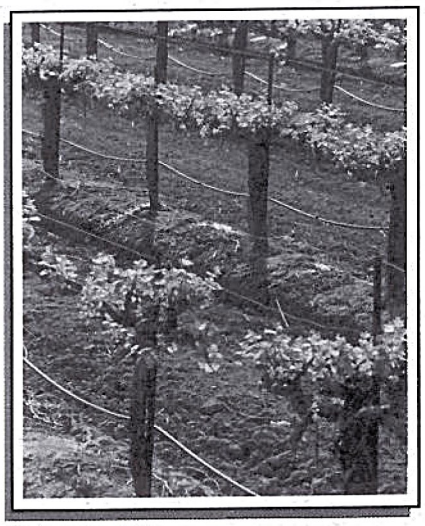
BULLETIN 132-93 SEPTEMBER 1994



# Management of the California State Water Project

PETE WILSON, *Governor* STATE OF CALIFORNIA
DOUGLAS P. WHEELER, *Secretary for Resources* THE RESOURCES AGENCY
DAVID N. KENNEDY, *Director* DEPARTMENT OF WATER RESOURCES

*Cover:* In 1992, with the help of water purchases and transfers, water conservation, and other water management techniques, the State Water Project delivered over 2 million acre-feet of water for municipal and industrial, agricultural, recreation, and fish and wildlife uses, mitigating the effects of six years of drought in California.
Photos: top- #BB-64-1; left- #8072-64; right- #A-1 1-184
*Photographs by the Department of Water Resources*

Bulletin 132-93 • September 1994

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State of California
The Resources Agency
Department of Water Resources

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**The Resources Agency**
*Douglas P. Wheeler, Secretary for Resources*

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# Foreword

This edition of the Bulletin 132 series is the thirty-first annual summary of the operation and management activities of the California State Water Project. Bulletin 132-93 reports on the 1991–92 water year, reviews project operations for the 1992 calendar year, and presents an analysis of project costs and financing though June 30, 1993. Forecasts of water supply needs as well as power requirements and resources are also included. In addition, the bulletin discusses activities and events between July 1, 1992, and June 30, 1993, that significantly affect management of the State Water Project. Programs to design and construct new project facilities, augment water supplies, and protect the environment are highlighted. As usual, Appendix B of this document presents data and computations used to determine the State Water Project contractors' Statements of Charges for 1994.

DAVID N. KENNEDY
Director

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# Introduction
# A Year in Review


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# Introduction
# A Year in Review

On February 24, 1993, in response to a series of record-breaking storms that replenished depleted reservoirs throughout the state and deposited snowpack in the Sierra Nevada, Governor Pete Wilson declared an end to what is widely acknowledged as the most severe drought in recent California history. Five of the six water years during the 1987–92 period were classified as critically dry while the sixth was classified as dry. As one of the longest droughts on record, the 1987–92 drought also affected many more communities and farming operations than earlier droughts due to the state's increased population.

The reporting period of this Bulletin 132 coincides with the last year of the drought and provides an opportunity to discuss the management of the State Water Project during a period of unparalleled stress to water systems throughout California.

## Response to Drought

Absent a drought, many Californians depend upon the ability of water managers to routinely deliver needed water supplies with their water storage and delivery systems. However, these systems are generally designed and operated to provide water supplies through short-term dry periods and thus were strained by the duration and severity of the 6-year drought. Regional water managers therefore resorted to programs involving water purchases and transfers together with nontraditional actions such as voluntary and mandatory water rationing, tiered pricing, and water conservation.

The Department, through its management of SWP, assumed a lead role among water agencies in meeting the water supply crisis and turned to innovative programs for providing relief to its water contractors and other agencies with critical water needs. With a series of aggressive, controlled programs, SWP was able to mitigate drought-related hardships by distributing water supplies among water agencies and communities in need. The success of this effort is reflected in the fact that, for the first 3 years of the drought, by following operational rules and criteria which had been developed with the long-term SWP contractors, SWP delivered 100 percent of all SWP water contractor requests. In 1990, the fourth year of drought, SWP was able to meet 100 percent of requests by urban water contractors and 100 percent of requests

for water rights contractors (water agencies whose delivery rights pre-date construction of SWP) while agricultural contractors received 50 percent of their supply. In the fifth and sixth years of continuing dry conditions and dwindling reservoir storage and snowpack, SWP managed to meet 30 percent and 45 percent, respectively, of urban water contractor requests and 50 percent of water rights contractors' requests.

A key component of the Department's drought mitigation efforts was the creation and administration, pursuant to the governor's order, of a Drought Water Bank in 1991 and again in 1992. These water banks allowed water to be purchased from willing sellers and sold to areas of critical need. The 1991 Drought Water Bank processed 350 purchase contracts for a total of 820,665 acre-feet sold to 12 urban and agricultural agencies. SWP purchased 265,558 acre-feet of this amount as carryover storage for water contractors' 1992 water needs. Building upon experience gained from administering the 1991 Drought Water Bank, the Department acquired supplies for the 1992 Drought Water Bank after signed contracts were obtained from the parties purchasing water. The 1992 Drought Water Bank produced net supplies of 63,518 acre-feet for urban, and fish and wildlife purposes, and redistributed 95,250 acre-feet for agricultural purposes.

Although the drought was declared officially over as of February 24, 1993, water managers have discovered that many of their innovative drought relief measures will have continuing application in today's era of increasing competition for limited supplies. Thus, the Department is investigating the benefits of maintaining programs that proved effective in managing the drought crisis as a way to meet the continuing challenge of providing reliable water supplies to the state while also addressing environmental concerns in the Delta.

## Water Supply Conditions

The variability of water supply conditions in California is a major reason for water supply projects such as the State Water Project. Therefore, an annual discussion of SWP activities generally includes a discussion of the water supply conditions that prevailed during the year. For Bulletin 132-93, the reporting period focuses on water year 1991–92 and also includes a preliminary discussion of water year 1992–93 due to its significant impact on the then-current drought.

### Water Year 1991–92

The October 1 start date of the 1991–92 water year foresaw no relief from the continuing California drought. As of that date, storage in the state's 155 major reservoirs totaled 13.8 million acre-feet, which was about 61 percent of average or just 37 percent of capacity. The National Weather Service issued a 90-day outlook that called for below-normal rainfall and above-normal temperatures in most of the state.

Although a late October storm pushed monthly precipitation to 120 percent of average, the unfolding 1991–92 water year continued to worsen. The Lake Tahoe water elevation fell to a new record low of 6,221.64 feet in late November and would fall even lower by the end of the water year. December 1 storage in the state's 155 major reservoirs fell to 59 percent of average and 34 percent of capacity. Reservoirs in the federally operated Central Valley Project system north of the Delta stored 700 thousand acre-feet less than in 1990.

Increasingly concerned water planners completed five 1992 Water Supply Option Workshops in December 1991. The workshops focused on methods for dealing with another year of drought. Carryover storage, increased ground water use, inter-area transfers, additional Colorado River water, conservation, reclaimed water, and the state's Drought Water Bank were all considered for coping with the drought.

In February and March the drought was weakened by a series of storms that brought 16 continuous days of rain and about 12 inches of precipitation to Northern California. Governor Pete Wilson declared a State of Emergency in five Southern California counties and the city of Los Angeles as the region suffered four deaths and over $100 million in damage from the effects of a fierce storm in early February.

By May, although the statewide water year precipitation average was about 85 percent of normal, considerable variation existed regionally. The Central Valley, Central Coast, Southern Coast, South Lahontan, and Colorado Desert areas received near-normal or well-above-normal precipitation; however, other regions continued to experience severe drought conditions. For the central and southern Sierra, the 6-year period from 1987 to 1992 was the driest in history by a wide margin. While the state's snowpack on May 1 of the 1990–91 water year was 65 percent of normal, the snowpack on May 1 of water year 1991–92 was, by comparison, only 25 percent of average. Adding to water supply problems, a warm 1992 summer caused 38 percent more surface water usage than during the same period in 1991.

Water year 1991–92 ended on September 30, 1992, with annual data that illustrated the severity of California's sixth year of drought:

- The past 6 years constituted the driest recorded 6-year period in California history as measured by Central Valley runoff
- Stream flows in the San Joaquin basin were 18 percent lower than during the "great" drought of 1929–34
- Although statewide precipitation was 86 percent of normal, runoff was only 43 percent of normal
- Colorado River system storage, a major source of water for southern California, was the lowest it had been during the 6 years of drought
- Lake Tahoe fell to its lowest recorded elevation (6,220.80 feet)
- Heavy ground water pumping left ground water levels in some San Joaquin Valley areas lower than at the end of the 1977 drought

## Water Year 1992–93[1]

Storms in late October and early November 1992 produced statewide precipitation for those 2 months that was 170 percent of normal; however, dry conditions returned and caused water supply planners to consider a seventh year of drought.

Significant relief from the drought began with a series of heavy storms in December that continued into January and February with rainfall over much of the state. For the first time since 1986, statewide flooding dominated the California news. Reservoir storage in the state's major 155 reservoirs increased by 3 million acre-feet (MAF) in February alone to about 85 percent of average or 21 MAF.

[1]Information about the 1992-93 water year is preliminary. Detailed discussion of water year 1992-93 will be found in Bulletin 132-94, scheduled for publication in early 1995.

On February 24, with statewide precipitation since the beginning of the water year at 155 percent of average and Sierra snowpack water content at 170 percent of average, Governor Wilson declared an end to the drought.

Favorable water supply conditions continued through the year, and on August 1, 1993, the state's 155 major reservoirs contained about 108 percent of average storage or 29 MAF, which was 13 MAF more than the previous year at the same time. The heavy Sierra snowpack contributed to July runoff of about 140 percent of normal. Statewide precipitation from October 1, 1992, through August 1, 1993, was about 150 percent of average.

## Water Deliveries through State Water Project Facilities

The Department utilizes the State Water Project to deliver water for a variety of beneficial uses. In 1992 SWP was operated to:

- Deliver entitlement and entitlement-related water to 25 SWP water agencies pursuant to long-term water contracts
- Convey and store water for other public agencies through special agreements
- Provide water for environmental needs, and for wildlife and recreational uses
- Store, release, and deliver local runoff water from SWP facilities to agencies that hold local water rights

In calendar year 1992 the total amount of water conveyed through SWP to water contractors and other agencies for the above purposes was 2,233,982 acre-feet. That amount included 1,471,199 acre-feet of entitlement and 2,605 acre-feet of entitlement-related (recreation) water delivered to SWP contractors and 760,178 net acre-feet of nonproject water conveyed for other agencies. Detailed information about water deliveries made during 1992 and prior years can be found in Chapter 6, "Delivering Water."

### Contract Deliveries to State Water Project Contractors

In 1992 SWP delivered water to 25 of the 29 agencies or districts that have a contract for water delivery service with the Department. Deliveries other than Drought Water Bank deliveries included the following types and amounts of water:

*Current-year entitlement*, 1,375,433 acre-feet (including 16,476 acre-feet of transferred entitlement)
*Carryover entitlement*, 92,282 acre-feet
*Make-up water*, 3,484 acre-feet
*Surplus water (unscheduled)*, 1,156 acre-feet
*Recreation and fish and wildlife water*, 2,605 acre-feet
*Loaned water*, 14,949 acre-feet

Chapter 6 includes definitions of these water types and presents explanations of deliveries in each category. Tables 6-1, 6-2, and 6-3 contain detailed statistical information about SWP entitlement deliveries.

