612	196,356	174,958	324,605	499,563
2021	1,542,969	1,918,764	3,461,733	40,676	38,051	104,569	183,296	173,595	322,006	495,601
2022	1,541,446	1,918,764	3,460,210	40,048	37,304	100,201	177,553	172,542	319,946	492,488
2023	1,540,334	1,890,187	3,430,521	39,410	36,695	96,896	173,001	172,010	318,915	490,925
2024	1,537,280	1,888,702	3,425,982	38,864	36,148	94,850	169,862	171,584	318,076	489,660
2025	1,528,289	1,885,659	3,413,948	38,048	35,224	91,051	164,323	171,068	317,081	488,149
2026	1,523,134	1,881,407	3,404,541	37,179	34,415	88,901	160,495	60,720	113,300	174,020
2027	1,519,811	1,877,417	3,397,228	35,412	32,709	83,207	151,328	57,885	107,611	165,496
2028	1,516,234	1,873,835	3,390,069	33,010	30,462	76,277	139,749	51,128	94,980	146,108
2029	1,512,478	1,870,277	3,382,755	29,817	27,515	68,298	125,630	49,208	91,320	140,528
2030	1,500,719	1,857,666	3,358,385	27,454	25,307	62,548	115,309	46,473	86,139	132,612
2031	1,484,264	1,842,461	3,326,725	20,449	18,856	46,695	86,000	36,380	67,426	103,806
2032	1,472,683	1,826,893	3,299,576	22,151	20,377	49,991	92,519	40,437	74,798	115,235
2033	1,443,242	1,791,666	3,234,908	21,493	19,748	48,214	89,455	42,084	77,795	119,879
2034	1,365,253	1,692,003	3,057,256	16,247	14,931	36,427	67,605	36,866	68,167	105,033
2035	1,092,856	1,458,379	2,551,235	13,348	12,209	29,230	54,787	31,954	59,103	91,057
TOTAL	85,343,111	95,034,074	180,377,185	18,577,326	20,414,364	79,600,865	118,592,555	11,837,032	22,037,865	33,874,897

a) *Unadjusted for prior overpayments or underpayments of charges.*
b) *Determined at the current project interest rate of 4.736 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	Future Contractor San Joaquin Valley	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	2,783	0	0	0	0	0	2,783
1965	0	0	0	6,154	65,708	0	0	0	0	71,862
1966	0	0	0	12,284	122,852	0	0	0	0	135,136
1967	0	0	0	26,788	238,213	0	0	0	0	265,001
1968	35,159	80,789	3,420	49,935	342,904	436,764	8,691	4,408	67,774	1,029,844
1969	47,512	80,930	10,260	58,573	400,426	896,960	9,209	4,792	256,434	1,765,096
1970	54,164	88,698	10,260	60,416	432,560	1,090,973	9,463	4,983	189,766	1,941,283
1971	63,666	101,127	10,260	61,542	454,179	1,449,007	9,607	5,366	201,938	2,356,692
1972	73,169	112,991	10,260	62,171	464,114	2,169,762	9,676	10,285	622,965	3,535,393
1973	82,671	124,290	10,260	62,605	468,435	2,502,490	9,707	5,941	240,954	3,507,353
1974	92,174	188,639	10,260	63,135	470,518	2,802,414	9,724	6,653	399,942	4,043,459
1975	101,676	229,118	10,260	63,708	472,885	3,356,523	9,749	6,854	477,227	4,728,000
1976	111,179	174,690	10,260	63,981	474,783	3,618,300	9,785	7,741	341,397	4,812,116
1977	120,681	171,747	10,260	64,636	477,546	3,964,619	9,830	7,091	326,420	5,152,830
1978	120,681	183,611	10,260	67,118	479,433	4,407,006	9,852	7,475	350,210	5,635,646
1979	120,681	217,757	10,260	67,302	480,876	4,839,084	9,881	7,666	394,144	6,147,651
1980	120,681	231,632	10,260	67,557	483,255	5,280,535	9,934	10,925	396,684	6,611,463
1981	120,681	231,632	10,260	68,878	496,810	5,779,158	10,217	8,241	420,474	7,146,351
1982	120,681	231,632	10,260	69,125	497,018	6,239,354	10,291	8,625	443,710	7,630,696
1983	120,681	242,366	10,260	69,802	504,036	6,763,283	10,514	8,816	52,825	7,782,583
1984	120,681	254,795	10,260	71,134	519,999	7,235,663	10,983	9,200	490,184	8,722,899
1985	120,681	266,659	10,260	72,521	535,502	7,695,859	11,472	9,391	513,974	9,236,319
1986	120,681	278,523	10,260	73,174	542,615	8,152,306	11,703	9,775	537,764	9,736,801
1987	120,681	290,387	10,260	73,938	550,829	8,617,188	11,974	9,966	561,000	10,246,223
1988	120,681	302,252	10,260	76,318	576,442	9,051,140	12,821	10,350	584,237	10,744,501
1989	120,681	314,116	10,260	79,868	614,669	9,364,186	14,085	10,733	608,027	11,136,625
1990	120,681	325,980	10,260	82,973	648,095	9,689,416	15,191	10,925	655,607	11,559,128
1991	120,681	325,980	10,260	84,907	668,926	9,689,416	15,880	10,925	655,607	11,582,582
1992	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
1993	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
1994	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
1995	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
1996	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
1997	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
1998	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
1999	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2000	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2001	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2002	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2003	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2004	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2005	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2006	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2007	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2008	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2009	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2010	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2011	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2012	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2013	120,681	325,980	10,260	85,479	675,086	9,689,416	16,084	10,925	655,607	11,589,518
2014	120,681	325,980	10,260	82,696	675,086	9,689,416	16,084	10,925	655,607	11,586,735
2015	120,681	325,980	10,260	79,325	609,378	9,689,416	16,084	10,925	655,607	11,517,656
2016	120,681	325,980	10,260	73,195	552,234	9,689,416	16,084	10,925	655,607	11,454,382
2017	120,681	325,980	10,260	58,691	436,874	9,689,416	16,084	10,925	655,607	11,324,518
2018	120,681	325,980	10,260	35,544	332,182	9,689,416	7,392	10,925	655,607	11,187,987
2019	120,681	325,980	10,260	26,906	274,660	9,689,416	6,875	10,925	655,607	11,121,310
2020	120,681	325,980	10,260	25,063	242,526	9,689,416	6,620	10,925	655,607	11,087,078
2021	120,681	325,980	10,260	23,937	220,907	9,689,416	6,476	10,925	655,607	11,064,189
2022	120,681	325,980	10,260	23,308	210,973	9,689,416	6,408	10,925	655,607	11,053,558
2023	120,681	325,980	10,260	22,874	206,651	9,689,416	6,377	10,925	655,607	11,048,771
2024	120,681	325,980	10,260	22,344	204,568	9,689,416	6,359	10,925	655,607	11,046,140
2025	120,681	325,980	10,260	21,771	202,201	9,689,416	6,334	10,925	655,607	11,043,175
2026	120,681	325,980	10,260	21,498	200,303	9,689,416	6,298	10,925	655,607	11,040,968
2027	120,681	325,980	10,260	20,843	197,540	9,689,416	6,254	10,925	655,607	11,037,506
2028	120,681	325,980	10,260	18,361	195,653	9,689,416	6,231	10,925	655,607	11,033,114
2029	120,681	325,980	10,260	18,177	194,210	9,689,416	6,203	10,925	655,607	11,031,459
2030	120,681	325,980	10,260	17,922	191,831	9,689,416	6,150	10,925	655,607	11,028,772
2031	120,681	325,980	10,260	16,601	178,276	9,689,416	5,866	10,925	655,607	11,013,612
2032	120,681	325,980	10,260	16,354	178,069	9,689,416	5,792	10,925	655,607	11,013,084
2033	120,681	325,980	10,260	15,677	171,050	9,689,416	5,570	10,925	655,607	11,005,166
2034	120,681	325,980	10,260	14,345	155,087	9,689,416	5,101	10,925	655,607	10,987,402
2035	120,681	325,980	10,260	12,959	139,584	9,689,416	4,612	10,925	655,607	10,970,024
TOTAL	7,781,549	19,393,461	690,840	4,232,255	33,305,363	551,425,710	789,341	677,827	38,635,972	656,932,318

TABLE B-15 : CAPITAL COST 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)
1963	34,157	0	0	0	0	0	0	0	52,977	0
1964	64,333	20,594	14,772	4,474	38,055	1,171	29,119	8,403	84,712	35,826
1965	121,286	39,055	25,671	7,359	41,688	2,131	51,474	15,572	138,097	36,138
1966	220,607	73,829	45,735	12,758	74,778	3,839	92,432	28,303	237,641	62,825
1967	426,755	151,813	88,027	23,990	144,526	7,447	179,061	55,227	442,842	118,109
1968	686,029	298,491	144,134	39,405	237,057	12,047	292,707	89,256	745,880	198,809
1969	994,830	453,377	214,490	58,577	353,088	17,641	435,330	130,110	1,161,416	309,323
1970	1,298,456	578,554	302,505	86,674	498,245	23,962	604,931	175,213	1,728,497	453,459
1971	1,560,897	713,949	409,221	122,842	674,245	29,505	806,468	213,612	2,445,983	633,274
1972	1,695,335	804,708	464,984	140,456	766,210	32,025	915,100	231,709	2,869,138	736,624
1973	1,746,107	820,948	482,255	145,249	794,694	33,022	949,907	238,714	3,009,048	772,913
1974	1,764,596	861,977	490,507	149,524	808,306	33,351	962,305	241,119	3,100,572	793,897
1975	1,788,144	874,168	503,989	153,378	830,539	33,775	989,274	244,204	3,184,673	816,045
1976	1,801,359	884,329	514,057	156,124	847,143	34,034	1,009,663	245,976	3,264,387	837,247
1977	1,813,739	894,336	521,168	158,061	858,872	34,255	1,024,110	247,592	3,314,409	850,550
1978	1,824,138	906,514	525,922	159,405	866,712	34,450	1,033,662	248,990	3,345,164	858,638
1979	1,833,961	923,825	528,780	160,254	871,424	34,624	1,039,320	250,260	3,362,029	862,951
1980	1,853,558	961,578	533,237	161,438	878,776	34,951	1,048,420	252,695	3,383,923	868,837
1981	1,953,628	1,033,228	555,999	167,535	916,314	36,687	1,094,816	265,593	3,493,783	898,362
1982	1,946,216	1,057,616	553,662	167,249	912,461	36,567	1,089,592	264,680	3,489,403	896,950
1983	2,041,477	1,092,128	571,820	172,611	942,407	38,169	1,126,390	276,690	3,585,417	923,217
1984	2,218,931	1,121,056	605,569	183,042	998,065	41,144	1,194,285	299,014	3,770,882	973,799
1985	2,293,798	1,134,527	622,068	189,962	1,025,274	42,399	1,225,903	308,427	3,894,042	1,007,561
1986	2,328,714	1,143,403	630,661	196,491	1,039,447	42,984	1,239,719	312,814	4,009,532	1,039,248
1987	2,337,738	1,151,079	633,506	199,949	1,044,138	43,136	1,243,129	313,950	4,070,698	1,056,031
1988	2,365,227	1,159,646	638,595	201,558	1,052,532	43,596	1,253,439	317,403	4,099,164	1,063,859
1989	2,406,198	1,175,360	645,961	203,420	1,064,679	44,281	1,268,789	322,549	4,132,106	1,072,926
1990	2,442,022	1,192,163	652,402	205,049	1,075,301	44,881	1,282,211	327,048	4,160,911	1,080,854
1991	2,464,346	1,200,032	656,415	206,064	1,081,920	45,255	1,290,575	329,852	4,178,862	1,085,794
1992	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
1993	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
1994	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
1995	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
1996	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
1997	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
1998	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
1999	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2000	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2001	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2002	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2003	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2004	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2005	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2006	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2007	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2008	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2009	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2010	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2011	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2012	2,470,948	1,202,033	657,602	206,364	1,083,878	45,365	1,293,049	330,681	4,184,170	1,087,255
2013	2,436,791	1,202,033	657,602	206,364	1,070,184	45,365	1,293,049	330,681	4,131,193	1,073,836
2014	2,406,615	1,181,439	642,831	201,891	1,060,166	44,194	1,263,930	322,278	4,099,458	1,065,484
2015	2,349,663	1,162,978	631,931	199,006	1,042,190	43,235	1,241,574	315,109	4,046,073	1,051,117
2016	2,250,341	1,128,204	611,867	193,606	1,009,100	41,526	1,200,616	302,378	3,946,529	1,024,430
2017	2,044,193	1,050,221	569,575	182,374	939,352	37,918	1,113,988	275,454	3,741,328	969,146
2018	1,784,919	903,542	513,468	166,960	846,821	33,318	1,000,342	241,425	3,438,291	888,446
2019	1,476,118	748,656	443,112	147,787	730,790	27,724	857,718	200,571	3,022,754	777,932
2020	1,172,493	623,479	355,097	119,690	585,633	21,403	688,117	155,468	2,455,674	633,796
2021	910,051	488,084	248,381	83,522	409,633	15,860	486,581	117,069	1,738,187	453,982
2022	775,613	397,326	192,618	65,908	317,667	13,340	377,949	98,972	1,315,033	350,631
2023	724,841	381,085	175,347	61,115	289,183	12,343	343,142	91,967	1,175,122	314,342
2024	706,352	340,056	167,095	56,841	275,572	12,014	330,744	89,562	1,083,598	293,359
2025	682,804	327,865	153,613	52,986	253,339	11,590	303,774	86,477	999,497	271,210
2026	669,589	317,704	143,545	50,240	236,734	11,331	283,386	84,705	919,783	250,008
2027	657,209	307,698	136,434	48,304	225,006	11,110	268,939	83,089	869,761	236,705
2028	646,811	295,519	131,680	46,959	217,166	10,915	259,387	81,691	839,006	228,617
2029	636,987	278,208	128,823	46,111	212,453	10,741	253,728	80,421	822,141	224,305
2030	617,390	240,455	124,365	44,926	205,102	10,414	244,629	77,986	800,248	218,418
2031	517,320	168,805	101,604	38,830	167,564	8,678	198,233	65,088	690,388	188,894
2032	524,732	144,417	103,940	39,115	171,417	8,798	203,456	66,001	694,767	190,305
2033	429,471	109,905	85,782	33,753	141,471	7,196	166,659	53,991	598,753	164,038
2034	252,017	80,978	52,033	23,323	85,813	4,221	98,763	31,667	413,288	113,456
2035	177,150	67,506	35,535	16,402	58,604	2,966	67,145	22,254	290,128	79,694
TOTAL	123,065,960	59,911,139	32,792,032	10,292,555	54,049,294	2,260,194	64,472,009	16,473,580	208,754,758	54,238,572

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	708,170	0	795,304	0	0	0	0	47,263	1,428,720
1964	22,255	1,290,199	9,612	1,623,525	0	0	0	0	85,283	2,569,051
1965	22,357	2,230,794	18,191	2,749,813	0	0	413	413	142,104	4,313,303
1966	38,804	3,989,021	34,208	4,914,780	0	0	576	576	166,551	6,831,438
1967	72,845	7,868,519	69,740	9,648,901	0	0	573	573	208,843	11,988,958
1968	122,736	14,681,724	136,524	17,684,799	0	0	576	576	287,354	21,193,937
1969	191,181	22,379,512	207,623	26,906,498	0	0	3,255	3,255	353,275	31,449,257
1970	281,048	29,684,609	264,284	35,980,437	0	0	15,423	15,423	375,785	40,809,989
1971	393,400	38,128,653	324,228	46,456,277	0	0	16,266	16,266	379,856	51,725,451
1972	457,766	45,102,593	362,809	54,579,457	0	0	17,680	17,680	380,703	61,085,173
1973	480,357	47,381,270	366,230	57,220,714	0	0	17,680	17,680	381,442	63,734,931
1974	493,703	49,449,610	381,356	59,530,823	0	0	17,681	17,681	381,946	66,590,593
1975	507,449	50,432,481	385,852	60,743,971	0	0	17,684	17,684	383,775	68,509,199
1976	520,643	51,303,793	390,238	61,808,993	0	0	17,685	17,685	384,214	69,986,141
1977	528,900	52,009,572	394,660	62,650,224	0	0	17,687	17,687	385,165	71,194,044
1978	533,919	52,621,223	400,418	63,359,155	0	0	17,689	17,689	386,362	72,425,115
1979	536,595	53,346,155	408,609	64,158,787	0	0	17,691	17,691	387,687	73,765,092
1980	540,224	54,799,655	426,629	65,743,921	0	0	17,692	17,692	389,080	75,858,040
1981	558,421	57,958,887	460,618	69,393,871	0	0	17,693	17,693	392,052	80,135,625
1982	557,574	58,791,058	472,294	70,235,322	0	0	17,695	17,695	391,827	81,470,398
1983	573,723	60,518,906	488,821	72,351,776	0	0	17,696	17,696	392,794	83,802,797
1984	604,826	62,528,579	502,395	75,041,587	0	0	17,696	17,696	395,448	87,649,923
1985	625,573	63,662,951	508,605	76,541,090	0	0	17,696	17,696	396,835	90,197,049
1986	645,042	64,596,090	512,552	77,736,697	0	0	17,696	17,696	397,200	93,025,836
1987	655,353	65,193,088	516,229	78,458,024	0	0	17,696	17,696	398,079	95,588,364
1988	660,152	65,646,753	520,326	79,022,250	0	0	17,696	17,696	399,630	96,780,289
1989	665,706	66,379,836	527,389	79,909,200	0	0	17,696	17,696	401,076	98,120,673
1990	670,563	67,132,945	534,568	80,800,918	0	0	17,696	17,696	401,661	99,463,656
1991	673,589	67,507,049	538,189	81,257,942	0	0	17,696	17,696	401,661	99,957,412
1992	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
1993	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
1994	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
1995	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
1996	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
1997	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
1998	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
1999	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2000	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2001	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2002	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2003	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2004	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2005	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2006	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2007	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2008	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2009	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2010	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2011	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2012	674,484	67,605,742	539,154	81,380,725	0	0	17,696	17,696	401,661	100,091,789
2013	666,135	66,897,572	539,154	80,549,959	0	0	17,696	17,696	354,398	98,621,750
2014	660,973	66,315,544	529,541	79,794,344	0	0	17,696	17,696	316,378	97,537,767
2015	652,128	65,374,949	520,963	78,630,916	0	0	17,283	17,283	259,557	95,751,091
2016	635,680	63,616,722	504,945	76,465,944	0	0	17,120	17,120	235,110	93,230,417
2017	601,639	59,737,223	469,414	71,731,825	0	0	17,122	17,122	192,817	88,068,947
2018	551,749	52,924,018	402,629	63,695,928	0	0	17,120	17,120	114,307	79,487,243
2019	483,303	45,226,230	331,531	54,474,226	0	0	14,441	14,441	48,386	69,896,076
2020	393,436	37,921,133	274,870	45,400,289	0	0	2,272	2,272	25,876	60,675,762
2021	281,084	29,477,089	214,926	34,924,449	0	0	1,429	1,429	21,805	50,152,502
2022	216,719	22,503,150	176,344	26,801,270	0	0	16	16	20,958	42,006,053
2023	194,128	20,224,473	172,924	24,160,012	0	0	16	16	20,219	39,323,465
2024	180,781	18,156,132	157,797	21,849,903	0	0	14	14	19,715	37,001,276
2025	167,035	17,173,261	153,302	20,636,753	0	0	12	12	17,886	35,764,246
2026	153,842	16,301,949	148,916	19,571,732	0	0	11	11	17,447	34,369,214
2027	145,584	15,596,171	144,494	18,730,504	0	0	8	8	16,496	33,498,566
2028	140,565	14,984,519	138,736	18,021,571	0	0	7	7	15,299	32,745,917
2029	137,889	14,259,587	130,545	17,221,939	0	0	5	5	13,974	31,916,290
2030	134,260	12,806,087	112,525	15,636,805	0	0	4	4	12,581	30,284,468
2031	116,063	9,646,855	78,536	11,986,858	0	0	2	2	9,609	26,526,612
2032	116,911	8,814,684	66,859	11,145,402	0	0	1	1	9,834	25,675,651
2033	100,762	7,086,836	50,333	9,028,950	0	0	0	0	8,867	23,487,225
2034	69,659	5,077,164	36,759	6,339,141	0	0	0	0	6,213	20,562,650
2035	48,912	3,942,791	30,549	4,839,636	0	0	0	0	4,826	18,511,565
TOTAL	33,648,105	3,371,108,416	26,872,023	4,057,938,637	0	0	884,794	884,794	20,072,390	5,068,672,776

TABLE B-16A: 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	11,801	21,769	33,570
1969	80,875	0	80,875	145,410	138,051	372,584	656,045	63,112	116,434	179,546
1970	94,872	0	94,872	128,993	120,246	320,663	569,902	74,187	136,867	211,054
1971	45,579	0	45,579	113,071	108,346	296,004	517,421	74,052	136,617	210,669
1972	37,895	0	37,895	122,407	117,483	334,366	574,256	77,636	143,230	220,866
1973	32,993	0	32,993	122,738	116,785	325,727	565,250	75,792	139,829	215,621
1974	46,498	0	46,498	154,434	146,929	403,081	704,444	76,725	141,548	218,273
1975	37,707	0	37,707	189,176	182,087	513,823	885,086	92,864	171,323	264,187
1976	60,926	0	60,926	203,064	193,436	524,816	921,316	95,036	175,331	270,367
1977	79,893	0	79,893	179,921	169,113	500,214	849,248	103,058	190,130	293,188
1978	59,524	0	59,524	245,224	234,270	660,745	1,140,239	107,138	197,660	304,798
1979	74,927	0	74,927	237,006	232,122	666,786	1,135,914	101,004	186,342	287,346
1980	90,312	0	90,312	388,621	371,330	1,008,591	1,768,542	126,141	232,717	358,858
1981	109,481	0	109,481	316,548	301,514	832,425	1,450,487	133,572	246,425	379,997
1982	191,670	0	191,670	380,375	363,450	1,065,203	1,809,028	139,469	257,306	396,775
1983	162,939	0	162,939	559,831	530,068	1,474,125	2,564,024	208,937	385,463	594,400
1984	190,772	0	190,772	695,206	657,386	1,797,080	3,149,672	218,894	403,834	622,728
1985	190,204	0	190,204	753,364	710,657	1,835,309	3,299,330	207,068	382,016	589,084
1986	190,841	0	190,841	709,639	671,501	1,746,761	3,127,901	200,289	369,510	569,799
1987	261,664	111,234	372,898	719,494	680,636	1,769,289	3,169,419	202,603	373,781	576,384
1988	250,454	97,800	348,254	718,672	679,923	1,767,815	3,166,410	204,048	376,445	580,493
1989	252,873	99,820	352,693	717,231	678,634	1,764,957	3,160,822	203,373	375,200	578,573
1990	253,427	100,040	353,467	716,813	678,293	1,764,365	3,159,471	203,553	375,528	579,081
1991	253,868	99,445	353,313	716,466	678,013	1,763,927	3,158,406	204,025	376,401	580,426
1992	250,250	98,228	348,478	708,697	670,918	1,747,043	3,126,658	218,708	405,975	624,683
1993	250,237	97,980	348,217	707,295	669,609	1,743,722	3,120,626	218,072	404,830	622,902
1994	251,001	98,134	349,135	708,499	670,708	1,746,332	3,125,539	218,128	404,938	623,066
1995	252,791	99,040	351,831	712,673	674,526	1,755,411	3,142,610	218,980	406,468	625,448
1996	253,020	98,999	352,019	711,742	673,632	1,753,000	3,138,374	218,620	405,837	624,457
1997	253,396	99,034	352,430	710,459	672,458	1,750,212	3,133,129	218,177	405,029	623,206
1998	254,133	99,193	353,326	710,348	672,358	1,749,983	3,132,689	218,241	405,193	623,434
1999	254,909	99,356	354,265	710,602	672,588	1,750,533	3,133,723	218,314	405,328	623,642
2000	255,295	99,340	354,635	709,430	671,520	1,747,994	3,128,944	218,146	405,069	623,215
2001	255,611	99,359	354,970	708,974	671,103	1,747,005	3,127,082	218,107	405,014	623,121
2002	256,262	99,540	355,802	710,512	672,510	1,750,361	3,133,383	218,914	406,542	625,456
2003	256,153	99,419	355,572	734,033	695,362	1,813,651	3,243,046	218,745	406,359	625,104
2004	264,992	107,404	372,396	736,856	698,017	1,820,443	3,255,316	221,296	411,103	632,399
2005	265,812	108,083	373,895	737,510	698,628	1,821,987	3,258,125	222,451	413,650	636,101
2006	265,954	108,144	374,098	737,623	698,733	1,822,243	3,258,599	228,679	425,257	653,936
2007	265,656	108,025	373,681	736,347	697,569	1,819,497	3,253,413	228,620	425,264	653,884
2008	265,972	108,186	374,158	737,038	698,205	1,821,024	3,256,267	228,975	425,988	654,963
2009	265,819	108,083	373,902	736,211	697,449	1,819,224	3,252,884	228,802	425,686	654,488
2010	265,788	108,099	373,887	735,739	697,021	1,818,225	3,250,985	228,918	426,012	654,930
2011	265,893	108,114	374,007	735,498	696,758	1,817,325	3,249,581	228,698	425,545	654,243
2012	265,328	107,972	373,300	734,880	696,199	1,816,030	3,247,109	229,257	426,794	656,051
2013	265,413	108,092	373,505	734,309	695,683	1,814,831	3,244,823	229,221	426,856	656,077
2014	265,583	108,234	373,817	734,739	696,078	1,815,795	3,246,612	229,541	427,545	657,086
2015	265,715	108,365	374,080	734,546	695,907	1,815,424	3,245,877	229,860	428,316	658,176
2016	265,327	108,262	373,589	734,470	695,843	1,815,295	3,245,608	230,385	429,424	659,809
2017	266,968	108,629	375,597	734,587	695,946	1,815,532	3,246,065	230,116	428,856	658,972
2018	266,776	108,532	375,308	733,804	695,236	1,813,850	3,242,890	230,155	429,002	659,157
2019	267,209	108,691	375,900	733,596	695,045	1,813,381	3,242,022	229,852	428,386	658,238
2020	267,025	108,598	375,623	731,917	693,509	1,809,741	3,235,167	229,346	427,525	656,871
2021	267,376	108,716	376,092	692,852	655,715	1,706,046	3,054,613	229,112	427,026	656,138
2022	254,955	97,112	352,067	690,652	653,706	1,701,271	3,045,629	227,303	423,739	651,042
2023	255,109	97,150	352,259	691,230	654,230	1,702,513	3,047,973	227,379	423,821	651,200
2024	253,792	96,122	349,914	688,623	651,741	1,695,877	3,036,241	213,340	397,756	611,096
2025	253,687	96,069	349,756	688,589	651,710	1,695,797	3,036,096	213,369	397,800	611,169
2026	253,856	96,090	349,946	688,409	651,542	1,695,384	3,035,335	212,984	397,000	609,984
2027	253,650	96,019	349,669	688,060	651,227	1,694,635	3,033,922	213,001	397,068	610,069
2028	253,661	96,024	349,685	688,372	651,512	1,695,314	3,035,198	213,143	397,326	610,469
2029	253,612	96,004	349,616	688,144	651,303	1,694,817	3,034,264	212,999	397,055	610,054
2030	253,667	96,029	349,696	688,291	651,436	1,695,135	3,034,862	213,019	397,077	610,096
2031	253,654	96,020	349,674	688,268	651,415	1,695,084	3,034,767	212,997	397,025	610,022
2032	253,718	96,044	349,762	688,256	651,403	1,695,049	3,034,708	212,901	396,828	609,729
2033	253,503	95,970	349,473	688,061	651,227	1,694,635	3,033,923	213,022	397,087	610,109
2034	254,043	96,152	350,195	688,611	651,727	1,695,813	3,036,151	212,763	396,512	609,275
2035	253,144	95,844	348,988	687,970	651,146	1,694,454	3,033,570	213,321	397,691	611,012
TOTAL	14,436,039	4,990,839	19,426,878	41,112,157	38,951,034	102,162,856	182,226,047	12,950,354	24,050,308	37,000,662

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	Future Contractor San Joaquin Valley	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	5,639	60,702	678,085	2,007	2,073	77,592	874,230
1969	44,176	45,479	2,237	30,159	80,553	1,197,126	2,286	2,086	90,772	1,494,874
1970	51,905	46,969	2,292	35,450	96,672	1,381,493	2,345	2,158	93,407	1,712,691
1971	51,813	47,997	2,315	35,386	106,654	1,642,995	2,366	2,288	94,874	1,986,688
1972	54,323	49,867	2,414	37,099	122,312	1,735,439	2,470	2,254	98,776	2,104,954
1973	53,035	50,005	2,386	36,216	125,553	1,719,558	2,439	2,310	98,329	2,089,831
1974	53,696	52,816	2,557	36,662	135,661	1,822,284	2,615	2,529	104,610	2,213,430
1975	64,999	66,962	3,242	44,374	162,739	2,234,201	3,317	3,191	132,663	2,715,688
1976	66,515	66,505	3,327	45,413	159,305	2,215,603	3,405	2,919	133,941	2,696,933
1977	72,143	75,749	3,814	49,244	189,917	2,524,867	3,904	3,716	153,076	3,076,430
1978	74,986	74,638	3,706	51,194	185,612	2,531,744	3,790	3,899	149,710	3,079,279
1979	70,686	68,887	3,430	48,266	173,899	2,379,180	3,508	3,477	138,411	2,889,744
1980	88,309	95,099	4,675	60,277	234,749	3,137,794	4,781	4,761	189,818	3,820,263
1981	93,584	118,789	5,977	63,824	266,886	3,414,901	6,113	5,193	239,930	4,215,197
1982	97,760	137,089	6,862	66,647	315,744	3,885,566	7,016	6,541	276,112	4,799,337
1983	146,576	237,437	11,971	99,840	543,401	6,415,592	12,241	10,581	480,036	7,957,675
1984	153,685	280,972	14,185	104,597	639,195	7,360,991	14,503	11,551	568,439	9,148,118
1985	145,321	252,068	12,658	98,946	597,824	6,865,573	12,941	11,548	508,541	8,505,420
1986	140,460	218,695	10,912	95,706	542,111	6,267,639	11,160	11,510	439,836	7,738,029
1987	142,088	222,396	11,104	96,812	543,073	6,356,367	11,357	11,635	447,392	7,842,224
1988	143,097	222,969	11,128	97,504	542,370	6,380,381	11,382	11,647	448,470	7,868,948
1989	142,624	222,152	11,085	97,180	542,107	6,371,591	11,337	11,535	446,769	7,856,380
1990	142,753	223,338	11,146	97,265	543,279	6,387,868	11,399	11,685	449,176	7,877,909
1991	143,070	219,983	10,972	97,493	538,538	6,340,375	11,221	11,495	442,280	7,815,427
1992	149,892	215,714	10,748	102,178	526,815	6,189,118	10,992	11,265	433,513	7,650,235
1993	149,435	215,253	10,721	101,868	527,122	6,187,141	10,964	11,234	432,486	7,646,224
1994	149,469	215,325	10,725	101,892	527,247	6,188,704	10,969	11,239	432,633	7,648,203
1995	150,093	216,262	10,775	102,313	528,515	6,207,838	11,020	11,308	434,560	7,672,684
1996	149,824	215,919	10,755	102,131	527,946	6,199,499	10,999	11,291	433,866	7,662,230
1997	149,503	215,433	10,729	101,910	527,377	6,190,179	10,974	11,254	432,867	7,650,226
1998	149,519	215,419	10,730	101,924	527,515	6,191,282	10,973	11,245	432,835	7,651,442
1999	149,573	215,588	10,739	101,959	527,663	6,193,689	10,982	11,263	433,178	7,654,634
2000	149,423	215,384	10,725	101,857	527,638	6,191,139	10,969	11,240	432,749	7,651,124
2001	149,382	215,426	10,729	101,830	527,804	6,192,120	10,972	11,245	432,834	7,652,342
2002	149,930	217,584	10,839	102,200	531,330	6,232,021	11,086	11,447	437,255	7,703,692
2003	149,730	217,234	10,822	102,063	531,447	6,229,317	11,067	11,398	436,519	7,699,597
2004	151,244	221,564	11,045	103,089	541,459	6,348,839	11,297	11,653	445,372	7,845,562
2005	151,799	222,589	11,094	103,466	543,984	6,377,313	11,349	11,678	447,419	7,880,691
2006	154,274	223,074	11,109	105,162	547,967	6,429,749	11,360	11,690	448,160	7,942,545
2007	154,159	222,860	11,096	105,086	548,085	6,428,615	11,348	11,656	447,706	7,940,611
2008	154,372	223,353	11,120	105,229	548,772	6,437,972	11,374	11,694	448,711	7,952,597
2009	154,238	223,098	11,110	105,138	548,598	6,434,211	11,360	11,668	448,182	7,947,603
2010	154,253	223,053	11,105	105,147	548,846	6,436,026	11,357	11,647	448,075	7,949,509
2011	154,128	222,975	11,099	105,063	548,708	6,434,388	11,353	11,663	447,903	7,947,280
2012	154,397	224,341	11,170	105,243	550,851	6,458,954	11,424	11,783	450,674	7,978,837
2013	154,286	223,327	11,116	105,169	550,333	6,449,292	11,370	11,642	448,573	7,965,108
2014	154,449	223,529	11,125	105,281	550,783	6,455,173	11,378	11,643	448,971	7,972,332
2015	154,559	223,502	11,124	105,356	551,274	6,459,788	11,376	11,606	448,892	7,977,477
2016	154,851	224,953	11,198	105,554	553,141	6,483,046	11,452	11,748	451,844	8,007,787
2017	154,699	224,073	11,153	105,450	552,071	6,469,612	11,407	11,658	450,054	7,990,177
2018	154,686	224,349	11,167	105,443	552,614	6,474,743	11,420	11,683	450,613	7,996,718
2019	154,504	223,496	11,122	105,319	551,407	6,460,344	11,376	11,600	448,869	7,978,037
2020	154,104	221,981	11,044	105,048	548,571	6,430,198	11,293	11,458	445,746	7,939,443
2021	153,976	221,173	11,002	104,961	547,683	6,418,530	11,253	11,372	444,100	7,924,050
2022	152,665	215,522	10,707	104,079	533,910	6,259,219	10,951	11,050	432,496	7,730,599
2023	152,759	215,920	10,730	104,143	534,304	6,264,655	10,972	11,097	433,324	7,737,904
2024	146,999	214,205	10,665	100,200	524,904	6,138,480	10,908	11,022	430,325	7,587,708
2025	147,023	214,468	10,680	100,218	525,122	6,141,582	10,920	11,055	430,873	7,591,941
2026	146,808	213,553	10,634	100,069	523,961	6,126,688	10,873	10,968	429,009	7,572,563
2027	146,799	213,673	10,640	100,064	524,069	6,128,076	10,880	10,980	429,245	7,574,426
2028	146,902	214,129	10,663	100,135	524,506	6,134,394	10,905	11,031	430,182	7,582,847
2029	146,804	213,735	10,650	100,065	522,334	6,111,597	10,891	11,010	429,535	7,556,621
2030	146,823	213,779	10,652	100,080	522,335	6,111,998	10,895	11,016	429,628	7,557,206
2031	146,817	213,797	10,654	100,077	522,474	6,112,867	10,896	11,018	429,669	7,558,269
2032	146,765	213,514	10,638	100,039	521,958	6,107,379	10,882	10,993	429,094	7,551,262
2033	146,827	213,951	10,662	100,084	522,613	6,114,715	10,904	11,035	429,981	7,560,772
2034	146,702	213,018	10,612	99,999	521,442	6,100,459	10,855	10,940	428,084	7,542,111
2035	147,003	215,020	10,718	100,201	523,910	6,130,809	10,960	11,148	432,166	7,581,935
TOTAL	8,882,414	12,740,782	634,699	6,054,975	31,020,264	367,508,971	649,109	651,916	25,601,730	453,744,860