### Deliveries of Non-SWP Water

In addition to delivering project water to long-term contractors, SWP facilities were also used in 1992 to transfer nonproject water[2] for other agencies such as the U.S. Bureau of Reclamation and to transfer water purchased through the 1991 and 1992 Drought Water Banks.

[2]Nonproject water is generally defined as water that is acquired by agencies other than the Department pursuant to special agreements and which is then transferred by, or stored in, SWP facilities for immediate or future delivery.

Water transfers are recognized as an efficient way to use existing water storage and conveyance facilities. During the 1980s, increasing environmental concerns and drought related impacts led to a state law which directed water officials to "facilitate the voluntary transfer of water and water rights where it is consistent with the public welfare of the place of export and place of import."

Through its management of SWP, the Department is in a unique position to serve as a water transfer facilitator and convey water via SWP interconnections with other water delivery systems from sources of supply to areas of need.

In 1992 SWP conveyed nonproject water in the following categories and amounts:

*Central Valley Project water conveyed through SWP facilities*, 38,640 acre-feet including CVP transfers and exchanges

*Drought Water Bank water*, 71,115 acre-feet (includes 7,614 and 63,501 acre-feet for 1991 and 1992 Drought Water Banks, respectively)

*Water rights permit water*, 640,055 acre-feet

The SWP also conveyed a total of 30,381 acre-feet of nonproject water, including habitat preservation water, under various special agreements. While SWP conveyed 71,115 of Drought Water Bank water, the remaining Drought Water Bank water was conveyed by USBR. For additional information about nonproject water conveyed in 1992, see the section entitled "Nonproject Water" and Table 6-2 in Chapter 6.

## Protecting the Environment

In 1992 and 1993, the Department's operation of SWP was subject to several decisions by jurisdictional agencies. Those decisions, which have been characterized as ushering in "a new era of water management in California," are included in the summaries presented below.

Minimizing any adverse impacts of SWP operations on the environment has always been a consideration of the Department. The Feather River Fish Hatchery and John E. Skinner Fish Protective Facilities were constructed to offset or minimize SWP impacts on fish.

The Department has since developed many additional programs to eliminate, minimize, or offset adverse environmental impacts while operating and maintaining SWP. These programs include:

- Examining impacts of water transfers
- Minimizing environmental impacts along the SWP right-of-way
- Minimizing impacts of water operations on Delta smelt and winter-run Chinook salmon
- Reducing losses of fish at Banks Pumping Plant
- Funding programs to increase fish populations
- Identifying and protecting threatened and endangered species in Suisun Marsh and maintaining the marsh's brackish habitat

### Protecting the Delta

Many of the Department's environmental programs are designed to protect and restore the Sacramento-San Joaquin Delta by controlling salinity while providing good-quality water supplies for fish and wildlife protection and enhancement, and for municipal, industrial, agricultural, and recreational uses.

The Delta, with 738,000 acres of land interlaced with hundreds of miles of waterways and natural runoff and food flows from the Sacramento, San Joaquin, Mokelumne, and Cosumnes Rivers, supports hundreds of species of fish, wildlife, and plants. In addition, the Delta is an estuary, a constantly

changing area where tidal and river currents meet and where salinity ranges between the extremes of ocean and fresh waters. That estuary provides a habitat for fish and wildlife, including wildfowl on the Pacific Flyway.

The Delta also serves as part of a large water delivery system designed to export water from the northern part of the state to at least 20 million Californians in the western and southern parts. It provides almost 55 percent of the state's water supply, including 40 percent of its drinking water.

Despite the environmentally conscious programs and efforts of the Department and other cooperating agencies, concerns over the health of the Bay-Delta estuary have increased.

Complying with recent regulations related to Delta water quality and protection of threatened and endangered species in the Delta has dramatically affected SWP operations. These regulations and their impacts on SWP operations are summarized below.

## Biological Opinions

During 1992 and 1993 protecting winter-run Chinook salmon and Delta smelt were factors in controlling SWP operations in the Delta. These operational requirements were the result of formal consultations and resulting biological opinions on protecting endangered and threatened fish species in the Delta. The opinions determine if project operations will jeopardize the continued existence of the listed species and may include reasonable and prudent operational measures necessary to avoid jeopardy. During 1992 and the first six months of 1993 USBR and the Department were issued three opinions by the appropriate agencies to protect winter-run Chinook and Delta smelt. Their issue dates and descriptions follow.

- February 14, 1992: A 1-year opinion issued by the National Marine Fisheries Service on winter-run Chinook salmon
- February 12, 1993: A long-term opinion issued by NMFS on winter-run Chinook salmon
- May 26, 1993: A 1-year opinion issued by the U.S. Fish and Wildlife Service on Delta smelt

The first opinions placed restrictions on the operations of both projects to alleviate adverse impacts on the winter-run salmon. These operational restrictions included providing minimum flows below Keswick Dam, providing temperature control in the reach between Keswick Dam and Balls Ferry, opening the Red Bluff Diversion Dam gates for a longer period, keeping the Delta Cross Channel Gates closed through April 30, closing the Suisun Marsh Salinity Control Gates, and limiting flow reversal in the lower San Joaquin River.

The Department has also been actively involved in developing methods to protect the Delta smelt, which spends its 1-year life cycle only in the Sacramento-San Joaquin estuary. In March 1993 the Delta smelt was listed as *threatened* by USFWS. The California Fish and Game Commission denied listing the smelt as endangered in June 1990; however, a new petition was filed with the commission in March 1993, and on June 17, 1993, the Delta smelt was listed as threatened under the state act. When the commission first denied listing of the Delta smelt as endangered, the Department agreed to fund a 3-year study to obtain additional information needed to assess its population.

The Department also summarized all available information about the Delta smelt

for inclusion in a report published in late 1993. The information will be used to analyze the effects the Department's current and future projects may have on the smelt.

### Water Quality

The Department helps to protect the Delta by measuring physical, chemical, and biological properties of water in the Delta. The measurements are used to identify significant changes in water quality that may be related to SWP operations. The Department also monitors water and soil salinity at locations throughout Suisun Marsh as part of a program to ensure the marsh remains a brackish-water environment and to determine the effects on waterfowl.

These measurements are compared with standards adopted for the Delta by the State Water Resources Control Board, the agency charged with overseeing water rights and water quality for California. The Board in 1978 issued Water Rights Decision 1485: Sacramento-San Joaquin Delta and Suisun Marsh, which requires SWP and CVP to maintain water quality in the Delta at levels to protect vested rights and in-stream uses.

### Bay-Delta Hearings

New Bay-Delta proceedings began in 1987 to replace the Decision 1485 standards. The proceedings are significant because the Board's decision will profoundly affect all Delta water users and fish and wildlife inhabitants. During the course of the proceedings, the Board issued draft Decision 1630, which contained interim quality and flow and export standards. The Department provided comments that indicated that the decision would have substantial adverse impacts on the delivery capability of SWP and CVP. Ultimately, the Board decided not to adopt draft Decision 1630 as an interim measure but will continue to consider the standards as an alternative in its environmental impact report for establishing long-term standards to replace Decision 1485. Currently, the Board is reviewing the regulatory needs of the estuary for the short term.

## Bay-Delta Oversight Council

On December 9, 1992, Governor Wilson signed an executive order creating the Bay-Delta Oversight Council to assist and advise the administration in designing its comprehensive program to resolve the many problems affecting the Bay-Delta estuary. Twenty-two members are appointed to BDOC from a wide variety of interests and geographical areas. The BDOC process is expected to take 3 years to develop long-term solutions that will meet urban, agricultural, and environmental needs and to complete the work necessary to meet federal and state legal requirements.

The governor charged BDOC with developing solutions that "provide safe, reliable water supplies for cities, adequate long-term water supplies at a reasonable cost for agriculture, and the restoration and protection of fish, wildlife, and threatened and endangered species." In addition, "the physical integrity of Delta channels and levees must be addressed," he stated.

The BDOC will assist and advise the Water Policy Council, which was also created by the executive order. Members of the WPC include the secretaries, directors, and other heads of state offices, including the Department, who have interests in or concerns about state water policy. The WPC is chaired by the Secretary for Resources.

BDOC convened throughout 1993 to be briefed on the many issues surrounding the Delta and to develop objectives, alter-

native solutions and criteria for evaluating the alternatives.

## Central Valley Project Improvement Act of 1992

In 1992 Congress enacted and President George Bush signed legislation that included the Central Valley Project Improvement Act, making protection, restoration, and enhancement of fish and wildlife a major purpose of CVP (Public Law 102-575; 106 Stat. 4706). Because it requires specific water supply actions, the CVPIA directly affects the joint activities of CVP and SWP. The act indirectly influences SWP operations by addressing several Delta environmental issues.

The CVPIA is designed to (1) protect, restore, and enhance fish, wildlife, and associated habitats in the Central Valley and Trinity River basins; (2) address impacts of CVP on fish, wildlife, and associated habitats; (3) improve operational flexibility of the CVP; (4) encourage expanded use of voluntary water transfers and water conservation; (5) contribute to efforts to protect the Sacramento-San Joaquin Delta and estuary; and (6) achieve a reasonable balance among competing demands for CVP water, including fish and wildlife, agricultural, municipal, and power uses.

In addition to imposing further limitations on new and renewed CVP contracts and encouraging voluntary transfers of CVP water, the CVPIA requires the Secretary of the Interior to implement within 3 years a program to ensure, by the year 2002, natural production of anadromous fish sustainable at population levels twice the average sustained from 1967 to 1991. The act also requires the secretary to dedicate and manage 800,000 acre-feet of CVP yield for fish-and-wildlife purposes. This water is additional to firm supplies of water for wildlife refuges specified in the USBR Refuge Water Supply Report.

The CVPIA also directs the secretary to carry out specified measures to restore fish and wildlife and their habitat. Several measures, including installing a structural temperature control device at Shasta Dam, constructing specified Delta barriers, and acquiring supplemental wildlife refuge water, require cost sharing by the state of California. To fund specific measures, the Department, USBR, U.S. Fish and Wildlife Service, and Department of Fish and Game are developing a master cost-sharing agreement, with cost-share provisions negotiated separately for each restoration action.

USBR is establishing interim guidelines and procedures to implement the CVPIA requirements. The Department is working closely with USBR as these programs develop to manage any effects on SWP operations and minimize adverse impacts to threatened and endangered species.

## Developing Water Supplies

Currently, the Department is involved in planning a surface reservoir, Los Banos Grandes, and developing a subsurface reservoir, Kern Water Bank. Both of these programs have been impacted by the uncertainties regarding firm water supplies created by the standards contained in the draft Decision 1630 and the biological opinions associated with threatened and endangered fish species.

### Los Banos Grandes

A key component of the Department's effort to meet California's water needs has been through banking excess winter flows from the Delta in south-of-Delta storage. That

banking process helps to reduce demands for water exported through the Delta in the summer, thereby alleviating concerns with meeting water quality standards and minimizing adverse impacts on threatened and endangered species.

Los Banos Grandes, authorized by the California legislature in 1984, is designed to be a primary south-of-the-Delta water bank for the Department. The facilities, consisting of a dam, an off-stream storage reservoir, several saddle dams, and two pumping-generating plants, will be located in Merced County on Los Banos Creek. A pumping-generating system would fill the reservoir from the California Aqueduct and recover energy when releases are made.

In the face of new regulation under the federal Endangered Species Act, the state water contractors requested that the Department halt all planning, design, and land acquisition related to the Los Banos Grandes program. Their request was prompted, in part, by concerns associated with environmental measures designed to protect winter-run Chinook salmon and uncertainties about the utility of additional storage south of the Delta in light of constraints on SWP pumping proposed in the draft Decision 1630. Consequently, the Department, in coordination with the water contractors, developed a reduced level of program activities and funding for the next several years.

In 1993 the Department acquired 1,718 acres of property that was for sale and that may be needed for the proposed Los Banos Grandes facilities and for mitigation. The Department purchased these lands to preserve the state's option to construct the Los Banos Grandes facilities. The decision to use the lands acquired under this action will not be made until additional feasibility studies and an EIR for the Los Banos Grandes facilities have been completed. In the meantime, the land's agricultural use will continue.

## Kern Water Bank

The Kern Water Bank, a subsurface reservoir, is designed to store and receive SWP water in the ground water basin during wet years. Later, during dry years, water can be extracted for SWP purposes or left in place and substituted for entitlement water that otherwise would be delivered to Kern County.

The Kern Water Bank, as currently proposed, consists of separate projects or elements. One element, the Kern Fan Element, is proposed by the Department. To develop the Kern Fan Element the Department will construct recharge basins, extraction wells, and conveyance facilities and use other facilities already constructed as part of the La Hacienda Ground Water Program. As part of the La Hacienda program, the Department purchased 98,005 acre-feet of recharged ground water from La Hacienda, Inc., in 1990. To extract the water, the Department constructed extraction and conveyance facilities. About 15,000 acre-feet was extracted in 1992.

Stage one of the element will have a storage capacity of about 1 million acre-feet with water supply benefits of about 140,000 acre-feet per year.

To operate the Kern Fan Element, the Department thus far has prepared several environmental documents, including a draft supplemental environmental impact report. However, in February 1993 program activities were redirected to evaluate the impacts of draft Decision 1630 and the then-pending pumping restrictions associated with threatened and endangered species. Several actions were taken by the Department as a result of reevaluating the impact of Delta

uncertainties on the Kern Water Bank. These included:

- Halting design work for facilities of the First Stage Kern Fan Element
- Halting preparation of contracts for regional monitoring of Kern Fan Element impacts and for water quality monitoring in petroleum production areas
- Halting new feasibility work for the local elements of the Kern Water Bank and the second stage of the Kern Fan Element until a solution to the Delta problems is determined

When the Department completes its evaluation of the impacts of pumping restrictions on the Kern Water Bank, activities will gradually be adjusted to an appropriate level. Minimum activities will include coordinating Kern County ground water planning efforts; continuing minimal ground water monitoring and reporting; coordinating related Department programs with the governmental agencies and Kern County interests; managing land; operating La Hacienda facilities; and coordinating local use of project lands and facilities.

## Conjunctive-Use Programs

The Department has actively promoted conjunctive-use programs as a water management tool since the late 1970s. In a conjunctive-use program under study, the Department proposes financing the construction of facilities in exchange for water. Such a program provides SWP with a relatively low-cost method for storing water in times of above-average supplies for use during dry periods.

The Department is working with two agencies in San Joaquin County on a proposal for releasing CVP water from the New Melones Dam in exchange for financing facilities. Also, in 1992 the Department expanded its investigation of the potential for conjunctive use of surface water and ground water in the Sacramento Valley.

At this time the Department is preparing a draft environmental impact report and statement for the San Joaquin County program; the document is scheduled for release in 1994. Issues of concern to be identified in the report include fishery flows, water quality, and ground water levels.

## Coastal Branch, Phase II

In June 1992 two water contractors, Santa Barbara County Flood Control and Water Conservation District and San Luis Obispo County Flood Control and Water Conservation District, requested that the Department proceed with completion of the Coastal Aqueduct, Phase II. These two contractors initially requested an annual total of 54,506 acre-feet of entitlement deliveries through the facilities. Final design activities and purchase of rights-of-way began immediately. Construction was scheduled to begin in July 1993, subject to acquisition of the appropriate permits and certificates.

Prior to the scheduled construction date, both contractors changed their original entitlement requests. As of July 1993, the total entitlement request had been revised downward to approximately 46,400 acre-feet per year. Also as of that date, the start of construction was rescheduled for later in 1993 in anticipation of obtaining all necessary agreements and environmental permits. The most critical document being pursued as of July 1993 is a "take" permit from the U.S. Fish and Wildlife Service through a Section 7 (Endangered Species) Consultation.

# Part I.
# Facilities and Deliveries


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# 1. Water Delivery Facilities

California is a land of contrast, with climate and geography ranging from desert to alpine to subtropical. In an average year some areas in California may receive 2 inches of rain while other areas receive 100 inches or more.

People have settled in all areas of the state, regardless of the amount of rainfall those areas receive. Consequently, California has long been faced with the problem of how best to conserve, control, and deliver water. For example, remains of aqueducts, canals, and dams still may be found near some of California's missions. And in the early twentieth century, several cities—San Francisco and Los Angeles, for example—built aqueducts to bring water from the Sierra Nevada and the Colorado River.

In 1951 the legislature authorized the construction of a water storage and supply system to capture and store rainfall in Northern California and deliver it to areas in Northern and Southern California, the San Francisco Bay Area, and the San Joaquin Valley.

Eight years later the legislature passed the Burns-Porter Act, which provided the mechanism for obtaining funds necessary to construct the initial facilities. In 1960 California voters approved an issue of $1.75 billion general obligation bonds, as authorized in the act, thereby obtaining funds to build the State Water Project.

Today SWP, managed by the Department of Water Resources, is the largest state-built, multipurpose water project in the country. Approximately 20 million of California's 32 million residents receive at least part of their water from SWP, and SWP water is used to irrigate approximately 600,000 acres of farmland. Also, SWP was designed and built to control floods, generate power, and provide recreational opportunities as well as enhance habitats for fish and wildlife (see Chapter 3 for information about recreational facilities).

This chapter contains information about SWP water delivery facilities as well as about methods of financing the construction of those facilities.

## Project Design

The State Water Project begins with three small lakes on Feather River tributaries in Plumas County—Lake Davis, Frenchman Lake, and Antelope Lake, all of which are used for recreation.

The branches and forks of the Feather River flow into Lake Oroville, the project's principal reservoir, with a capacity of about

3.5 million acre-feet. (An acre-foot consists of about 326,000 gallons.)

From Lake Oroville water flows through three hydroelectric power plants, then down the Feather River and Sacramento River before reaching the Delta. From the northern Delta, water is supplied to Napa and Solano Counties through the North Bay Aqueduct, which was completed in 1988.

In the southern Delta, near Byron, Harvey O. Banks Delta Pumping Plant lifts water into Bethany Reservoir. From this small reservoir, the South Bay Pumping Plant lifts water into the South Bay Aqueduct, which was completed in 1962. Through the South Bay Aqueduct, water is supplied to Alameda and Santa Clara Counties. Most of the water from the Bethany Reservoir, however, flows into the Governor Edmund G. Brown California Aqueduct, which winds along the west side of the San Joaquin Valley to O'Neill Forebay. From O'Neill Forebay part of the water is pumped through the William R. Gianelli Pumping-Generating Plant for storage in San Luis Reservoir until needed.

San Luis Reservoir, which has a storage capacity of more than 2 million acre-feet, and the B. F. Sisk San Luis Dam are jointly owned by the Department and the U.S. Bureau of Reclamation. The Department's share of gross storage in the reservoir is 1,067,900 acre-feet of water.

Water not stored in San Luis Reservoir continues to flow south down the valley and is raised 1,069 feet by four pumping plants—Dos Amigos, Buena Vista, John R. Teerink Wheeler Ridge, and Ira J. Chrisman Wind Gap—before reaching the foot of the Tehachapi Mountains.

In the southern San Joaquin Valley, the short Coastal Branch Aqueduct serves agricultural areas west of the California Aqueduct. That branch will be extended to serve Santa Barbara and San Luis Obispo Counties. For additional information about the Coastal Branch Aqueduct, see Chapter 15, "Increasing Storage and Delivery Facilities."

At the Tehachapi Mountains, the A. D. Edmonston Pumping Plant raises the water 1,926 feet—the highest single lift of any pumping plant in the world—to enter 8.5 miles of tunnels and siphons. Once the water has crossed the Tehachapi Mountains, it flows through the California Aqueduct into the Antelope Valley.

In the Antelope Valley, the California Aqueduct divides into two branches, the East Branch and West Branch. The East Branch carries water through the Antelope Valley into Silverwood Lake in the San Bernardino Mountains. From Silverwood Lake, the water enters the San Bernardino Tunnel and drops 1,418 feet into Devil Canyon Powerplant, then flows to Lake Perris, the southernmost SWP reservoir.

Water in the West Branch flows through the William E. Warne Powerplant into Pyramid Lake in Los Angeles County. From Pyramid Lake it flows through the Angeles Tunnel and Castaic Powerplant into Castaic Lake, terminus of the West Branch. For the location of SWP facilities , see Figure 1-1 at the end of this chapter.

The energy needed to operate SWP comes from a variety of its own sources including hydroelectric, coal-fired, and wind-generated plants as well as energy acquired from other utilities.

The project's eight hydroelectric power plants, including three pumping-generating plants, produce enough electricity to reduce SWP's demand for energy significantly. The energy produced—more than 6 billion kilowatt-hours in an average year—is enough to serve the entire needs of the city of San Francisco for one year.

# Water Delivery Facilities

The State Water Project depends on a complex system of reservoirs, dams, power plants, pumping plants, canals, and aqueducts to deliver water. Although initial facilities were completed in 1973, other facilities have been constructed since 1973, and still others are planned for construction in the future.

## Initial Facilities

The initial SWP facilities include 22 dams and reservoirs, 14 pumping plants, 4 hydroelectric power plants, 3 pumping-generating plants, and 550 miles of aqueducts and pipelines. Those facilities were designed and built as part of a distribution system that under full development would be capable of delivering the 4.2 million acre-feet of water forecast to be needed 60 years after the project was authorized in 1960. To meet the project's ultimate yield, facilities were scheduled to be built as more water was needed.

For the names and locations of current and projected SWP facilities, see Figure 1-1. For information about the physical characteristics of reservoirs and dams, average amount of energy produced at power plants and required at pumping plants, and the total miles of aqueducts, see Table 1-1 through Table 1-5.[1]

Table 1-1 presents information about the capacity, surface area, and shoreline, if applicable, of SWP's primary reservoirs and storage facilities. Table 1-2 includes information about the crest elevation and length and structural height and volume of primary SWP dams.

Table 1-3 presents information about SWP pumping plants and the average annual amount of energy required to pump water at full development of the project. Data for Edward Hyatt Powerplant, Thermalito Powerplant, and William R. Gianelli Pumping-Generating Plant apply to pumped storage capability. At Edward Hyatt Powerplant and Thermalito Powerplant, pumped storage capability is used only under economically favorable conditions. Also, Buena Vista, John R. Teerink Wheeler Ridge, Ira J. Chrisman Wind Gap, A. D. Edmonston, Pearblossom, Devil's Den, Bluestone, Polonio Pass, and Casmalia Pumping Plants include a spare unit. Devil's Den, Bluestone, Polonio Pass, and Casmalia are future facilities; data are tentative.