TABLE B-16A: 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	544,651	143,223
1973	403,572	172,796	119,511	34,093	197,099	7,303	239,771	53,695	710,908	186,675
1974	433,511	187,767	127,606	36,049	210,445	7,623	256,974	56,033	762,065	200,945
1975	503,161	232,517	146,832	41,798	242,157	9,008	295,041	65,172	872,649	230,472
1976	556,826	204,652	156,178	43,029	257,566	9,934	316,729	72,688	927,960	247,131
1977	673,496	271,872	180,718	46,601	298,044	11,810	372,882	86,868	1,037,443	281,300
1978	667,811	323,014	198,558	56,934	327,464	11,810	397,320	86,610	1,204,758	316,479
1979	657,696	287,920	190,558	50,578	314,265	11,988	390,045	86,348	1,085,063	291,877
1980	853,412	349,033	247,247	70,009	407,762	15,283	497,164	111,875	1,472,259	389,419
1981	980,045	422,026	277,261	72,281	457,258	17,572	570,847	128,699	1,513,114	410,174
1982	1,114,775	516,266	320,720	88,586	528,928	20,072	650,151	147,019	1,845,807	492,135
1983	2,045,362	701,128	516,747	127,511	852,208	35,537	1,078,963	262,286	2,530,319	699,652
1984	2,459,437	1,031,498	632,750	183,054	1,043,537	42,622	1,263,279	315,282	3,549,825	931,719
1985	2,455,216	984,232	649,581	194,587	1,071,302	42,677	1,282,553	315,317	3,772,851	979,636
1986	2,367,575	898,928	611,450	165,641	1,008,406	41,263	1,244,776	304,585	3,267,176	875,828
1987	2,220,362	812,146	581,118	158,881	958,378	38,818	1,181,705	286,227	3,149,510	844,163
1988	2,164,891	838,136	572,319	160,403	943,873	37,897	1,155,496	279,306	3,177,302	845,076
1989	2,183,805	786,237	568,609	150,232	937,747	38,138	1,167,545	281,041	3,001,363	813,146
1990	2,173,104	847,447	581,901	169,168	959,677	37,969	1,161,800	279,727	3,338,469	877,975
1991	2,175,572	800,286	575,971	151,056	949,885	38,021	1,184,986	280,136	3,016,833	819,249
1992	2,100,408	742,096	571,323	162,075	942,235	36,772	1,149,310	270,742	3,213,209	851,447
1993	2,106,574	837,991	562,900	153,050	928,333	36,878	1,146,617	271,519	3,052,316	819,563
1994	2,106,752	783,842	572,023	164,776	943,389	36,881	1,145,377	271,540	3,260,743	860,010
1995	2,104,838	760,824	559,360	153,133	922,490	36,841	1,137,199	271,255	3,053,958	818,260
1996	2,105,439	799,805	544,786	136,560	898,453	36,856	1,134,583	271,342	2,758,789	760,176
1997	2,107,740	834,891	560,037	155,083	923,616	36,894	1,134,806	271,637	3,087,984	824,440
1998	2,109,608	806,999	570,858	167,814	941,467	36,933	1,135,859	271,908	3,314,161	868,750
1999	2,108,072	744,815	560,179	154,931	923,853	36,909	1,135,512	271,718	3,085,245	824,032
2000	2,111,975	800,471	569,687	166,364	939,537	36,977	1,135,898	272,241	3,288,407	863,736
2001	2,113,398	785,097	559,169	153,981	922,184	37,003	1,134,920	272,432	3,068,323	820,635
2002	2,117,754	756,886	551,192	144,469	909,019	37,084	1,134,429	273,005	2,899,327	787,583
2003	2,126,526	873,184	562,836	157,635	928,231	37,251	1,136,696	274,210	3,133,295	833,636
2004	2,157,672	809,255	565,003	155,273	931,805	37,753	1,147,442	277,938	3,092,333	827,574
2005	2,169,893	803,958	576,675	165,547	951,059	38,026	1,155,995	279,822	3,274,783	864,684
2006	2,197,701	812,063	565,411	146,983	932,470	38,501	1,166,270	283,358	2,944,774	802,073
2007	2,217,643	886,811	599,339	179,864	988,440	38,705	1,184,570	284,751	3,536,593	921,174
2008	2,216,548	779,516	591,706	170,192	975,843	38,698	1,185,317	284,668	3,364,678	887,772
2009	2,219,486	870,478	570,226	143,797	940,406	38,751	1,185,655	285,045	2,895,607	796,319
2010	2,223,502	835,651	607,220	186,919	1,001,443	38,835	1,190,082	285,648	3,661,878	946,587
2011	2,220,823	762,867	564,578	136,304	931,088	38,781	1,186,930	285,253	2,761,764	770,382
2012	2,221,721	752,903	599,601	177,119	988,871	38,831	1,191,146	285,549	3,487,055	912,631
2013	2,235,005	893,236	603,135	178,445	994,703	39,076	1,197,548	287,321	3,510,572	918,333
2014	2,236,644	829,620	588,864	160,153	971,150	39,121	1,199,372	287,609	3,185,513	855,242
2015	2,243,340	921,040	585,143	153,685	965,014	39,262	1,203,503	288,603	3,070,539	833,538
2016	2,238,862	838,343	606,606	179,623	1,000,417	39,207	1,204,114	288,159	3,531,426	923,576
2017	2,242,462	815,828	583,971	151,897	963,074	39,259	1,204,264	288,556	3,038,723	827,470
2018	2,244,340	862,815	617,178	191,432	1,017,866	39,302	1,206,485	288,857	3,741,244	964,920
2019	2,245,616	844,682	601,907	172,987	992,663	39,315	1,206,019	288,977	3,413,499	900,894
2020	2,237,285	879,974	606,741	180,373	1,000,648	39,190	1,202,868	287,995	3,544,747	925,965
2021	2,241,811	861,391	577,214	143,856	951,927	39,253	1,203,801	288,503	2,895,817	799,519
2022	2,195,069	858,546	601,172	180,724	991,462	38,490	1,187,538	282,769	3,551,153	924,580
2023	2,193,608	786,795	579,677	154,849	955,998	38,471	1,186,714	282,600	3,091,326	834,725
2024	2,135,456	857,665	564,804	147,235	931,473	37,524	1,164,158	275,518	2,954,519	804,041
2025	2,101,786	759,484	585,027	186,454	964,844	37,280	1,133,104	273,935	3,635,121	930,416
2026	2,104,908	813,360	554,839	149,822	915,040	37,317	1,132,578	274,249	2,984,105	803,307
2027	2,103,909	841,177	563,819	160,778	929,857	37,308	1,132,605	274,148	3,178,834	841,306
2028	2,100,623	785,774	558,768	155,254	921,520	37,251	1,131,231	273,738	3,080,625	821,912
2029	2,094,835	841,285	552,379	148,649	910,977	37,155	1,128,657	273,008	2,963,286	798,579
2030	2,094,148	765,002	567,726	167,168	936,303	37,140	1,129,145	272,920	3,292,447	862,881
2031	2,095,991	840,473	555,610	152,435	916,313	37,166	1,129,008	273,137	3,030,576	811,764
2032	2,094,784	774,835	564,895	163,810	931,632	37,145	1,128,932	272,968	3,232,751	851,195
2033	2,094,714	868,479	558,247	155,925	920,665	37,148	1,128,444	272,978	3,092,565	823,763
2034	2,097,768	767,021	539,718	133,118	890,091	37,182	1,128,792	273,269	2,687,266	744,739
2035	2,090,287	891,171	585,911	190,396	966,306	37,085	1,126,998	272,462	3,705,233	943,049
TOTAL	122,818,182	46,987,291	32,728,057	9,142,134	53,975,207	2,156,064	66,134,464	15,859,797	181,780,029	48,380,459

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	972,744	9,504	1,210,158	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	2,716,582	26,120	3,369,771	0	0	54	54	55,532	6,185,714
1972	88,578	8,057,908	68,808	9,992,926	0	0	40	40	80,412	13,011,349
1973	115,612	9,927,524	79,619	12,248,178	0	0	1	1	54,219	15,206,093
1974	124,375	11,623,719	85,878	14,112,990	0	0	1,069	1,069	76,783	17,373,487
1975	142,681	13,642,563	105,089	16,529,140	0	0	143	143	84,546	20,516,497
1976	152,784	12,927,206	98,559	15,971,242	0	0	139	139	106,717	20,027,640
1977	173,503	16,264,250	125,324	19,824,111	0	0	892	892	98,635	24,222,397
1978	196,071	18,759,010	142,514	22,688,353	0	0	39	39	102,972	27,375,204
1979	180,102	16,505,616	130,667	20,182,723	0	0	3,235	3,235	119,356	24,693,245
1980	241,044	21,374,761	161,995	26,191,263	0	0	416	416	176,119	32,405,773
1981	252,928	23,827,852	190,546	29,120,603	0	0	5,956	5,956	182,112	35,463,833
1982	304,315	30,814,361	230,229	37,073,364	0	0	17,063	17,063	156,904	44,444,141
1983	429,731	39,362,856	339,661	48,981,961	0	0	1,000	1,000	251,738	60,513,737
1984	577,078	56,876,606	470,116	69,376,803	0	0	1,000	1,000	336,931	82,826,024
1985	607,878	54,730,475	454,463	67,540,768	0	0	2,000	2,000	371,343	80,498,149
1986	540,712	51,063,856	421,509	62,811,705	0	0	2,000	2,000	360,626	74,800,901
1987	521,198	47,159,291	382,671	58,294,468	0	0	2,000	2,000	364,403	70,621,796
1988	522,433	47,539,834	387,407	58,624,373	0	0	2,000	2,000	364,304	70,954,782
1989	501,175	45,340,254	371,268	56,140,560	0	0	2,000	2,000	364,009	68,455,037
1990	543,793	48,457,563	390,786	59,819,379	0	0	2,000	2,000	364,103	72,155,410
1991	504,749	48,280,108	374,933	59,151,785	0	0	2,000	2,000	364,071	71,425,428
1992	526,715	45,179,993	352,122	56,098,447	0	0	2,000	2,000	361,362	68,211,863
1993	505,894	48,134,836	383,944	58,940,415	0	0	2,000	2,000	360,643	71,041,027
1994	532,428	46,189,576	366,264	57,233,601	0	0	2,000	2,000	360,876	69,342,420
1995	505,267	44,087,394	358,810	54,769,629	0	0	2,000	2,000	362,098	66,926,300
1996	467,276	45,721,872	371,661	56,007,598	0	0	2,000	2,000	361,514	68,148,192
1997	509,376	48,083,285	383,293	58,913,082	0	0	2,000	2,000	361,227	71,035,300
1998	538,382	47,011,542	374,256	58,148,537	0	0	2,000	2,000	361,281	70,272,709
1999	509,094	44,780,774	353,814	55,488,948	0	0	2,000	2,000	361,346	67,618,558
2000	535,102	46,350,019	372,271	57,442,685	0	0	2,000	2,000	361,061	69,563,664
2001	506,879	46,360,236	367,356	57,101,613	0	0	2,000	2,000	360,950	69,222,078
2002	485,235	44,027,313	358,392	54,481,688	0	0	2,000	2,000	361,571	66,663,592
2003	515,350	49,261,521	396,974	60,237,345	0	0	2,000	2,000	373,286	72,535,950
2004	511,105	47,172,426	378,082	58,063,661	0	0	2,000	2,000	374,501	70,545,835
2005	535,206	47,804,893	376,935	58,997,476	0	0	2,000	2,000	375,723	71,524,011
2006	493,928	46,246,912	380,901	57,011,345	0	0	2,000	2,000	375,889	69,618,412
2007	571,463	51,459,753	406,084	63,275,190	0	0	2,000	2,000	375,734	75,874,513
2008	549,552	46,720,121	370,881	58,135,492	0	0	2,000	2,000	376,124	70,751,601
2009	489,623	48,837,609	400,829	59,673,831	0	0	2,000	2,000	375,887	72,280,595
2010	587,975	50,211,053	389,582	62,166,375	0	0	2,000	2,000	375,990	74,773,676
2011	472,600	43,826,641	365,636	54,323,647	0	0	2,000	2,000	375,576	66,926,334
2012	565,704	48,083,222	362,335	59,666,688	0	0	2,000	2,000	375,890	72,299,875
2013	569,282	52,130,094	408,953	63,965,703	0	0	2,000	2,000	375,999	76,583,215
2014	527,894	48,527,106	388,200	59,796,488	0	0	2,000	2,000	376,382	72,424,717
2015	513,570	50,161,049	418,454	61,396,740	0	0	2,000	2,000	376,749	74,031,099
2016	572,555	50,893,644	391,089	62,707,621	0	0	2,000	2,000	377,065	75,373,479
2017	509,576	47,146,729	383,939	58,195,748	0	0	2,000	2,000	376,947	70,845,506
2018	599,583	52,476,612	399,381	64,650,015	0	0	2,000	2,000	376,868	77,302,956
2019	557,642	49,842,424	393,538	61,500,163	0	0	2,000	2,000	376,682	74,133,042
2020	574,149	50,843,603	404,674	62,728,212	0	0	2,000	2,000	376,282	75,313,598
2021	491,269	48,650,824	398,844	59,544,029	0	0	2,000	2,000	357,578	71,914,500
2022	573,619	51,099,870	394,744	62,879,736	0	0	2,000	2,000	356,960	75,018,033
2023	514,764	46,596,592	371,150	57,587,269	0	0	2,000	2,000	357,043	69,735,648
2024	495,225	48,582,730	391,678	59,342,026	0	0	2,000	2,000	355,893	71,284,878
2025	578,921	46,857,718	358,384	58,402,474	0	0	2,000	2,000	355,867	70,349,303
2026	495,643	46,584,798	376,225	57,226,191	0	0	2,000	2,000	355,581	69,151,600
2027	520,543	48,807,566	385,262	59,777,112	0	0	2,000	2,000	355,547	71,702,745
2028	507,868	46,372,800	366,955	57,114,319	0	0	2,000	2,000	355,652	69,050,170
2029	492,639	47,652,135	384,868	58,278,452	0	0	2,000	2,000	355,571	70,186,578
2030	534,761	46,597,208	359,847	57,616,696	0	0	2,000	2,000	355,613	69,526,169
2031	501,274	47,778,144	384,661	58,506,552	0	0	2,000	2,000	355,588	70,416,872
2032	527,109	46,600,622	363,109	57,543,787	0	0	2,000	2,000	355,552	69,446,800
2033	509,150	49,484,005	393,765	60,339,848	0	0	2,000	2,000	355,579	72,251,704
2034	457,361	44,127,960	360,729	54,245,014	0	0	2,000	2,000	355,520	66,140,266
2035	587,346	51,497,918	400,947	63,295,109	0	0	2,000	2,000	355,698	75,228,312
TOTAL	29,906,085	2,734,008,267	21,825,839	3,365,701,875	0	0	133,047	133,047	20,820,774	4,079,054,143

TABLE B-16B: MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(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)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
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	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	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	4,923	0	4,923	169,335	170,414	668,737	1,008,486	0	0	0
1984	9,554	0	9,554	347,336	395,428	1,175,598	1,918,362	0	0	0
1985	14,556	0	14,556	466,465	532,116	1,520,330	2,518,911	0	0	0
1986	47,092	0	47,092	564,209	644,811	1,773,230	2,982,250	0	0	0
1987	56,261	69,314	125,575	646,944	769,640	1,963,140	3,379,724	0	0	0
1988	61,182	79,364	140,546	669,969	797,263	1,965,242	3,432,474	0	0	0
1989	72,680	124,919	197,599	635,351	756,273	1,844,568	3,236,192	0	0	0
1990	77,163	143,208	220,371	634,128	760,953	1,823,117	3,218,198	0	0	0
1991	86,151	138,603	224,754	652,097	765,255	1,802,856	3,220,208	155,953	283,746	439,699
1992	95,058	134,966	230,024	672,336	773,187	1,792,897	3,238,420	303,720	552,601	856,321
1993	105,138	133,584	238,722	702,418	776,357	1,811,499	3,290,274	300,609	546,940	847,549
1994	113,616	130,623	244,239	722,999	759,149	1,807,497	3,289,645	293,946	534,816	828,762
1995	121,955	128,030	249,985	744,083	744,083	1,771,627	3,259,793	288,112	524,203	812,315
1996	130,636	126,535	257,171	770,411	735,392	1,750,934	3,256,737	284,747	518,080	802,827
1997	139,460	125,383	264,843	798,099	728,699	1,734,998	3,261,796	282,155	513,365	795,520
1998	145,526	122,072	267,598	777,020	709,453	1,689,175	3,175,648	274,703	499,806	774,509
1999	152,427	119,834	272,261	762,773	696,445	1,658,202	3,117,420	269,666	490,642	760,308
2000	157,065	116,185	273,250	739,552	675,243	1,607,721	3,022,516	261,457	475,705	737,162
2001	160,853	114,348	275,201	727,858	664,566	1,582,300	2,974,724	257,323	468,184	725,507
2002	162,401	111,116	273,517	707,285	645,782	1,537,576	2,890,643	250,050	454,950	705,000
2003	165,863	109,381	275,244	696,237	635,695	1,513,560	2,845,492	246,144	447,844	693,988
2004	166,981	106,274	273,255	676,464	617,641	1,470,573	2,764,678	239,153	435,125	674,278
2005	170,222	104,683	274,905	666,335	608,393	1,448,555	2,723,283	235,572	428,610	664,182
2006	166,669	101,537	268,206	646,310	590,109	1,405,022	2,641,441	228,493	415,729	644,222
2007	165,515	99,897	265,412	635,870	580,577	1,382,326	2,598,773	224,802	409,014	633,816
2008	162,006	96,879	258,885	616,660	563,037	1,340,565	2,520,262	218,010	396,657	614,667
2009	160,790	95,274	256,064	606,447	553,712	1,318,363	2,478,522	214,400	390,088	604,488
2010	157,321	92,376	249,697	588,001	536,871	1,278,263	2,403,135	207,879	378,223	586,102
2011	157,868	91,001	248,869	579,246	528,876	1,259,229	2,367,351	204,783	372,591	577,374
2012	153,710	88,604	242,314	563,990	514,948	1,226,066	2,305,004	199,390	362,778	562,168
2013	92,678	53,423	146,101	340,053	310,483	739,245	1,389,781	120,220	218,734	338,954
2014	74,340	42,852	117,192	272,766	249,047	592,970	1,114,783	96,432	175,452	271,884
2015	38,495	21,983	60,478	139,925	127,758	304,185	571,868	49,468	90,005	139,473
2016	31,695	18,099	49,794	115,207	105,189	250,450	470,846	40,730	74,105	114,835
2017	4,039	2,098	6,137	13,352	12,191	29,026	54,569	4,720	8,588	13,308
2018	4,077	2,083	6,160	13,261	12,108	28,828	54,197	4,688	8,530	13,218
2019	4,115	2,069	6,184	13,171	12,025	28,632	53,828	4,656	8,472	13,128
2020	4,152	2,055	6,207	13,081	11,943	28,437	53,461	4,625	8,414	13,039
2021	4,146	2,052	6,198	13,062	11,926	28,396	53,384	4,618	8,402	13,020
2022	4,141	2,049	6,190	13,044	11,909	28,356	53,309	4,611	8,390	13,001
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	3,802,520	3,052,753	6,855,273	20,133,150	20,094,947	48,982,291	89,210,388	5,775,835	10,508,789	16,284,624

a) Unadjusted for prior overpayments or underpayments of charges.

FOR EACH CONTRACTOR FOR OFF-AQUEDUCT POWER FACILITIES[1a]

(in dollars)

Calendar Year	SAN JOAQUIN VALLEY AREA								
	Devil's Den Water District	Dudley Ridge Water District	Empire West Side Irrigation 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)
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	55,984	129,449	9,958	268,410	2,826,213	10,712	9,467	13,826	3,324,019
1984	110,364	239,234	15,914	458,229	5,573,403	16,444	17,366	469,980	6,900,934
1985	142,728	323,792	20,580	626,558	7,631,305	23,324	22,926	637,295	9,428,508
1986	166,470	394,456	24,003	885,940	9,297,469	29,604	27,831	777,711	11,603,484
1987	184,298	455,304	26,574	1,026,375	10,850,318	35,432	31,415	898,206	13,507,922
1988	184,496	474,413	26,603	1,048,648	11,358,195	35,470	32,659	936,412	14,096,896
1989	169,319	452,477	24,414	1,386,545	10,943,088	32,552	31,082	894,375	13,933,852
1990	163,712	454,017	23,606	1,417,892	10,956,650	31,474	30,590	932,426	14,010,367
1991	158,448	439,419	22,847	1,372,302	10,604,355	30,462	29,606	902,446	13,559,885
1992	154,290	427,887	22,247	1,336,290	10,326,074	29,663	28,829	878,764	13,204,044
1993	152,709	423,504	22,019	1,322,601	10,220,290	29,359	28,534	869,761	13,068,777
1994	149,324	414,117	21,531	1,293,285	9,993,756	28,708	27,901	850,483	12,779,105
1995	146,361	405,899	21,104	1,267,619	9,795,427	28,139	27,348	833,605	12,525,502
1996	144,651	401,158	20,857	1,252,813	9,681,015	27,810	27,028	823,868	12,379,200
1997	143,335	397,507	20,668	1,241,411	9,592,904	27,557	26,782	816,370	12,266,534
1998	139,549	387,008	20,122	1,208,624	9,339,546	26,829	26,075	794,809	11,942,562
1999	136,991	379,912	19,753	1,186,462	9,168,293	26,337	25,597	780,235	11,723,580
2000	132,820	368,346	19,151	1,150,343	8,889,181	25,535	24,817	756,482	11,366,675
2001	130,720	362,522	18,849	1,132,154	8,748,630	25,132	24,425	744,521	11,186,953
2002	127,025	352,275	18,316	1,100,153	8,501,348	24,421	23,735	723,477	10,870,750
2003	125,041	346,773	18,030	1,082,969	8,368,559	24,040	23,364	712,176	10,700,952
2004	121,490	336,924	17,518	1,052,212	8,130,884	23,357	22,700	691,950	10,397,035
2005	119,671	331,879	17,255	1,036,457	8,009,143	23,007	22,360	681,589	10,241,361
2006	116,074	321,906	16,737	1,005,309	7,768,449	22,316	21,689	661,106	9,933,586
2007	114,199	316,706	16,467	989,070	7,642,960	21,955	21,338	650,427	9,773,122
2008	110,749	307,138	15,969	959,189	7,412,059	21,292	20,694	630,777	9,477,867
2009	108,915	302,051	15,705	943,304	7,289,304	20,939	20,351	620,330	9,320,899
2010	105,602	292,864	15,227	914,612	7,067,591	20,303	19,732	601,462	9,037,393
2011	104,030	288,503	15,000	900,993	6,962,352	20,000	19,438	592,506	8,902,822
2012	101,290	280,905	14,605	877,264	6,778,989	19,473	18,926	576,902	8,668,354
2013	61,072	169,369	8,806	528,938	4,087,329	11,741	11,411	347,838	5,226,504
2014	48,988	135,856	7,064	424,276	3,278,563	9,418	9,153	279,010	4,192,328
2015	25,130	69,692	3,624	217,648	1,681,857	4,831	4,696	143,128	2,150,606
2016	20,691	57,381	2,983	179,200	1,384,753	3,978	3,866	117,844	1,770,696
2017	2,398	6,650	346	20,769	160,487	461	448	13,658	205,217
2018	2,382	6,605	343	20,627	159,390	458	445	13,564	203,814
2019	2,365	6,560	341	20,487	158,308	455	442	13,472	202,430
2020	2,349	6,515	339	20,347	157,229	452	439	13,380	201,050
2021	2,346	6,506	338	20,318	157,004	451	438	13,361	200,762
2022	2,343	6,497	338	20,289	156,781	450	438	13,342	200,478
2023	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0
TOTAL	4,190,719	11,279,976	606,151	33,216,932	271,109,451	794,341	766,381	22,722,874	344,686,825

TABLE B-16B: MINIMUM OMP&R COMPONENT OF TRANSPORTATION CHARGE

(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)
1960	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0
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	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	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0
1983	1,082,946	304,891	461,101	51,001	729,038	40,214	0	0	277,605	445,664
1984	1,352,334	596,655	878,622	103,085	1,393,046	75,879	0	0	650,831	891,550
1985	1,715,126	850,088	1,224,257	144,123	1,945,666	105,443	7,206	0	2,076,819	1,152,988
1986	2,022,894	1,105,900	1,530,529	176,503	2,437,416	130,803	25,215	60,425	2,842,532	1,344,781
1987	2,113,777	1,325,664	1,808,061	214,016	2,931,086	154,256	27,915	373,834	3,146,963	1,488,806
1988	2,114,386	1,436,970	1,923,734	228,217	3,167,100	163,087	27,945	449,081	3,150,333	1,490,400
1989	1,988,391	1,396,337	1,869,864	220,130	3,120,287	158,348	4,146,135	495,290	8,292,269	1,581,515
1990	1,992,454	1,425,101	1,909,361	223,172	3,149,206	160,795	4,198,941	559,285	8,389,617	1,529,142
1991	2,016,352	1,473,651	1,847,968	225,596	3,047,948	155,624	4,063,931	595,433	8,207,860	1,502,374
1992	2,049,092	1,597,563	1,799,474	229,024	2,967,963	151,541	3,957,284	632,517	7,992,468	1,484,761
1993	2,112,876	1,672,151	1,781,039	235,930	2,937,558	149,988	3,916,745	678,207	7,910,590	1,491,139
1994	2,148,940	1,655,611	1,741,562	239,748	2,872,447	146,664	3,829,929	714,188	7,735,251	1,479,197
1995	2,187,546	1,709,928	1,707,001	243,857	2,815,442	143,753	3,753,923	750,016	7,581,743	2,941,066
1996	2,285,538	1,776,110	1,687,063	249,773	2,782,558	142,074	3,710,077	778,318	7,493,187	1,475,267
1997	2,387,154	1,845,316	1,671,708	256,184	2,757,233	140,781	3,676,310	807,960	7,424,988	1,483,550
1998	2,443,292	1,879,695	1,627,556	257,873	2,684,411	137,063	3,579,215	822,376	7,228,887	1,465,505
1999	2,515,491	1,926,820	1,597,713	261,444	2,635,189	134,549	3,513,585	842,397	7,096,336	1,459,383
2000	2,552,349	1,947,269	1,549,074	261,532	2,554,966	130,453	3,406,621	850,783	6,880,301	1,435,072
2001	2,651,547	1,976,370	1,524,580	265,977	2,514,568	128,391	3,352,757	848,495	6,771,513	1,433,502
2002	2,712,211	1,978,705	1,481,488	266,796	2,443,493	124,762	3,257,991	835,361	6,580,115	1,413,506
2003	2,803,340	2,005,086	1,458,347	270,836	2,405,326	122,813	3,207,102	832,992	6,477,335	1,411,630
2004	2,853,423	2,003,801	1,416,929	271,118	2,337,013	119,325	3,116,017	819,711	6,293,372	1,391,167
2005	2,938,459	2,028,626	1,395,714	274,913	2,302,021	117,538	3,069,362	820,213	6,199,144	1,389,672
2006	2,998,855	2,015,523	1,353,769	274,270	2,232,840	114,006	2,977,120	807,956	6,012,845	1,369,006
2007	3,096,714	2,030,054	1,331,901	277,335	2,196,772	112,164	2,929,029	807,096	5,915,716	1,367,649
2008	3,145,041	2,014,390	1,291,663	276,226	2,130,405	108,776	2,840,540	794,537	5,736,996	1,346,461
2009	3,232,486	2,025,939	1,270,271	278,800	2,095,122	106,974	2,793,496	793,006	5,641,983	1,343,958
2010	3,269,454	2,007,862	1,231,634	277,251	2,031,397	103,721	2,708,529	780,159	5,470,375	1,322,274
2011	3,376,255	1,977,964	1,213,295	279,425	2,001,148	102,176	2,668,198	768,542	5,388,919	1,322,544
2012	3,438,728	1,925,871	1,181,341	278,203	1,948,445	99,485	2,597,927	748,302	5,246,994	1,307,146
2013	2,164,629	1,161,187	712,279	171,440	1,174,797	59,984	1,566,396	451,182	3,163,627	799,849
2014	1,809,528	931,421	571,339	140,485	942,338	48,115	1,256,451	361,906	2,537,635	650,980
2015	965,822	477,806	293,089	73,589	483,406	24,682	644,542	185,652	1,301,771	338,765
2016	830,550	393,400	241,314	60,590	398,012	20,322	530,682	152,857	1,071,811	283,309
2017	100,353	45,593	27,967	7,022	46,128	2,355	61,504	17,715	124,218	33,343
2018	103,736	45,282	27,776	6,974	45,813	2,339	61,084	17,594	123,369	33,620
2019	107,072	44,974	27,588	6,927	45,502	2,323	60,669	17,475	122,532	33,893
2020	110,355	44,668	27,399	6,880	45,191	2,307	60,255	17,356	121,696	34,160
2021	114,505	44,604	27,360	6,870	45,127	2,304	60,169	17,331	121,523	34,112
2022	118,643	44,540	27,321	6,860	45,063	2,301	60,083	17,306	121,349	34,063
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	80,022,644	53,149,386	46,750,051	7,599,995	76,838,487	3,948,478	85,720,880	20,322,854	184,923,418	44,836,769

FOR EACH CONTRACTOR FOR OFF-AQUEDUCT POWER FACILITIES[a]

(in dollars)