The total flow at pumping plants listed in Table 1-3 reflects (1) the total rated capacity of the pumping units (including spare units) at the dynamic head used for the design criteria and (2) operation at maximum efficiency. Maximum operating flows through

TABLE 1-1
**Physical Characteristics of Primary Reservoirs and Storage Facilities**

| *Facility* | *Gross Capacity (Acre-feet)* | *Surface Area (Acres)* | *Shoreline (Miles)* |
|---|---|---|---|
| Antelope Lake | 22,600 | 930 | 15 |
| Frenchman Lake | 55,500 | 1,580 | 21 |
| Lake Davis | 84,400 | 4,030 | 32 |
| Lake Oroville | 3,537,600 | 15,800 | 167 |
| Thermalito Forebay | 11,700 | 630 | 10 |
| Thermalito Afterbay | 57,000 | 4,300 | 26 |
| Clifton Court Forebay | 28,700 | 2,110 | 8 |
| Bethany Reservoir | 4,800 | 180 | 6 |
| Lake Del Valle | 77,100 | 1,050 | 16 |
| San Luis Reservoir | 2,038,800 | 12,700 | 65 |
| SWP storage, 1,067,900 AF | | | |
| O'Neill Forebay | 56,400 | 2,700 | 12 |
| SWP storage, 29,500 AF | | | |
| Los Banos Grandes (future facility) | 1,728,000 | 12,870 | |
| Los Banos Reservoir | 34,600 | 620 | 12 |
| Kern Water Bank | | | |
| Fan Element | 1,000,000 | | |
| Other local elements | up to 2,000,000 | | |
| Pyramid Lake | 171,000 | 1,300 | 21 |
| Elderberry Forebay | 28,200 | 460 | 7 |
| Castaic Lake | 324,000 | 2,240 | 29 |
| Silverwood Lake | 75,000 | 980 | 13 |
| Lake Perris | 131,000 | 2,320 | 10 |

[1]Names of facilities included in this publication are presented as they were adopted by the California Water Commission as part of the State Water Resources Development System.

TABLE 1-2

**Physical Characteristics of Primary Dams**

| *Facility* | *Crest Elevation (Feet)* | *Structural Height (Feet)* | *Crest Length (Feet)* | *Structural Volume (in thousand cubic yards)* |
|---|---|---|---|---|
| Antelope Dam | 5,025 | 120 | 1,320 | 380 |
| Frenchman Dam | 5,607 | 139 | 720 | 537 |
| Grizzly Valley Dam | 5,785 | 132 | 800 | 253 |
| Oroville Dam | 922 | 770 | 6,920 | 80,000 |
| Thermalito Diversion Dam | 233 | 143 | 1,300 | 154 |
| Thermalito Forebay Dam | 231 | 91 | 15,900 | 1,840 |
| Thermalito Afterbay Dam | 142 | 39 | 42,000 | 5,020 |
| Clifton Court Forebay Dam | 14 | 30 | 36,500 | 2,440 |
| Bethany Dam | 250 | 121 | 3,940 | 1,400 |
| Del Valle Dam | 773 | 235 | 880 | 4,150 |
| B. F. Sisk San Luis Dam | 554 | 385 | 18,600 | 77,645 |
| O'Neill Dam | 233 | 88 | 14,350 | 3,000 |
| Los Banos Detention Dam | 384 | 167 | 1,370 | 2,100 |
| Pyramid Dam | 2,606 | 400 | 1,090 | 6,860 |
| Castaic Dam | 1,535 | 425 | 4,900 | 46,000 |
| Cedar Springs Dam | 3,378 | 249 | 2,230 | 7,600 |
| Perris Dam | 1,600 | 128 | 11,600 | 20,000 |

TABLE 1-3

**Average Energy Required at Pumping Plants and Pumping Plant Characteristics**

| *Facility and Number of Units* | *Normal Static Head (ft)* | *Total Flow at Design Head (cfs)* | *Total Motor Rating (hp)* | *Average Annual Energy Required (in thousand kWh)* |
|---|---|---|---|---|
| Thermalito (p-g), 3 | 85-101 | 9,120 | 120,000 | |
| E. Hyatt (p-g), 3 | 410-660 | 5,610 | 519,000 | |
| Barker Slough, 9 | 95-120 | 228 | 4,800 | 13,000 |
| Cordelia, 11 | 104-439 | 138 | 5,600 | 20,000 |
| H. O. Banks Delta, 11 | 236-252 | 10,668 | 333,000 | 1,256,000 |
| South Bay, 9 | 566 | 330 | 27,800 | 163,000 |
| Del Valle, 4 | 0-38 | 120 | 1,000 | 1,600 |
| W. R. Gianelli (p-g), 8 | 99-327 | 11,000 | 504,000 | |
| SWP share | | | | 299,000 |
| Dos Amigos, 6 | 107-125 | 15,450 | 240,000 | |
| SWP share | | | | 544,000 |
| Las Perillas, 6 | 55 | 461 | 4,000 | 15,000 |
| Badger Hill, 6 | 151 | 454 | 11,800 | 38,000 |
| Devil's Den (future facility), 6 | 515 | 150 | 9,000 | 50,000 |
| Bluestone (future facility), 6 | 482 | 150 | 9,000 | 50,000 |
| Polonio Pass (future facility), 6 | 524 | 150 | 9,000 | 50,000 |
| Casmalia (future facility), 4 | 362 | 45 | 2,400 | 11,000 |
| Buena Vista, 10 | 205 | 5,405 | 144,500 | 674,000 |
| J.R. Teerink Wheeler Ridge, 9 | 233 | 5,445 | 150,000 | 773,000 |
| I. J. Chrisman Wind Gap, 9 | 518 | 4,995 | 330,000 | 1,645,000 |
| A. D. Edmonston, 14 | 1,926 | 4,480 | 1,120,000 | 5,821,000 |
| Oso, 8 | 231 | 3,252 | 93,800 | 338,000 |
| Pearblossom, 9 | 539-546 | 2,575 | 203,200 | 835,000 |
| **Total** | | | | **12,596,600** |

pumping plants are lower than those listed in the table and depend on the actual capacity of each plant as a unit and pertinent conveyance facility. Motors at William R. Gianelli Pumping-Generating Plant are two-speed units; the value indicated reflects operation at higher revolutions per minute.

Table 1-4 includes information about the amount of energy produced at each facility at full development of SWP. The total flow at power plants reflects (1) the total rated capacity of the generating units at the design dynamic head and (2) operation at maximum efficiency. Total generator rating of Edward Hyatt Powerplant reflects upgrading of the generator units.

Table 1-5 includes information about SWP's three aqueducts and related branches. A small aqueduct, Grizzly Valley Pipeline, serves the city of Portola in the Upper Feather River area but is not included in the table.

The names of facilities included in Table 1-1 through Table 1-5 are listed according to geographical location; the facility at the northernmost point is listed first, and so forth. For locations of SWP facilities, see Figure 1-1 at the end of this chapter.

## Recent and Proposed Facilities

When SWP was designed and built, the initial conservation and storage facilities were built to provide only 2.2 million acre-feet of water. Additional facilities were tentatively planned and scheduled to be built as more water was needed. Because of increased costs, lack of suitable sites, and changes in water management practices resulting, in part, from environmental concerns, the construction schedule was not followed.

Instead, the Department reassessed its plans and developed conservation and storage facilities that incorporate environmental protection as well as contribute to SWP's storage capacity. Developing those projects involved the time-consuming process of finding technically suitable sites and satisfying the many complex environmental procedures, laws, and regulations.

Today, the Department is planning the off-stream storage complex, Los Banos Grandes, and has investigated and developed alternative methods of storing water, including the conjunctive-use ground water storage facility, Kern Water Bank.

Future facilities planned for SWP include dams and reservoirs, pumping plants, and power plants. Information about those facilities follows.

## Dams and Reservoirs

Two dams and reservoirs are in the planning stages: either Dippingvat or Schoenfield (Red Bank Project) in Shasta and Tehama Counties and Los Banos Grandes in Merced County. See Table 1-1. For additional information about the Red Bank Project and Los Banos Grandes, see Chapter 15, "Increasing Storage and Delivery Facilities."

## Pumping Plants

Four pumping plants, Devil's Den, Bluestone, Polonio Pass, and Casmalia, have been designated as future facilities. See Table 1-3.

## Power Plants

One power plant, Mojave Siphon, is under construction and scheduled for completion in 1995. Another, San Luis Obispo, has been designated as a future facility.

Units 3 and 4 at Devil Canyon Powerplant were operational in early summer 1993.

TABLE 1-4

**Average Energy Produced at Power Plants and Power Plant Characteristics, by Type of Facility**

| *Type and Facility and Number of Units* | *Normal Static Head (ft)* | *Total Flow at Design Head (cfs)* | *Total Generator Capability (kw)* | *Average Annual Energy Produced (in thousand kWh)* |
|---|---|---|---|---|
| **Hydro** | | | | |
| Thermalito Diversion Dam, 1 | 63–77 | 615 | 3,000 | 23,000 |
| Thermalito, 4 (3 p-g) | 85–101 | 16,900 | 119,600 | 242,000 |
| E. Hyatt, 6 (3 p-g) | 410–675 | 16,950 | 813,000 | 1,907,000 |
| W. R. Gianelli, 8 p-g | 99–327 | 16,960 | 424,000 | |
| SWP share | | | 222,100 | 231,000 |
| San Luis Obispo (future facility), 1 | 766 | 67 | 3,800 | 30,000 |
| Alamo, 1 | 115-141 | 1,740 | 18,000 | 123,000 |
| W. E. Warne, 2 | 719–739 | 1,564 | 78,200 | 733,000 |
| Mojave Siphon (future facility), 3 | 95-146 | 2,880 | 32,400 | 107,000 |
| Devil Canyon, 4 | 1,406 | 2,811 | 291,000 | 1,282,000 |
| **Thermal** | | | | |
| Reid Gardner, Unit 4, 1 (a | | | 250,000 | |
| SWP share | | | 169,500 | 1,400,000 |
| **Total** | | | | **6,079,000** |

a) Life of the plant is expected to extend through 2013.

TABLE 1-5

**Total Miles of Aqueducts**

| *Facility* | *Channel and Reservoir* | *Canal* | *Pipeline* | *Tunnel* | *Total* |
|---|---|---|---|---|---|
| North Bay Aqueduct | 0.0 | 0.0 | 27.4 | 0.0 | 27.4 |
| South Bay Aqueduct | 0.0 | 8.4 | 32.9 | 1.6 | 42.9 |
| *Subtotal* | 0.0 | 8.4 | 60.3 | 1.6 | 70.3 |
| California Aqueduct, Main Line | 1.4 | 67.0 | 0.0 | 0.0 | 68.4 |
| Delta to O'Neill Forebay | | | | | |
| O'Neill Forebay to Kettleman City | 2.2 | 103.5 | 0.0 | 0.0 | 105.7 |
| Kettleman City to Edmonston Pumping Plant | 0.0 | 120.9 | 0.0 | 0.0 | 120.9 |
| A.D. Edmonston Pumping Plant to Tehachapi Afterbay | 0.0 | 0.2 | 2.5 | 7.9 | 10.6 |
| Tehachapi Afterbay to Lake Perris | 2.9 | 93.4 | 38.3 | 3.8 | 138.4 |
| *Subtotal* | 6.5 | 385.0 | 40.8 | 11.7 | 444.0 |
| California Aqueduct Branches | | | | | |
| West Branch | 9.2 | 9.1 | 6.4 | 7.2 | 31.9 |
| Coastal Branch (planned) | 0.0 | 14.8 (a | 101.0 | 0.0 | 115.8 |
| *Subtotal* | 9.2 | 23.9 | 107.4 | 7.2 | 147.7 |
| **Total** | **15.7** | **417.3** | **208.5** | **20.5** | **662.0** |

a) Existing

## Methods of Financing

Project facilities have been constructed with three general types of financing: general obligation bonds and tideland oil revenues (under the Burns-Porter Act, approved by voters in 1960), revenue bonds, and capital resources.