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)
1960	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	0	19,222,512	0	22,614,972	0	0	0	0	26,952,400
1984	0	59,380,448	0	65,322,450	0	0	0	0	74,151,300
1985	0	84,887,309	0	94,109,025	0	0	0	0	106,071,000
1986	0	100,376,176	0	112,053,174	0	0	0	0	126,686,000
1987	0	112,308,401	0	125,892,779	0	0	0	0	142,906,000
1988	0	113,916,303	84,528	128,152,084	0	0	0	0	145,822,000
1989	923,263	105,199,379	155,149	129,546,357	0	0	0	0	146,914,000
1990	975,345	103,831,629	225,016	128,569,064	0	0	0	0	146,018,000
1991	1,031,982	104,992,360	290,375	129,451,454	0	0	0	0	146,896,000
1992	1,090,590	104,141,471	353,443	128,447,191	0	0	0	0	145,976,000
1993	1,164,229	104,959,439	419,787	129,429,678	0	0	0	0	146,875,000
1994	1,221,355	104,476,048	547,309	128,808,249	0	0	0	0	145,950,000
1995	1,278,403	104,209,167	670,560	129,992,405	0	0	0	0	146,840,000
1996	1,263,471	104,715,083	861,546	129,220,065	0	0	0	0	145,916,000
1997	1,251,972	105,469,437	1,050,714	130,223,307	0	0	0	0	146,812,000
1998	1,218,906	104,346,200	1,278,704	128,969,683	0	0	0	0	145,130,000
1999	1,196,556	104,064,711	1,255,257	128,499,431	0	0	0	0	144,373,000
2000	1,160,129	102,478,805	1,217,043	126,424,397	0	0	0	0	141,824,000
2001	1,141,785	102,100,330	1,197,800	125,907,615	0	0	0	0	141,070,000
2002	1,109,513	100,421,205	1,163,944	123,789,090	0	0	0	0	138,529,000
2003	1,092,182	100,040,572	1,145,763	123,273,324	0	0	0	0	137,789,000
2004	1,061,163	98,353,492	1,113,223	121,149,754	0	0	0	0	135,259,000
2005	1,045,275	98,017,777	1,096,555	120,695,269	0	0	0	0	134,599,000
2006	1,013,862	96,290,892	1,063,601	118,524,545	0	0	0	0	132,012,000
2007	997,484	95,934,543	1,046,420	118,042,877	0	0	0	0	131,314,000
2008	967,349	94,199,129	1,014,806	115,866,319	0	0	0	0	128,738,000
2009	951,328	93,782,665	997,999	115,314,027	0	0	0	0	127,974,000
2010	922,393	92,038,980	967,644	113,131,673	0	0	0	0	125,408,000
2011	908,658	91,603,225	953,235	112,563,584	0	0	0	0	124,660,000
2012	884,727	90,100,860	928,131	110,686,160	0	0	0	0	122,464,000
2013	533,438	54,874,244	559,608	67,392,660	0	0	0	0	74,494,000
2014	427,886	44,456,352	448,877	54,583,313	0	0	0	0	60,279,500
2015	219,499	23,031,284	230,268	28,270,175	0	0	0	0	31,192,600
2016	180,724	19,101,667	189,591	23,454,829	0	0	0	0	25,861,000
2017	20,945	2,229,903	21,973	2,739,019	0	0	0	0	3,018,250
2018	20,802	2,230,649	21,823	2,740,861	0	0	0	0	3,018,250
2019	20,661	2,231,390	21,674	2,742,680	0	0	0	0	3,018,250
2020	20,520	2,232,179	21,527	2,744,493	0	0	0	0	3,018,250
2021	20,491	2,228,994	21,496	2,744,886	0	0	0	0	3,018,250
2022	20,461	2,225,817	21,465	2,745,272	0	0	0	0	3,018,250
2023	0	0	0	0	0	0	0	0	0
2024	0	0	0	0	0	0	0	0	0
2025	0	0	0	0	0	0	0	0	0
2026	0	0	0	0	0	0	0	0	0
2027	0	0	0	0	0	0	0	0	0
2028	0	0	0	0	0	0	0	0	0
2029	0	0	0	0	0	0	0	0	0
2030	0	0	0	0	0	0	0	0	0
2031	0	0	0	0	0	0	0	0	0
2032	0	0	0	0	0	0	0	0	0
2033	0	0	0	0	0	0	0	0	0
2034	0	0	0	0	0	0	0	0	0
2035	0	0	0	0	0	0	0	0	0
TOTAL	27,357,347	3,050,701,027	22,656,854	3,704,828,190	0	0	0	0	4,161,865,300

TABLE B-17: UNIT VARIABLE OMP&R COMPONENT

(in dollars per acre-foot)

Calendar Year	NORTH BAY AQUEDUCT				SOUTH BAY AQUEDUCT		CALIFORNIA AQUEDUCT			
	Reach 1 Calhoun and Travis Pumping Plants		Reach 3 Cordelia Pumping Plant[b]		Reach 1 South Bay and Del Valle Pumping Plant[c]		Reach 1 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	0.0000000	0.0000000	0.0000000	0.0000000	4.1511341	4.1511341	0.0000000	0.0000000	0.0000000	0.0000000
1963	0.0000000	0.0000000	0.0000000	0.0000000	4.5639383	4.5639383	0.0000000	0.0000000	0.0000000	0.0000000
1964	0.0000000	0.0000000	0.0000000	0.0000000	3.5452154	3.5452154	0.0000000	0.0000000	0.0000000	0.0000000
1965	0.0000000	0.0000000	0.0000000	0.0000000	4.1911773	4.1911773	0.0000000	0.0000000	0.0000000	0.0000000
1966	0.0000000	0.0000000	0.0000000	0.0000000	3.5074573	3.5074573	0.0000000	0.0000000	0.0000000	0.0000000
1967	0.0000000	0.0000000	0.0000000	0.0000000	3.9306767	5.1337448	1.2030681	1.2030681	0.0000000	0.0000000
1968	0.0000000	0.0000000	5.7570016	5.7570016	3.3315620	4.8750942	1.5435322	1.5435322	1.0732031	2.6167353
1969	0.0000000	0.0000000	3.1823595	3.1823595	3.6949019	4.8016170	1.1067151	1.1067151	0.7028165	1.8095316
1970	0.0000000	0.0000000	3.7584301	3.7584301	4.4256141	5.3721490	0.9465349	0.9465349	0.7813430	1.7278779
1971	0.0000000	0.0000000	4.2082507	4.2082507	3.8714396	4.7522833	0.8808437	0.8808437	0.4125312	1.2933749
1972	0.0000000	0.0000000	3.9577735	3.9577735	4.3250690	5.2281686	0.9030996	0.9030996	0.5554925	1.4585921
1973	0.0000000	0.0000000	3.8103903	3.8103903	5.2455409	6.1841800	0.9386391	0.9386391	0.5996892	1.5383283
1974	0.0000000	0.0000000	3.5878850	3.5878850	6.3321503	7.2293909	0.8972406	0.8972406	0.5736894	1.4709300
1975	0.0000000	0.0000000	2.1606725	2.1606725	3.7365711	4.8327731	1.0962020	1.0962020	0.4602594	1.5564614
1976	0.0000000	0.0000000	2.9283909	2.9283909	4.5191527	5.7132795	1.1941268	1.1941268	0.5163827	1.7105095
1977	0.0000000	0.0000000	2.7516411	2.7516411	4.7630172	6.5309908	1.7679736	1.7679736	0.5979675	2.3659411
1978	0.0000000	0.0000000	3.6000994	3.6000994	5.2147121	6.9368754	1.7221633	1.7221633	0.4908062	2.2129695
1979	0.0000000	0.0000000	2.4761469	2.4761469	4.9451428	7.0754583	2.1303155	2.1303155	0.6590292	2.7893447
1980	0.0000000	0.0000000	2.9774862	2.9774862	4.5213427	5.9961584	1.4748157	1.4748157	0.8443726	2.3191883
1981	0.0000000	0.0000000	2.4099544	2.4099544	4.1637286	6.1632425	1.9995139	1.9995139	0.7247247	2.7242386
1982	0.0000000	0.0000000	10.2102226	10.2102226	6.1546860	7.9672022	1.8125162	1.8125162	0.9424406	2.7549568
1983	0.0000000	0.0000000	6.6133101	6.6133101	14.5375335	18.3135422	3.7760087	3.7760087	2.7024120	6.4784207
1984	0.0000000	0.0000000	5.9101655	5.9101655	15.9265529	21.7534041	5.8268512	5.8268512	2.9569308	8.7837820
1985	0.0000000	0.0000000	6.0973244	6.0973244	15.9840947	21.9857556	6.0016609	6.0016609	2.9502936	8.9519545
1986	0.0000000	0.0000000	11.6227313	11.6227313	16.2208108	22.4091627	6.1883519	6.1883519	2.9888846	9.1772365
1987	3.3496913	3.3496913	11.2963882	14.6460795	15.7438723	21.7146657	5.9707934	5.9707934	2.9190602	8.8898536
1988	3.3651557	3.3651557	11.2395939	14.6047496	15.7607082	21.6387454	5.8780372	5.8780372	2.9114081	8.7894453
1989	3.7239665	3.7239665	11.2037255	14.9276920	15.8769815	21.9581713	6.0811898	6.0811898	2.9655896	9.0467794
1990	3.8538095	3.8538095	11.4930357	15.3468452	16.3409012	22.7546155	6.4137143	6.4137143	3.0079625	9.4216768
1991	3.9128325	3.9128325	11.6071207	15.5199532	16.5974880	22.9292890	6.3318010	6.3318010	3.0602473	9.3920483
1992	3.9621683	3.9621683	11.7379781	15.7001464	16.8597789	23.2713725	6.4115936	6.4115936	3.1092263	9.5208199
1993	3.9934948	3.9934948	11.7844743	15.7779691	16.9934442	23.4658718	6.4724276	6.4724276	3.1509724	9.6234000
1994	3.9941021	3.9941021	11.7586283	15.7527304	17.0184286	23.5049144	6.4864858	6.4864858	3.1714443	9.6579301
1995	4.0423758	4.0423758	11.5128283	15.5552041	16.7133424	23.0933674	6.3800250	6.3800250	3.1363964	9.5164214
1996	4.0669637	4.0669637	11.5703635	15.6373272	16.8231559	23.2829654	6.4598095	6.4598095	3.1904470	9.6502565
1997	4.1488741	4.1488741	11.5685986	15.7174727	16.8548777	23.3271280	6.4722503	6.4722503	3.2566540	9.7289043
1998	4.2191843	4.2191843	11.7554479	15.9746322	17.1345745	23.7095276	6.5749531	6.5749531	3.3535109	9.9284640
1999	4.2033857	4.2033857	11.6862330	15.8896187	17.0680160	23.6193613	6.5513453	6.5513453	3.3925958	9.9439411
2000	4.2846779	4.2846779	11.9010676	16.1857455	17.3993830	24.0753187	6.6759357	6.6759357	3.4746749	10.1506106
2001	4.3139553	4.3139553	11.9656635	16.2796188	17.5200957	24.2441658	6.7240701	6.7240701	3.5228502	10.2469203
2002	4.3709052	4.3709052	12.1398947	16.5107999	17.7532128	24.5671978	6.8139850	6.8139850	3.5862082	10.4001932
2003	4.6036043	4.6036043	12.7697970	17.3734013	18.7001862	25.8602938	7.1601076	7.1601076	3.7466385	10.9067461
2004	4.7621468	4.7621468	12.8840171	17.6461639	18.8623298	26.0792186	7.2168888	7.2168888	3.7742746	10.9911634
2005	5.6548593	5.6548593	14.9088757	20.5637350	21.8494628	30.1674985	8.3180357	8.3180357	4.2848918	12.6029275
2006	5.7500374	5.7500374	15.1639508	20.9139882	22.2279202	30.6851883	8.4572681	8.4572681	4.3495236	12.8067917
2007	5.9667848	5.9667848	15.7418699	21.7086547	23.0602181	31.8241554	8.7639373	8.7639373	4.4920618	13.2559991
2008	6.0884158	6.0884158	16.0460875	22.1345033	23.5206543	32.4539933	8.9333390	8.9333390	4.5705815	13.5039205
2009	6.1198925	6.1198925	16.1368301	22.2567226	23.6534787	32.6356453	8.9821666	8.9821666	4.5934292	13.5755958
2010	6.3232163	6.3232163	16.6647458	22.9879621	24.4422181	33.7149739	9.2727558	9.2727558	4.7284682	14.0012240
2011	6.2265295	6.2265295	16.4060455	22.6325750	24.0658830	33.1991942	9.1333112	9.1333112	4.6640146	13.7973258
2012	6.6195664	6.6195664	17.4417083	24.0612747	25.5850213	35.2770522	9.6920309	9.6920309	4.9238176	14.6158485
2013	6.8657542	6.8657542	18.0903494	24.9561036	26.5365426	36.5822371	10.0456945	10.0456945	5.0866888	15.1323833
2014	7.0511299	7.0511299	18.5788131	25.6299430	27.2530266	37.5625982	10.3095716	10.3095716	5.2089960	15.5185676
2015	7.3879487	7.3879487	19.4855495	26.8734982	28.5584734	39.3495121	10.7910387	10.7910387	5.4322480	16.2232867
2016	7.6381136	7.6381136	20.1453297	27.7834433	29.5254521	40.6699314	11.1444793	11.1444793	5.5975682	16.7420475
2017	7.5247474	7.5247474	19.8215392	27.3462866	29.0902660	40.0764324	10.9861664	10.9861664	5.4853377	16.4715041
2018	7.6706380	7.6706380	20.1910029	27.8616409	29.6462181	40.8161838	11.1699657	11.1699657	5.5412639	16.7112296
2019	7.6514806	7.6514806	19.9934204	27.6449010	29.3484734	40.3840093	11.0355359	11.0355359	5.4494721	16.4850080
2020	7.7994599	7.7994599	20.3734762	28.1729361	29.9144202	41.1285808	11.2141606	11.2141606	5.5226417	16.7368023
2021	7.6825784	7.6825784	20.0680952	27.7506736	29.4660585	40.5175743	11.0515158	11.0515158	5.4217839	16.4732997
2022	7.8022997	7.8022997	20.3808571	28.1831568	29.9252660	41.1448654	11.2195994	11.2195994	5.5398656	16.6184650
2023	7.7116899	7.7116899	20.1441905	27.8558804	29.5777500	40.6683734	11.0906234	11.0906234	5.2618406	16.3524640
2024	7.7217596	7.7217596	20.1704762	27.8922358	29.6164043	40.7215012	11.1050969	11.1050969	5.1908371	16.2959340
2025	7.7074564	7.7074564	20.1331429	27.8405993	29.5615585	40.6461857	11.0846272	11.0846272	5.1814802	16.2661074
2026	7.5425958	7.5425958	19.7024762	27.2450720	28.9291755	39.7746573	10.8454818	10.8454818	5.0733834	15.9188652
2027	7.6068293	7.6068293	19.8702381	27.4770674	29.1755000	40.1030991	10.9275991	10.9275991	5.1155690	16.0431681
2028	7.6088153	7.6088153	19.8754762	27.4842915	29.1831915	40.0774611	10.8942696	10.8942696	5.1168005	16.0110701
2029	7.6137282	7.6137282	19.8882857	27.5020139	29.2020000	40.0688740	10.8668740	10.8668740	5.1200561	15.9869301
2030	7.6134669	7.6134669	19.8876190	27.5010859	29.2010213	40.0329750	10.8319537	10.8319537	5.0777554	15.9097091
2031	7.6062544	7.6062544	19.8687619	27.4750163	29.1733351	39.9607973	10.7874622	10.7874622	5.0312226	15.8186848
2032	7.5893380	7.5893380	19.8245238	27.4138618	29.1084309	39.8379809	10.7295500	10.7295500	4.9784295	15.7079795
2033	7.6581533	7.6581533	20.0042857	27.6624390	29.3723830	40.1987804	10.8263974	10.8263974	5.0236618	15.8500592
2034	7.4773693	7.4773693	19.5320476	27.0094169	28.6789947	39.2514228	10.5724281	10.5724281	4.9049845	15.4774126
2035	7.7641638	7.7641638	20.2812381	28.0454019	29.7789787	40.7525447	10.9735660	10.9735660	5.0932225	16.0667885

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.*

OF TRANSPORTATION CHARGE [a]

(in dollars per acre-foot)

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	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1963	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1964	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1965	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1966	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1967	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1968	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1969	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1970	0.3333333	2.0612112	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1971	1.3594550	2.6528299	4.9729730	7.6258029	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1972	1.0808850	2.5394771	1.1418280	3.6813051	2.2892599	5.9705650	7.3206022	13.2911672	0.0000000	0.0000000
1973	0.9844807	2.5228090	1.2143719	3.7371809	2.1051633	5.8423442	7.4512435	13.2935877	0.0000000	0.0000000
1974	0.9223291	2.3932591	1.0924098	3.4856689	1.9449022	5.4305711	6.9004732	12.3310443	0.0000000	0.0000000
1975	0.8190849	2.3755463	0.9574493	3.3329956	1.9610412	5.2940368	6.9962702	12.2903070	0.0000000	0.0000000
1976	0.9626676	2.6731771	1.0211874	3.6943645	2.2275746	5.9219391	7.9384515	13.8603906	0.0000000	0.0000000
1977	1.0884667	3.4544078	1.3629729	4.8173807	2.9115870	7.7289677	9.9329609	17.6619286	0.0000000	0.0000000
1978	1.0402589	3.2532284	1.1360690	4.3892974	2.2079627	6.5972601	7.9468381	14.5440982	0.0000000	0.0000000
1979	1.1112491	3.9005938	1.2670947	5.1676885	2.6990471	7.8667356	9.6503665	17.5171021	0.0000000	0.0000000
1980	1.3736850	3.6928733	1.5286852	5.2215585	3.2635684	8.4851269	11.2887769	19.7739038	0.0000000	0.0000000
1981	1.1522711	3.8765097	1.2092773	5.0857870	2.5143473	7.6001343	9.0349287	16.6350630	0.0000000	0.0000000
1982	1.6288313	4.3837881	1.8315712	6.2153593	3.7330044	9.9483637	12.6302435	22.5786072	0.0000000	0.0000000
1983	4.1912837	10.6697044	4.8199373	15.4896417	10.4445147	25.9341564	35.8993933	61.8335497	0.0000000	0.0000000
1984	4.9195535	13.7033355	5.6769933	19.3803288	12.5609425	31.9412713	43.8868551	75.8281264	0.0000000	0.0000000
1985	5.0377226	13.9896771	6.1243559	20.1140330	13.0489642	33.1629972	45.2988072	78.4618044	-1.8367217	76.6250827
1986	5.0965932	14.2738297	6.1914000	20.4652297	13.1978824	33.6631121	45.8337835	79.4968956	-5.4350235	74.0618721
1987	4.9710144	13.8628680	6.0368801	19.8977481	12.8626638	32.7604119	44.6537053	77.4141172	-5.3759383	72.0381789
1988	4.9472507	13.7366960	6.0041653	19.7408613	12.7896973	32.5305586	44.3909580	76.9215166	-5.4634333	71.4580833
1989	5.0751945	14.1219739	6.1725040	20.2944779	13.1606537	33.4551316	45.7080492	79.1631808	-5.4331263	73.7300545
1990	5.1159702	14.5376470	6.2116413	20.7492883	13.2367510	33.9860393	45.9540965	79.9401358	-5.4311696	74.5089662
1991	5.2091649	14.6012132	6.3245258	20.9257390	13.4864966	34.4122356	46.8861859	81.2984215	-5.5008418	75.7975797
1992	5.2694442	14.7902641	6.3978491	21.1881132	13.6453147	34.8334279	47.4999971	82.3334250	-5.4880688	76.8453562
1993	5.3162640	14.9396640	6.4568675	21.3965315	13.7733365	35.1698680	48.0836328	83.2535008	-5.4745927	77.7789081
1994	5.3181219	14.9760520	6.4590632	21.4351152	13.7908005	35.2259157	48.1803175	83.4062332	-5.4641928	77.9420404
1995	5.2401596	14.7565810	6.3702701	21.1268511	13.6029493	34.7298004	47.5290572	82.2588576	-5.5422337	76.7166239
1996	5.3453200	14.9955765	6.5001539	21.4957304	13.8574900	35.3532204	48.4469855	83.8002059	-5.6578145	78.1423914
1997	5.3754147	15.1043190	6.5306619	21.6349809	13.9518111	35.5867920	48.5657044	84.1524964	-5.6589258	78.4935706
1998	5.4746665	15.4031305	6.6330209	22.0361514	14.2537814	36.2899328	49.4033296	85.6932624	-5.6589358	80.0343266
1999	5.4708151	15.4147562	6.6316734	22.0464296	14.2840039	36.3304335	49.2444706	85.5749041	-5.6592352	79.9156689
2000	5.5869025	15.7375131	6.7767217	22.5142348	14.6583871	37.1726219	50.1857857	87.3584076	-5.6588952	81.6995124
2001	5.6527065	15.8996268	6.8454037	22.7450305	14.7851881	37.5302186	50.5403290	88.0705476	-5.6578947	82.4126529
2002	5.7519943	16.1521875	6.9657846	23.1179721	15.0355148	38.1534869	51.2027672	89.3562541	-5.6550673	83.7011868
2003	6.0652562	16.9720023	7.3472303	24.3192326	15.7945173	40.1137499	53.8932627	94.0070126	-5.6543954	88.3526172
2004	6.1429198	17.1340832	7.4411579	24.5752411	15.9311785	40.5064196	54.3515710	94.8579906	-5.6526543	89.2053363
2005	7.0680633	19.6709908	8.5687445	28.2397353	18.3075754	46.5473107	62.6656280	109.2129387	-5.6512961	103.5616426
2006	7.2052516	20.0120433	8.7358088	28.7478521	18.6156608	47.3635129	63.6849912	111.0485041	-5.6504653	105.3980388
2007	7.4259438	20.6819429	9.0034699	29.6854128	19.2621100	48.9475228	65.9699818	114.9175046	-5.6529868	109.2645178
2008	7.5641179	21.0680384	9.1719487	30.2399871	19.6214785	49.8614656	67.2188572	117.0803228	-5.6531896	111.4271332
2009	7.6039514	21.1795472	9.2205567	30.4001039	19.7268057	50.1269096	67.5549144	117.6818240	-5.6531604	112.0286636
2010	7.8406375	21.8418615	9.5091913	31.3510528	20.3520997	51.7031525	69.7443789	121.4475314	-5.6555831	115.7919483
2011	7.7277024	21.5250282	9.3714940	30.8965222	20.0537488	50.9502710	68.6846150	119.6348860	-5.6537044	113.9811816
2012	8.1835881	22.7994366	9.9273830	32.7268196	21.2581743	53.9849939	72.9172708	126.9022647	-5.6569920	121.2452727
2013	8.4691012	23.6014845	10.2755585	33.8770430	22.0125883	55.8896313	75.5319573	131.4215886	-5.6569973	125.7645913
2014	8.6840869	24.2026545	10.5377734	34.7404279	22.5806400	57.3210679	77.5108609	134.8319288	-5.6567700	129.1751588
2015	9.0757969	25.2990836	11.0154516	36.3145352	23.6156247	59.9301599	81.1378290	141.0679889	-5.6564113	135.4115776
2016	9.3659477	26.1079952	11.3693510	37.4773462	24.3822438	61.8595900	83.8193431	145.6789331	-5.6583825	140.0205506
2017	9.2353771	25.7068812	11.2100276	36.9169088	24.0372394	60.9541482	82.6061281	143.5602763	-5.6574744	137.9028019
2018	9.4021633	26.1133929	11.4134908	37.5268837	24.4779677	62.0048514	84.1559205	146.1607719	-5.6592461	140.5015258
2019	9.3128200	25.7978280	11.3045280	37.1023560	24.2054123	61.3077683	83.3259248	144.6336931	-5.6587071	138.9749860
2020	9.4826523	26.2194546	11.5116533	37.7311079	24.6169295	62.3480374	84.8569196	147.2049570	-5.6589917	141.5459653
2021	9.3078633	25.7811630	11.3058013	37.0869643	24.2236649	61.3106292	83.5597657	144.8703949	-5.6584514	139.2119435
2022	9.4027314	26.0211964	11.4315346	37.4527310	24.4401601	61.8928911	84.7326818	146.6255729	-5.6598268	140.9657461
2023	9.2984068	25.6508708	11.3043464	36.9552172	24.0169565	60.9721737	83.6481916	144.6203653	-5.1026164	141.5177489
2024	9.3100094	25.6059434	11.3184581	36.9244015	23.9004543	60.8248558	83.7084837	144.5333395	-3.1027049	141.4306346
2025	9.2935686	25.5596760	11.2984113	36.8580873	23.7112636	60.5693509	83.5359909	144.1053418	-3.1034909	141.0018509
2026	9.1037703	25.0226355	11.0669909	36.0896264	23.1124581	59.2020845	81.7538048	140.9558893	-3.1029019	137.8529874
2027	9.1776829	25.2208510	11.1571357	36.3779867	23.2116520	59.5896387	82.4404321	142.0300708	-3.1033098	138.9267610
2028	9.1473327	25.1584028	11.1599793	36.3183821	23.2177760	59.5361581	82.4619328	141.9980909	-3.1031969	138.8948940
2029	9.1203279	25.1072580	11.1182367	36.2254947	23.2326932	59.4581879	82.5142957	141.9724836	-3.1031313	138.8693523
2030	9.0875775	24.9972866	11.0695799	36.0668665	23.2319059	59.2987724	82.4187465	141.7175189	-3.1034498	138.6140691
2031	9.0237606	24.8424454	11.0115306	35.8539760	23.2099499	59.0639259	82.1700008	141.2339267	-3.1030801	138.1308466
2032	8.9494087	24.6573882	10.9192981	35.5766863	23.1421133	58.7187996	81.8067397	140.5255393	-3.1033494	137.4221899
2033	8.9741136	24.8241728	10.9479400	35.7721128	23.3381958	59.1073086	82.2166705	141.3239791	-3.1031892	138.2207899
2034	8.7122190	24.1896316	10.6271725	34.8168041	22.7694409	57.5862450	80.1160316	137.7027766	-3.1027761	134.5995005
2035	8.9888020	25.0555905	10.9631679	36.0187584	23.6256646	59.6444230	83.0928162	142.7372392	-3.1036158	139.6336234

b) For the period 1968 through 1986, rates are for an interim facility.

c) 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)

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	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1963	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1964	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1965	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1966	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1967	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1968	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1969	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1970	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1971	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
1972	14.2519509	27.5431181	0.0000000	0.0000000	-2.3717647	25.1713534	1.4212193	14.7123865	0.0000000	0.0000000
1973	4.4326545	17.7262422	0.0000000	0.0000000	-8.4298618	9.2963804	1.0210537	14.3146414	0.0000000	0.0000000
1974	3.4431782	15.7742225	0.0000000	0.0000000	-5.1043660	10.6698565	0.9241725	13.2552168	0.0000000	0.0000000
1975	3.1739313	15.4642383	0.0000000	0.0000000	-5.6510611	9.8131772	0.9362286	13.2285356	0.0000000	0.0000000
1976	3.9391330	17.7995236	0.0000000	0.0000000	-6.4449941	11.3545295	0.8622774	14.7226680	0.0000000	0.0000000
1977	3.4988957	21.1608243	0.0000000	0.0000000	-11.6274558	9.5333685	0.9076172	18.5695458	0.0000000	0.0000000
1978	4.0960690	18.6401672	0.0000000	0.0000000	-8.1314274	10.5087398	0.9832242	15.5273224	0.0000000	0.0000000
1979	5.1788746	22.6959767	0.0000000	0.0000000	-9.5825772	13.1133995	0.9554252	18.4725273	0.0000000	0.0000000
1980	4.3391183	24.1130221	0.0000000	0.0000000	-8.3797007	15.7333214	1.7644202	21.5383240	0.0000000	0.0000000
1981	3.6985013	20.3335643	0.0000000	0.0000000	-4.3565125	15.9770518	1.3473156	17.9823786	0.0000000	0.0000000
1982	5.9985815	28.5771887	0.0000000	0.0000000	-8.9387068	19.6384819	1.6765250	24.2551322	-2.6978896	21.5572426
1983	11.6373104	73.4708601	0.0000000	0.0000000	-25.8707415	47.6001186	4.0146985	65.8482482	-10.0667631	55.7814851
1984	13.4938702	89.3219966	0.0000000	0.0000000	-30.1167081	59.2052885	5.9409710	81.7690974	-14.6628088	67.1062886
1985	14.0189213	90.6440040	0.0000000	0.0000000	-30.0618350	60.5821690	6.4430801	84.9048845	-14.7432423	70.1616422
1986	13.7962851	87.8581572	-1.4062006	86.4519566	-29.0979390	57.3540176	6.5816753	86.0785709	-14.9384680	71.1401029
1987	13.3094369	85.3476158	-4.3336049	81.0140109	-29.0123513	52.0016596	6.4940919	83.9082091	-15.1283270	68.7798821
1988	13.5366195	84.9941968	-4.5242420	80.4704548	-29.1933385	51.2791163	6.6343296	83.2158462	-14.5565901	68.6592561
1989	13.5618223	87.2918968	-4.6027080	82.6891888	-29.0057030	53.6834858	6.6565990	85.8197798	-15.4155153	70.4042645
1990	13.9461809	88.4551471	-4.9685210	83.4866261	-28.8103007	54.6763254	6.5402836	86.4804194	-14.6811993	71.7992201
1991	14.3711712	90.1687509	-5.7753113	84.3934396	-29.4735631	54.9198765	6.7038667	88.0022882	-14.8622562	73.1400320
1992	14.5225685	91.3679247	-5.9289924	85.4389323	-29.3474346	56.0914977	6.7817585	89.1151835	-14.8407205	74.2744630
1993	14.6197762	92.3986843	-5.7519682	86.6467161	-29.2694501	57.3772660	6.8402880	90.0937888	-14.9033537	75.1904351
1994	14.5922583	92.5342987	-5.8415397	86.6927590	-29.1564088	57.5363502	6.8428246	90.2490578	-14.8636679	75.3853899
1995	14.6505126	91.3671365	-5.9429135	85.4242230	-29.8409311	55.5832919	6.7333931	88.9922507	-14.8775485	74.1147022
1996	15.0824456	93.2248370	-6.2902823	86.9345547	-30.5636546	56.3709001	6.7685699	90.5687758	-14.9150023	75.6537735
1997	15.1019434	93.5955140	-6.2342294	87.3612846	-30.5636557	56.7976289	6.7764650	90.9289614	-14.8509662	76.0779952
1998	15.3463488	95.3806754	-6.2321873	89.1484881	-30.5629954	58.5854927	6.9173797	92.6106421	-14.8326312	77.7780109
1999	15.2882358	95.2039047	-6.5202173	88.6836874	-30.5637531	58.1199343	6.9452459	92.5201500	-14.8212730	77.6988770
2000	15.5777326	97.2772450	-6.2304301	91.0468149	-30.5628285	60.4839864	7.0779693	94.4363769	-14.8354821	79.6008948
2001	15.6834611	98.0961140	-6.1790239	91.9170901	-30.5623194	61.3547707	7.1391634	95.2097110	-14.7613839	80.4483271
2002	15.9442632	99.6454500	-6.1393342	93.5061158	-30.5598715	62.9462443	7.2392851	96.5955392	-14.6956398	81.8998994
2003	16.8275727	105.1801899	-6.5321704	98.6480195	-30.5582234	68.0897961	7.5882030	101.5952156	-13.3062073	88.2890083
2004	17.0518126	106.2571489	-6.2305332	100.0266157	-30.5565592	69.4700565	7.7073477	102.5653383	-13.2237768	89.3415615
2005	19.7428506	123.3044932	-6.4718557	116.8326375	-30.5545531	86.2780844	8.8118479	118.0247866	-13.3304556	104.6943310
2006	20.1544551	125.5524939	-6.5573902	118.9951037	-30.5544001	88.4407036	8.9268751	119.9753792	-13.2940223	106.6813569
2007	20.8213260	130.0858438	-6.3325661	123.7532777	-30.5554030	93.1978747	9.2003187	124.1178233	-13.3002070	110.8176163
2008	21.2128918	132.6400250	-6.2966145	126.3434105	-30.5558687	95.7875418	9.3608062	126.4411290	-13.2464417	113.1946873
2009	21.3289636	133.3576272	-6.3631292	126.9944980	-30.5565594	96.4379386	9.4070590	127.0888830	-13.1993610	113.8895220
2010	22.0170899	137.8090382	-6.4750720	131.3339662	-30.5573233	100.7766429	9.6818633	131.1293947	-13.1690417	117.9603530
2011	21.6891498	135.6703314	-6.2763697	129.3939617	-30.5571380	98.8368237	9.5507430	129.1856290	-13.1899517	115.9956773
2012	23.0185401	144.2638128	-6.8965284	137.3672844	-30.5589910	106.8082934	10.0767956	136.9790603	-13.1872884	123.7917719
2013	23.8495007	149.6140920	-6.2692205	143.3448715	-30.5586576	112.7862139	10.3887910	141.8103796	-13.0786924	128.7316872
2014	24.4754160	153.6505748	-6.1237798	147.5267950	-30.5588721	116.9679229	10.6240145	145.4559433	-13.0842682	132.3716751
2015	25.6160574	161.0276350	-6.5094128	154.5182222	-30.5584450	123.9597772	11.0789402	152.1469291	-13.0105571	139.1363720
2016	26.4599032	166.4804538	-6.3742933	160.1061605	-30.5596937	129.5464668	11.4159028	157.0948359	-13.0719901	144.0228458
2017	26.0803507	163.9831526	-6.4043325	157.5788201	-30.5591889	127.0196312	11.2642496	154.8245259	-13.0615880	141.7629379
2018	26.5649973	167.0665231	-6.4510314	160.6154917	-30.5598353	130.0556564	11.4579060	157.6186779	-13.0350428	144.5836351
2019	26.3054916	165.2804776	-6.1817484	159.0987292	-30.5596658	128.5390634	11.3542016	155.9878947	-12.9780283	143.0098664
2020	26.7997005	168.3456658	-6.1576209	162.1880449	-30.5593974	131.6286475	11.5514034	158.7563604	-12.9564297	145.7999307
2021	26.4085103	165.6204538	-6.4065824	159.2138714	-30.5595374	128.6543340	11.3951078	156.2655027	-13.0041143	143.2613884
2022	26.8089191	167.7746652	-6.4130815	161.3615837	-30.5598649	130.8017188	11.5551721	158.1807450	-12.9744372	145.2063078
2023	26.5056697	168.0234186	-6.2228917	161.8005269	-30.5595654	131.2409615	11.4340534	156.0544187	-12.9464235	143.1079952
2024	26.5396093	167.9702439	-6.4395853	161.5306586	-30.5595946	130.9710640	11.4475573	155.9808968	-12.9146507	143.0662461
2025	26.4912005	167.4930514	-6.3173090	161.1757424	-30.5596567	130.6160857	11.4284037	155.5337455	-13.0048218	142.5289237
2026	25.9392984	163.7922858	-2.1197413	161.6725445	-30.5595520	131.1129925	11.2080705	152.1639598	-12.9603154	139.2036444
2027	26.1540957	165.0808567	-2.1327889	162.9480678	-30.5597809	132.3882869	11.2938508	153.3239216	-12.8978987	140.4260229
2028	26.1610364	165.0559304	-2.1460820	162.9098484	-30.5597188	132.3501296	11.0863449	153.0844358	-12.9882819	140.0961539
2029	26.1775137	165.0468660	-2.1645092	162.8823568	-30.5595654	132.3227914	10.8841389	152.8566225	-12.9216004	139.9350221
2030	26.1763018	164.7903709	-2.1603131	162.6300578	-30.5598977	132.0701601	10.8212166	152.5387355	-12.9664023	139.5723332
2031	26.1524784	164.2833250	-2.1452200	162.1381050	-30.5595191	131.5785859	10.7494581	151.9833848	-12.9302374	139.0531474
2032	25.9560399	163.3782298	-2.1490849	161.2291449	-30.5597943	130.6693506	10.6310790	151.1566183	-12.9976353	138.1589830
2033	26.0483223	164.2691122	-2.1164579	162.1526543	-30.5597273	131.5929270	10.6280431	151.9520222	-12.8944865	139.0575357
2034	25.3107836	159.9102841	-2.1325737	157.7777104	-30.5595495	127.2181609	10.1893281	147.8916047	-12.9536921	134.9379126
2035	26.1399260	165.7735494	-2.2207942	163.5527552	-30.5595313	132.9932239	10.3772645	153.1145037	-12.9186616	140.1958421

OF TRANSPORTATION CHARGE [a]

(in dollars per acre-foot)

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	0.0000000	0.0000000	0.0000000	0.0000000	0	0
1963	0.0000000	0.0000000	0.0000000	0.0000000	0	0
1964	0.0000000	0.0000000	0.0000000	0.0000000	0	0
1965	0.0000000	0.0000000	0.0000000	0.0000000	0	0
1966	0.0000000	0.0000000	0.0000000	0.0000000	0	0
1967	0.0000000	0.0000000	0.0000000	0.0000000	0	0
1968	0.0000000	0.0000000	1.5014866	4.1182219	0	0
1969	0.0000000	0.0000000	1.2624065	3.0719381	0	0
1970	0.0000000	0.0000000	1.6309699	3.3588478	0	0
1971	0.0000000	0.0000000	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	-8.1050236	1.5544740	3.9204151	0	0
1978	-12.0403532	3.4869692	1.9052093	4.1181788	0	0
1979	-18.3116870	0.1608403	1.5303317	4.3196764	0	0
1980	-26.0364188	-4.4980948	1.5143878	3.8335761	0	0
1981	-14.1872705	3.7951081	1.4545894	4.1788280	0	0
1982	-9.6017795	11.9554631	2.4080563	5.1630131	0	0
1983	-22.3668526	33.4146325	5.1782615	11.6566822	0	0
1984	-29.6619308	37.4443578	5.4506984	14.2344804	0	0
1985	-27.1508134	43.0108288	5.4981410	14.4500955	0	0
1986	-26.9782735	44.1618294	5.5808518	14.7580883	0	0
1987	-26.8657748	41.9141073	5.4438105	14.3336641	0	0
1988	-25.7264489	42.9328072	5.4494224	14.2388677	0	0
1989	-26.9078402	43.4964243	5.4887491	14.5355285	0	0
1990	-25.5002617	46.2989584	5.6492605	15.0709373	0	0
1991	-26.3876725	46.7523595	5.7286363	15.1206846	0	0
1992	-26.1569892	48.1174738	5.8046202	15.3254401	0	0
1993	-26.0082329	49.1822022	5.8521744	15.4755744	0	0
1994	-25.9123027	49.4730872	5.8546885	15.5126186	0	0
1995	-25.8198164	48.2948858	5.7468794	15.2633008	0	0
1996	-25.7713486	49.8824249	5.7815285	15.4317850	0	0
1997	-25.6614542	50.4165410	5.7893450	15.5182493	0	0
1998	-25.6337366	52.1442743	5.8854201	15.8138841	0	0
1999	-25.6214333	52.0774437	5.8625561	15.8064972	0	0
2000	-25.5756749	54.0252199	5.9763739	16.1269845	0	0
2001	-25.5098299	54.9384972	6.0178404	16.2647607	0	0
2002	-25.4479521	56.4519473	6.0979060	16.4980992	0	0
2003	-25.2981557	62.9908526	6.4231781	17.3299242	0	0
2004	-25.2458783	64.0956832	6.4788694	17.4700328	0	0
2005	-25.2013890	79.4929420	7.5048934	20.1078209	0	0
2006	-25.1770926	81.5042643	7.6348880	20.4416797	0	0
2007	-25.1313053	85.6863110	7.9207709	21.1767700	0	0
2008	-25.1423131	88.0523742	8.0789271	21.5828476	0	0
2009	-25.0873838	88.8021382	8.1245434	21.7001392	0	0
2010	-25.0783385	92.8820145	8.3954625	22.3966865	0	0
2011	-25.0885778	90.9070995	8.2662023	22.0635281	0	0
2012	-25.0795652	98.7122067	8.7879974	23.4038459	0	0
2013	-25.0026877	103.7289995	9.1148309	24.2472142	0	0
2014	-25.0078317	107.3638434	9.3609296	24.8794972	0	0
2015	-24.9607402	114.1756318	9.8093231	26.0326098	0	0
2016	-24.9792268	119.0436190	10.1414637	26.8835112	0	0
2017	-24.9703937	116.7925442	9.9919837	26.4634878	0	0
2018	-24.9424013	119.6412338	10.1829394	26.8941690	0	0
2019	-24.9236121	118.0862543	10.0806744	26.5656824	0	0
2020	-24.9005300	120.8994007	10.2750644	27.0118667	0	0
2021	-24.9129434	118.3484450	10.1210627	26.5943624	0	0
2022	-24.9044916	120.3018162	10.2787914	26.8972564	0	0
2023	-24.9128273	118.1951679	10.1594249	26.5118889	0	0
2024	-24.8902211	118.1760250	10.1727018	26.4686358	0	0
2025	-24.9251377	117.6037860	10.1538669	26.4199743	0	0
2026	-24.9056759	114.2979685	9.9366548	25.8555200	0	0
2027	-24.8881167	115.5379062	10.0212653	26.0644334	0	0
2028	-24.9157947	115.1803592	10.0239049	26.0349750	0	0
2029	-24.8919602	115.0430619	10.0303598	26.0172899	0	0
2030	-24.9164456	114.6558876	10.0300298	25.9397389	0	0
2031	-24.8933690	114.1597784	10.0205171	25.8392019	0	0
2032	-24.9196574	113.2393256	9.9982201	25.7061996	0	0
2033	-24.8809811	114.1765546	10.0888905	25.9389497	0	0
2034	-24.9123186	110.0255940	9.8507245	25.3281371	0	0
2035	-24.8809125	115.3149296	10.2285418	26.2953303	0	0

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	22,635	0	22,635	82,578	123,044	497,792	703,414	0	0	0
1978	21,723	0	21,723	76,194	40,671	664,047	780,912	0	0	0
1979	16,246	0	16,246	136,733	76,938	650,879	864,550	0	0	0
1980	19,970	0	19,970	100,675	66,161	527,663	694,499	0	0	0
1981	21,692	0	21,692	120,737	135,079	542,366	798,182	0	0	0
1982	12,385	0	12,385	104,554	50,321	695,226	850,101	0	0	0
1983	15,204	0	15,204	408,081	410,681	1,611,592	2,430,354	0	0	0
1984	15,000	0	15,000	565,588	643,901	1,914,300	3,123,789	0	0	0
1985	18,231	0	18,231	593,616	677,161	1,934,746	3,205,523	0	0	0
1986	39,064	0	39,064	627,457	717,093	1,972,006	3,316,556	0	0	0
1987	53,121	52,423	105,544	629,725	723,098	1,910,891	3,263,714	0	0	0
1988	57,543	60,236	117,779	649,162	746,536	1,904,210	3,299,908	0	0	0
1989	76,131	114,326	190,457	680,703	783,906	1,976,236	3,440,845	0	0	0
1990	85,942	140,279	226,221	728,148	839,645	2,093,425	3,661,218	0	0	0
1991	100,259	142,427	242,686	779,596	880,485	2,155,352	3,815,433	189,009	343,889	532,898
1992	114,925	144,223	259,148	837,769	928,528	2,234,052	4,000,349	383,137	697,093	1,080,230
1993	129,064	145,363	274,427	891,703	971,488	2,299,655	4,162,846	386,889	703,922	1,090,811
1994	142,405	145,385	287,790	940,196	987,206	2,350,492	4,277,894	387,815	705,606	1,093,421
1995	153,997	147,142	301,139	969,921	969,921	2,309,338	4,249,180	381,583	694,267	1,075,850
1996	167,789	148,037	315,826	1,024,451	977,885	2,328,296	4,330,632	385,794	701,931	1,087,725
1997	181,694	151,019	332,713	1,073,048	979,740	2,332,713	4,385,501	387,956	705,863	1,093,819
1998	197,926	153,578	351,504	1,090,638	995,800	2,370,953	4,457,391	395,348	719,310	1,114,658
1999	210,061	153,003	363,064	1,086,491	992,014	2,361,936	4,440,441	395,163	718,974	1,114,137
2000	227,410	155,962	383,372	1,107,465	1,011,163	2,407,532	4,526,160	403,174	733,552	1,136,726
2001	238,008	157,028	395,036	1,115,231	1,018,255	2,424,417	4,557,903	406,619	739,818	1,146,437
2002	250,799	159,101	409,900	1,130,091	1,031,822	2,456,720	4,618,633	412,453	750,432	1,162,885
2003	273,805	167,571	441,376	1,189,574	1,086,133	2,586,029	4,861,736	433,248	788,270	1,221,518
2004	288,162	173,342	461,504	1,199,644	1,095,327	2,607,922	4,902,893	436,751	794,642	1,231,393
2005	347,527	205,837	553,364	1,387,705	1,267,034	3,016,751	5,671,490	502,695	914,625	1,417,320
2006	356,793	209,301	566,094	1,411,518	1,288,778	3,068,519	5,768,815	511,042	929,810	1,440,852
2007	373,823	217,191	591,014	1,463,911	1,336,614	3,182,416	5,982,941	529,419	963,246	1,492,665
2008	384,698	221,618	606,316	1,492,884	1,363,067	3,245,400	6,101,351	539,571	981,717	1,521,288
2009	390,383	222,764	613,147	1,501,240	1,370,697	3,263,565	6,135,502	542,504	987,053	1,529,557
2010	406,887	230,165	637,052	1,550,889	1,416,029	3,371,498	6,338,416	559,918	1,018,736	1,578,654
2011	408,065	226,646	634,711	1,527,163	1,394,366	3,319,919	6,241,448	551,588	1,003,581	1,555,169
2012	433,825	240,952	674,777	1,622,744	1,481,636	3,527,705	6,632,085	585,096	1,064,548	1,649,644
2013	449,959	249,913	699,872	1,682,783	1,536,454	3,658,223	6,877,460	606,180	1,102,908	1,709,088
2014	462,108	256,661	718,769	1,727,879	1,577,629	3,756,260	7,061,768	621,987	1,131,668	1,753,655
2015	489,098	268,921	758,019	1,810,078	1,652,680	3,934,951	7,397,709	650,815	1,184,119	1,834,934
2016	505,659	278,027	783,686	1,870,817	1,708,137	4,066,993	7,645,947	672,088	1,222,824	1,894,912
2017	547,199	273,901	821,100	1,843,516	1,683,210	4,007,644	7,534,370	661,587	1,203,718	1,865,305
2018	566,706	279,211	845,917	1,877,544	1,714,280	4,081,619	7,673,443	672,354	1,223,308	1,895,662
2019	571,420	278,514	849,934	1,857,665	1,696,129	4,038,401	7,592,195	664,142	1,208,367	1,872,509
2020	591,632	283,900	875,532	1,891,914	1,727,401	4,112,858	7,732,173	675,297	1,228,662	1,903,959
2021	582,764	279,646	862,410	1,863,809	1,701,738	4,051,758	7,617,305	664,860	1,209,671	1,874,531
2022	591,846	284,004	875,850	1,892,664	1,728,084	4,114,487	7,735,235	672,432	1,223,449	1,895,881
2023	584,973	280,706	865,679	1,870,746	1,708,072	4,066,836	7,645,654	662,798	1,205,920	1,868,718
2024	585,737	281,072	866,809	1,873,189	1,710,303	4,072,150	7,655,642	661,716	1,203,952	1,865,668
2025	584,653	280,551	865,204	1,869,725	1,707,139	4,064,619	7,641,483	660,500	1,201,739	1,862,239
2026	572,147	274,550	846,697	1,829,634	1,670,535	3,977,466	7,477,635	646,388	1,176,065	1,822,453
2027	577,018	276,889	853,907	1,844,743	1,684,330	4,010,310	7,539,383	651,611	1,185,567	1,837,178
2028	577,170	276,961	854,131	1,843,563	1,683,253	4,007,746	7,534,562	650,875	1,184,227	1,835,102
2029	577,542	277,140	854,682	1,843,168	1,682,893	4,006,887	7,532,948	650,432	1,183,423	1,833,855
2030	577,523	277,130	854,653	1,841,517	1,681,385	4,003,297	7,526,199	648,494	1,179,895	1,828,389
2031	576,975	276,868	853,843	1,838,196	1,678,353	3,996,080	7,512,629	645,981	1,175,322	1,821,303
2032	575,691	276,252	851,943	1,832,547	1,673,195	3,983,798	7,489,540	642,656	1,169,272	1,811,928
2033	580,911	278,757	859,668	1,849,144	1,688,349	4,019,878	7,557,371	648,474	1,179,859	1,828,333
2034	567,198	272,176	839,374	1,805,566	1,648,560	3,925,142	7,379,268	633,204	1,152,075	1,785,279
2035	588,953	282,616	871,569	1,874,617	1,711,607	4,075,255	7,661,479	657,384	1,196,069	1,853,453
TOTAL	19,259,812	10,629,285	29,889,097	74,636,590	70,302,685	174,618,695	319,557,970	24,729,027	44,992,964	69,721,991

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	Future Contractor San Joaquin Valley	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	0	0	321,387	181	3,338	17,956	430,364
1970	39,429	69,819	6,811	0	0	470,866	0	5,595	16,550	609,070
1971	34,872	53,097	7,747	0	0	769,054	4,785	6,353	158,419	1,034,327
1972	44,601	61,907	8,452	0	0	1,123,600	2,042	7,375	376,900	1,624,877
1973	28,247	33,931	4,615	0	0	764,825	2,308	3,017	77,630	914,573
1974	28,096	49,114	4,413	0	46,752	671,406	2,207	3,114	106,332	911,434
1975	27,760	63,122	4,670	0	34,574	842,482	2,490	3,920	134,257	1,113,275
1976	38,108	70,851	5,131	0	94,653	965,096	2,737	4,910	100,597	1,282,083
1977	19,896	26,387	1,746	0	84,310	488,473	3,620	2,602	42,779	669,813
1978	46,791	116,601	1,005	0	205,193	1,718,276	4,624	6,727	26,673	2,125,890
1979	82,670	107,513	4,851	0	193,349	2,361,041	5,579	13,099	432,686	3,200,788
1980	53,218	95,086	2,073	0	129,121	1,828,173	5,103	8,406	174,969	2,296,149
1981	53,071	111,694	15,961	0	224,452	2,084,866	6,266	8,598	227,305	2,732,213
1982	65,570	112,953	994	0	151,892	2,582,881	4,821	6,956	51,107	2,977,174
1983	132,012	277,924	21,379	0	583,156	6,299,640	22,999	17,370	29,684	7,384,164
1984	180,778	396,149	26,352	0	757,295	9,183,539	27,229	27,969	778,243	11,377,554
1985	183,516	422,532	26,856	0	817,897	9,940,633	30,437	29,408	831,636	12,282,915
1986	187,428	452,438	27,532	0	1,014,922	10,612,302	33,956	31,561	892,028	13,252,167
1987	182,037	456,939	26,669	0	1,029,553	10,855,256	35,559	31,048	901,431	13,518,492
1988	180,834	470,235	26,368	0	1,039,397	11,245,596	35,158	31,741	928,166	13,957,495
1989	184,601	503,001	27,141	0	1,537,795	12,131,325	36,187	34,055	994,241	15,448,346
1990	191,401	543,630	28,265	0	1,674,704	12,989,961	37,687	36,558	1,116,469	16,618,675
1991	192,033	541,921	28,176	0	1,681,473	13,015,755	37,568	36,091	1,112,957	16,645,974
1992	194,633	549,351	28,563	0	1,703,524	13,188,542	38,083	36,546	1,128,217	16,867,459
1993	196,540	555,270	28,870	0	1,721,287	13,324,273	38,494	36,893	1,140,373	17,042,000
1994	197,010	557,262	28,973	0	1,725,992	13,361,728	38,632	36,973	1,144,465	17,091,035
1995	193,843	549,097	28,549	0	1,701,151	13,164,169	38,066	36,366	1,127,696	16,838,937
1996	195,984	556,820	28,950	0	1,728,104	13,358,058	38,601	36,821	1,143,555	17,086,893
1997	197,083	561,358	29,187	0	1,740,608	13,455,236	38,916	36,892	1,152,875	17,212,155
1998	200,837	572,873	29,786	0	1,775,455	13,722,957	39,714	37,477	1,176,523	17,555,622
1999	200,742	573,766	29,832	0	1,777,385	13,736,024	39,775	37,343	1,178,357	17,573,224
2000	204,812	585,690	30,452	0	1,815,661	14,024,959	40,603	38,053	1,202,847	17,943,077
2001	206,563	591,247	30,741	0	1,832,824	14,159,361	40,987	38,327	1,214,260	18,114,310
2002	209,526	600,091	31,201	0	1,861,216	14,376,694	41,601	38,840	1,232,423	18,391,592
2003	220,089	629,319	32,720	0	1,954,243	15,094,618	43,627	40,813	1,292,450	19,307,879
2004	221,869	634,190	32,974	0	1,971,078	15,224,571	43,965	41,136	1,302,453	19,472,236
2005	255,369	727,189	37,809	0	2,262,707	17,478,775	50,412	47,413	1,493,447	22,353,121
2006	259,609	738,952	38,421	0	2,300,566	17,771,954	51,227	48,206	1,517,605	22,726,540
2007	268,945	764,871	39,768	0	2,379,809	18,385,185	53,024	49,954	1,570,836	23,512,392
2008	274,101	779,177	40,512	0	2,424,316	18,730,141	54,015	50,920	1,600,215	23,953,397
2009	275,593	783,312	40,726	0	2,437,153	18,829,871	54,303	51,198	1,608,708	24,080,864
2010	284,438	807,871	42,003	0	2,513,774	19,422,150	56,005	52,855	1,659,145	24,838,241
2011	280,207	796,106	41,392	0	2,477,087	19,138,711	55,189	52,060	1,634,983	24,475,735
2012	297,229	843,334	43,847	0	2,624,544	20,278,169	58,463	55,245	1,731,978	25,932,809
2013	307,939	873,139	45,397	0	2,717,288	20,995,847	60,530	57,260	1,793,188	26,850,588
2014	315,970	895,421	46,556	0	2,786,816	21,533,395	62,074	58,765	1,838,950	27,537,947
2015	330,614	936,084	48,670	0	2,913,667	22,513,936	64,893	61,509	1,922,459	28,791,832
2016	341,421	966,016	50,226	0	3,007,231	23,236,899	66,968	63,524	1,983,933	29,716,218
2017	336,086	950,406	49,414	0	2,960,674	22,873,201	65,886	62,621	1,951,874	29,250,162
2018	341,556	964,238	50,134	0	3,007,482	23,228,343	66,845	63,669	1,980,281	29,702,548
2019	337,384	951,185	49,455	0	2,970,092	22,935,491	65,940	62,903	1,953,473	29,325,923
2020	343,051	965,713	50,210	0	3,017,947	23,303,521	66,948	63,921	1,983,311	29,794,622
2021	337,748	950,509	49,420	0	2,969,370	22,928,259	65,893	62,994	1,952,086	29,316,279
2022	341,596	958,886	49,856	0	2,997,219	23,145,388	66,473	63,952	1,969,289	29,592,659
2023	336,701	943,537	49,058	0	2,951,324	22,797,210	65,409	63,217	1,937,767	29,144,223
2024	336,152	940,275	48,888	0	2,943,228	22,740,168	65,183	63,299	1,931,068	29,068,261
2025	335,534	938,554	48,798	0	2,935,354	22,692,749	65,065	63,182	1,927,533	29,006,769
2026	328,366	918,518	47,756	0	2,871,498	22,207,667	63,676	61,819	1,886,386	28,385,686
2027	331,019	925,690	48,130	0	2,892,766	22,379,764	64,172	62,287	1,901,115	28,604,943
2028	330,644	923,838	48,033	0	2,888,380	22,339,300	64,044	62,097	1,897,312	28,553,648
2029	330,420	922,446	47,961	0	2,884,480	22,304,628	63,947	61,941	1,894,452	28,510,275
2030	329,434	917,990	47,729	0	2,873,410	22,211,346	63,639	61,742	1,885,301	28,390,591
2031	328,159	912,739	47,456	0	2,859,101	22,092,480	63,275	61,489	1,874,514	28,239,213
2032	326,468	906,350	47,124	0	2,840,592	21,943,643	62,832	61,158	1,861,396	28,049,563
2033	329,425	914,548	47,550	0	2,862,779	22,119,782	63,401	61,710	1,878,232	28,277,427
2034	321,667	893,047	46,432	0	2,792,521	21,579,257	61,910	60,263	1,834,074	27,589,171
2035	333,950	927,054	48,201	0	2,896,009	22,379,614	64,267	62,549	1,903,915	28,615,559
TOTAL	14,704,322	40,315,925	2,140,214	0	120,868,200	960,415,390	2,782,870	2,692,773	81,790,015	1,225,709,709

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	197,849	0	0	23,468	0	1,960	1,693	0	236,741	85,762
1978	644,256	0	187,967	22,536	285,195	3,024	0	0	42,612	81,664
1979	1,059,662	3	228,390	28,596	340,439	2,330	90,782	0	237	3,803
1980	1,431,768	-5,442	262,446	29,876	409,922	3,776	96,451	0	0	17,070
1981	1,320,407	21,863	246,137	30,195	386,339	21,125	81,334	0	255,969	57,820
1982	1,135,502	113,767	380,821	35,377	600,120	0	300,061	0	165,140	247,425
1983	2,497,705	354,196	1,068,781	118,214	1,689,830	92,751	0	0	416,882	669,257
1984	2,175,813	441,844	1,408,430	165,246	2,233,050	122,083	0	0	691,517	947,286
1985	2,156,230	559,141	1,539,951	181,289	2,447,390	132,561	9,064	0	1,745,978	969,316
1986	2,107,505	640,346	1,599,896	181,550	2,547,887	136,275	26,357	62,953	1,939,713	917,665
1987	1,934,802	658,050	1,658,389	186,333	2,688,450	141,194	25,604	342,181	1,758,695	832,026
1988	1,917,720	729,858	1,755,310	197,154	2,889,821	147,920	25,497	407,310	1,734,260	820,467
1989	2,027,577	782,937	1,909,335	212,925	3,186,154	161,470	4,233,656	505,050	5,207,298	993,143
1990	2,123,506	879,679	2,043,315	225,413	3,370,140	171,371	4,493,521	596,073	5,549,646	1,011,510
1991	2,258,768	949,073	2,082,900	237,991	3,435,430	174,334	4,580,572	667,019	5,634,779	1,031,395
1992	2,389,891	1,087,455	2,110,599	251,190	3,481,119	176,744	4,641,491	737,716	5,754,988	1,069,104
1993	2,520,038	1,175,455	2,134,410	265,140	3,520,389	178,891	4,693,853	808,900	5,886,908	1,109,676
1994	2,626,648	1,197,248	2,137,541	275,683	3,525,555	179,267	4,700,742	872,952	5,903,229	1,128,865
1995	2,685,082	1,231,521	2,110,581	281,901	3,481,088	176,449	4,641,451	920,599	5,702,846	2,212,214
1996	2,891,269	1,336,850	2,153,493	297,317	3,551,866	179,727	4,735,821	984,595	5,783,654	1,138,690
1997	3,061,250	1,416,705	2,162,057	309,260	3,565,989	180,534	4,754,653	1,036,115	5,827,437	1,164,351
1998	3,281,408	1,533,042	2,203,294	326,283	3,634,005	184,079	4,845,338	1,104,473	6,010,872	1,218,579
1999	3,436,374	1,598,777	2,199,210	335,226	3,627,269	183,806	4,836,357	1,150,785	5,963,106	1,226,329
2000	3,676,477	1,728,807	2,247,105	355,082	3,706,263	187,909	4,941,684	1,225,494	6,205,658	1,294,357
2001	3,914,601	1,812,969	2,266,022	370,426	3,737,463	189,549	4,983,284	1,252,672	6,294,999	1,332,626
2002	4,185,059	1,919,367	2,301,809	388,986	3,796,491	192,512	5,061,989	1,288,999	6,458,284	1,387,335
2003	4,638,513	2,204,680	2,429,660	423,200	4,007,365	203,211	5,343,153	1,378,301	6,986,012	1,522,488
2004	4,906,294	2,307,445	2,454,540	442,118	4,048,397	205,174	5,397,863	1,409,445	7,127,629	1,575,581
2005	5,954,795	2,941,238	2,848,334	531,589	4,697,901	238,191	6,263,869	1,662,164	8,852,130	1,984,395
2006	6,376,581	3,089,012	2,900,262	556,898	4,783,550	242,415	6,378,067	1,717,987	9,074,017	2,065,974
2007	6,938,296	3,324,629	3,004,984	595,255	4,956,270	251,309	6,608,360	1,808,327	9,562,103	2,210,654
2008	7,409,905	3,495,679	3,063,984	624,137	5,053,583	256,281	6,738,114	1,871,976	9,827,803	2,306,565
2009	7,785,993	3,605,367	3,080,561	643,862	5,080,927	257,666	6,774,567	1,910,088	9,894,532	2,356,943
2010	8,394,915	3,854,602	3,183,390	682,937	5,250,524	266,320	7,000,698	2,003,200	10,339,683	2,499,261
2011	8,662,570	3,772,646	3,133,985	688,375	5,169,040	262,157	6,892,052	1,971,874	10,140,658	2,488,712
2012	9,638,998	4,096,556	3,332,494	747,279	5,496,450	278,865	7,328,601	2,097,543	10,958,531	2,730,020
2013	10,438,460	4,304,753	3,456,085	796,997	5,700,298	289,259	7,600,395	2,175,728	11,571,866	2,925,673
2014	11,173,650	4,455,601	3,549,329	837,953	5,854,087	297,102	7,805,450	2,234,731	12,000,909	3,078,595
2015	12,187,042	4,738,288	3,719,739	896,206	6,135,154	311,446	8,180,204	2,342,619	12,718,273	3,309,728
2016	13,161,931	4,940,310	3,845,698	928,614	6,342,905	322,047	8,457,207	2,422,356	13,291,467	3,513,301
2017	13,514,475	4,846,890	3,788,010	913,958	6,247,757	317,176	8,330,343	2,385,718	13,032,215	3,498,121
2018	14,331,157	4,965,112	3,859,236	931,569	6,365,235	323,154	8,486,979	2,430,675	13,343,709	3,636,355
2019	14,731,349	4,900,580	3,817,980	922,771	6,297,186	319,642	8,396,248	2,404,267	13,188,108	3,647,941
2020	15,570,057	5,017,326	3,888,784	940,690	6,413,971	325,556	8,551,960	2,448,746	13,505,099	3,790,905
2021	15,911,925	4,911,460	3,825,834	923,441	6,310,140	320,186	8,413,519	2,408,366	13,199,935	3,705,244
2022	16,718,537	4,992,526	3,875,595	935,898	6,392,215	324,220	8,522,953	2,438,707	13,420,256	3,767,089
2023	17,392,531	4,905,099	3,881,341	938,444	6,401,692	325,490	8,535,590	2,448,257	13,465,324	3,779,740
2024	17,989,976	4,904,306	3,880,112	936,878	6,399,665	325,291	8,532,889	2,446,749	13,437,632	3,771,967
2025	18,682,744	4,880,557	3,869,088	934,821	6,381,484	324,304	8,508,646	2,439,334	13,401,211	3,761,744
2026	18,679,080	4,743,364	3,783,602	937,702	6,240,486	317,063	8,320,648	2,384,858	13,452,192	3,776,054
2027	19,227,465	4,794,823	3,813,369	945,100	6,289,581	319,531	8,386,107	2,403,432	13,583,036	3,812,783
2028	19,223,053	4,779,984	3,812,793	944,877	6,288,630	319,459	8,384,842	2,402,883	13,579,123	3,811,684
2029	19,219,519	4,774,288	3,812,583	944,719	6,288,286	319,400	8,384,381	2,402,440	13,576,319	3,810,897
2030	19,184,188	4,758,219	3,806,657	943,255	6,278,513	318,811	8,371,351	2,398,023	13,550,398	3,803,620
2031	19,117,309	4,737,632	3,794,944	940,401	6,259,194	317,702	8,345,593	2,389,663	13,499,962	3,789,463
2032	19,019,231	4,699,432	3,774,039	935,129	6,224,710	316,071	8,299,613	2,377,405	13,406,675	3,763,278
2033	19,129,757	4,738,328	3,794,616	940,486	6,258,654	317,907	8,344,871	2,391,219	13,501,434	3,789,876
2034	18,628,572	4,566,063	3,693,927	915,112	6,092,583	309,579	8,123,442	2,328,570	13,052,583	3,663,885
2035	19,325,294	4,785,569	3,829,367	948,606	6,315,972	321,156	8,421,296	2,415,662	13,645,105	3,830,204
TOTAL	513,422,224	164,995,875	157,450,402	32,562,094	259,161,047	13,112,614	323,232,863	86,715,199	489,143,502	128,875,419