Operations, maintenance, power, and replacement costs are repaid by the 29 water contractors as the costs are incurred. Those contractors signed long-term water supply contracts with the Department in the 1960s to repay the cost of building and operating SWP facilities and to ensure that water can be delivered when needed.

The contracts provided for a combined maximum annual entitlement of 4,230,000 acre-feet of water. They were designed to be in effect for the longer of 75 years or throughout the project repayment period. However, as a result of contract amendments in the 1980s, the current combined maximum annual entitlement totals 4,217,786 acre-feet, and the contracts are in effect for the longest of (1) the project repayment period, which extends to the year 2035; (2) 75 years from the date of the contract; or (3) the period ending with the latest maturity date of any issued bond used to finance the construction costs of project facilities.

For additional information see Chapter 21, "Analyzing State Water Project Finances"; Chapter 22, "Analyzing Capital Requirements and Financing"; and Chapter 23, "Forecasting Revenues, Expenses, and Future Costs of Water Service."

**Fig. 1-1. Names and locations of primary water delivery facilities, current and projected**

# 2. Water Deliveries

The water delivered by the Department of Water Resources through State Water Project facilities originates in Northern California and is delivered to contractors and other agencies throughout the state through a system of reservoirs, dams, power and pumping plants, canals, and aqueducts.

The Department began delivering water through SWP facilities in 1962. Since that time, 64,752,164 acre-feet of water has been conveyed. See Table 2-1 at the end of this chapter.

This chapter presents information about the long-term contractors and other agencies to whom water is delivered as well as the amounts delivered and routes of delivery. The last section describes the Department's method of determining the amounts of water that can be delivered each year.

## Long-Term Contracting Agencies

From 1963 through 1967, a total of 32 agencies or districts signed long-term water delivery contracts with the Department. However, in 1965 the City of West Covina was annexed to the Metropolitan Water District of Southern California; and in 1981 Hacienda Water District was assigned to Tulare Lake Basin Water Storage District.

On January 1, 1992, Castaic Lake Water Agency assumed all rights and obligations granted to Devil's Den Water District according to its long-term supply contract.

Twenty-nine agencies or districts had long-term contracts with the Department as of June 30, 1993. Those agencies or districts, listed according to geographical area, are:

*Upper Feather River*
City of Yuba City
County of Butte
Plumas County Flood Control and Water Conservation District

*North Bay Area*
Napa County Flood Control and Water Conservation District
Solano County Water Agency

*South Bay Area*
Alameda County Flood Control and Water Conservation District, Zone 7
Alameda County Water District
Santa Clara Valley Water District

*San Joaquin Valley Area*
Castaic Lake Water Agency (also listed under Southern California Area)
County of Kings
Dudley Ridge Water District

Empire West Side Irrigation District
Kern County Water Agency
Oak Flat Water District
Tulare Lake Basin Water Storage District
*Central Coastal Area*
San Luis Obispo County Flood Control and Water Conservation District
Santa Barbara County Flood Control and Water Conservation District
*Southern California Area*
Antelope Valley-East Kern Water Agency
Castaic Lake Water Agency
Coachella Valley Water District
Crestline-Lake Arrowhead Water Agency
Desert Water Agency
Littlerock Creek Irrigation District
Metropolitan Water District of Southern California
Mojave Water Agency
Palmdale Water District
San Bernardino Valley Municipal Water District
San Gabriel Valley Municipal Water District
San Gorgonio Pass Water Agency
Ventura County Flood Control District

Figure 2-4, at the end of this chapter, shows the location of each contracting agency or district and lists the first year of SWP delivery service for each.

In 1992 SWP delivered entitlement and entitlement-related water to 25 of the 29 agencies or districts that have a contract for water delivery service with the Department.

Two agencies, Santa Barbara County Flood Control and Water Conservation District and Ventura County Flood Control District, did not take delivery of SWP water in 1992. Deliveries of entitlement water to San Luis Obispo County Flood Control and Water Conservation District are planned to begin in 1996 and to San Gorgonio Pass Water Agency in 2000.

In 1992 SWP delivered a total of 1,471,199 acre-feet of entitlement water—including 95,766 acre-feet of deferred entitlement—to 25 long-term contractors. In addition, SWP delivered 66,157 acre-feet of nonentitlement water to 10 long-term contractors including 1,156 acre-feet of unscheduled water to Napa County Flood Control and Water Conservation District.[1]

For information about water deliveries to specific areas, see Figure 2-5 at the end of this chapter. Also, see Table 6-1, "Total Amounts of Water Delivered in 1992 and Credits Granted to Long-Term Contractors through 1992, by Service Area."

## Other Agencies

In 1992 approximately 696,626 acre-feet of water was delivered by SWP to 15 other agencies, including Central Valley Project contractors and 10 agencies entitled to water as part of water rights agreements. For a listing of those agencies and amounts of water delivered to them, see Table 6-2, "Total Amounts of Water Delivered in 1992, by Month."

## Delivery Routes

Water delivered by SWP originates in the Upper Feather River and is stored in Lake

[1] Information concerning water deliveries and related power generation and recreational activities, including information contained in chapters 2, 3, 6, 9, 18, 19, and 20, is based on the 1992 calendar year. Except where indicated for information concerning water years, information contained in the remaining chapters is based on the 1992-93 fiscal year; that is, the period from July 1, 1992, to June 30, 1993.

Oroville, the project's largest storage facility. From Lake Oroville the water flows through Oroville Dam, the tallest and one of the largest earth dams in the United States, into the Feather River and then on to the Sacramento River.

From the Sacramento River, water flows to the Delta, where it is pumped for delivery through the North Bay and South Bay Aqueducts and through the California Aqueduct.

Three long-term contractors receive water in the Feather River area. Two contractors in Napa and Solano Counties receive water through the North Bay Aqueduct; and three in Alameda and Santa Clara Counties, through the South Bay Aqueduct. Seven contractors in western San Joaquin Valley and 12 in Southern California receive water through the 444-mile-long California Aqueduct. See Figure 2-5 at the end of this chapter.

## Diversions from the Delta

Generally, water diverted from the Sacramento-San Joaquin Delta is delivered to SWP storage facilities and to contractors through Harvey O. Banks Delta Pumping Plant and Barker Slough Pumping Plant.

In 1992 SWP diverted about 1,503,000 acre-feet of water at Harvey O. Banks Delta Pumping Plant, including 34,816 acre-feet of CVP water wheeled by the Department. See Figure 2-1 for the amounts of water pumped each month.

## Water Conveyed South of San Luis Reservoir

Water is conveyed south of San Luis Reservoir, a joint-use facility shared between SWP and CVP, to two areas—the San Joaquin Valley and Southern California.

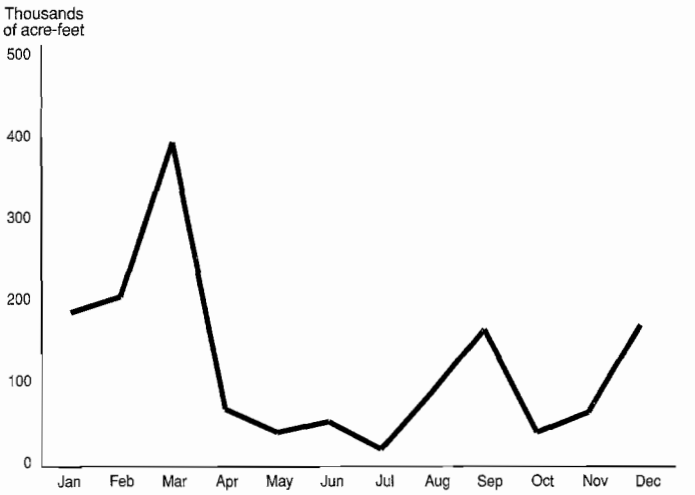



**Fig. 2-1. Amount of water pumped each month at Harvey O. Banks Delta Pumping Plant during 1992**

### San Joaquin Valley

Generally, water is conveyed to the San Joaquin Valley through the San Luis joint-use aqueduct facilities to Kettleman City, then through the California Aqueduct. Water conveyed to the San Joaquin Valley is represented by the difference between the amount of water pumped over the Tehachapi Mountains and the amount conveyed past Kettleman City, which marks the end of the joint-use facilities shared with CVP.

In 1992 approximately 603,000 acre-feet of water was conveyed to the San Joaquin Valley. See Figure 2-2 for the amount of water conveyed each month.

### Southern California

In 1992 approximately 752,000 acre-feet of water was delivered to Southern California through the California Aqueduct and the A.D. Edmonston Pumping Plant. See Figure 2-3 for the amount of water pumped at Edmonston Pumping Plant each month.

Before water can be delivered to Southern California, though, it first must cross the

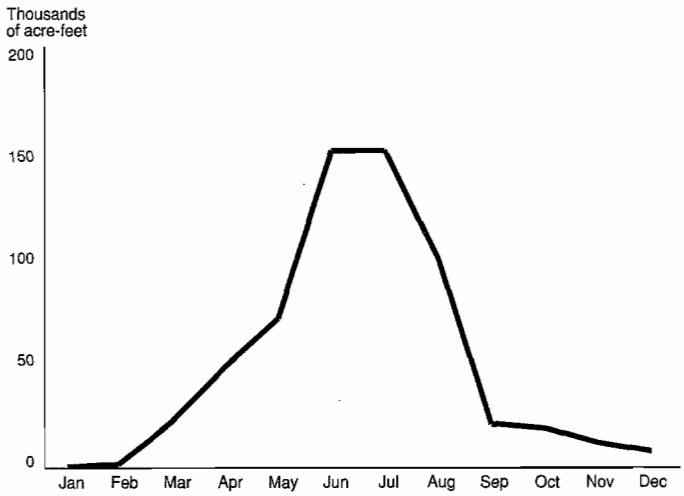



**Fig. 2-2. Amount of water conveyed to San Joaquin Valley each month during 1992**

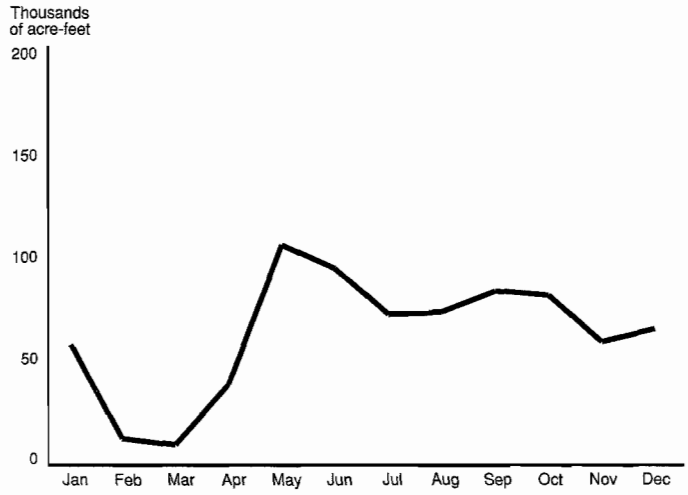



**Fig. 2-3. Amount of water pumped each month at A.D. Edmonston Pumping Plant during 1992**

Tehachapi Mountains. Pumps at A.D. Edmonston Pumping Plant, located at the foot of the Tehachapi Mountains, raise water 1,926 feet up the mountains—the highest single lift of any pumping plant in the world.