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	3,886,921	0	4,473,150	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	-350,764	0	196,709	0	0	0	0	0	1,592,571
1978	0	3,925,760	0	5,193,014	0	0	0	0	0	8,121,539
1979	0	4,130,117	0	5,884,359	0	0	0	0	0	9,965,943
1980	0	4,799,638	0	7,045,505	0	0	0	0	0	10,056,123
1981	0	9,199,241	0	11,620,430	0	0	0	0	0	15,172,517
1982	0	10,578,551	0	13,556,764	0	0	0	0	0	17,396,424
1983	0	26,153,257	0	33,060,873	0	0	0	0	0	42,890,595
1984	0	27,230,495	0	35,415,764	0	0	0	0	0	49,932,107
1985	0	62,968,505	0	72,709,425	0	0	0	0	0	88,216,094
1986	0	61,747,157	0	71,907,304	0	0	0	0	0	88,515,091
1987	0	57,418,920	0	67,644,644	0	0	0	0	0	84,532,394
1988	0	58,301,153	49,363	68,975,833	0	0	0	0	0	86,351,015
1989	579,781	59,888,511	100,445	79,788,282	0	0	0	0	0	98,867,930
1990	645,179	63,835,603	158,021	85,102,977	0	0	0	0	0	105,609,091
1991	708,465	68,209,525	213,397	90,183,648	0	0	0	0	0	111,420,639
1992	785,280	71,117,389	273,283	93,876,249	0	0	0	0	0	116,083,435
1993	866,398	74,018,769	334,107	97,512,934	0	0	0	0	0	120,083,018
1994	932,089	75,577,973	447,611	99,505,403	0	0	0	0	0	122,255,543
1995	961,592	74,490,229	547,499	99,443,052	0	0	0	0	0	121,908,158
1996	975,218	77,526,288	732,228	102,287,016	0	0	0	0	0	125,108,092
1997	982,600	79,572,981	909,311	104,943,243	0	0	0	0	0	127,967,431
1998	1,013,529	83,623,769	1,171,054	110,149,725	0	0	0	0	0	133,628,900
1999	1,005,473	84,581,095	1,169,656	111,313,463	0	0	0	0	0	134,804,329
2000	1,046,373	89,382,951	1,208,382	117,206,542	0	0	0	0	0	141,195,877
2001	1,061,437	91,943,907	1,226,319	120,386,274	0	0	0	0	0	144,599,960
2002	1,088,970	95,623,490	1,256,279	124,949,570	0	0	0	0	0	149,532,580
2003	1,177,953	106,942,702	1,386,308	138,643,546	0	0	0	0	0	164,476,055
2004	1,201,832	110,353,374	1,408,142	142,837,834	0	0	0	0	0	168,905,860
2005	1,492,610	139,146,831	1,715,867	178,329,914	0	0	0	0	0	208,325,209
2006	1,530,024	144,564,365	1,755,971	185,035,123	0	0	0	0	0	215,537,424
2007	1,612,325	154,182,901	1,839,382	196,894,795	0	0	0	0	0	228,473,807
2008	1,657,125	160,520,496	1,886,759	204,712,407	0	0	0	0	0	236,894,759
2009	1,668,376	163,832,950	1,901,479	208,793,311	0	0	0	0	0	241,152,381
2010	1,743,435	173,519,416	1,983,032	220,721,413	0	0	0	0	0	254,113,776
2011	1,709,877	171,685,190	1,943,584	218,520,720	0	0	0	0	0	251,427,783
2012	1,847,783	188,207,043	2,099,642	238,859,805	0	0	0	0	0	273,749,120
2013	1,951,201	200,274,278	2,199,594	253,684,587	0	0	0	0	0	289,821,595
2014	2,023,547	209,613,445	2,272,316	265,196,715	0	0	0	0	0	302,268,854
2015	2,144,503	225,002,826	2,408,317	284,094,345	0	0	0	0	0	322,876,839
2016	2,241,154	236,624,916	2,505,769	298,597,675	0	0	0	0	0	338,638,438
2017	2,197,439	233,767,998	2,460,704	295,300,804	0	0	0	0	0	334,771,741
2018	2,249,961	241,234,850	2,517,535	304,675,527	0	0	0	0	0	344,793,097
2019	2,223,726	239,920,180	2,486,342	303,256,320	0	0	0	0	0	342,896,881
2020	2,277,176	247,502,995	2,542,490	312,775,755	0	0	0	0	0	353,082,041
2021	2,225,719	242,097,623	2,491,533	306,744,925	0	0	0	0	0	346,415,450
2022	2,262,869	246,145,048	2,530,559	312,326,472	0	0	0	0	0	352,426,097
2023	2,270,469	243,475,996	2,488,468	310,308,441	0	0	0	0	0	349,832,715
2024	2,265,798	243,270,893	2,487,972	310,650,128	0	0	0	0	0	350,106,508
2025	2,259,661	242,260,166	2,476,702	310,180,462	0	0	0	0	0	349,556,157
2026	2,268,256	238,192,774	2,410,488	305,506,567	0	0	0	0	0	344,039,038
2027	2,290,317	240,707,722	2,435,199	309,008,465	0	0	0	0	0	347,843,876
2028	2,289,659	240,183,010	2,428,187	308,448,184	0	0	0	0	0	347,225,627
2029	2,289,185	239,972,952	2,425,322	308,220,291	0	0	0	0	0	346,952,051
2030	2,284,814	239,276,669	2,417,700	307,392,218	0	0	0	0	0	345,992,050
2031	2,276,309	238,282,467	2,407,661	306,158,300	0	0	0	0	0	344,585,288
2032	2,260,581	236,437,579	2,389,385	303,903,128	0	0	0	0	0	342,106,102
2033	2,276,557	238,316,469	2,407,935	306,208,109	0	0	0	0	0	344,730,908
2034	2,200,873	229,828,975	2,325,074	295,729,238	0	0	0	0	0	333,322,330
2035	2,300,783	240,760,107	2,430,701	309,329,822	0	0	0	0	0	348,331,882
TOTAL	79,624,281	8,374,774,767	83,663,074	10,706,733,361	0	0	0	0	0	12,351,612,128

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	153,228	189,353	457,015	799,596	0	0	0
1964	0	0	0	174,022	267,277	633,956	1,075,255	9,104	18,026	27,130
1965	0	0	0	249,751	369,761	1,178,086	1,797,598	14,995	29,064	44,059
1966	19,499	0	19,499	276,276	380,613	1,436,434	2,093,323	24,480	46,774	71,254
1967	43,804	0	43,804	352,235	459,522	1,709,264	2,521,021	43,170	81,429	124,599
1968	132,716	0	132,716	398,205	560,566	2,013,442	2,972,213	69,576	130,327	199,903
1969	260,066	0	260,066	453,994	496,369	2,113,512	3,063,875	124,729	232,211	356,940
1970	283,326	0	283,326	468,031	488,072	2,233,805	3,189,908	137,859	256,524	394,383
1971	233,639	0	233,639	429,010	507,454	2,201,075	3,137,539	139,087	258,872	397,959
1972	231,303	0	231,303	515,169	633,679	2,351,684	3,500,532	143,725	267,546	411,271
1973	227,528	28,577	256,105	479,696	504,511	2,369,951	3,354,158	142,412	265,175	407,587
1974	247,111	30,062	277,173	503,039	519,640	2,537,730	3,560,409	143,772	267,733	411,505
1975	244,618	33,105	277,723	551,416	560,458	2,441,368	3,553,242	160,427	298,503	458,930
1976	279,068	37,357	316,425	641,731	689,544	2,531,995	3,863,270	272,946	506,293	779,239
1977	303,137	41,347	344,484	605,058	668,278	2,508,111	3,781,447	283,804	526,781	810,585
1978	285,434	44,929	330,363	666,379	653,309	2,841,826	4,161,514	294,641	546,941	841,582
1979	299,115	48,487	347,602	721,893	690,375	2,842,679	4,254,947	290,427	539,283	829,710
1980	329,984	61,098	391,082	839,813	821,014	3,067,018	4,727,845	318,299	590,839	909,138
1981	367,330	76,303	443,633	794,807	826,568	2,921,407	4,542,782	335,822	623,260	959,082
1982	451,793	91,871	543,664	840,748	802,224	3,303,750	4,946,722	337,662	626,769	964,431
1983	460,244	127,098	587,342	1,493,725	1,500,246	5,299,552	8,293,523	405,484	751,929	1,157,413
1984	570,493	226,761	797,254	1,969,854	2,090,614	6,443,862	10,504,330	420,658	779,928	1,200,586
1985	850,556	460,385	1,310,941	2,178,067	2,316,555	6,854,467	11,349,089	413,744	767,174	1,180,918
1986	1,390,052	1,095,083	2,485,135	2,266,865	2,430,888	7,058,216	11,755,969	409,849	759,992	1,169,841
1987	2,033,887	2,090,875	4,124,762	2,364,150	2,573,076	7,214,880	12,152,106	415,082	769,650	1,184,732
1988	2,079,197	2,140,437	4,219,634	2,410,113	2,627,377	7,218,246	12,255,736	422,806	783,900	1,206,706
1989	2,120,385	2,255,230	4,375,615	2,409,626	2,626,153	7,175,522	12,211,301	429,706	796,635	1,226,341
1990	2,136,270	2,301,259	4,437,529	2,457,060	2,687,721	7,274,219	12,419,000	436,529	809,222	1,245,751
1991	2,160,548	2,299,012	4,459,560	2,526,130	2,732,583	7,315,447	12,574,160	786,159	1,445,475	2,231,634
1992	2,180,653	2,296,181	4,476,834	2,596,773	2,781,463	7,367,304	12,745,540	1,144,196	2,099,930	3,244,126
1993	2,204,859	2,295,691	4,500,550	2,679,387	2,826,284	7,448,188	12,953,859	1,144,201	2,099,953	3,244,154
1994	2,227,442	2,292,906	4,520,348	2,749,665	2,825,893	7,497,633	13,073,191	1,138,520	2,089,621	3,228,141
1995	2,249,163	2,292,976	4,542,139	2,804,648	2,797,360	7,429,688	13,031,696	1,127,306	2,069,199	3,196,505
1996	2,271,865	2,292,335	4,564,200	2,884,575	2,795,739	7,425,542	13,105,856	1,127,792	2,070,109	3,197,901
1997	2,294,970	2,294,200	4,589,170	2,959,577	2,789,727	7,411,235	13,160,539	1,126,919	2,068,518	3,195,437
1998	2,318,005	2,293,607	4,611,612	2,955,977	2,786,441	7,403,423	13,145,841	1,126,923	2,068,570	3,195,493
1999	2,337,817	2,290,957	4,628,774	2,937,837	2,769,877	7,363,983	13,071,697	1,121,774	2,059,205	3,180,979
2000	2,360,190	2,290,251	4,650,441	2,934,418	2,766,756	7,356,559	13,057,733	1,121,408	2,058,587	3,179,995
2001	2,374,892	2,289,499	4,664,391	2,930,034	2,762,754	7,347,034	13,039,822	1,120,680	2,057,277	3,177,957
2002	2,389,882	2,288,521	4,678,403	2,925,859	2,758,944	7,337,969	13,022,772	1,120,048	2,056,185	3,176,233
2003	2,416,241	2,295,135	4,711,376	2,997,815	2,826,020	7,506,552	13,330,387	1,136,768	2,086,734	3,223,502
2004	2,440,555	2,305,784	4,746,339	2,990,935	2,819,815	7,492,250	13,303,000	1,135,831	2,085,131	3,220,962
2005	2,503,981	2,337,367	4,841,348	3,169,521	2,982,885	7,880,605	14,033,011	1,199,349	2,201,146	3,400,495
2006	2,509,836	2,337,746	4,847,582	3,173,422	2,986,450	7,889,096	14,048,968	1,206,845	2,215,057	3,421,902
2007	2,525,414	2,343,877	4,869,291	3,214,099	3,023,590	7,977,551	14,215,240	1,221,472	2,241,785	3,463,257
2008	2,533,096	2,345,447	4,878,543	3,224,553	3,033,139	8,000,301	14,257,993	1,225,187	2,248,623	3,473,810
2009	2,537,412	2,344,885	4,882,297	3,221,869	3,030,688	7,994,464	14,247,021	1,224,337	2,247,088	3,471,425
2010	2,550,416	2,349,404	4,899,820	3,252,600	3,058,751	8,061,298	14,372,649	1,235,346	2,267,232	3,502,578
2011	2,552,246	2,344,525	4,896,771	3,219,878	3,028,830	7,989,785	14,238,493	1,223,700	2,245,978	3,469,678
2012	2,573,283	2,356,292	4,929,575	3,299,585	3,101,613	8,163,113	14,564,311	1,252,374	2,298,381	3,550,755
2013	2,528,470	2,330,192	4,858,662	3,021,979	2,846,696	7,431,492	13,300,167	1,194,252	2,192,759	3,387,011
2014	2,522,451	2,326,511	4,848,962	2,964,298	2,770,833	7,215,700	12,950,831	1,177,487	2,160,900	3,338,387
2015	2,513,728	2,318,033	4,831,761	2,874,818	2,659,795	6,728,504	12,263,117	1,153,778	2,117,637	3,271,415
2016	2,503,602	2,323,152	4,826,754	2,891,338	2,668,300	6,629,300	12,188,938	1,157,354	2,123,841	3,281,195
2017	2,494,822	2,303,392	4,798,214	2,730,602	2,521,270	6,232,124	11,483,996	1,091,883	2,003,995	3,095,878
2018	2,432,383	2,308,590	4,740,973	2,721,406	2,511,436	6,179,441	11,412,283	1,088,053	1,996,544	3,084,597
2019	2,392,525	2,308,038	4,700,563	2,662,334	2,457,615	6,031,766	11,151,715	1,075,664	1,973,709	3,049,373
2020	2,408,373	2,313,317	4,721,690	2,680,652	2,473,857	6,062,648	11,217,157	1,084,226	1,989,206	3,073,432
2021	2,397,255	2,309,178	4,706,433	2,610,399	2,407,430	5,890,769	10,908,598	1,072,185	1,967,105	3,039,290
2022	2,392,388	2,301,929	4,694,317	2,636,408	2,431,003	5,944,315	11,011,726	1,076,888	1,975,524	3,052,412
2023	2,380,416	2,268,043	4,648,459	2,601,386	2,398,997	5,866,245	10,866,628	1,062,187	1,948,656	3,010,843
2024	2,376,809	2,265,896	4,642,705	2,600,676	2,398,192	5,862,877	10,861,745	1,046,640	1,919,784	2,966,424
2025	2,366,629	2,262,279	4,628,908	2,596,362	2,394,073	5,851,467	10,841,902	1,044,937	1,916,620	2,961,557
2026	2,349,137	2,252,047	4,601,184	2,555,222	2,356,492	5,761,751	10,673,465	920,092	1,686,365	2,606,457
2027	2,350,479	2,250,325	4,600,804	2,568,215	2,368,266	5,788,152	10,724,633	922,497	1,690,246	2,612,743
2028	2,347,065	2,246,820	4,593,885	2,564,945	2,365,227	5,779,337	10,709,509	915,146	1,676,533	2,591,679
2029	2,343,632	2,243,421	4,587,053	2,561,129	2,361,711	5,770,002	10,692,842	912,639	1,671,798	2,584,437
2030	2,331,909	2,230,825	4,562,734	2,557,262	2,358,128	5,760,980	10,676,370	907,986	1,663,111	2,571,097
2031	2,314,893	2,215,349	4,530,242	2,546,913	2,348,624	5,737,859	10,633,396	895,358	1,639,773	2,535,131
2032	2,302,092	2,199,189	4,501,281	2,542,954	2,344,975	5,728,838	10,616,767	895,994	1,640,898	2,536,892
2033	2,277,656	2,166,393	4,444,049	2,558,698	2,359,324	5,762,727	10,680,749	903,580	1,654,741	2,558,321
2034	2,186,494	2,060,331	4,246,825	2,510,424	2,315,218	5,657,382	10,483,024	882,833	1,616,754	2,499,587
2035	1,934,953	1,836,839	3,771,792	2,575,935	2,374,962	5,798,939	10,749,836	902,659	1,652,863	2,555,522
TOTAL	122,841,482	113,706,951	236,548,433	154,459,223	149,763,030	405,364,707	709,586,960	55,292,248	101,589,926	156,882,174

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	Future Contractor San Joaquin Valley	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	2,783	0	0	0	0	0	2,783
1965	0	0	0	6,154	65,708	0	0	0	0	71,862
1966	0	0	0	12,284	122,852	0	0	0	0	135,136
1967	0	0	0	26,788	238,213	0	0	0	0	265,001
1968	73,922	187,573	10,559	55,574	403,606	1,555,772	13,053	11,241	211,046	2,522,346
1969	122,315	183,183	12,598	88,732	480,979	2,415,473	11,676	10,216	365,162	3,690,334
1970	145,498	205,486	19,363	95,866	529,232	2,943,332	11,808	12,736	299,723	4,263,044
1971	150,351	202,221	20,322	96,928	560,833	3,861,056	16,758	14,007	455,231	5,377,707
1972	172,093	224,765	21,126	99,270	586,426	5,028,801	14,188	19,914	1,098,641	7,265,224
1973	163,953	208,226	17,261	98,821	593,988	4,986,873	14,454	11,268	416,913	6,511,757
1974	173,966	290,569	17,230	99,797	652,931	5,296,104	14,546	12,296	610,884	7,168,323
1975	194,435	359,202	18,172	108,082	670,198	6,433,206	15,556	13,965	744,147	8,556,963
1976	215,802	312,046	18,718	109,394	728,741	6,798,999	15,927	15,570	575,935	8,791,132
1977	212,720	273,883	15,820	113,880	751,773	6,977,959	17,354	13,409	522,275	8,899,073
1978	242,458	374,850	14,971	118,312	870,238	8,657,026	18,266	18,101	526,593	10,840,815
1979	274,037	394,157	18,541	115,568	848,124	9,579,305	18,968	24,242	965,241	12,238,183
1980	262,208	421,817	17,008	127,834	847,125	10,246,502	19,818	24,092	761,471	12,727,875
1981	267,336	462,115	32,198	132,702	988,148	11,278,925	22,596	22,032	887,709	14,093,761
1982	284,011	481,674	18,116	135,772	964,654	12,707,801	22,128	22,122	770,929	15,407,207
1983	455,253	887,176	53,568	169,642	1,899,003	22,304,728	56,466	46,234	576,371	26,448,441
1984	565,508	1,171,150	66,711	175,731	2,374,718	29,353,596	69,159	66,086	2,306,846	36,149,505
1985	592,246	1,265,051	70,354	171,467	2,577,781	32,133,370	78,174	73,273	2,491,446	39,453,162
1986	615,039	1,344,112	72,707	168,880	2,985,588	34,329,716	86,423	80,677	2,647,339	42,330,481
1987	629,104	1,425,026	74,607	170,750	3,149,830	36,679,129	94,322	84,064	2,808,029	45,114,861
1988	629,108	1,469,869	74,359	173,822	3,206,857	38,035,312	94,831	86,397	2,897,285	46,667,840
1989	617,225	1,491,746	72,900	177,048	4,081,116	38,810,190	94,161	87,405	2,943,412	48,375,203
1990	618,547	1,546,965	73,277	180,238	4,283,970	40,023,895	95,751	89,758	3,153,678	50,066,079
1991	614,232	1,527,303	72,255	182,400	4,261,239	39,649,901	95,131	88,117	3,113,290	49,603,868
1992	619,496	1,518,932	71,818	187,657	4,241,715	39,393,150	94,822	87,565	3,096,101	49,311,256
1993	619,365	1,520,007	71,870	187,347	4,246,096	39,421,120	94,901	87,586	3,098,227	49,346,519
1994	616,484	1,512,684	71,489	187,371	4,221,610	39,233,604	94,393	87,038	3,083,188	49,107,861
1995	610,978	1,497,238	70,688	187,792	4,172,371	38,856,850	93,309	85,947	3,051,468	48,626,641
1996	611,140	1,499,877	70,822	187,610	4,183,949	38,927,988	93,494	86,065	3,056,896	48,717,841
1997	610,602	1,500,278	70,844	187,389	4,184,482	38,927,735	93,531	85,853	3,057,719	48,718,433
1998	610,586	1,501,280	70,898	187,403	4,186,680	38,943,201	93,600	85,722	3,059,774	48,739,144
1999	607,987	1,495,246	70,584	187,438	4,166,596	38,787,422	93,178	85,128	3,047,377	48,540,956
2000	607,736	1,495,400	70,588	187,336	4,168,728	38,794,695	93,191	85,035	3,047,685	48,550,394
2001	607,346	1,495,175	70,579	187,309	4,167,868	38,789,527	93,175	84,922	3,047,222	48,543,123
2002	607,162	1,495,930	70,616	187,679	4,167,785	38,799,479	93,192	84,947	3,048,762	48,555,552
2003	615,541	1,519,306	71,832	187,542	4,243,745	39,381,910	94,818	86,500	3,096,752	49,297,946
2004	615,284	1,518,658	71,797	188,568	4,239,835	39,393,710	94,703	86,414	3,095,382	49,304,351
2005	647,520	1,607,637	76,418	188,945	4,518,234	41,554,647	100,852	92,376	3,278,062	52,064,691
2006	650,638	1,609,912	76,527	190,641	4,528,928	41,659,568	100,987	92,510	3,282,478	52,192,189
2007	657,984	1,630,417	77,591	190,565	4,592,050	42,146,176	102,411	93,873	3,324,576	52,815,643
2008	659,903	1,635,648	77,861	190,708	4,607,363	42,269,588	102,765	94,233	3,335,310	52,973,379
2009	659,427	1,634,441	77,801	190,617	4,604,141	42,242,802	102,686	94,142	3,332,827	52,938,884
2010	664,974	1,649,768	78,595	190,626	4,652,318	42,615,183	103,749	95,159	3,364,289	53,414,661
2011	659,046	1,633,564	77,751	190,542	4,601,874	42,224,867	102,626	94,086	3,330,999	52,915,355
2012	673,597	1,674,560	79,882	190,722	4,727,745	43,205,528	105,444	96,879	3,415,161	54,169,518
2013	643,978	1,591,815	75,579	190,648	4,471,645	41,221,884	99,725	91,238	3,245,206	51,631,718
2014	640,088	1,580,786	75,005	187,977	4,436,961	40,956,547	98,954	90,486	3,222,538	51,289,342
2015	630,984	1,555,258	73,678	184,681	4,291,967	40,344,997	97,184	88,736	3,170,086	50,437,571
2016	637,644	1,574,330	74,667	178,749	4,291,806	40,794,114	98,482	90,063	3,209,228	50,949,083
2017	613,864	1,507,109	71,173	164,141	3,970,388	39,192,716	93,838	85,652	3,071,193	48,770,074
2018	619,305	1,521,172	71,904	140,987	3,912,905	39,551,892	86,115	86,722	3,100,065	49,091,067
2019	614,934	1,507,221	71,178	132,225	3,816,646	39,243,559	84,646	85,870	3,071,421	48,627,700
2020	620,185	1,520,189	71,853	130,111	3,829,391	39,580,364	85,313	86,743	3,098,044	49,022,193
2021	614,751	1,504,168	71,020	128,898	3,758,278	39,193,209	84,073	85,729	3,065,154	48,505,280
2022	617,285	1,506,885	71,161	127,387	3,762,391	39,250,804	84,282	86,365	3,070,734	48,577,294
2023	610,141	1,485,437	70,048	127,017	3,692,279	38,751,281	82,758	85,239	3,026,698	47,930,898
2024	603,832	1,480,460	69,813	122,544	3,672,700	38,568,064	82,450	85,246	3,017,000	47,702,109
2025	603,238	1,479,002	69,738	121,989	3,662,677	38,523,747	82,319	85,162	3,014,013	47,641,885
2026	595,855	1,458,051	68,650	121,567	3,595,762	38,023,771	80,847	83,712	2,971,002	46,999,217
2027	598,499	1,465,343	69,030	120,907	3,614,375	38,197,256	81,306	84,192	2,985,967	47,216,875
2028	598,227	1,463,947	68,956	118,496	3,608,539	38,163,110	81,180	84,053	2,983,101	47,169,609
2029	597,905	1,462,161	68,871	118,242	3,601,024	38,105,641	81,041	83,876	2,979,594	47,098,355
2030	596,938	1,457,749	68,641	118,002	3,587,576	38,012,760	80,684	83,683	2,970,536	46,976,569
2031	595,657	1,452,516	68,370	116,678	3,559,851	37,894,763	80,037	83,432	2,959,790	46,811,094
2032	593,914	1,445,844	68,022	116,393	3,540,619	37,740,438	79,506	83,076	2,946,097	46,613,909
2033	596,933	1,454,479	68,472	115,761	3,556,442	37,923,913	79,875	83,670	2,963,820	46,843,365
2034	589,050	1,432,045	67,304	114,344	3,469,050	37,369,132	77,866	82,128	2,917,765	46,118,684
2035	601,634	1,468,054	69,179	113,160	3,559,503	38,199,839	79,839	84,622	2,991,688	47,167,518
TOTAL	35,559,004	83,730,144	4,071,904	10,287,230	218,410,759	2,150,459,522	5,015,661	4,788,897	168,750,591	2,681,073,712

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	34,157	0	0	0	0	0	0	0	52,977	0
1964	64,333	20,594	14,772	4,474	38,055	1,171	29,119	8,403	84,712	35,826
1965	121,286	39,055	25,671	7,359	41,688	2,131	51,474	15,572	138,097	36,138
1966	220,607	73,829	45,735	12,758	74,778	3,839	92,432	28,303	237,641	62,825
1967	426,755	151,813	88,027	23,990	144,526	7,447	179,061	55,227	442,842	118,109
1968	751,102	318,212	155,831	42,363	256,347	13,135	317,087	97,427	798,194	213,208
1969	1,081,170	479,546	230,012	62,501	378,683	19,085	467,676	140,953	1,230,834	328,429
1970	1,406,262	611,229	321,896	91,576	530,224	25,764	645,323	188,753	1,815,223	477,325
1971	1,739,719	768,142	441,451	130,994	727,394	32,496	873,466	236,071	2,590,120	672,910
1972	2,059,302	952,941	571,106	184,007	941,228	43,104	1,128,446	279,719	3,445,882	879,847
1973	2,149,965	993,744	704,577	186,237	1,151,328	44,179	1,189,678	292,409	4,021,400	959,588
1974	2,213,665	1,049,744	719,067	195,464	1,176,493	45,906	1,219,500	297,152	4,039,809	1,001,371
1975	2,390,487	1,106,685	759,071	207,934	1,242,802	49,174	1,284,315	309,376	4,193,382	1,099,999
1976	2,743,275	1,088,981	805,511	216,988	1,318,304	52,131	1,326,392	318,664	4,331,703	1,153,311
1977	2,685,084	1,166,208	701,886	228,130	1,156,916	48,025	1,398,685	334,460	4,588,593	1,217,612
1978	3,136,205	1,229,528	912,447	238,875	1,479,371	49,284	1,430,982	335,600	4,592,534	1,256,781
1979	3,551,319	1,211,748	947,728	239,428	1,526,128	48,942	1,520,147	336,608	4,447,329	1,158,631
1980	4,138,738	1,305,169	1,042,930	261,323	1,696,460	54,010	1,642,035	364,570	4,856,182	1,275,326
1981	4,254,080	1,477,117	1,079,397	270,011	1,759,911	75,384	1,746,997	394,292	5,262,866	1,366,356
1982	4,196,493	1,687,649	1,255,203	291,212	2,041,509	56,639	2,039,804	411,699	5,500,350	1,636,510
1983	7,667,490	2,452,343	2,618,449	469,337	4,213,483	206,671	2,205,353	538,976	6,810,223	2,737,790
1984	8,206,515	3,191,053	3,525,371	634,427	5,667,698	281,728	2,457,564	614,296	8,663,055	3,744,354
1985	8,620,370	3,527,988	4,035,857	709,961	6,489,632	323,080	2,524,726	623,744	11,489,690	4,109,501
1986	8,826,688	3,788,577	4,372,536	720,185	7,033,156	351,325	2,536,067	740,777	12,058,953	4,177,522
1987	8,606,679	3,946,939	4,681,074	759,179	7,622,052	377,404	2,478,353	1,316,192	12,125,866	4,221,026
1988	8,562,224	4,164,610	4,889,958	787,332	8,053,326	392,500	2,462,377	1,453,100	12,161,059	4,219,802
1989	8,605,971	4,140,871	4,993,769	786,707	8,308,867	402,237	10,816,125	1,603,930	20,633,036	4,460,730
1990	8,731,086	4,344,390	5,186,979	822,802	8,554,324	415,016	11,136,473	1,762,133	21,438,643	4,499,481
1991	8,915,038	4,423,042	5,163,254	820,707	8,515,183	413,234	11,120,064	1,872,440	21,038,334	4,438,812
1992	9,010,339	4,629,147	5,138,998	848,653	8,475,195	410,422	11,041,134	1,971,656	21,144,835	4,492,567
1993	9,210,436	4,887,630	5,135,951	860,484	8,470,158	411,122	11,050,264	2,089,307	21,033,984	4,507,633
1994	9,353,288	4,838,734	5,108,728	886,571	8,425,269	408,177	10,969,097	2,189,361	21,083,393	4,555,327
1995	9,448,414	4,904,306	5,034,544	885,255	8,302,898	402,408	10,825,622	2,272,551	20,522,717	7,058,795
1996	9,753,194	5,114,798	5,042,944	890,014	8,316,755	404,022	10,873,530	2,364,936	20,219,800	4,461,388
1997	10,027,092	5,298,945	5,051,404	926,891	8,330,716	403,574	10,858,818	2,446,393	20,524,579	4,559,596
1998	10,305,256	5,421,769	5,059,310	958,334	8,343,761	403,440	10,853,461	2,529,438	20,738,090	4,640,089
1999	10,530,885	5,472,445	5,014,704	957,965	8,270,189	400,629	10,778,503	2,595,581	20,328,857	4,596,999
2000	10,811,749	5,678,580	5,023,468	989,342	8,284,644	400,704	10,777,252	2,679,199	20,558,536	4,680,420
2001	11,150,494	5,776,469	5,007,373	996,748	8,258,093	400,308	10,764,010	2,704,280	20,319,005	4,674,018
2002	11,485,972	5,856,991	4,992,091	1,006,615	8,232,881	399,723	10,747,458	2,728,046	20,121,896	4,675,679
2003	12,039,327	6,284,983	5,108,445	1,058,035	8,424,800	408,640	10,980,000	2,816,184	20,780,812	4,855,009
2004	12,388,337	6,322,534	5,094,074	1,074,873	8,401,093	407,617	10,954,371	2,837,775	20,697,504	4,881,577
2005	13,534,095	6,975,855	5,478,325	1,178,413	9,034,859	439,120	11,782,275	3,092,880	22,510,227	5,326,006
2006	14,044,085	7,118,631	5,477,044	1,184,515	9,032,738	440,287	11,814,506	3,139,982	22,215,806	5,324,308
2007	14,723,601	7,443,527	5,593,826	1,258,818	9,225,360	447,543	12,015,008	3,230,855	23,198,582	5,586,732
2008	15,242,442	7,491,618	5,604,955	1,276,919	9,243,709	449,120	12,057,020	3,281,862	23,113,647	5,628,053
2009	15,708,913	7,703,817	5,578,660	1,272,823	9,200,333	448,756	12,046,767	3,318,820	22,616,292	5,584,475
2010	16,358,819	7,900,148	5,679,846	1,353,471	9,367,242	454,241	12,192,358	3,399,688	23,656,106	5,855,377
2011	16,730,596	7,715,510	5,569,460	1,310,468	9,185,154	448,479	12,040,229	3,356,350	22,475,511	5,668,893
2012	17,770,395	7,977,363	5,771,038	1,408,965	9,517,644	462,546	12,410,723	3,462,075	23,876,750	6,037,052
2013	17,274,885	7,561,209	5,429,101	1,353,246	8,939,982	433,684	11,657,388	3,244,912	22,377,258	5,717,691
2014	17,626,437	7,398,081	5,352,363	1,340,482	8,827,741	428,532	11,525,203	3,206,524	21,823,515	5,650,301
2015	17,745,867	7,300,112	5,229,902	1,322,486	8,625,764	418,625	11,269,823	3,131,983	21,136,656	5,533,148
2016	18,481,684	7,300,257	5,305,485	1,362,433	8,750,434	423,102	11,392,619	3,165,750	21,841,233	5,744,616
2017	17,901,483	6,758,532	4,969,523	1,255,251	8,196,311	396,708	10,710,099	2,967,443	19,936,484	5,328,080
2018	18,464,152	6,776,751	5,017,658	1,296,935	8,275,735	398,113	10,754,890	2,978,551	20,646,613	5,523,341
2019	18,560,155	6,538,892	4,890,587	1,250,472	8,066,141	389,004	10,520,654	2,911,290	19,746,893	5,360,660
2020	19,090,190	6,565,447	4,878,021	1,247,633	8,045,443	388,456	10,503,200	2,909,565	19,627,216	5,384,826
2021	19,178,292	6,305,539	4,678,789	1,157,689	7,716,827	377,603	10,164,070	2,831,269	17,955,462	4,992,857
2022	19,807,862	6,292,938	4,696,706	1,189,390	7,746,407	378,351	10,148,523	2,837,754	18,407,791	5,076,363
2023	20,310,980	6,072,979	4,636,365	1,154,408	7,646,873	376,304	10,065,446	2,822,824	17,731,772	4,928,807
2024	20,831,784	6,102,027	4,612,011	1,140,954	7,606,710	374,829	10,027,791	2,811,829	17,475,749	4,869,367
2025	21,467,334	5,967,906	4,607,728	1,174,261	7,599,667	373,174	9,945,524	2,799,746	18,035,829	4,963,370
2026	21,453,577	5,874,428	4,481,986	1,137,764	7,392,260	365,711	9,736,612	2,743,812	17,356,080	4,829,369
2027	21,988,583	5,943,698	4,513,622	1,154,182	7,444,444	367,949	9,787,651	2,760,669	17,631,631	4,890,794
2028	21,970,487	5,861,277	4,503,241	1,147,090	7,427,316	367,625	9,775,460	2,758,312	17,498,754	4,862,213
2029	21,951,341	5,893,781	4,493,785	1,139,479	7,411,716	367,296	9,766,766	2,755,869	17,361,746	4,833,781
2030	21,895,726	5,763,676	4,498,748	1,155,349	7,419,918	366,365	9,745,125	2,748,929	17,643,093	4,884,919
2031	21,730,620	5,746,910	4,452,158	1,131,666	7,343,071	363,546	9,672,834	2,727,888	17,220,926	4,790,121
2032	21,638,747	5,618,684	4,442,874	1,138,054	7,327,759	362,014	9,632,001	2,716,374	17,334,193	4,804,778
2033	21,653,942	5,716,712	4,438,645	1,130,164	7,320,790	362,251	9,639,974	2,718,188	17,192,752	4,777,677
2034	20,978,357	5,414,062	4,285,678	1,071,553	7,068,487	350,982	9,350,997	2,633,506	16,153,137	4,522,080
2035	21,592,731	5,744,246	4,450,813	1,155,404	7,340,882	361,207	9,615,439	2,710,378	17,640,466	4,852,947
TOTAL	839,329,010	325,043,691	269,720,542	59,596,778	444,024,035	21,477,350	539,560,216	139,371,430	1,064,601,707	276,331,219