Lifted to enter 8.5 miles of tunnels and siphons, the water flows through the California Aqueduct into the Antelope Valley, where it is divided into the East Branch and West Branch. The East Branch carries water through the valley, into Silverwood Lake in the San Bernardino Mountains.

From Silverwood Lake, the water enters the San Bernardino Tunnel; drops 1,418 feet into Devil Canyon Powerplant; then flows to Lake Perris, the southernmost SWP reservoir.

Water in the West Branch flows through the William E. Warne Powerplant into Pyramid Lake in Los Angeles County. From there it flows through the Angeles Tunnel and Castaic Powerplant into Castaic Lake, terminus of the West Branch.

## Forecasting Water Delivery Capabilities

Forecasting water delivery capabilities is an integral part of the Department of Water Resources' water management plan. In some years the State Water Project may not have the water supply necessary to deliver full amounts of entitlement water to long-term contractors. Consequently, the Department must annually determine the amount of water that can be approved for delivery while retaining a prudent reserve for future use. Once the amount of water to be delivered is determined, the Department must review contractors' annual requests for entitlement water and determine amounts it reasonably expects can be delivered.

## Water Budget

According to provisions contained in water supply contracts, contractors are required to request, on or before October 1 of each year, amounts of entitlement water for delivery in the following year. The Department must approve or modify those requests by December 1 of each year. However, because the Department cannot accurately predict the amount of precipitation and runoff California will receive in winter and spring, it must estimate the amount of water available to the State Water Project for delivery before the actual figures are known.

To determine the amount of water available to be delivered each calendar year, the Department uses a procedure called the water budget. That procedure was used in late 1992 to approve entitlement water for delivery in 1993.

### Basis for Water Budget

The water budget is based on the relationship between four variables:

1. Water supplies forecast at a certain level of probability for the current water year
2. Current amount of carryover storage
3. Targeted amount of end-of-year carryover storage
4. State Water Project's total delivery capability for the calendar year

The Department's objective in formulating and using the water budget is to ensure that:

- Sufficient carryover storage will be maintained
- Next year's requirements to protect water quality in the Delta will be met
- At least emergency water deliveries could be made in the following year without the need for extraordinary measures

### Modifications to Budget

Because of the difficulty in forecasting precipitation and the amount of runoff received during the year, the Department may have to modify the amount of entitlement water it approved in December for delivery during the next calendar year. The December approvals are usually calculated conservatively at a 90 percent probability confidence level. That means that nine times out of ten the December entitlement approval can be met by the Department.

Additionally, amounts of entitlement water approved also depend on the amount of water the Department is allowed to pump at Banks Pumping Plant under the pumping restrictions imposed by the National Marine Fisheries Service and the U.S. Fish and Wildlife Service to benefit endangered species.

Several years of consecutive drought can cause further budget modifications. It is increasingly difficult to estimate delivery capability if reservoirs south of the Delta have been depleted. Delta pumping capability becomes so constrained that it may not be possible to refill these reservoirs if the drought conditions continue.

## Approval of Deliveries

In fall 1992 SWP contractors submitted requests for entitlement water for years 1993 through 1997. Contractors' long-range projections for entitlement water are included in Table B-5B, "Annual Water Quantities Delivered to Each Contractor," in Appendix B of this document.

Amounts of entitlement water initially requested by contractors in early October 1992

for delivery in 1993 totaled 4,135,367 acre-feet. The amounts requested according to use include municipal and industrial, 2,623,287 acre-feet; and agricultural, 1,512,080 acre-feet. Those amounts include a total of 289,172 acre-feet of deferred entitlement requested by ten contractors.

According to initial operation studies, which were based on the water budget procedure and completed in November 1992, the initial allocation in December 1992 provided for 10 percent of requests for municipal, industrial, and agricultural uses. However, because of above-average precipitation from January through April 15, 1993, on April 16 the Department approved 4,135,367 acre-feet of water for delivery, which met all of the contractors' October 1992 requests. Some contractors subsequently reevaluated their needs and voluntarily accepted a figure lower than 100 percent of their initial requests to benefit SWP.

TABLE 2-1

## Total Amounts of Water Delivered, by Category, 1962 through 1992

| | Water Delivered (Acre-feet) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Entitlement Water (a | | | Other Water Deliveries | | | | | |
| | | | | Surplus and Unscheduled | | | | | |
| Year | Municipal and Industrial (1) | Agricultural (2) | Total (3) | Industrial (4) | Agricultural (5) | Other Water (b (6) | Feather River Diversions (c (7) | Recreation Water (8) | Total Deliveries (9) |
| 1962 | | | | | | 18,289 | | | 18,289 |
| 1963 | | | | | | 22,456 | | | 22,456 |
| 1964 | | | | | | 32,507 | | | 32,507 |
| 1965 | | | | | | 44,105 | | | 44,105 |
| 1966 | | | | | | 67,928 | | | 67,928 |
| 1967 | 5,747 | 5,791 | 11,538 | 0 | 0 | 53,605 | | | 65,143 |
| 1968 | 46,472 | 125,237 | 171,709 | 10,000 | 111,534 | 14,777 | 866,926 | | 1,174,946 |
| 1969 | 34,434 | 158,586 | 193,020 | 0 | 72,397 | 18,829 | 794,374 | | 1,078,620 |
| 1970 | 47,996 | 185,997 | 233,993 | 0 | 133,024 | 38,080 | 759,759 | | 1,164,856 |
| 1971 | 85,286 | 272,054 | 357,340 | 2,400 | 293,619 | 44,119 | 778,362 | 8 | 1,475,848 |
| 1972 | 181,066 | 430,735 | 611,801 | 22,205 | 401,759 | 66,638 | 817,398 | 6,489 | 1,926,290 |
| 1973 | 293,824 | 400,564 | 694,388 | 3,161 | 293,255 | 42,511 | 800,743 | 1,155 | 1,835,213 |
| 1974 | 418,521 | 455,556 | 874,077 | 4,753 | 412,923 | 46,224 | 911,613 | 2,118 | 2,251,708 |
| 1975 | 641,621 | 582,369 | 1,223,990 | 21,043 | 601,859 | 63,793 | 862,218 | 3,377 | 2,776,280 |
| 1976 | 818,588 | 554,414 | 1,373,002 | 32,488 | 547,622 | 115,217 | 946,440 | 1,745 | 3,016,514 |
| 1977 | 280,919 | 293,236 | 574,155 | 0 | 0 | 389,065 | 581,994 | 1,111 | 1,546,325 |
| 1978 | 742,385 | 710,314 | 1,452,699 | 3,566 | 13,348 | 121,225 | 786,517 | 1,691 | 2,379,046 |
| 1979 | 690,659 | 969,237 | 1,659,896 | 66,081 | 582,308 | 187,630 | 882,549 | 1,766 | 3,380,230 |
| 1980 | 730,545 | 799,204 | 1,529,749 | 19,722 | 384,835 | 46,459 | 875,045 | 2,131 | 2,857,941 |
| 1981 | 1,057,273 | 852,289 | 1,909,562 | 12,000 | 896,428 | 279,161 | 838,557 | 4,688 | 3,940,396 |
| 1982 | 928,721 | 821,303 | 1,750,024 | 0 | 215,873 | 154,882 | 776,330 | 4,646 | 2,901,755 |
| 1983 | 483,499 | 701,370 | 1,184,869 | 0 | 13,019 | 181,453 | 602,905 | 7,849 | 1,990,095 |
| 1984 | 725,925 | 862,694 | 1,588,619 | 3,663 | 259,254 | 381,024 | 832,332 | 7,040 | 3,071,932 |
| 1985 | 992,538 | 1,002,915 | 1,995,453 | 9,638 | 298,034 | 404,842 | 870,008 | 4,033 | 3,582,008 |
| 1986 | 998,611 | 997,025 | 1,995,636 | 2,595 | 34,025 | 193,606 | 791,737 | 3,865 | 3,021,464 |
| 1987 | 1,096,368 | 1,033,718 | 2,130,086 | 6,949 | 107,958 | 377,592 | 831,947 | 7,672 | 3,462,204 |
| 1988 | 1,316,820 | 1,068,302 | 2,385,122 | 0 | 0 | 516,481 | 794,834 | 4,889 | 3,701,326 |
| 1989 | 1,602,454 | 1,251,293 | 2,853,747 | 0 | 0 | 487,567 | 809,250 | 8,135 | 4,158,699 |
| 1990 | 1,876,072 | 706,079 | 2,582,151 | 0 | 90 | 457,316 | 851,247 | 9,262 | 3,900,066 |
| 1991 | 536,672 | 12,444 | 549,116 | 3,521 | 0 | 551,048 | 565,395 | 4,912 | 1,673,992 |
| 1992 | 961,394 | 509,805 | 1,471,199 | 1,156 | 0 | 145,044 | 613,978 | 2,605 | 2,233,982 |
| **Total** | **17,594,410** | **15,762,531** | **33,356,941** | **224,941** | **5,673,164** | **5,563,473** | **19,842,458** | **91,187** | **64,752,164** |

a) Includes amounts of deliveries of carryover entitlement water and advance entitlement water.
b) Includes amounts of SWP and non-SWP water conveyed for SWP and non-SWP water contractors.
c) Includes amounts of water diverted according to various water rights agreements.