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	708,170	0	795,304	0	0	0	0	59,889	1,654,789
1964	22,255	1,290,199	9,612	1,623,525	0	0	0	0	99,221	2,827,914
1965	22,357	2,230,794	18,191	2,749,813	0	0	413	413	171,041	4,834,786
1966	38,804	3,989,021	34,208	4,914,780	0	0	576	576	197,872	7,432,440
1967	72,845	7,868,519	69,740	9,648,901	0	0	573	573	256,562	12,860,461
1968	131,555	15,654,468	146,028	18,894,957	0	0	576	576	334,299	25,057,010
1969	202,887	23,675,125	220,233	28,517,134	0	0	3,255	3,255	406,238	36,297,842
1970	295,669	31,309,182	280,029	37,998,455	0	0	15,423	15,423	445,530	46,590,069
1971	417,702	40,845,235	350,348	49,826,048	0	0	16,320	16,320	435,388	59,424,600
1972	546,344	54,007,736	431,617	65,471,279	0	0	17,720	17,720	461,115	77,358,444
1973	595,969	58,392,127	445,849	71,127,050	0	0	17,681	17,681	435,661	82,109,999
1974	618,078	62,945,628	467,234	75,989,111	0	0	18,750	18,750	458,729	87,884,000
1975	650,130	67,961,965	490,941	81,746,261	0	0	17,827	17,827	468,321	95,079,267
1976	673,427	69,716,262	488,797	84,233,746	0	0	17,824	17,824	490,931	98,492,567
1977	702,403	67,923,058	519,984	82,671,044	0	0	18,579	18,579	483,800	97,009,012
1978	729,990	75,305,993	542,932	91,240,522	0	0	17,728	17,728	489,334	107,921,858
1979	716,697	73,981,888	539,276	90,225,869	0	0	20,926	20,926	507,043	108,424,280
1980	781,268	80,974,054	588,624	98,980,689	0	0	18,108	18,108	565,199	118,319,936
1981	811,349	90,985,980	651,164	110,134,904	0	0	23,649	23,649	574,164	130,771,975
1982	861,889	100,183,970	702,523	120,865,450	0	0	34,758	34,758	548,731	143,310,963
1983	1,003,454	145,257,531	828,482	177,009,582	0	0	18,696	18,696	644,532	214,159,529
1984	1,181,904	206,016,128	972,511	245,156,604	0	0	18,696	18,696	732,379	294,559,354
1985	1,233,451	266,249,240	963,068	310,900,308	0	0	19,696	19,696	768,178	364,982,292
1986	1,185,754	277,783,279	934,061	324,508,880	0	0	19,696	19,696	757,826	383,027,828
1987	1,176,551	282,079,700	898,900	330,289,915	0	0	19,696	19,696	762,482	393,648,554
1988	1,182,585	285,404,043	1,041,624	334,774,540	0	0	19,696	19,696	763,934	399,908,086
1989	2,669,925	276,807,980	1,154,251	345,384,399	0	0	19,696	19,696	765,085	412,357,640
1990	2,834,880	283,257,740	1,308,391	354,292,338	0	0	19,696	19,696	765,764	423,246,157
1991	2,918,785	288,989,042	1,416,894	360,044,829	0	0	19,696	19,696	765,732	429,699,479
1992	3,077,069	288,044,595	1,518,002	359,802,612	0	0	19,696	19,696	763,023	430,363,087
1993	3,211,005	294,718,786	1,676,992	367,263,752	0	0	19,696	19,696	762,304	438,090,834
1994	3,360,356	293,849,339	1,900,338	366,927,978	0	0	19,696	19,696	762,537	437,639,752
1995	3,419,746	290,392,532	2,116,023	365,585,811	0	0	19,696	19,696	763,759	435,766,247
1996	3,380,449	295,568,985	2,504,589	368,895,404	0	0	19,696	19,696	763,175	439,264,073
1997	3,418,432	300,731,445	2,882,472	375,460,357	0	0	19,696	19,696	762,888	445,906,520
1998	3,445,301	302,587,253	3,363,168	378,648,670	0	0	19,696	19,696	762,942	449,123,398
1999	3,385,607	301,032,322	3,317,881	376,682,567	0	0	19,696	19,696	763,007	446,887,676
2000	3,416,088	305,817,517	3,336,850	382,454,349	0	0	19,696	19,696	762,722	452,675,330
2001	3,384,585	308,010,215	3,330,629	384,776,227	0	0	19,696	19,696	762,611	454,983,827
2002	3,358,202	307,677,750	3,317,769	384,601,073	0	0	19,696	19,696	763,232	454,816,961
2003	3,459,969	323,850,537	3,468,199	403,534,940	0	0	19,696	19,696	774,947	474,892,794
2004	3,448,584	323,485,034	3,438,601	403,431,974	0	0	19,696	19,696	776,162	474,802,484
2005	3,747,575	352,575,243	3,728,511	439,403,384	0	0	19,696	19,696	777,384	514,540,009
2006	3,712,298	354,707,911	3,739,627	441,951,738	0	0	19,696	19,696	777,550	517,259,625
2007	3,855,756	369,182,939	3,831,040	459,593,587	0	0	19,696	19,696	777,395	535,754,109
2008	3,848,510	369,045,488	3,811,600	460,094,943	0	0	19,696	19,696	777,785	536,476,149
2009	3,783,811	374,058,966	3,839,461	465,161,894	0	0	19,696	19,696	777,548	541,498,765
2010	3,928,287	383,375,191	3,879,412	477,400,186	0	0	19,696	19,696	777,651	554,387,241
2011	3,765,619	374,720,798	3,801,609	466,788,676	0	0	19,696	19,696	777,237	543,105,906
2012	3,972,698	393,996,867	3,929,262	490,593,378	0	0	19,696	19,696	777,551	568,604,784
2013	3,720,056	374,176,188	3,707,309	465,592,909	0	0	19,696	19,696	730,397	539,520,560
2014	3,640,300	368,912,447	3,638,934	459,370,860	0	0	19,696	19,696	692,760	532,510,838
2015	3,529,700	363,570,108	3,578,002	452,392,176	0	0	19,283	19,283	636,306	523,851,629
2016	3,630,113	370,236,949	3,591,394	461,226,069	0	0	19,120	19,120	612,175	533,103,334
2017	3,329,599	342,881,853	3,336,030	427,967,396	0	0	19,122	19,122	569,764	496,704,444
2018	3,422,095	348,866,129	3,341,368	435,762,331	0	0	19,120	19,120	491,175	504,601,546
2019	3,285,332	337,220,224	3,233,085	421,973,389	0	0	16,441	16,441	425,068	489,944,249
2020	3,265,281	338,499,910	3,243,561	423,648,749	0	0	4,272	4,272	402,158	492,089,651
2021	3,018,563	322,454,530	3,126,799	403,958,289	0	0	3,429	3,429	379,383	471,500,702
2022	3,073,668	321,973,885	3,123,112	404,752,750	0	0	2,016	2,016	377,918	472,468,433
2023	2,979,361	310,297,061	3,032,542	392,055,722	0	0	2,016	2,016	377,262	458,891,828
2024	2,941,804	310,009,755	3,037,447	391,842,057	0	0	2,014	2,014	375,608	458,392,662
2025	3,005,617	306,291,145	2,988,388	389,219,689	0	0	2,012	2,012	373,753	455,669,706
2026	2,917,741	301,079,521	2,935,629	382,304,490	0	0	2,011	2,011	373,028	447,559,852
2027	2,956,444	305,111,459	2,964,955	387,516,081	0	0	2,008	2,008	372,043	453,045,187
2028	2,938,092	301,540,329	2,933,878	383,584,074	0	0	2,007	2,007	370,951	449,021,714
2029	2,919,713	301,884,674	2,940,735	383,720,682	0	0	2,005	2,005	369,545	449,054,919
2030	2,953,835	298,679,964	2,890,072	380,645,719	0	0	2,004	2,004	368,194	445,802,687
2031	2,893,646	295,707,466	2,870,858	376,651,710	0	0	2,002	2,002	365,197	441,528,772
2032	2,904,601	291,852,885	2,819,353	372,592,317	0	0	2,001	2,001	365,386	437,228,553
2033	2,886,469	294,887,310	2,852,033	375,576,907	0	0	2,000	2,000	364,446	440,469,837
2034	2,727,893	279,034,099	2,722,562	356,313,393	0	0	2,000	2,000	361,733	420,025,246
2035	2,937,041	296,200,816	2,862,197	377,464,567	0	0	2,000	2,000	360,524	442,071,759
TOTAL	170,535,818	17,530,592,477	155,017,790	21,835,202,063	0	0	1,017,841	1,017,841	40,893,164	25,661,204,347

TABLE B-20A: CALCULATION OF DELTA WATER RATES

[values in millions of dollars ($) or millions of acre-feet (AF)
discounted to 1983 at 4.736 percent per annum]

Procedure	Capital Cost Component	Minimum Operation, Maintenance, Power and Replacement Component[a]	Total Delta Water Rate
In accordance with amendment to Articles 22(e) and 22 (g) (for all contractors except Solano County Flood Control and Water Conservation District)			
Commencing in 1984			
Total costs of "initial conservation facilities" to be reimbursed, and project water entitlements during the project repayment period	$1,512.22[b] 105.18 AF	$602.03[c] 105.18 AF	$2,114.25 105.18 AF
Less, project power revenues to be realized during the project repayment period	626.55	169.92	796.47
Less, Delta Water Charges paid, and project water entitlements, prior to 1984	243.16[d] 28.36 AF	85.99 28.36 AF	$ 329.15 28.36
Subtotal	$ 642.51 76.82 AF	$346.12 76.82 AF	988.63 $76.82 AF
Rate applicable 1984 through 1992	$8.36 per acre-foot	$4.51 per acre-foot	$12.87 per acre-foot
Commencing in 1993			
Additional costs to be reimbursed during the project repayment period for Cottonwood Creek Project	$ 634.35	$ 20.01	$ 654.36
Less, Delta Water Charges paid, and project water entitlements during the period	219.58 23.42 AF	118.29 23.42 AF	337.87 23.42 AF
Cumulative Subtotal	$1,057.28 50.57 AF	$247.84 50.57 AF	$1,305.12 50.57 AF
Rate applicable 1993 through 2035	$20.91 per acre-foot	$4.90 per acre-foot	$25.81 per acre-foot
Calculation Under Original Provisions of Article 22(e) and 22(g) (for Solano County Flood Control and Water Conservation District)			
Commencing in 1984			
Total costs of "initial" and "additional" project conservation facilities to be reimbursed and project water entitlements during the project repayment period	$2,157.67[b] 105.18 AF	$ 622.04[c] 105.18 AF	$2,779.71 105.18 AF
Less, project power revenues to be realized during the project repayment period	626.55	169.92	796.47
Less, Delta Water Charges paid, and project water entitlements, prior to 1984[d]	243.16 28.36	85.99 28.36 AF	329.15 28.36 AF
Total	$1,287.96 76.82 AF	$ 366.13 76.82 AF	$1,654.09 76.82 AF
Rate applicable 1984 through 2035	$16.76 per acre-foot	$4.77 per acre-foot	$21.53 per acre-foot

a) 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.

b) 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 $6,678,320 for settlement as to the magnitude of project capital costs incurred during the 1961 through 1978 period.

c) Includes conservation power costs and credits at San Luis.

d) 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
	(per ac-ft)	(per ac-ft)	(per ac-ft)
Initial Conservation Facilities			
Oroville Facilities			
Water Supply and Power Costs	$13.89	$3.57	$17.46
Less, Oroville Power Revenues	-8.16	-2.21	-10.37
Subtotal	5.73	1.36	7.09
Delta Facilities	1.78	1.41	3.19
California Aqueduct, portion of Reaches 1,2A, 2B and 3	1.68	1.17	2.85
San Luis Facilities	2.53	1.69	4.22
Upper Feather Facilities	0.02	-0.01 [b]	0.01
Planning and Preoperating Costs through 1982	0.16	0	0.16
Less, Capital Cost Credits	-0.37	0	-0.37
Less, Delta Water Charges Paid Prior to 1984	-3.17	-1.11	-4.28
Rate applicable in 1984	$8.36	$4.51	$12.87

a) *Delta Water Rate 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	3,479	15,875
1981	0	25,440	25,440	415,564	469,768	1,589,984	2,475,316	18,068	10,414	28,482
1982	0	34,917	34,917	457,988	519,053	1,679,289	2,656,330	38,166	99,788	137,954
1983	0	12,035	12,035	316,703	359,775	1,114,795	1,791,273	38,004	68,902	106,906
1984	0	20,454	20,454	334,587	380,914	1,132,448	1,847,949	57,909	105,498	163,407
1985	0	20,454	20,454	347,456	396,357	1,132,448	1,876,261	96,515	175,504	272,019
1986	64,923	20,454	85,377	360,324	413,086	1,132,448	1,905,858	128,687	234,339	363,026
1987	69,427	430,611	500,038	373,193	428,528	1,132,448	1,934,169	160,859	292,171	453,030
1988	73,931	581,325	655,256	386,062	443,971	1,132,448	1,962,481	199,465	363,181	562,646
1989	79,722	742,804	822,526	398,930	459,413	1,158,185	2,016,528	257,374	467,675	725,049
1990	86,800	904,283	991,083	411,799	474,856	1,183,922	2,070,577	321,718	585,347	907,065
1991	93,813	904,283	998,096	437,537	494,159	1,209,660	2,141,356	321,718	585,347	907,065
1992	100,891	904,283	1,005,174	463,274	513,462	1,235,397	2,212,133	321,718	585,347	907,065
1993	219,114	904,283	1,123,397	980,721	1,068,470	2,529,228	4,578,419	645,211	1,173,923	1,819,134
1994	235,760	904,283	1,140,043	1,032,338	1,083,955	2,580,845	4,697,138	645,211	1,173,923	1,819,134
1995	252,407	904,283	1,156,690	1,083,955	1,083,955	2,580,845	4,748,755	645,211	1,173,923	1,819,134
1996	269,053	904,283	1,173,336	1,135,572	1,083,955	2,580,845	4,800,372	645,211	1,173,923	1,819,134
1997	285,571	904,283	1,189,854	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
1998	302,217	904,283	1,206,500	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
1999	318,218	904,283	1,222,501	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2000	336,800	904,283	1,241,083	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2001	352,672	904,283	1,256,955	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2002	366,093	904,283	1,270,376	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2003	381,965	904,283	1,286,248	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2004	397,450	904,283	1,301,733	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2005	412,935	904,283	1,317,218	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2006	424,549	904,283	1,328,832	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2007	441,325	904,283	1,345,608	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2008	455,519	904,283	1,359,802	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2009	469,714	904,283	1,373,997	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2010	483,908	904,283	1,388,191	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2011	500,684	904,283	1,404,967	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2012	514,879	904,283	1,419,162	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2013	531,654	904,283	1,435,937	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2014	548,430	904,283	1,452,713	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2015	565,205	904,283	1,469,488	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2016	580,690	904,283	1,484,973	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2017	596,175	904,283	1,500,458	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2018	611,660	904,283	1,515,943	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2019	627,145	904,283	1,531,428	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2020	642,630	904,283	1,546,913	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2021	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2022	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2023	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2024	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2025	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2026	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2027	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2028	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2029	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2030	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2031	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2032	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2033	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2034	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
2035	645,211	904,283	1,549,494	1,187,189	1,083,955	2,580,845	4,851,989	645,211	1,173,923	1,819,134
TOTAL	22,372,094	43,503,837	65,875,931	57,000,804	54,224,380	135,391,134	246,616,318	29,716,670	54,055,681	83,772,351

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	Future Contractor San Joaquin Valley	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	0	0	165,522	3,177	8,073	98,608	339,604
1969	17,804	61,267	3,281	0	0	337,686	4,200	8,805	102,478	535,521
1970	37,905	104,405	19,950	0	0	964,915	8,645	17,290	228,095	1,381,205
1971	48,508	129,596	21,720	0	0	1,377,772	9,412	20,272	264,260	1,871,540
1972	61,891	160,756	24,113	0	0	2,175,835	11,253	43,131	905,057	3,382,036
1973	77,328	195,541	26,664	0	386,638	2,373,167	13,333	27,553	373,307	3,473,531
1974	90,239	224,202	27,909	0	446,545	2,781,595	13,954	29,770	463,731	4,077,945
1975	97,774	329,688	27,413	0	481,560	3,041,048	14,620	33,702	827,591	4,853,396
1976	114,612	414,245	29,388	0	549,549	3,931,785	15,673	35,966	877,151	5,968,369
1977	119,360	312,532	28,195	0	569,545	4,071,218	15,977	40,289	626,210	5,783,326
1978	133,724	342,208	31,588	0	674,939	4,950,959	20,006	41,065	666,516	6,861,005
1979	145,178	395,523	34,294	0	772,757	5,901,986	22,863	45,725	771,613	8,089,939
1980	157,432	555,341	37,679	0	881,371	6,984,026	27,272	70,658	933,481	9,647,260
1981	229,464	740,789	54,204	0	1,351,487	11,140,730	41,556	77,692	1,373,168	15,009,090
1982	242,352	782,396	57,248	0	1,518,993	12,703,436	47,707	85,873	1,530,443	16,968,448
1983	160,885	543,462	38,004	0	1,057,788	9,141,315	35,471	58,273	78,506	11,113,704
1984	163,433	580,379	38,606	0	1,140,169	9,934,654	39,893	61,770	1,140,169	13,099,073
1985	163,433	607,404	38,606	0	1,208,373	10,566,508	43,754	63,057	1,195,504	13,886,639
1986	163,433	634,428	38,606	0	1,266,282	11,193,215	47,614	65,630	1,250,840	14,660,048
1987	163,433	661,452	38,606	0	1,339,634	11,831,504	51,475	66,917	1,304,888	15,457,909
1988	163,433	688,477	38,606	0	1,401,404	12,427,325	51,475	69,491	1,358,937	16,199,148
1989	163,433	715,501	38,606	0	1,456,739	12,857,141	51,475	72,065	1,414,273	16,769,233
1990	163,433	742,525	38,606	0	1,539,099	13,303,685	51,475	73,352	1,524,944	17,437,119
1991	163,433	742,525	38,606	0	1,539,099	13,303,685	51,475	73,352	1,524,944	17,437,119
1992	163,433	742,525	38,606	0	1,539,099	13,303,685	51,475	73,352	1,524,944	17,437,119
1993	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
1994	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
1995	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
1996	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
1997	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
1998	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
1999	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2000	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2001	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2002	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2003	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2004	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2005	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2006	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2007	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2008	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2009	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2010	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2011	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2012	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2013	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2014	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2015	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2016	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2017	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2018	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2019	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2020	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2021	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2022	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2023	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2024	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2025	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2026	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2027	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2028	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2029	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2030	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2031	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2032	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2033	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2034	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
2035	327,767	1,489,148	77,425	0	3,086,691	26,680,777	103,234	147,108	3,058,301	34,970,451
TOTAL	17,312,394	75,481,226	4,148,848	0	153,848,783	1,328,037,808	5,184,292	7,588,767	153,866,601	1,745,468,719

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	1,551,434	421,730	254,298	66,408	400,739	26,335	372,710	235,100	1,341,923	364,482
1983	1,110,994	311,636	184,283	47,759	291,367	19,002	434,517	163,925	943,775	252,096
1984	1,209,660	346,169	202,914	52,247	321,718	20,719	472,282	174,500	1,003,760	266,383
1985	1,292,020	374,480	218,627	55,979	347,456	22,263	501,880	182,478	1,048,801	280,538
1986	1,373,093	397,644	234,339	59,711	373,193	23,678	532,765	190,457	1,093,841	298,554
1987	1,454,166	423,381	250,052	63,443	405,365	25,223	562,363	198,436	1,145,316	316,571
1988	1,536,525	454,266	265,765	67,175	437,537	26,638	591,961	206,414	1,196,791	334,587
1989	1,617,598	481,290	281,478	70,907	469,708	28,183	624,133	214,393	1,248,266	352,603
1990	1,699,958	505,741	297,267	74,639	490,298	29,598	653,731	222,629	1,306,175	370,619
1991	1,781,031	534,052	297,267	74,639	490,298	29,598	653,731	222,629	1,320,331	370,619
1992	1,781,031	534,052	297,267	74,639	490,298	29,598	653,731	222,629	1,320,331	370,619
1993	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
1994	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
1995	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
1996	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
1997	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
1998	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
1999	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2000	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2001	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2002	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2003	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2004	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2005	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2006	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2007	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2008	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2009	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2010	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2011	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2012	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2013	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2014	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2015	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2016	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2017	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2018	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2019	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2020	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2021	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2022	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2023	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2024	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2025	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2026	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2027	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2028	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2029	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2030	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2031	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2032	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2033	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2034	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
2035	3,571,890	1,071,051	596,175	149,689	983,302	59,359	1,311,069	446,486	2,647,947	743,283
TOTAL	175,414,866	52,102,666	29,355,506	7,364,129	48,250,446	2,917,597	64,612,741	22,272,722	132,675,578	37,050,162

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	10,702,107
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	19,425,531
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	27,557,096
1981	140,930	20,910,099	36,136	25,762,531	0	21,682	13,370	35,052	0	43,335,911
1982	167,929	23,998,560	57,248	29,258,896	0	16,117	14,694	30,811	0	49,087,356
1983	124,148	17,203,307	50,672	21,137,481	0	15,202	10,134	25,336	0	34,186,735
1984	138,982	18,766,458	64,344	23,040,136	20,590	15,442	10,681	46,713	0	38,217,732
1985	151,851	20,058,478	77,212	24,612,063	21,877	15,442	11,067	48,386	0	40,715,822
1986	166,007	21,353,071	102,950	26,199,303	27,024	15,442	11,453	53,919	0	43,267,531
1987	180,162	22,646,378	128,687	27,799,543	32,172	15,442	11,839	59,453	0	46,204,142
1988	194,318	23,940,971	167,293	29,420,241	37,319	15,442	12,354	65,115	0	48,864,887
1989	208,473	25,235,565	205,900	31,038,497	42,467	15,442	12,869	70,778	0	51,442,611
1990	222,629	25,885,435	257,374	32,016,093	48,901	15,442	13,383	77,726	0	53,499,663
1991	222,629	25,885,435	257,374	32,139,633	123,540	353,890	13,898	491,328	0	54,114,597
1992	222,629	25,885,435	257,374	32,139,633	123,540	353,890	14,413	491,843	0	54,192,967
1993	446,486	51,913,699	516,169	64,456,605	247,761	709,732	29,938	987,431	0	107,935,437
1994	446,486	51,913,699	516,169	64,456,605	247,761	709,732	30,970	988,463	0	108,071,834
1995	446,486	51,913,699	516,169	64,456,605	247,761	709,732	32,261	989,754	0	108,141,389
1996	446,486	51,913,699	516,169	64,456,605	247,761	709,732	33,551	991,044	0	108,210,942
1997	446,486	51,913,699	516,169	64,456,605	247,761	709,732	34,841	992,334	0	108,280,367
1998	446,486	51,913,699	516,169	64,456,605	247,761	709,732	36,132	993,625	0	108,298,304
1999	446,486	51,913,699	516,169	64,456,605	247,761	709,732	37,422	994,915	0	108,315,595
2000	446,486	51,913,699	516,169	64,456,605	247,761	709,732	38,971	996,464	0	108,335,726
2001	446,486	51,913,699	516,169	64,456,605	247,761	709,732	40,519	998,012	0	108,353,146
2002	446,486	51,913,699	516,169	64,456,605	247,761	709,732	42,068	999,561	0	108,368,116
2003	446,486	51,913,699	516,169	64,456,605	247,761	709,732	43,616	1,001,109	0	108,385,536
2004	446,486	51,913,699	516,169	64,456,605	247,761	709,732	45,165	1,002,658	0	108,402,570
2005	446,486	51,913,699	516,169	64,456,605	247,761	709,732	46,713	1,004,206	0	108,419,603
2006	446,486	51,913,699	516,169	64,456,605	247,761	709,732	48,520	1,006,013	0	108,433,024
2007	446,486	51,913,699	516,169	64,456,605	247,761	709,732	50,326	1,007,819	0	108,451,606
2008	446,486	51,913,699	516,169	64,456,605	247,761	709,732	52,133	1,009,626	0	108,467,607
2009	446,486	51,913,699	516,169	64,456,605	247,761	709,732	53,940	1,011,433	0	108,483,609
2010	446,486	51,913,699	516,169	64,456,605	247,761	709,732	55,746	1,013,239	0	108,499,609
2011	446,486	51,913,699	516,169	64,456,605	247,761	709,732	57,811	1,015,304	0	108,518,450
2012	446,486	51,913,699	516,169	64,456,605	247,761	709,732	59,876	1,017,369	0	108,534,710
2013	446,486	51,913,699	516,169	64,456,605	247,761	709,732	62,198	1,019,691	0	108,553,807
2014	446,486	51,913,699	516,169	64,456,605	247,761	709,732	64,521	1,022,014	0	108,572,906
2015	446,486	51,913,699	516,169	64,456,605	247,761	709,732	67,102	1,024,595	0	108,592,262
2016	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,610,328
2017	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,625,813
2018	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,641,298
2019	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,656,783
2020	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,672,268
2021	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2022	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2023	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2024	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2025	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2026	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2027	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2028	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2029	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2030	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2031	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2032	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2033	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2034	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
2035	446,486	51,913,699	516,169	64,456,605	247,761	709,732	69,683	1,027,176	0	108,674,849
TOTAL	21,423,879	2,564,305,394	23,870,227	3,181,615,913	11,131,153	31,500,725	2,668,435	45,300,313	0	5,368,649,545

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	153,228	189,353	457,015	799,596	0	0	0
1964	0	0	0	174,022	267,277	633,956	1,075,255	9,104	18,026	27,130
1965	0	0	0	249,751	369,761	1,178,086	1,797,598	14,995	29,064	44,059
1966	19,499	0	19,499	276,276	380,613	1,436,434	2,093,323	24,480	46,774	71,254
1967	43,804	0	43,804	366,235	509,572	1,886,364	2,762,171	43,170	81,429	124,599
1968	132,716	0	132,716	417,361	590,267	2,206,687	3,214,315	69,576	130,327	199,903
1969	260,066	0	260,066	484,318	540,465	2,328,995	3,353,778	124,729	232,211	356,940
1970	283,326	0	283,326	548,939	595,802	2,819,005	3,963,746	137,859	256,524	394,383
1971	233,639	0	233,639	486,330	630,534	2,838,195	3,955,059	139,087	258,872	397,959
1972	231,303	0	231,303	614,837	777,556	3,059,012	4,451,405	143,725	267,546	411,271
1973	227,528	28,577	256,105	600,576	671,610	3,152,118	4,424,304	142,412	265,175	407,587
1974	247,111	30,062	277,173	640,723	701,979	3,356,394	4,699,096	143,772	267,733	411,505
1975	244,618	33,105	277,723	697,620	747,782	3,245,491	4,690,893	160,427	298,503	458,930
1976	279,068	37,357	316,425	810,220	898,196	3,394,031	5,102,447	272,946	506,293	779,239
1977	303,137	41,347	344,484	777,989	876,923	3,335,173	4,990,085	283,804	526,781	810,585
1978	285,434	44,929	330,363	872,757	896,540	3,768,420	5,537,717	294,641	546,941	841,582
1979	299,115	48,487	347,602	959,664	963,583	3,848,634	5,771,881	290,427	539,283	829,710
1980	329,984	79,423	409,407	1,112,530	1,128,440	4,157,885	6,398,855	330,695	594,318	925,013
1981	367,330	101,743	469,073	1,210,371	1,296,336	4,511,391	7,018,098	353,890	633,674	987,564
1982	451,793	126,788	578,581	1,298,736	1,321,277	4,983,039	7,603,052	375,828	726,557	1,102,385
1983	460,244	139,133	599,377	1,810,428	1,860,021	6,414,347	10,084,796	443,488	820,831	1,264,319
1984	570,493	247,215	817,708	2,304,441	2,471,528	7,576,310	12,352,279	478,567	885,426	1,363,993
1985	850,556	480,839	1,331,395	2,525,523	2,712,912	7,986,915	13,225,350	510,259	942,678	1,452,937
1986	1,454,975	1,115,537	2,570,512	2,627,189	2,843,974	8,190,664	13,661,827	538,536	994,331	1,532,867
1987	2,103,314	2,521,486	4,624,800	2,737,343	3,001,604	8,347,328	14,086,275	575,941	1,061,821	1,637,762
1988	2,153,128	2,721,762	4,874,890	2,796,175	3,071,348	8,350,694	14,218,217	622,271	1,147,081	1,769,352
1989	2,200,107	2,998,034	5,198,141	2,808,556	3,085,566	8,333,707	14,227,829	687,080	1,264,310	1,951,390
1990	2,223,070	3,205,542	5,428,612	2,868,859	3,162,577	8,458,141	14,489,577	758,247	1,394,569	2,152,816
1991	2,254,361	3,203,295	5,457,656	2,963,667	3,226,742	8,525,107	14,715,516	1,107,877	2,030,822	3,138,699
1992	2,281,544	3,200,464	5,482,008	3,060,047	3,294,925	8,602,701	14,957,673	1,465,914	2,685,277	4,151,191
1993	2,423,973	3,199,974	5,623,947	3,660,108	3,894,754	9,977,416	17,532,278	1,789,412	3,273,876	5,063,288
1994	2,463,202	3,197,189	5,660,391	3,782,003	3,909,848	10,078,478	17,770,329	1,783,731	3,263,544	5,047,275
1995	2,501,570	3,197,259	5,698,829	3,888,603	3,881,315	10,010,533	17,780,451	1,772,517	3,243,122	5,015,639
1996	2,540,918	3,196,618	5,737,536	4,020,147	3,879,694	10,006,387	17,906,228	1,773,003	3,244,032	5,017,035
1997	2,580,541	3,198,483	5,779,024	4,146,766	3,873,682	9,992,080	18,012,528	1,772,130	3,242,441	5,014,571
1998	2,620,222	3,197,890	5,818,112	4,143,166	3,870,396	9,984,268	17,997,830	1,772,134	3,242,493	5,014,627
1999	2,656,035	3,195,240	5,851,275	4,125,026	3,853,832	9,944,828	17,923,686	1,766,985	3,233,128	5,000,113
2000	2,696,990	3,194,534	5,891,524	4,121,607	3,850,711	9,937,404	17,909,722	1,766,619	3,232,510	4,999,129
2001	2,727,564	3,193,782	5,921,346	4,117,223	3,846,709	9,927,879	17,891,811	1,765,891	3,231,200	4,997,091
2002	2,755,975	3,192,804	5,948,779	4,113,048	3,842,899	9,918,814	17,874,761	1,765,259	3,230,108	4,995,367
2003	2,798,206	3,199,418	5,997,624	4,185,004	3,909,975	10,087,397	18,182,376	1,781,979	3,260,657	5,042,636
2004	2,838,005	3,210,067	6,048,072	4,178,124	3,903,770	10,073,095	18,154,989	1,781,042	3,259,054	5,040,096
2005	2,916,916	3,241,650	6,158,566	4,356,710	4,066,840	10,461,450	18,885,000	1,844,560	3,375,069	5,219,629
2006	2,934,385	3,242,029	6,176,414	4,360,611	4,070,405	10,469,941	18,900,957	1,852,056	3,388,980	5,241,036
2007	2,966,739	3,248,160	6,214,899	4,401,288	4,107,545	10,558,396	19,067,229	1,866,683	3,415,708	5,282,391
2008	2,988,615	3,249,730	6,238,345	4,411,742	4,117,094	10,581,146	19,109,982	1,870,398	3,422,546	5,292,944
2009	3,007,126	3,249,168	6,256,294	4,409,058	4,114,643	10,575,309	19,099,010	1,869,548	3,421,011	5,290,559
2010	3,034,324	3,253,687	6,288,011	4,439,789	4,142,706	10,642,143	19,224,638	1,880,557	3,441,155	5,321,712
2011	3,052,930	3,248,808	6,301,738	4,407,067	4,112,785	10,570,630	19,090,482	1,868,911	3,419,901	5,288,812
2012	3,088,162	3,260,575	6,348,737	4,486,774	4,185,568	10,743,958	19,416,300	1,897,585	3,472,304	5,369,889
2013	3,060,124	3,234,475	6,294,599	4,209,168	3,930,651	10,012,337	18,152,156	1,839,463	3,366,682	5,206,145
2014	3,070,881	3,230,794	6,301,675	4,151,487	3,854,788	9,796,545	17,802,820	1,822,698	3,334,823	5,157,521
2015	3,078,933	3,222,316	6,301,249	4,062,007	3,743,750	9,309,349	17,115,106	1,798,989	3,291,560	5,090,549
2016	3,084,292	3,227,435	6,311,727	4,078,527	3,752,255	9,210,145	17,040,927	1,802,565	3,297,764	5,100,329
2017	3,090,997	3,207,675	6,298,672	3,917,791	3,605,225	8,812,969	16,335,985	1,737,094	3,177,918	4,915,012
2018	3,044,043	3,212,873	6,256,916	3,908,595	3,595,391	8,760,286	16,264,272	1,733,264	3,170,467	4,903,731
2019	3,019,670	3,212,321	6,231,991	3,849,523	3,541,570	8,612,611	16,003,704	1,720,875	3,147,632	4,868,507
2020	3,051,003	3,217,600	6,268,603	3,867,841	3,557,812	8,643,493	16,069,146	1,729,437	3,163,129	4,892,566
2021	3,042,466	3,213,461	6,255,927	3,797,588	3,491,385	8,471,614	15,760,587	1,717,396	3,141,028	4,858,424
2022	3,037,599	3,206,212	6,243,811	3,823,597	3,514,958	8,525,160	15,863,715	1,722,099	3,149,447	4,871,546
2023	3,025,627	3,172,326	6,197,953	3,788,575	3,482,952	8,447,090	15,718,617	1,707,398	3,122,579	4,829,977
2024	3,022,020	3,170,179	6,192,199	3,787,865	3,482,147	8,443,722	15,713,734	1,691,851	3,093,707	4,785,558
2025	3,011,840	3,166,562	6,178,402	3,783,551	3,478,028	8,432,312	15,693,891	1,690,148	3,090,543	4,780,691
2026	2,994,348	3,156,330	6,150,678	3,742,411	3,440,447	8,342,596	15,525,454	1,565,303	2,860,288	4,425,591
2027	2,995,690	3,154,608	6,150,298	3,755,404	3,452,221	8,368,997	15,576,622	1,567,708	2,864,169	4,431,877
2028	2,992,276	3,151,103	6,143,379	3,752,134	3,449,182	8,360,182	15,561,498	1,560,357	2,850,456	4,410,813
2029	2,988,843	3,147,704	6,136,547	3,748,318	3,445,666	8,350,847	15,544,831	1,557,850	2,845,721	4,403,571
2030	2,977,120	3,135,108	6,112,228	3,744,451	3,442,083	8,341,825	15,528,359	1,553,197	2,837,034	4,390,231
2031	2,960,104	3,119,632	6,079,736	3,734,102	3,432,579	8,318,704	15,485,385	1,540,569	2,813,696	4,354,265
2032	2,947,303	3,103,472	6,050,775	3,730,143	3,428,930	8,309,683	15,468,756	1,541,205	2,814,821	4,356,026
2033	2,922,867	3,070,676	5,993,543	3,745,887	3,443,279	8,343,572	15,532,738	1,548,791	2,828,664	4,377,455
2034	2,831,705	2,964,614	5,796,319	3,697,613	3,399,173	8,238,227	15,335,013	1,528,044	2,790,677	4,318,721
2035	2,580,164	2,741,122	5,321,286	3,763,124	3,458,917	8,379,784	15,601,825	1,547,870	2,826,786	4,374,656
TOTAL	145,213,576	157,210,788	302,424,364	211,460,027	203,987,410	540,755,841	956,203,278	85,008,918	155,645,607	240,654,525

a) *Unadjusted for prior overpayments or underpayments of charges. See Table B-19 for total Transportation Charge for each contractor.*