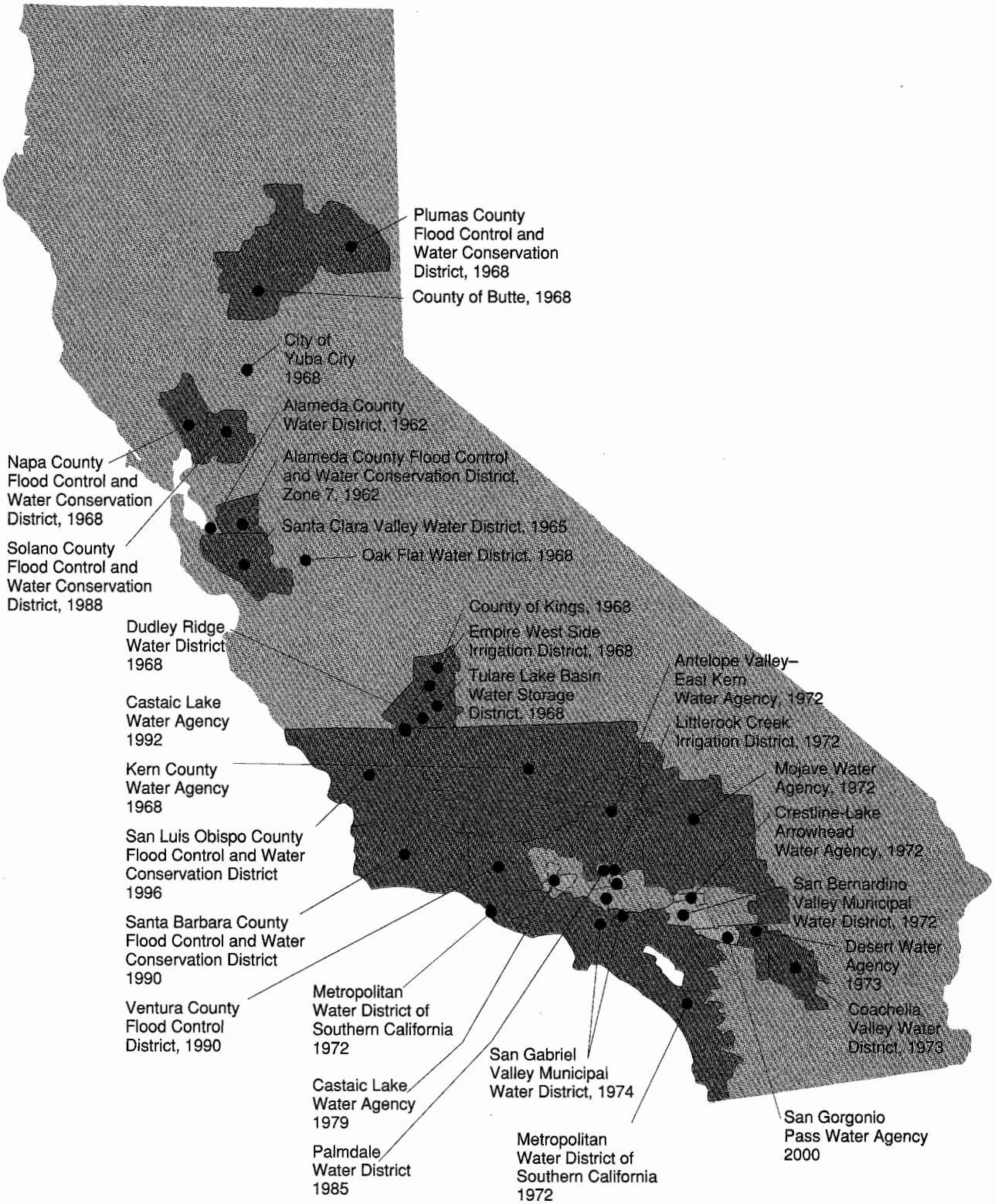
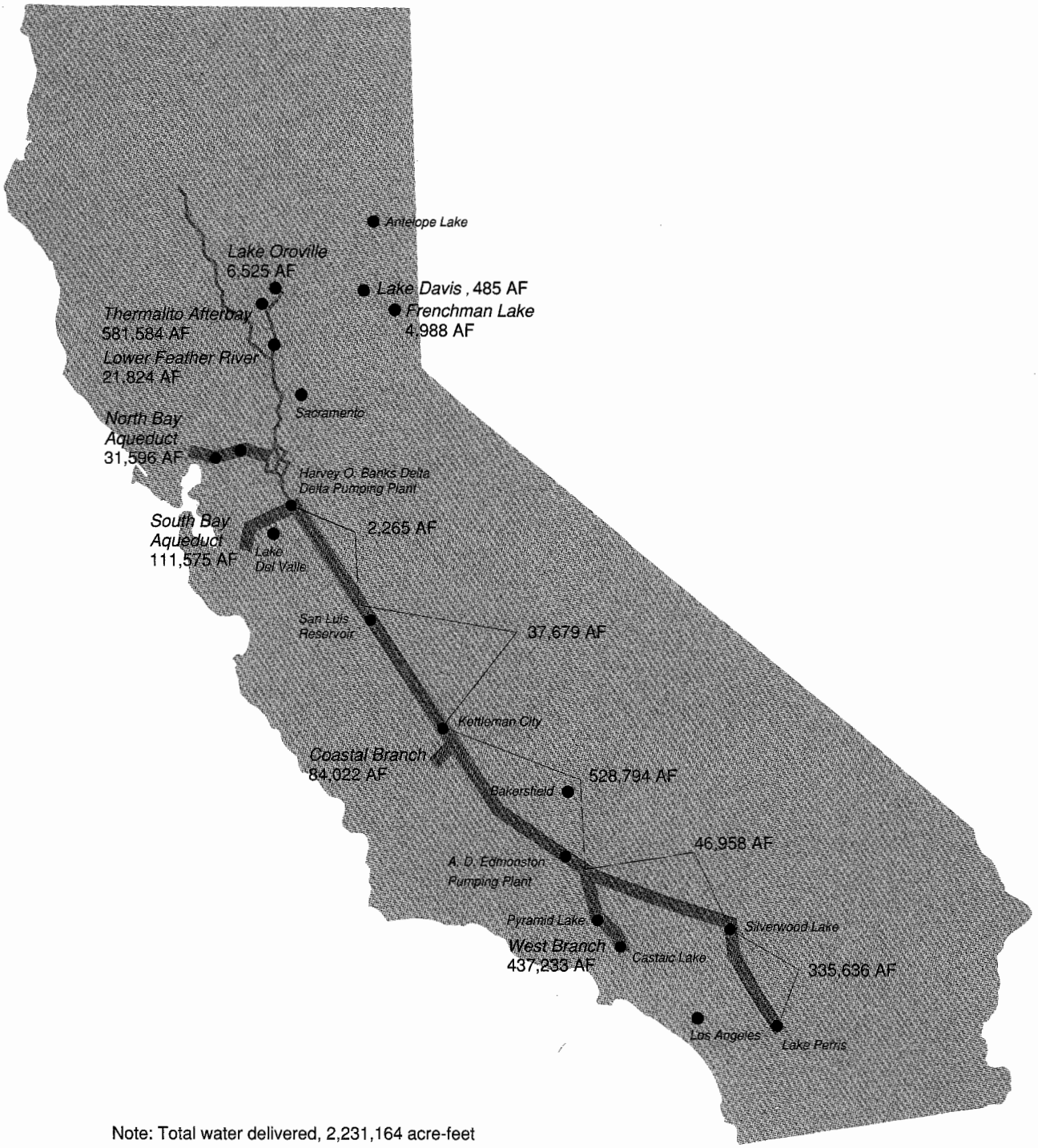



**Fig. 2-4. Names and location of and first year of service to long-term contracting agencies, June 30, 1993**




Note: Total water delivered, 2,231,164 acre-feet

**Fig. 2-5. Amounts of water delivered and delivery locations, 1992**

# 3. Recreational Facilities

The State Water Project, managed by the Department of Water Resources, is a multipurpose project designed to provide many benefits to California residents.

In addition to providing water supply, flood control, and habitats for fish and wildlife, SWP provides extensive and varied recreational opportunities—tours, sight-seeing, and areas or sites that include facilities for fishing, hunting, camping, boating, water skiing, bicycling, and swimming.[1]

Information about SWP recreation areas, sites, and facilities, including information about methods of financing, follows.

## Recreation Areas

The State Water Project has 37 recreation areas or sites located throughout California, including 17 developed fishing access sites. Most of the sites are located along the California Aqueduct. See Figure 3-1 on the next page for the location of each area. Numbers in the figure correspond to the numbers in the following list:

1. Antelope Lake Recreation Area
2. Frenchman Lake Recreation Area
3. Lake Davis Recreation Area
4. Lake Oroville State Recreation Area
5. White Slough Wildlife Area
6. Bethany Reservoir
7. Lake Del Valle State Recreation Area
8. Bikeway from Bethany Reservoir to O'Neill Forebay (70 miles)
9. Grant Line Road Fishing Access Site
10. Niels Hansen Fishing Access Site
11. Orestimba Fishing Access Site
12. Walk-in Fishing (63 miles)
13. Cottonwood Road Fishing Access Site
14. San Luis Reservoir State Recreation Area
15. Los Banos Reservoir
16. Canyon Road Fishing Access Site
17. Mervel Avenue Fishing Access Site
18. Fairfax Fishing Access Site
19. Access to Walk-in Fishing (208 miles of accessibility along the aqueduct)
20. Three Rocks Fishing Access Site
21. Huron Fishing Access Site

[1]According to the Davis-Dolwig Act (1961, *Water Code* sections 11900-11925), the Department has overall responsibility to acquire land, plan recreation, and ensure that enhancement of fish and wildlife habitat is included as part of the State Water Project. In addition, Federal Energy Regulatory Commission License Number 2100 and License Number 2426 require the Department to plan for recreational and associated activities at licensed SWP facilities.

**Fig. 3-1. Locations of recreation areas**

22. Avenal Cutoff Fishing Access Site
23. Kettleman City Fishing Access Site
24. Lost Hills Fishing Access Site
25. Buttonwillow Fishing Access Site
26. Pyramid Lake State Recreation Area
27. Castaic Lake State Recreation Area
28. Munz Ranch Road Fishing Access Site
29. Bikeway from Quail Lake to Silverwood Lake (107 miles, not all accessible)
30. 70th Street West Fishing Access Site
31. Walk-in Fishing (83 miles)
32. Avenue S Fishing Access Site
33. 77th Street East Fishing Access Site
34. Longview Road Fishing Access Site
35. Silverwood Lake State Recreation Area
36. Lake Perris State Recreation Area
37. San Jacinto Wildlife Area

## Use of Facilities

Use of facilities at SWP's 37 recreation areas is measured in terms of visitor-days and recreation-days. A visitor-day is counted when one person enters a visitors center, stops at an overlook, or participates in a guided tour of SWP facilities.

A recreation-day is counted when one person uses the recreational facilities for camping, boating, bicycling, swimming, or some other recreational activity for any part of a day.

### Visitor-Days

In 1992 419,600 visitor-days were recorded at SWP facilities, a 10.2 percent decrease when compared with the 467,300 visitor-days recorded in 1991. That decrease was due to Department of Water Resources and Department of Parks and Recreation exhibit remodeling at the Oroville Visitors Center during most of the year. It was also due to the center reducing visiting days to five days per week instead of the usual seven. See Table 3-1 for visitor-days recorded by location.

### Recreation-Days

In 1992 5,520,600 recreation days were recorded at SWP facilities, a 4.3 percent decrease when compared with 5,768,700 recreation-days recorded in 1991. That decrease was due to two factors: (1) recreational activities at some facilities were limited because of low water levels; and (2) sections of the bikeway along the California Aqueduct were closed for repairs. See Table 3-2 for total recreation days recorded at each facility.

Because of the large population density in Southern California, recreational facilities in that area were used most often. The four largest SWP reservoirs in Southern California, Pyramid Lake, Castaic Lake, Silverwood Lake, and Lake Perris, accounted for 56 percent of the total recreation days accumulated in 1992.

Since SWP first began delivering water in 1962, more than 122 million recreation days have been recorded at SWP recreational facilities.

## Improvements to Facilities

Improvements were made at Frenchman Lake, Lake Davis, Lake Oroville, Pyramid Lake, and Castaic Lake during 1992 to help meet recreational demands.

To make Frenchman Lake and Lakes Davis and Oroville more accessible to boaters during periods of drought and at times when the water surface in the lakes is well below normal, several existing boat launching ramps were extended to lower elevations. Other ramps were built at lower elevations than the existing ones. Also, additional parking areas were built at those elevations, and improvements were made to some of the existing ones. All the related construction work was performed by private contractors under the direction of the Department of Boating and Waterways and was funded by the Department of Boating and Waterways.

### Frenchman Lake

The two existing boat launching ramps were extended to a lower elevation. Also, at Lunker Cove, an additional launching ramp and parking area were constructed at a lower elevation than the existing facilities.

TABLE 3-1
**Total Number of Visitor-Days Recorded in 1992, by Location**

| *Location* | *Visitor-Days* |
|---|---|
| Project Operation Control Center, Sacramento | 400 |
| Oroville Field Division | 108,400 |
| Delta Field Division | 1,200 |
| San Luis Field Division | 218,000 |
| San Joaquin Field Division | 5,600 |
| Southern Field Division | 86,000 |
| **Total** | **419,600** |

### Lake Davis

At Lake Davis, the existing boat launching ramps at Camp 5 and Honker Cove were extended to a lower elevation.

### Lake Oroville

Additional boat launching ramp extensions and parking area improvements at Lake Oroville were completed. Also, a launching ramp was built to provide access to the lake at Bidwell Canyon.