DELTA WATER [b] 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	Future Contractor San Joaquin Valley	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	2,783	0	0	0	0	0	2,783
1965	0	0	0	6,154	65,708	0	0	0	0	71,862
1966	0	0	0	12,284	122,852	0	0	0	0	135,136
1967	0	0	0	26,788	238,213	0	0	0	0	265,001
1968	86,982	228,268	21,028	55,574	403,606	1,721,294	16,230	19,314	309,654	2,861,950
1969	140,119	244,450	15,879	88,732	480,979	2,753,159	15,876	19,021	467,640	4,225,855
1970	183,403	309,891	39,313	95,866	529,232	3,908,247	20,453	30,026	527,818	5,644,249
1971	198,859	331,817	42,042	96,928	560,833	5,238,828	26,170	34,279	719,491	7,249,247
1972	233,984	385,521	45,239	99,270	586,426	7,204,636	25,441	63,045	2,003,698	10,647,260
1973	241,281	403,767	43,925	98,821	980,626	7,360,040	27,787	38,821	790,220	9,985,288
1974	264,205	514,771	45,139	99,797	1,099,476	8,077,699	28,500	42,066	1,074,615	11,246,268
1975	292,209	688,890	45,585	108,082	1,151,758	9,474,254	30,176	47,667	1,571,738	13,410,359
1976	330,414	726,291	48,106	109,394	1,278,290	10,730,784	31,600	51,536	1,453,086	14,759,501
1977	332,080	586,415	44,015	113,880	1,321,318	11,049,177	33,331	53,698	1,148,485	14,682,399
1978	376,182	717,058	46,559	118,312	1,545,177	13,607,985	38,272	59,166	1,193,109	17,701,820
1979	419,215	789,680	52,835	115,568	1,620,881	15,481,291	41,831	69,967	1,736,854	20,328,122
1980	419,640	977,158	54,687	127,834	1,728,496	17,230,528	47,090	94,750	1,694,952	22,375,135
1981	496,800	1,202,904	86,402	132,702	2,339,635	22,419,655	64,152	99,724	2,260,877	29,102,851
1982	526,363	1,264,070	75,364	135,772	2,483,647	25,411,237	69,835	107,995	2,301,372	32,375,655
1983	616,138	1,430,638	91,572	169,642	2,956,791	31,446,043	91,937	104,507	654,877	37,562,145
1984	728,941	1,751,529	105,317	175,731	3,514,887	39,288,250	109,052	127,856	3,447,015	49,248,578
1985	755,679	1,872,455	108,960	171,467	3,786,154	42,699,878	121,928	136,330	3,686,950	53,339,801
1986	778,472	1,978,540	111,313	168,880	4,251,870	45,522,931	134,037	146,307	3,898,179	56,990,529
1987	792,537	2,086,478	113,213	170,750	4,489,464	48,510,633	145,797	150,981	4,112,917	60,572,770
1988	792,541	2,158,346	112,965	173,822	4,608,261	50,462,637	146,306	155,888	4,256,222	62,866,988
1989	780,658	2,207,247	111,506	177,048	5,537,855	51,667,331	145,636	159,470	4,357,685	65,144,436
1990	781,980	2,289,490	111,883	180,238	5,823,069	53,327,580	147,226	163,110	4,678,622	67,503,198
1991	777,665	2,269,828	110,861	182,400	5,800,338	52,953,586	146,606	161,469	4,638,234	67,040,987
1992	782,929	2,261,457	110,424	187,657	5,780,814	52,696,835	146,297	160,917	4,621,045	66,748,375
1993	947,132	3,009,155	149,295	187,347	7,332,787	66,101,897	198,135	234,694	6,156,528	84,316,970
1994	944,251	3,001,832	148,914	187,371	7,308,301	65,914,381	197,627	234,146	6,141,489	84,078,312
1995	938,745	2,986,386	148,113	187,792	7,259,062	65,537,627	196,543	233,055	6,109,769	83,597,092
1996	938,907	2,989,025	148,247	187,610	7,270,640	65,608,765	196,728	233,173	6,115,197	83,688,292
1997	938,369	2,989,426	148,269	187,389	7,271,173	65,608,512	196,765	232,961	6,116,020	83,688,884
1998	938,353	2,990,428	148,323	187,403	7,273,371	65,623,978	196,834	232,830	6,118,075	83,709,595
1999	935,754	2,984,394	148,009	187,438	7,253,287	65,468,199	196,412	232,236	6,105,678	83,511,407
2000	935,503	2,984,548	148,013	187,336	7,255,419	65,475,472	196,425	232,143	6,105,986	83,520,845
2001	935,113	2,984,323	148,004	187,309	7,254,559	65,470,304	196,409	232,030	6,105,523	83,513,574
2002	934,929	2,985,078	148,041	187,679	7,254,476	65,480,256	196,426	232,055	6,107,063	83,526,003
2003	943,308	3,008,454	149,257	187,542	7,330,436	66,062,687	198,052	233,608	6,155,053	84,268,397
2004	943,051	3,007,806	149,222	188,568	7,326,526	66,074,487	197,937	233,522	6,153,683	84,274,802
2005	975,287	3,096,785	153,843	188,945	7,604,925	68,235,424	204,086	239,484	6,336,363	87,035,142
2006	978,405	3,099,060	153,952	190,641	7,615,619	68,340,345	204,221	239,618	6,340,779	87,162,640
2007	985,751	3,119,565	155,016	190,565	7,678,741	68,826,953	205,645	240,981	6,382,877	87,786,094
2008	987,670	3,124,796	155,286	190,708	7,694,054	68,950,365	205,999	241,341	6,393,611	87,943,830
2009	987,194	3,123,589	155,226	190,617	7,690,832	68,923,579	205,920	241,250	6,391,128	87,909,335
2010	992,741	3,138,916	156,020	190,626	7,739,009	69,295,960	206,983	242,267	6,422,590	88,385,112
2011	986,813	3,122,712	155,176	190,542	7,688,565	68,905,644	205,860	241,194	6,389,300	87,885,806
2012	1,001,364	3,163,708	157,307	190,722	7,814,436	69,886,305	208,678	243,987	6,473,462	89,139,969
2013	971,745	3,080,963	153,004	190,648	7,558,336	67,902,661	202,959	238,346	6,303,507	86,602,169
2014	967,855	3,069,934	152,430	187,977	7,523,652	67,637,324	202,188	237,594	6,280,839	86,259,793
2015	958,751	3,044,406	151,103	184,681	7,378,658	67,025,774	200,418	235,844	6,228,387	85,408,022
2016	965,411	3,063,478	152,092	178,749	7,378,497	67,474,891	201,716	237,171	6,267,529	85,919,534
2017	941,631	2,996,257	148,598	164,141	7,057,079	65,873,493	197,072	232,760	6,129,494	83,740,525
2018	947,072	3,010,320	149,329	140,987	6,999,596	66,232,669	189,349	233,830	6,158,366	84,061,518
2019	942,701	2,996,369	148,603	132,225	6,903,337	65,924,336	187,880	232,978	6,129,722	83,598,151
2020	947,952	3,009,337	149,278	130,111	6,916,082	66,261,141	188,547	233,851	6,156,345	83,992,644
2021	942,518	2,993,316	148,445	128,898	6,844,969	65,873,986	187,307	232,837	6,123,455	83,475,731
2022	945,052	2,996,033	148,586	127,387	6,849,082	65,931,581	187,516	233,473	6,129,035	83,547,745
2023	937,908	2,974,585	147,473	127,017	6,778,970	65,432,058	185,992	232,347	6,084,999	82,901,349
2024	931,599	2,969,608	147,238	122,544	6,759,391	65,248,841	185,684	232,354	6,075,301	82,672,560
2025	931,005	2,968,150	147,163	121,989	6,749,368	65,204,524	185,553	232,270	6,072,314	82,612,336
2026	923,622	2,947,199	146,075	121,567	6,682,453	64,704,548	184,081	230,820	6,029,303	81,969,668
2027	926,266	2,954,491	146,455	120,907	6,701,066	64,878,033	184,540	231,300	6,044,268	82,187,326
2028	925,994	2,953,095	146,381	118,496	6,695,230	64,843,887	184,414	231,161	6,041,402	82,140,060
2029	925,672	2,951,309	146,296	118,242	6,687,715	64,786,418	184,275	230,984	6,037,895	82,068,806
2030	924,705	2,946,897	146,066	118,002	6,674,267	64,693,537	183,918	230,791	6,028,837	81,947,020
2031	923,424	2,941,664	145,795	116,678	6,646,542	64,575,540	183,271	230,540	6,018,091	81,781,545
2032	921,681	2,934,992	145,447	116,393	6,627,310	64,421,215	182,740	230,184	6,004,398	81,584,360
2033	924,700	2,943,627	145,897	115,761	6,643,133	64,604,690	183,109	230,778	6,022,121	81,813,816
2034	916,817	2,921,193	144,729	114,344	6,555,741	64,049,909	181,100	229,236	5,976,066	81,089,135
2035	929,401	2,957,202	146,604	113,160	6,646,194	64,880,616	183,073	231,730	6,049,989	82,137,969
TOTAL	52,871,398	159,211,370	8,220,752	10,287,230	372,259,542	3,478,497,330	10,199,953	12,377,664	322,617,192	4,426,542,431

b) See Table B-21 for total Delta Water Charge for each contractor.

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 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	34,157	0	0	0	0	0	0	0	52,977	0
1964	64,333	20,594	14,772	4,474	38,055	1,171	29,119	8,403	84,712	35,826
1965	121,286	39,055	25,671	7,359	41,688	2,131	51,474	15,572	138,097	36,138
1966	220,607	73,829	45,735	12,758	74,778	3,839	92,432	28,303	237,641	62,825
1967	426,755	151,813	88,027	23,990	144,526	7,447	179,061	55,227	442,842	118,109
1968	751,102	318,212	155,831	42,363	256,347	13,135	317,087	97,427	798,194	213,208
1969	1,081,170	479,546	230,012	62,501	378,683	19,085	467,676	140,953	1,230,834	328,429
1970	1,406,262	611,229	321,896	91,576	530,224	25,764	645,323	188,753	1,815,223	477,325
1971	1,739,719	768,142	441,451	130,994	727,394	32,496	873,466	236,071	2,590,120	672,910
1972	2,220,058	965,801	612,903	188,669	1,005,531	44,471	1,195,964	292,740	3,815,621	965,049
1973	2,372,172	1,023,579	756,129	193,516	1,231,322	46,756	1,284,782	318,540	4,076,308	973,926
1974	2,492,755	1,102,771	778,606	206,255	1,269,523	49,627	1,341,369	336,783	4,504,959	1,115,798
1975	2,710,309	1,175,218	823,035	221,184	1,343,317	53,926	1,425,037	360,365	4,673,115	1,219,704
1976	3,174,293	1,182,042	879,960	234,033	1,435,854	58,400	1,500,758	386,255	4,870,475	1,290,453
1977	3,155,006	1,273,350	781,030	247,209	1,279,096	54,886	1,588,533	411,715	5,129,003	1,356,709
1978	3,736,385	1,370,623	1,009,760	263,303	1,626,784	58,971	1,667,895	433,945	5,224,302	1,422,094
1979	4,271,492	1,386,647	1,062,761	269,264	1,697,598	60,831	1,804,787	453,893	5,161,786	1,348,391
1980	4,996,556	1,524,582	1,177,850	297,272	1,907,196	68,266	1,979,212	503,160	5,668,134	1,491,020
1981	5,609,180	1,840,284	1,298,110	327,648	2,103,203	98,330	2,281,810	605,688	6,500,524	1,697,000
1982	5,747,927	2,109,379	1,509,501	357,620	2,442,248	82,974	2,412,514	646,799	6,842,273	2,000,992
1983	8,778,484	2,763,979	2,802,732	517,096	4,504,850	225,673	2,639,870	702,901	7,753,998	2,989,886
1984	9,416,175	3,537,222	3,728,285	686,674	5,989,416	302,447	2,929,846	788,796	9,666,815	4,010,737
1985	9,912,390	3,902,468	4,254,484	765,940	6,837,088	345,343	3,026,606	806,222	12,538,491	4,390,039
1986	10,199,781	4,186,221	4,606,875	779,896	7,406,349	375,003	3,068,832	931,234	13,152,794	4,476,076
1987	10,060,845	4,370,320	4,931,126	822,622	8,027,417	402,627	3,040,716	1,514,628	13,271,182	4,537,597
1988	10,098,749	4,618,876	5,155,723	854,507	8,490,863	419,138	3,054,338	1,659,514	13,357,850	4,554,389
1989	10,223,569	4,622,161	5,275,247	857,614	8,778,575	430,420	11,440,258	1,818,323	21,881,302	4,813,333
1990	10,431,044	4,850,131	5,484,246	897,441	9,044,622	444,614	11,790,204	1,984,762	22,744,818	4,870,100
1991	10,696,069	4,957,094	5,460,521	895,346	9,005,481	442,832	11,773,795	2,095,069	22,358,665	4,809,431
1992	10,791,370	5,163,199	5,436,265	923,292	8,965,493	440,020	11,694,865	2,194,285	22,465,166	4,863,186
1993	12,782,326	5,958,681	5,732,126	1,010,173	9,453,460	470,481	12,361,333	2,535,793	23,681,931	5,250,916
1994	12,925,178	5,909,785	5,704,903	1,036,260	9,408,571	467,536	12,280,166	2,635,847	23,731,340	5,298,610
1995	13,020,304	5,975,357	5,630,719	1,034,944	9,286,200	461,767	12,136,691	2,719,037	23,170,664	7,802,078
1996	13,325,084	6,185,849	5,639,119	1,039,703	9,300,057	463,381	12,184,599	2,811,422	22,867,747	5,204,671
1997	13,598,982	6,369,996	5,647,579	1,076,580	9,314,018	462,933	12,169,887	2,892,879	23,172,526	5,302,879
1998	13,877,146	6,492,820	5,655,485	1,108,023	9,327,063	462,799	12,164,530	2,975,924	23,386,037	5,383,372
1999	14,102,775	6,543,496	5,610,879	1,107,654	9,253,491	459,988	12,089,572	3,042,067	22,976,804	5,340,282
2000	14,383,639	6,749,631	5,619,643	1,139,031	9,267,946	460,063	12,088,321	3,125,685	23,206,483	5,423,703
2001	14,722,384	6,847,520	5,603,548	1,146,437	9,241,395	459,667	12,075,079	3,150,766	22,966,952	5,417,301
2002	15,057,862	6,928,042	5,588,266	1,156,304	9,216,183	459,082	12,058,527	3,174,532	22,769,843	5,418,962
2003	15,611,217	7,356,034	5,704,620	1,207,724	9,408,102	467,999	12,291,069	3,262,670	23,428,759	5,598,292
2004	15,960,227	7,393,585	5,690,249	1,224,562	9,384,395	466,976	12,265,440	3,284,261	23,345,451	5,624,860
2005	17,105,985	8,046,906	6,074,500	1,328,102	10,018,161	498,479	13,093,344	3,539,366	25,158,174	6,069,289
2006	17,615,975	8,189,682	6,073,219	1,334,204	10,016,040	499,646	13,125,575	3,586,468	24,863,753	6,067,591
2007	18,295,491	8,514,578	6,190,001	1,408,507	10,208,662	506,902	13,326,077	3,677,341	25,846,529	6,330,015
2008	18,814,332	8,562,669	6,201,130	1,426,608	10,227,011	508,479	13,368,089	3,728,348	25,761,594	6,371,336
2009	19,280,803	8,774,868	6,174,835	1,422,512	10,183,635	508,115	13,357,836	3,765,306	25,264,239	6,327,758
2010	19,930,709	8,971,199	6,276,021	1,503,160	10,350,544	513,600	13,503,427	3,846,174	26,304,053	6,598,660
2011	20,302,486	8,786,561	6,165,635	1,460,157	10,168,456	507,838	13,351,298	3,802,836	25,123,458	6,412,176
2012	21,342,285	9,048,414	6,367,213	1,558,654	10,500,946	521,905	13,721,792	3,908,561	26,524,697	6,780,335
2013	20,846,775	8,632,260	6,025,276	1,502,935	9,923,284	493,043	12,968,457	3,691,398	25,025,205	6,460,974
2014	21,198,327	8,469,132	5,948,538	1,490,171	9,811,043	487,891	12,836,272	3,653,010	24,471,462	6,393,584
2015	21,317,757	8,371,163	5,826,077	1,472,175	9,609,066	477,984	12,580,892	3,578,469	23,784,603	6,276,431
2016	22,053,574	8,371,308	5,901,660	1,512,122	9,733,736	482,461	12,703,688	3,612,236	24,489,180	6,487,899
2017	21,473,373	7,829,583	5,565,698	1,404,940	9,179,613	456,067	12,021,168	3,413,929	22,584,431	6,071,363
2018	22,036,042	7,847,802	5,613,833	1,446,624	9,259,037	457,472	12,065,959	3,425,037	23,294,560	6,266,624
2019	22,132,045	7,609,943	5,486,762	1,400,161	9,049,443	448,363	11,831,723	3,357,776	22,394,840	6,103,943
2020	22,662,080	7,636,498	5,474,196	1,397,322	9,028,745	447,815	11,814,269	3,356,051	22,275,163	6,128,109
2021	22,750,182	7,376,590	5,274,964	1,307,378	8,700,129	436,962	11,475,139	3,277,755	20,603,409	5,736,140
2022	23,379,752	7,363,989	5,292,881	1,339,079	8,729,709	437,710	11,459,592	3,284,240	21,055,738	5,819,646
2023	23,882,870	7,144,030	5,232,540	1,304,097	8,630,175	435,663	11,376,515	3,269,310	20,379,719	5,672,090
2024	24,403,674	7,173,078	5,208,186	1,290,643	8,590,012	434,188	11,338,860	3,258,315	20,123,696	5,612,650
2025	25,039,224	7,038,957	5,203,903	1,323,950	8,582,969	432,533	11,256,593	3,246,232	20,683,776	5,706,653
2026	25,025,467	6,945,479	5,078,161	1,287,453	8,375,562	425,070	11,047,681	3,190,298	20,004,027	5,572,652
2027	25,560,473	7,014,749	5,109,797	1,303,871	8,427,746	427,308	11,098,720	3,207,155	20,279,578	5,634,077
2028	25,542,377	6,932,328	5,099,416	1,296,779	8,410,618	426,984	11,086,529	3,204,798	20,146,701	5,605,496
2029	25,523,231	6,964,832	5,089,960	1,289,168	8,395,018	426,655	11,077,835	3,202,355	20,009,693	5,577,064
2030	25,467,616	6,834,727	5,094,923	1,305,038	8,403,220	425,724	11,056,194	3,195,415	20,291,040	5,628,202
2031	25,302,510	6,817,961	5,048,333	1,281,355	8,326,373	422,905	10,983,903	3,174,374	19,868,873	5,533,404
2032	25,210,637	6,689,735	5,039,049	1,287,743	8,311,061	421,373	10,943,070	3,162,860	19,982,140	5,548,061
2033	25,225,832	6,787,763	5,034,820	1,279,853	8,304,092	421,610	10,951,043	3,164,674	19,840,699	5,520,960
2034	24,550,247	6,485,113	4,881,853	1,221,242	8,051,789	410,341	10,662,066	3,079,992	18,801,084	5,265,363
2035	25,164,621	6,815,297	5,046,988	1,305,093	8,324,184	420,566	10,926,508	3,156,864	20,288,413	5,596,230
TOTAL	1,014,743,876	377,146,357	299,076,048	66,960,907	492,274,481	24,394,947	604,172,957	161,644,152	1,197,277,285	313,381,381

DELTA WATER[b] 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)
1962	0	0	0	0	0	0	0	0	0	55,537
1963	0	708,170	0	795,304	0	0	0	0	59,889	1,654,789
1964	22,255	1,290,199	9,612	1,623,525	0	0	0	0	99,221	2,827,914
1965	22,357	2,230,794	18,191	2,749,813	0	0	413	413	171,041	4,834,786
1966	38,804	3,989,021	34,208	4,914,780	0	0	576	576	197,872	7,432,440
1967	72,845	7,868,519	69,740	9,648,901	0	0	573	573	256,562	13,101,611
1968	131,555	15,654,468	146,028	18,894,957	0	1,050	1,451	2,501	334,299	25,640,641
1969	202,887	23,675,125	220,233	28,517,134	0	1,225	4,184	5,409	406,238	37,125,420
1970	295,669	31,309,182	280,029	37,998,455	0	3,848	17,418	21,266	445,530	48,750,955
1971	417,702	40,845,235	350,348	49,826,048	0	4,546	19,506	24,052	435,388	62,121,392
1972	546,344	56,050,947	431,617	68,335,715	0	4,929	21,498	26,427	461,115	84,564,496
1973	595,969	60,710,020	445,849	74,028,868	0	7,059	22,125	29,184	435,661	89,566,997
1974	618,078	67,177,561	467,234	81,461,319	0	8,336	23,681	32,017	458,729	98,586,107
1975	650,130	73,035,251	490,941	88,181,532	0	9,416	22,944	32,360	468,321	107,520,118
1976	673,427	76,138,429	488,797	92,313,176	0	7,004	23,604	30,608	490,931	113,792,327
1977	702,403	75,027,336	519,984	91,526,260	0	16,917	24,406	41,323	483,800	112,878,936
1978	729,990	84,322,382	542,932	102,409,366	0	12,635	24,572	37,207	489,334	127,347,389
1979	716,697	84,917,080	539,276	103,690,503	0	16,575	28,699	45,274	507,043	131,520,135
1980	865,562	94,076,850	601,020	115,156,680	0	19,834	26,909	46,743	565,199	145,877,032
1981	952,279	111,896,079	687,300	135,897,435	0	21,682	37,019	58,701	574,164	174,107,886
1982	1,029,818	124,182,530	759,771	150,124,346	0	16,117	49,452	65,569	548,731	192,398,319
1983	1,127,602	162,460,838	879,154	198,147,063	0	15,202	28,830	44,032	644,532	248,346,264
1984	1,320,886	224,782,586	1,036,855	268,196,740	20,590	15,442	29,377	65,409	732,379	332,777,086
1985	1,385,302	286,307,718	1,040,280	335,512,371	21,877	15,442	30,763	68,082	768,178	405,698,114
1986	1,351,761	299,136,350	1,037,011	350,708,183	27,024	15,442	31,149	73,615	757,826	426,295,359
1987	1,356,713	304,726,078	1,027,587	358,089,458	32,172	15,442	31,535	79,149	762,482	439,852,696
1988	1,376,903	309,345,014	1,208,917	364,194,781	37,319	15,442	32,050	84,811	763,934	448,772,973
1989	2,878,398	302,043,545	1,360,151	376,422,896	42,467	15,442	32,565	90,474	765,085	463,800,251
1990	3,057,509	309,143,175	1,565,765	386,308,431	48,901	15,442	33,079	97,422	765,764	476,745,820
1991	3,141,414	314,874,477	1,674,268	392,184,462	123,540	353,890	33,594	511,024	765,732	483,814,076
1992	3,299,698	313,930,030	1,775,376	391,942,245	123,540	353,890	34,109	511,539	763,023	484,556,054
1993	3,657,491	346,632,485	2,193,161	431,720,357	247,761	709,732	49,634	1,007,127	762,304	546,026,271
1994	3,806,842	345,763,038	2,416,507	431,384,583	247,761	709,732	50,666	1,008,159	762,537	545,711,586
1995	3,866,232	342,306,231	2,632,192	430,042,416	247,761	709,732	51,957	1,009,450	763,759	543,907,636
1996	3,826,935	347,482,684	3,020,758	433,352,009	247,761	709,732	53,247	1,010,740	763,175	547,475,015
1997	3,864,918	352,645,144	3,398,641	439,916,962	247,761	709,732	54,537	1,012,030	762,888	554,186,887
1998	3,891,787	354,500,952	3,879,337	443,105,275	247,761	709,732	55,828	1,013,321	762,942	557,421,702
1999	3,832,093	352,946,021	3,834,050	441,139,172	247,761	709,732	57,118	1,014,611	763,007	555,203,271
2000	3,862,574	357,731,216	3,853,019	446,910,954	247,761	709,732	58,667	1,016,160	762,722	561,011,056
2001	3,831,071	359,923,914	3,846,798	449,232,832	247,761	709,732	60,215	1,017,708	762,611	563,336,973
2002	3,804,688	359,591,449	3,833,938	449,057,678	247,761	709,732	61,764	1,019,257	763,232	563,185,077
2003	3,906,455	375,764,236	3,984,368	467,991,545	247,761	709,732	63,312	1,020,805	774,947	583,278,330
2004	3,895,070	375,398,733	3,954,770	467,888,579	247,761	709,732	64,861	1,022,354	776,162	583,205,054
2005	4,194,061	404,488,942	4,244,680	503,859,989	247,761	709,732	66,409	1,023,902	777,384	622,959,612
2006	4,158,784	406,621,610	4,255,796	506,408,343	247,761	709,732	68,216	1,025,709	777,550	625,692,649
2007	4,302,242	421,096,638	4,347,209	524,050,192	247,761	709,732	70,022	1,027,515	777,395	644,205,715
2008	4,294,996	420,959,187	4,327,769	524,551,548	247,761	709,732	71,829	1,029,322	777,785	644,943,756
2009	4,230,297	425,972,665	4,355,630	529,618,499	247,761	709,732	73,636	1,031,129	777,548	649,982,374
2010	4,374,773	435,288,890	4,395,581	541,856,791	247,761	709,732	75,442	1,032,935	777,651	662,886,850
2011	4,212,105	426,634,497	4,317,778	531,245,281	247,761	709,732	77,507	1,035,000	777,237	651,624,356
2012	4,419,184	445,910,566	4,445,431	555,049,983	247,761	709,732	79,572	1,037,065	777,551	677,139,494
2013	4,166,542	426,089,887	4,223,478	530,049,514	247,761	709,732	81,894	1,039,387	730,397	648,074,367
2014	4,086,786	420,826,146	4,155,103	523,827,465	247,761	709,732	84,217	1,041,710	692,760	641,083,744
2015	3,976,186	415,483,807	4,094,171	516,848,781	247,761	709,732	86,385	1,043,878	636,306	632,443,891
2016	4,076,599	422,150,648	4,107,563	525,682,674	247,761	709,732	88,803	1,046,296	612,175	641,713,662
2017	3,776,085	394,795,552	3,852,199	492,424,001	247,761	709,732	88,805	1,046,298	569,764	605,330,257
2018	3,868,581	400,779,828	3,857,537	500,218,936	247,761	709,732	88,803	1,046,296	491,175	613,242,844
2019	3,731,818	389,133,923	3,749,254	486,429,994	247,761	709,732	86,124	1,043,617	425,068	598,601,032
2020	3,711,767	390,413,609	3,759,730	488,105,354	247,761	709,732	73,955	1,031,448	402,158	600,761,919
2021	3,465,049	374,368,229	3,642,968	468,414,894	247,761	709,732	73,112	1,030,605	379,383	580,175,551
2022	3,520,154	373,887,584	3,639,281	469,209,355	247,761	709,732	71,699	1,029,192	377,918	581,143,282
2023	3,425,847	362,210,760	3,548,711	456,512,327	247,761	709,732	71,699	1,029,192	377,262	567,566,677
2024	3,388,290	361,923,454	3,553,616	456,298,662	247,761	709,732	71,697	1,029,190	375,608	567,067,511
2025	3,452,103	358,204,844	3,504,557	453,676,294	247,761	709,732	71,695	1,029,188	373,753	564,344,555
2026	3,364,227	352,993,220	3,451,798	446,761,095	247,761	709,732	71,694	1,029,187	373,028	556,234,701
2027	3,402,930	357,025,158	3,481,124	451,972,686	247,761	709,732	71,691	1,029,184	372,043	561,720,036
2028	3,384,578	353,454,028	3,450,047	448,040,679	247,761	709,732	71,690	1,029,183	370,951	557,696,563
2029	3,366,199	353,798,373	3,456,904	448,177,287	247,761	709,732	71,688	1,029,181	369,545	557,729,768
2030	3,400,321	350,593,663	3,406,241	445,102,324	247,761	709,732	71,687	1,029,180	368,194	554,477,536
2031	3,340,132	347,621,165	3,387,027	441,108,315	247,761	709,732	71,685	1,029,178	365,197	550,203,621
2032	3,351,087	343,766,584	3,335,522	437,048,922	247,761	709,732	71,684	1,029,177	365,386	545,903,402
2033	3,332,955	346,801,009	3,368,202	440,033,512	247,761	709,732	71,683	1,029,176	364,446	549,144,686
2034	3,174,379	330,947,798	3,238,731	420,769,998	247,761	709,732	71,683	1,029,176	361,733	528,700,095
2035	3,383,527	348,114,515	3,378,366	441,921,172	247,761	709,732	71,683	1,029,176	360,524	550,746,608
TOTAL	191,959,697	20,094,897,871	178,888,017	25,016,817,976	11,131,153	31,500,725	3,686,276	46,318,154	40,893,164	31,029,853,892

TABLE B-23: EQUIVALENT UNIT CHARGE FOR WATER SUPPLY FOR EACH CONTRACTOR [a]

(in dollars per acre-foot)

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	30.23	30.23
County of Butte	0	0	0	0	26.31	26.31
Plumas County Flood Control and Water Conservation District	17.99	1.96	0	19.95	22.44	42.39
Feather River Area	1.29	0.14	0	1.43	26.90	28.33
NORTH BAY AREA						
Napa County Flood Control and Water Conservation District	105.28	24.76	15.03	145.07	17.17	162.24
Solano County Flood Control and Water Conservation District	59.88	5.64	5.19	70.71	25.34	96.05
North Bay Area	76.48	12.63	8.79	97.90	22.35	120.25
SOUTH BAY AREA						
Alameda County Flood Control and Water Conservation District, Zone 7	14.95	28.94	22.53	66.42	19.86	86.28
Alameda County Water District	14.64	24.37	19.50	58.51	17.43	75.94
Santa Clara Valley Water District	17.43	18.89	16.09	52.41	14.51	66.92
South Bay Area	16.48	21.60	17.81	55.89	15.96	71.85
SAN JOAQUIN VALLEY AREA						
County of Kings	4.33	6.59	8.34	19.26	17.55	36.81
Devil's Den Water District	8.65	13.19	10.76	32.60	14.56	47.16
Dudley Ridge Water District	5.08	6.37	7.33	18.78	15.47	34.25
Empire West Side Irrigation District	3.46	5.22	6.41	15.09	15.09	30.18
Kern County Water Agency	8.80	11.39	11.55	31.74	17.81	49.55
Oak Flat Water District	1.73	3.42	4.50	9.65	14.66	24.31
Tulare Lake Basin Water Storage District	5.18	6.49	7.40	19.07	16.02	35.09
San Joaquin Valley Area	8.18	10.60	10.85	29.63	17.45	47.08
CENTRAL COASTAL AREA						
San Luis Obispo County Flood Control and Water Conservation District	21.48	26.98	19.77	68.23	28.49	96.72
Santa Barbara County Flood Control and Water Conservation District	22.03	27.31	19.77	69.11	28.46	97.57
Central Coastal Area	21.84	27.20	19.77	68.81	28.47	97.28
SOUTHERN CALIFORNIA AREA						
Antelope Valley-East Kern Water Agency	54.58	62.31	81.07	197.96	42.51	240.47
Castaic Lake Water Agency	69.39	82.01	71.96	223.36	32.31	255.67
Coachella Valley Water District	40.32	73.70	93.09	207.11	19.75	226.86
Crestline-Lake Arrowhead Water Agency	76.51	88.78	99.33	264.62	30.44	295.06
Desert Water Agency	40.97	74.60	93.95	209.52	19.85	229.37
Littlerock Creek Irrigation District	30.72	63.21	84.21	178.14	21.46	199.60
Mojave Water Agency	55.07	90.11	114.26	259.44	30.16	289.60
Palmdale Water District	50.53	75.19	102.15	227.87	38.25	266.12
San Bernardino Valley Municipal Water District	74.62	94.49	72.57	241.68	27.40	269.08
San Gabriel Valley Municipal Water District	72.06	91.71	71.28	235.05	28.20	263.25
San Gorgonio Pass Water Agency	91.14	107.31	83.03	281.48	30.14	311.62
The Metropolitan Water District of Southern California	61.05	77.66	62.01	200.72	25.75	226.47
Ventura County Flood Control District	79.14	85.32	87.29	251.75	33.68	285.43
Southern California Area	61.07	78.37	65.84	205.28	26.52	231.80
ALL AREAS	35.26	44.45	38.08	117.79	23.77	141.56

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 rates; 4.736 percent per annum.*

TABLE B-24: EQUIVALENT UNIT TRANSPORTATION COSTS OF WATER DELIVERED FROM OR THRU EACH AQUEDUCT REACH[a]

(in dollars per acre-foot)

AQUEDUCT REACH	UNIT COSTS OF REACH[b]					CUMULATIVE UNIT COSTS FROM THE DELTA				
	CAPITAL COSTS	MINIMUM OMP+R	OFF-AQUEDUCT COSTS	VARIABLE OMP+R	TOTAL	CAPITAL COSTS	MINIMUM OMP+R	OFF-AQUEDUCT COSTS	VARIABLE OMP+R	TOTAL
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
NORTH BAY AQUEDUCT										
1	40.30	1.86	2.20	4.59	48.95	40.30	1.86	2.20	4.59	48.95
2	22.70	1.24	0	0	23.94	63.00	3.10	2.20	4.59	72.89
3	37.02	16.13	3.76	11.31	68.22	100.02	19.23	5.96	15.90	141.11
SOUTH BAY AQUEDUCT										
1	5.75	9.63	5.63	13.12	34.13	7.23	11.32	8.43	19.29	46.27
2	.55	1.02	0	0	1.57	7.78	12.34	8.43	19.29	47.84
4	1.85	1.63	0	0	3.48	9.63	13.97	8.43	19.29	51.32
5	4.01	1.35	0	0	5.36	13.64	15.32	8.43	19.29	56.68
6	.23	.10	0	0	.33	13.87	15.42	8.43	19.29	57.01
7	1.84	.19	0	0	2.03	15.71	15.61	8.43	19.29	59.04
8	2.70	.22	0	0	2.92	18.41	15.83	8.43	19.29	61.96
9	5.26	1.06	0	0	6.32	23.67	16.89	8.43	19.29	68.28
CALIFORNIA AQUEDUCT										
1	1.48	1.69	2.80	6.17	12.14	1.48	1.69	2.80	6.17	12.14
2A	1.07	.35	0	0	1.42	2.55	2.04	2.80	6.17	13.56
2B	.52	.16	0	0	.68	3.07	2.20	2.80	6.17	14.24
3	.43	.12	0	0	.55	3.50	2.32	2.80	6.17	14.79
4	.89	.84	1.32	3.10	6.15	4.39	3.16	4.12	9.27	20.94
5	.87	.14	0	0	1.01	5.26	3.30	4.12	9.27	21.95
6	.26	.06	0	0	.32	5.52	3.36	4.12	9.27	22.27
7	.80	.46	0	0	1.26	6.32	3.82	4.12	9.27	23.53
8C	.02	.04	0	0	.06	6.34	3.86	4.12	9.27	23.59
8D	.34	.17	0	0	.51	6.68	4.03	4.12	9.27	24.10
9	.25	.14	0	0	.39	6.93	4.17	4.12	9.27	24.49
10A	.29	.17	0	0	.46	7.22	4.34	4.12	9.27	24.95
11B	.43	.12	0	0	.55	7.65	4.46	4.12	9.27	25.50
12D	.41	.11	0	0	.52	8.06	4.57	4.12	9.27	26.02
12E	.27	.18	0	0	.45	8.33	4.75	4.12	9.27	26.47
13B	.60	.22	0	0	.82	8.93	4.97	4.12	9.27	27.29
14A	2.18	1.87	2.44	5.57	12.06	11.11	6.84	6.56	14.84	39.35
14B	.35	.18	0	0	.53	11.46	7.02	6.56	14.84	39.88
14C	.30	.16	0	0	.46	11.76	7.18	6.56	14.84	40.34
15A	1.58	1.97	3.00	6.83	13.38	13.34	9.15	9.56	21.67	53.72
16A	2.61	3.29	6.53	14.64	27.07	15.95	12.44	16.09	36.31	80.79
17E	9.51	8.29	22.91	50.72	91.43	25.46	20.73	39.00	87.03	172.22
17F	2.50	.06	0	0	2.56	27.96	20.79	39.00	87.03	174.78
18A	2.48	.39	0	-4.04	-1.17	30.44	21.18	39.00	82.99	173.61
19	1.74	.96	0	0	2.70	32.18	22.14	39.00	82.99	176.31
19C	0	0	0	0	0	32.18	22.14	39.00	82.99	176.31
20A	1.36	.64	0	0	2.00	33.54	22.78	39.00	82.99	178.31
20B	1.86	.54	0	0	2.40	35.40	23.32	39.00	82.99	180.71
21	.93	.37	0	0	1.30	36.33	23.69	39.00	82.99	182.01
22A	.62	.27	0	0	.89	36.95	23.96	39.00	82.99	182.90
22B	7.41	6.62	7.55	15.25	36.83	44.36	30.58	46.55	98.24	219.73
23	2.04	.53	0	-4.08	-1.51	46.40	31.11	46.55	94.16	218.22
24	4.77	1.48	0	0	6.25	51.17	32.59	46.55	94.16	224.47
25	2.52	.08	0	0	2.60	53.69	32.67	46.55	94.16	227.07
26A	3.43	3.06	0	-25.91	-19.42	57.12	35.73	46.55	68.25	207.65
28G	5.61	.88	0	0	6.49	62.73	36.61	46.55	68.25	214.14
28H	5.42	.61	0	0	6.03	68.15	37.22	46.55	68.25	220.17
28J	13.47	5.20	0	0	18.67	81.62	42.42	46.55	68.25	238.84
WEST BRANCH										
29A	2.67	4.11	2.80	7.33	16.91	30.63	24.90	41.80	94.36	191.69
29F	1.95	.64	0	0	2.59	32.58	25.54	41.80	94.36	194.28
29G	6.24	1.06	0	-11.93	-4.63	38.82	26.60	41.80	82.43	189.65
29H	3.94	2.26	0	0	6.20	42.76	28.86	41.80	82.43	195.85
29J	7.10	.49	0	-23.39	-15.80	49.86	29.35	41.80	59.04	180.05
30	11.57	2.05	0	0	13.62	61.43	31.40	41.80	59.04	193.67
COASTAL BRANCH										
31A	5.33	7.54	2.26	5.09	20.22	12.01	11.57	6.38	14.36	44.32
33A	2.21	.19	0	0	2.40	14.22	11.76	6.38	14.36	46.72
34	.13	.04	0	0	.17	14.35	11.80	6.38	14.36	46.89
35	.33	.09	0	0	.42	14.68	11.89	6.38	14.36	47.31

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) *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; 4.736 percent per annum.*

TABLE B-25: ANNUAL SURPLUS WATER DELIVERIES

(in acre-feet)

Project Service Area and Water Contractor	Calendar Year										
	1973 [a]	1974	1975	1976	1977	1978	1979	1980 [c]	1981 [c]	1982 [c]	TOTAL
SOUTH BAY AREA											
Alameda County Flood Control and Water Conservation District, Zone 7	0	0	0	3,636	0	0	0	0	0	0	3,636
Alameda County Water District	0	0	0	4,147	0	0	0	0	0	0	4,147
Santa Clara Valley Water District	2,499	2,934	18,470	24,705	0	0	15,998	14,278	18,920	1,303	99,107
Total	2,499	2,934	18,470	32,488	0	0	15,998	14,278	18,920	1,303	106,890
SAN JOAQUIN VALLEY AREA											
Devil's Den Water District	4,104	4,128	7,495	5,727	0	0	0	6,092	10,647	6,359	44,552
Dudley Ridge Water District	13,192	33,391	40,555	30,922	0	7,586	38,545	39,079	32,327	14,463	250,060
Empire West Side Irrigation District	2,814	1,539	3,448	3,457	0	0	0	0	2,992	926	15,176
Hacienda Water District [b]	5,600	1,972	3,759	3,720	0	0	1,000	0	0	0	16,051
Kern County Water Agency	163,774	299,433	410,820	442,150	0	8,623	524,247	327,233	624,581	124,736	2,925,597
Oak Flat Water District	1,013	3,471	3,576	3,840	0	6	698	718	2,788	721	16,831
Tulare Lake Basin Water Storage District	63,988	68,989	132,206	57,806	0	0	66,342	14,817	215,926	67,365	687,439
Total	254,485	412,923	601,859	547,622	0	16,215	630,832	387,939	889,261	214,570	3,955,706
SOUTHERN CALIFORNIA AREA											
Littlerock Creek Irrigation District	80	67	356	0	0	0	0	0	247	0	750
Total	80	67	356	0	0	0	0	0	247	0	750
TOTAL ALL AREAS	257,064	415,924	620,685	580,110	0	16,215	646,830	402,217	908,428	215,873	4,063,346

a) May through December only.
b) Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.
c) Includes unscheduled water, previously called extra surplus water.

TABLE B-26: POWER COSTS FOR PUMPING SURPLUS WATER

(in dollars)

Area/Pumping Plant	Calendar Year								
	1974		1975		1976		1977		1978-1982
	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	
CALIFORNIA AQUEDUCT									
Reach 1									
Harvey O. Banks Delta P.P.	0	374,506	298,709	617,396	60,502	597,636	0	0	
Reach 4									
Dos Amigos Pumping Plant	81,328	181,827	126,806	264,000	63,788	225,126	0	0	
Reach 14A									
Buena Vista Pumping Plant	69,381	95,596	99,676	99,745	85,415	103,213	0	0	
Reach 15A									
Wheeler Ridge Pumping Plant	62,301	22,550	30,049	313	8,579	4,885	0	0	
Reach 16A									
Wind Gap Pumping Plant	0	5,599	0	661	0	5,385	0	0	
Reach 17E									
A. D. Edmonston (Tehachapi Pumping Plant)	0	450	0	2,391	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	
TOTAL	266,294	721,495	619,759	1,081,604	290,630	1,065,068	0	0	
COMBINED TOTAL	987,789		1,701,363		1,355,698		0		

(A study for the determination of charges for surplus water delivery for years 1978 through 1982 is currently being completed and the results are not available at this time).

TABLE B-27: POWER, REPLACEMENT, AND ADMINISTRATIVE CHARGE FOR SURPLUS WATER DELIVERIES

(in dollars)

Area/Agency	Calendar Year				
	1974	1975	1976	1977	1978 — 1982
SOUTH BAY AREA					
Alameda County FC&WCD, Zone 7					
Capacity	0	0	5,873	0	
Energy	0	0	13,116	0	
Replacement	0	0	252	0	
Administrative	0	0	1,640	0	
Total	0	0	20,881	0	
Alameda County Water District					
Capacity	0	0	6,126	0	
Energy	0	0	14,959	0	
Replacement	0	0	286	0	
Administrative	0	0	1,758	0	
Total	0	0	23,129	0	
Santa Clara Valley Water District					
Capacity	21,773	42,153	32,954	0	
Energy	10,203	65,969	89,116	0	
Replacement	-	1,216	1,703	0	
Administrative	3,451	5,023	7,675	0	
Total	35,427	114,361	131,448	0	
SAN JOAQUIN VALLEY AREA					
Devil's Den Water District					
Capacity	3,308	7,972	4,473	0	
Energy	9,105	17,011	13,047	0	
Replacement	0	259	288	0	
Administrative	1,187	2,038	1,779	0	
Total	13,600	27,280	19,587	0	
Dudley Ridge Water District					
Capacity	6,394	23,216	6,629	0	
Energy	44,892	58,225	44,658	0	
Replacement	-	1,052	1,273	0	
Administrative	10,006	11,029	10,804	0	
Total	61,292	93,522	63,364	0	
Empire West Side Irrigation District					
Capacity	324	2,333	685	0	
Energy	2,069	4,950	4,993	0	
Replacement	-	89	143	0	
Administrative	460	938	1,074	0	
Total	2,853	8,310	6,895	0	
Hacienda Water District[a]					
Capacity	654	2,665	1,588	0	
Energy	2,652	5,397	5,373	0	
Replacement	-	97	153	0	
Administrative	953	1,022	2,197	0	
Total	4,259	9,181	9,311	0	
Kern County Water Agency					
Capacity	216,862	441,640	220,439	0	
Energy	555,925	732,538	792,366	0	
Replacement	-	15,889	24,127	0	
Administrative	95,360	111,724	162,001	0	
Total	868,147	1,301,791	1,198,933	0	
Oak Flat Water District					
Capacity	0	1,644	424	0	
Energy	3,125	3,557	3,956	0	
Replacement	-	58	119	0	
Administrative	998	972	1,216	0	
Total	4,123	6,231	5,715	0	
Tulare Lake Basin Water Storage District					
Capacity	16,713	97,316	11,425	0	
Energy	92,750	189,808	83,484	0	
Replacement	-	3,428	2,378	0	
Administrative	40,687	35,954	19,750	0	
Total	150,150	326,506	117,037	0	
SOUTHERN CALIFORNIA AREA					
Littlerock Creek Irrigation District					
Capacity	266	820	14	0	
Energy	774	4,149	0	0	
Replacement	-	138	0	0	
Administrative	47	97	6	0	
Total	1,087	5,204	20	0	
TOTAL, ALL CONTRACTORS					
Capacity	266,294	619,759	290,630	0	
Energy	721,495	1,081,604	1,065,068	0	
Replacement	-	22,226	30,722	0	
Administrative	153,149	168,797	209,900	0	
Total	1,140,938	1,892,386	1,596,320	0	

(A study for the determination of charges for surplus water delivery for years 1978 through 1982 is currently being completed and the results are not available at this time).

a) *Agency merged with Tulare Lake Basin Water Storage District effective January 1, 1981.*

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INDEX TO TABULAR

SUBJECT		BULLETIN 132-83 TABLE NO.	TITLE	CORRESPONDING TABLE NOS. AND EXHIBIT NOS. IN PREVIOUS BULLETINS 132 1982	1981	1980	1979	1978	1977	1976	1975	1974	1973
			APPENDIX B (No allowance for future price escalation, for billing purposes)										
AQUEDUCT REACHES		B-1	Factors for Distributing Reach Capital Costs Among Contractors	none	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	none	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 and Power Recovery Plant	none	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	none	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	none	B-5A	B-5A	B-5A	B-5A	B-5A	B-5A	B-5	B-5	B-5
		B-5B	Annual Water Quantities Delivered to Each contractor	none	B-5B	B-5B	B-5B	B-5B	B-5B	B-5B	B-5	none	none
		B-6	Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities	none	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	none	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	none	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	none	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9
COSTS PAID THROUGH:	TRANSPORTATION CHARGE	B-10	Capital Costs of Each Aqueduct Reach to be Reimbursed through Capital Cost Component of Transportation Charge	none	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 through Minimum OMP&R Component of Transportation Charge	none	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 through Variable OMP&R Component of Transportation Charge	none	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 through Delta Water Charge	32	B-13	B-13	B-13	B-13	B-13	B-13	B-13	B-13	B-13
REDETERMINED ANNUAL TRANSORTATION CHARGE FOR EACH CONTRACTOR		B-14	Capital Costs of Transportation Facilities Allocated to Each Contractor	none	B-14	B-14	B-14	B-14	B-14	B-14	B-14	B-14	B-14
		B-15	Capital Cost Component of Transportation Charge for Each Contractor	none	B-15	B-15	B-15	B-15	B-15	B-15	B-15	B-15	B-15
		B-16A	Minimum OMP&R Component of Transportation Charge for Each Contractor	none	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16	B-16
		B-16B	Off-Aqueduct Component of Transportation Charge for Each Contractor	none	none	none	none	none	none	none	none	none	none
		B-17	Unit Variable OMP&R Component of Transportation Charge	none	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	none	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	none	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	33	B-20A	B-20	B-20	B-20	B-20	B-20	B-20	B-20	B-20
		B-20B	Delta Water Rates by Facility	none	B-20B	none	none	none	none	none	none	none	none
TOTAL CHARGES		B-21	Total Delta Water Charge for Each Contractor	none	B-21	B-21	B-21	B-21	B-21*	B-21	none	none	none
		B-22	Total Transportation and Delta Water Charge for Each Contractor	none	B-22	B-22	B-22	B-22	B-22*	B-22	none	none	none
EQUIVALENT COSTS OF WATER		B-23	Equivalent Unit Charge for Water Supply for Each Contractor	none	B-23	B-23	B-23	B-23	B-23	B-23	B-21	B-21	B-21
		B-24	Equivalent Unit Transportation Costs of Water Delivered from or through Each Aqueduct Reach	34	B-24	B-24	B-24	B-24	B-24	B-24	B-22	B-22	B-22
SURPLUS WATER SERVICE AND CHARGES		B-25	Annual Surplus Water Deliveries	none	B-25	B-25	B-25	B-25	B-25	B-25	none	none	none
		B-26	Power Costs for Pumping Surplus Water	none	B-26	B-26	B-26	B-26	B-26	B-26	none	none	none
		B-27	Power, Replacement and Administrative Charge for Surplus Water Deliveries	none	B-27	B-27	B-27	B-27	B-27	B-27	none	none	none
		B-28	Projected Annual Surplus Water Deliveries	none	B-28	B-28	B-28	B-28	B-28*	B-28	none	none	none

* *This table not included in Bulletin.*

MATERIAL IN BULLETIN

SUBJECT	BULLETIN 132-83 TABLE NO.	TITLE	CORRESPONDING TABLE NOS. AND EXHIBIT NOS. IN PREVIOUS BULLETINS 132 1982	1981	1980	1979	1978	1977	1976	1975	1974	1973
		MAIN TEXT (with allowance for future capital price escalation, for financial planning purposes)										
PROJECTED ANNUAL OPERATIONS	1	First Year Project Water Demands Exceed Supplies	2	none	none	none	none	none	none	none	none	none
	2	Estimated Delivery Capability Year 1985	3	none	none	none	none	none	none	none	none	none
	3	Estimated Delivery Capability Year 1990	4	none	none	none	none	none	none	none	none	none
	4	Estimated Delivery Capability Year 1995	5	none	none	none	none	none	none	none	none	none
	5	Estimated Delivery Capability Year 2000	6	none	none	none	none	none	none	none	none	none
	6	Estimated Total Unit Water Rates	7	Ex.2								
	7	Estimated Energy Requirements and Costs	9	Ex.29								
DESIGN, RIGHT OF WAY AND CONSTRUCTION IN PROGRESS	8	SWP Design Activities in Progress	10	Ex.10								
	9	Acquisition of Land Parcels	11	Ex.13								
	10	SWP Construction Activities in Progress	12	Ex.14								
ACTUAL OPERATIONS FOR PRIOR YEAR	11	Annual Entitlements and Water Demands	14	2	1	1	1	1	1	1	1	1
	12	Summary of 1982 Entitlement and Surplus Water Service to Long-Term Contractors	15	3	2	2	2	2	2	2	none	none
	13	Water Deliveries in 1982	16	4	3	3	3	3	3	3	2	2
	14	Water Contractors Total Requests for Entitlement Water 1982 thru 1988	17	Ex.17								
	15	Comparison of Actual Storage in Plan of Operations	18	Ex.23								
	16	Water Quality Measurements at Selected Stations in 1982	19	5	5	5	5	5	5	5	4	4
	17	SWP Benefits thru 1982	20	Ex.25								
	18	Monthly Power Operations in 1982	21	6	6	6	6	6	5	6	5	5
	19	Recreation Use at SWP Facilities in 1981 and 1982	22	Ex.26								
	20	Fish Planted by Department of Fish and Game - SWP Facilities during 1982	23	Ex.27								
PROJECTED ANNUAL FINANCING OF CAPITAL AND OPERATING EXPENDITURES	21	Project Financial Analysis June 30, 1983	24	7	7	7	7	*	7	7	6	5
	22	Project Capital Expenditures	25	8	8	8	8	7	8	8	7	7
	23	Application of Revenue Bond Proceeds	26	none	none	none	none	none	none	none	none	none
	24	Revenue Bond Proceeds Affecting the Project Interest Rate	27	none	none	none	none	none	none	none	none	none
	25	Actual Bond Sales and Project Interest Rates	28	9	9	9	9	*	9	9	8	8
	26	Projected Bond Sales	29	9A	9A	9A	none	none	none	none	none	none
	27	Project Operating Costs	30	10	10	10	10	8	10	10	9	9
	28	Annual Service on Bonds Sold as of July 1, 1983	31	11	11	11	11	*	11	11	10	10

* *This table not included in Bulletin.*

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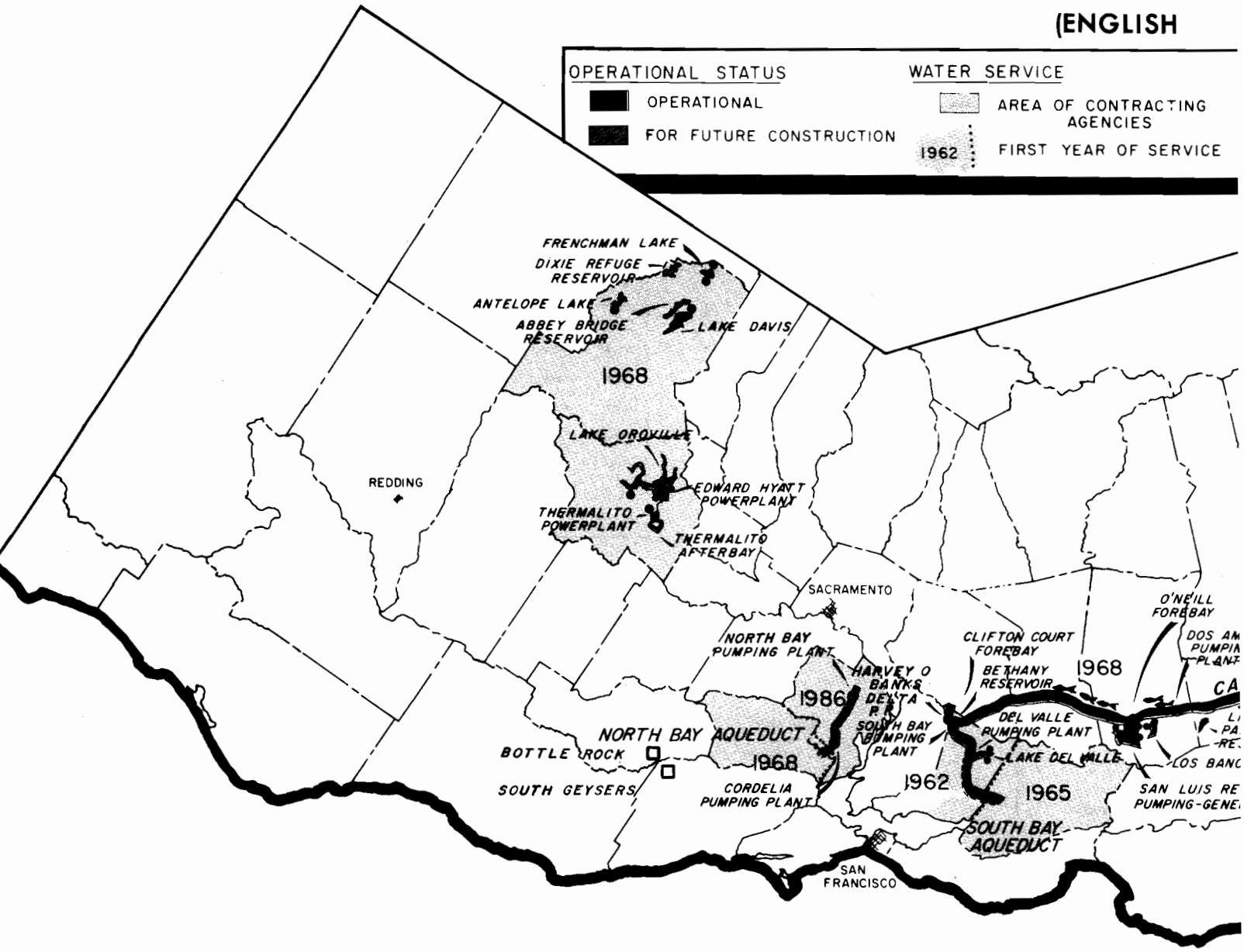
PROJECT (ENGLISH



DAMS AND RESERVOIRS

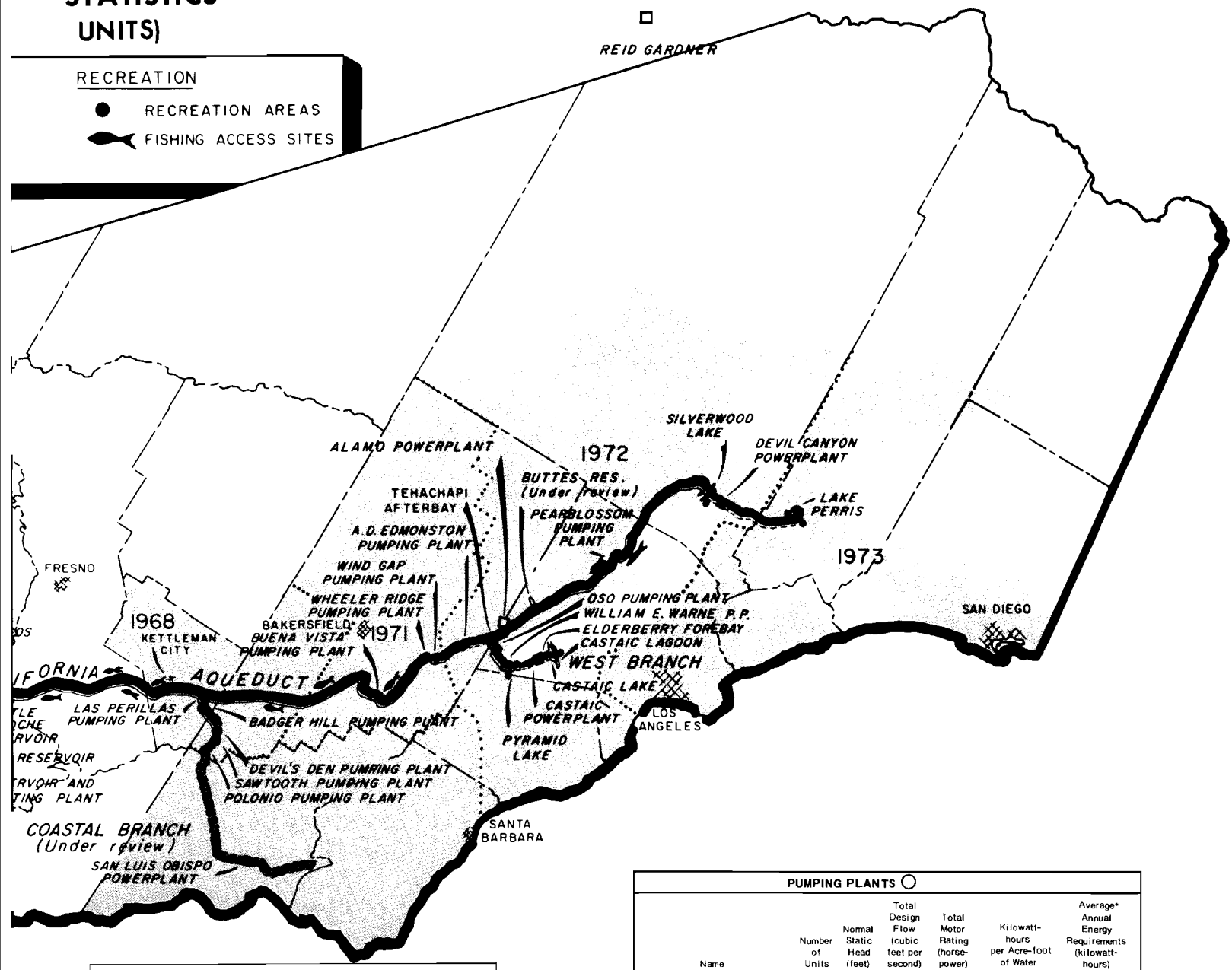
Name of Reservoir	Reservoirs: Capacity (Acre-feet)	Reservoirs: Surface Area (acres)	Reservoirs: Shoreline (miles)	Dams: Crest Elevation (1 (feet)	Dams: Structural Height (feet)	Dams: Crest Length (feet)	Dams: Volume (cubic yards)
Frenchman Lake	55,477	1,580	21	5,607	139	720	537,000
Antelope Lake	22,566	931	15	5,025	120	1,320	380,000
Lake Davis	84,371	4,028	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 (under review)	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
Subtotal	67.8	21.1	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 (under review)	96.2	14.8	81.4	0	0
Subtotal, branches	128.1	23.9	87.8	7.2	9.2
Totals	639.9	430.0	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-foot 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	102/283[1]	
State Share			6,872	222,100		165,000,000
Alamo	1	140	1,637	15,000	125	113,000,000
Devil Canyon	2	1,418	1,200	119,700	1,209	877,000,000
W. E. Warne	4	740	3,100	157,000	578	854,000,000
Castaic						
Total	7	1,063	18,400	1,250,000	994	
State Share[2]			3,092	214,000		1,396,000,000
San Luis Obispo[3]	1	730	111	5,900	654	24,000,000
Small Hydroelectric Powerplants				23,600		137,000,000
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		1,000,000,000
Total, State Share						8,168,000,000

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.
3) Under Review
** 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-foot of Water	Average* Annual Energy Requirements (kilowatt-hours)
Edward Hyatt (Oro.)(pumped stor.)	3	500/660[1]	5,610	519,000	621/826	(2
Thermalito (pumped storage)	3	85/102[1]	9,000	120,000	93/120	(2
North Bay Aqueduct:						
Cache Slough	5	120	115	3,600	276	12,000,000
Cordelia	5	372	80	3,300	543	12,000,000
South Bay Aqueduct:						
South Bay	9	545	330	27,750	797	160,000,000
Del Valle	4	0/38[3]	120	1,000	72	2,000,000
California Aqueduct (main line):						
Delta	11	244	10,303	333,000	296	1,374,000,000
San Luis (pumped stor.)						
Total	8	99/327[3]	11,000	504,000	166/537	
State Share			5,762	264,000		304,000,000
Dos Amigos						
Total	6	113	13,200	240,000	138	
State Share			7,100	130,000		585,000,000
Buena Vista	10[4]	205	5,049	136,000	242	748,000,000
Wheeler Ridge	9[4]	233	4,598	140,000	295	726,000,000
Wind Gap	9[4]	518	4,410	308,000	639	1,683,000,000
A. D. Edmonston (Tehachapi)	14[4]	1,926	4,095	1,040,000	2,246	6,061,000,000
Pearblossom	6	540	1,380	113,200	703	633,000,000
California Aqueduct (branches):						
Oso	8	231	3,128	93,800	281	435,000,000
Las Perillas	6	55	450	4,050	77	18,000,000
Badger Hill	6	151	450	10,500	200	38,000,000
Devil's Den (under review)	4	409	126	8,000	621	36,000,000
Sawtooth (under review)	4	331	126	6,500	487	28,000,000
Polonio (under review)	4	810	126	16,000	1,309	76,000,000
Total, State Share						12,931,000,000

1) Minimum and maximum total pumping heads.
2) Pump-back capability will be used only under economically favorable conditions.
3) Minimum and maximum static heads.
4) Includes one spare unit.
* Under full development.

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

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