### Pyramid Lake

Construction continued on the Vista del Lago Visitors Center at Interstate Highway 5. The center and the recreation development on Liebre Peninsula should be completed in late 1993.

## Castaic Lake Closure

At Castaic Lagoon, an integral part of Castaic Lake, Department personnel detected high levels of the *E.coli* bacteria. Since the bacteria is mostly transmitted by swallowing the infected water, the lagoon has been closed to swimming since August 1992. This closure reduced the 1992 total use of the Castaic Lake

TABLE 3-2

**Total Number of Recreation-Days Recorded in 1992, by Division and Facility**

| *Division* | *Number of Days* |
|---|---|
| **Oroville Field Division** | |
| Antelope Lake | 65,500 |
| Frenchman Lake | 190,000 |
| Lake Davis | 220,000 |
| Lake Oroville and Thermalito Forebay | 410,000 |
| Thermalito Afterbay and Oroville Wildlife Area | 185,400 |
| **Total** | **1,070,900** |
| **Delta Field Division** | |
| White Slough Wildlife Area | 11,000 |
| Bethany Reservoir | 28,900 |
| Lake Del Valle | 498,000 |
| Fishing Access Sites | |
| Niels Hansen | 100 |
| Cottonwood Road | 100 |
| California Aqueduct | |
| Walk-in fishing | 21,100 |
| Bikeway | 13,600 |
| **Total** | **572,800** |
| **San Luis Field Division** | |
| San Luis Reservoir | 248,000 |
| O'Neill Forebay | 395,900 |
| Los Banos Reservoir | 60,800 |
| Fishing Access Sites | |
| Canyon Road | 100 |
| Mervel Avenue | 100 |
| Three Rocks | 100 |
| Huron | 200 |
| Avenal Cutoff | 500 |
| California Aqueduct | |
| Walk-in fishing | 9,300 |
| Wildlife areas | 18,500 |
| **Total** | **733,500** |
| **San Joaquin Field Division** | |
| Fishing Access Sites | |
| Kettleman City | 3,600 |
| Lost Hills | 3,300 |
| Buttonwillow | 3,700 |
| California Aqueduct | |
| Walk-in fishing | 5,900 |
| **Total** | **16,500** |
| **Southern Field Division** | |
| Pyramid Lake | 348,600 |
| Castaic Lake | 960,000 |
| Silverwood Lake | 522,400 |
| Lake Perris | 1,290,300 |
| Fishing Access Sites | |
| 77th Street East | 400 |
| Longview Road | 100 |
| California Aqueduct | |
| Walk-in fishing | 4,600 |
| Bikeway | 500 |
| **Total** | **3,126,900** |
| **Grand Total** | **5,520,600** |

recreation facilities by 10 percent compared to 1991. The lagoon will remain closed to swimming indefinitely.

## Fish Plantings

The Department of Fish and Game continued its fish-planting activities at 12 SWP facilities and one facility owned by the Metropolitan Water District of Southern California (Lake Skinner) during 1992.

Fewer fish were planted in 1992 than in 1991. See Table 3-3 for a listing of facilities and number of fish planted at each facility.

In addition, a total of 15,660,300 fish were reared at the Feather River Fish Hatchery and the Thermalito Afterbay rearing ponds, up 83 percent from 1991. That figure includes a total of 15,300,300 Chinook salmon and 360,000 yearling steelhead trout.

Of the Chinook salmon reared, 5,185,500 were fingerlings; 7,038,400 were planted as advanced fingerlings; and 3,076,400, as yearlings.

# Safety

Safe use of facilities at all 36 recreational areas is important to the Department. However, safety along the 23 sites located along the California Aqueduct, a 444-mile-long open canal used to deliver water to cities, farms, and industries in the San Francisco Bay Area, San Joaquin Valley, and Southern California, is particularly important. Recreationists use those sites for fishing and biking. In 1992, approximately 53,000 people fished and 14,000 people rode bicycles along the aqueduct.

Because the aqueduct is an open canal, water flowing in it is clearly visible and often appears to be shallow and calm. However, the calm surface is deceptive. The water is as much as 30 feet deep in some places and can

start to flow rapidly without warning, creating turbulence and strong currents.

Turbulent currents created by buried pipelines and siphons used to carry water under roadways, streams, and railroad crossings, are not visible from the surface. Also, the concrete sides of the aqueduct are steep and slippery, making it difficult if not impossible to climb out of the canal without help.

To minimize risks to recreationists, the Department posted safety notices along the aqueduct; and in the aqueduct, the Department installed float lines and safety ladders at regular intervals. Through various media, including brochures available at recreational facilities, the Department regularly notifies visitors of safety precautions to take while fishing or walking along the aqueduct.

Also, trainers from the Department's field divisions regularly visit schools, churches, and other community organizations to discuss safety precautions and dispense brochures, posters, and videocassettes.

TABLE 3-3

**Total Number of Fish Planted in 1992**
(Thousands)

| *Location and Size* | *Trout* | | | *Chinook* | |
|---|---|---|---|---|---|
| | *Rainbow* | *Brown* | *Brook* | *Salmon* | *Total* |
| Antelope Reservoir | | | | | |
| Catchable | 7.7 | | 22.6 | | 30.3 |
| Lake Davis | | | | | |
| Catchable | 31.8 | | | | 31.8 |
| Fingerling | | 16.1 | | | 16.1 |
| Frenchman Reservoir | | | | | |
| Catchable | 20.5 | | | | 20.5 |
| Fingerling | 199.8 | 15.8 | | | 215.6 |
| Lake Oroville | | | | | |
| Catchable | | 69.0 | | 36.0 | 105.0 |
| Fingerling | | | | 87.0 | 87.0 |
| Thermalito Forebay | | | | | |
| Catchable | 41.0 | | | | 41.0 |
| Subcatchable | 4.2 | | | | 4.2 |
| Lake Del Valle | | | | | |
| Catchable | 40.1 | | | | 40.1 |
| Los Banos Reservoir | | | | | |
| Catchable | 11.0 | | | | 11.0 |
| Pyramid Lake | | | | | |
| Catchable | 27.1 | | | | 27.1 |
| Castaic Lake | | | | | |
| Catchable | 98.7 | | | | 98.7 |
| Castaic Lagoon | | | | | |
| Catchable | 30.3 | | | | 30.3 |
| Silverwood Lake | | | | | |
| Catchable | 35.6 | | | | 35.6 |
| Lake Perris | | | | | |
| Catchable | 21.8 | | | | 21.8 |
| Lake Skinner | | | | | |
| Catchable | 22.8 | | | | 22.8 |
| **Total** | **592.4** | **100.9** | **22.6** | **123.0** | **838.9** |

# Methods of Financing

Recreational facilities are financed according to legislation enacted in 1961, the Davis-Dolwig Act, with modifications in 1989, and Assembly Bill 12 (1966).

## Davis-Dolwig Act

When the legislature passed the Davis-Dolwig Act in 1961, it established a procedure for reimbursing the Department for SWP funds spent to enhance habitats for fish and wildlife and provide recreational facilities.

In passing the act, the legislature reasoned that because enhancing habitats for fish and wildlife and providing recreational facilities benefit all Californians, costs should be borne by all Californians.

Consequently, the Davis-Dolwig Act included provisions for reimbursing the Department for expenses each year. The reimbursements would be included in the Department's budget as appropriations from the General Fund and used by the Department to pay for operations, maintenance, power, and replacement costs associated with operating SWP.

## Assembly Bill 12 (1966)

In 1966 the legislature passed Assembly Bill 12 (*Public Resources Code* Section 6217) to provide for a $5 million annual appropriation from tideland oil and gas revenues for joint costs of state water projects allocated to (1) recreation, (2) enhancement of fish and wildlife, and (3) purchases of land for recreation.

Since the bill was passed, the Department has received approximately $90 million from the state's tideland oil and gas revenues for funding joint capital costs and purchasing land for recreational purposes. However, those appropriations have not been made since the 1985–86 fiscal year.

In 1989 the legislature passed Assembly Bill 1442, "Offset Legislation." This legislation offsets moneys owed the California Water Fund by the State Water Project with reimbursements owed the project by the General Fund for recreation and fish and wildlife expenditures under the Davis-Dolwig Act.

As of December 31, 1992, the state had spent $16,656,865 for operations and maintenance costs associated with SWP's recreational facilities.

See Chapter 23, "Forecasting Revenues, Expenses, and Future Costs of Water Service," for additional information on operating costs. In addition, *Appendix D, Costs of Recreation and Fish and Wildlife Enhancement,* to Bulletin 132 contains specific information about capital costs allocated to fish and wildlife enhancement and recreational development. This report to the legislature is published annually by the Department.

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# 4. Collecting and Storing Water

To meet its contractual obligations to State Water Project long-term contractors, the Department of Water Resources is involved in activities ranging from monitoring precipitation and calculating runoff to coordinating the operation of a complex system of dams and reservoirs, including conservation and storage facilities and regulatory storage facilities.

This chapter includes information about those activities, based on the 1992 calendar year and the 1991–92 water year.

## Precipitation and Runoff

In a typical year, California receives about 193 million acre-feet (MAF) of water as rain or snow (an acre-foot consists of approximately 326,000 gallons, the amount normally used each year by a family of five).

Of the 193 MAF received in California, about 110 MAF—about 57 percent—falls in Northern California (North Coast, Sacramento River basin, and North Lahontan hydrological areas). The 110 MAF produces 53 MAF of runoff, which is about 75 percent of the total estimated runoff for the entire state. The balance—about 57 MAF—either evaporates, is consumed by plants, or percolates to ground water. Twenty-five percent of the state's runoff—about 18 MAF—occurs south of the Sacramento-San Joaquin Delta; however, about 75 percent of the state's total agricultural and urban water requirements are south of the Delta.

In the great Central Valley of California, which includes the Sacramento River basin along with San Joaquin and Tulare basins, the average annual precipitation is about 88 MAF. Of this 88 MAF, about 55 MAF is lost to evapotranspiration; about 3 MAF flows into, and evaporates from, closed lakes in Tulare Basin; and the remaining 30 MAF becomes the unimpaired runoff[1] to the Sacramento-San Joaquin Delta, the primary source of SWP water supply.

The Department carefully monitors and records precipitation and runoff according to the water year, the natural cycle in which rainfall and runoff occur. In California the water year extends from October 1 through September 30.

The data recorded throughout the water year are used by the Department to determine, in part, the amount of water that can be

[1] *Unimpaired runoff* is defined as the natural water production of a river basin, unaltered by upstream diversions, storage, or exports or imports of water to or from other watersheds. Under natural conditions, some of this runoff is consumed by wetlands and riparian vegetation in the Central Valley.

delivered; the amount to be retained in storage, depending on the water year classification; and the amount needed for delivery in the future.[2]

Water year 1991–92 was the sixth year of continuous drought for California. Precipitation during the water year was about 10 percent more than during 1990–91; however, due to the distribution of precipitation during the 1991–92 water year, total statewide runoff was nearly identical to that of 1990–91.

Southern California precipitation was above average, marking the end of that area's drought and the beginning of local reservoir recovery. However, rainfall was light on the west slope of the Sierra Nevada where most of the runoff generates; as a result, the total runoff for California was less than half of average.

## Precipitation

Precipitation for 1991–92 is recorded as a percentage of the 50-year average of amounts of rainfall recorded at each of the 10 hydrological areas located throughout the state. Those areas include:

- North Coast
- San Francisco Bay
- Central Coast
- South Coast
- Sacramento River Basin
- San Joaquin
- Tulare Lake
- North Lahontan
- South Lahontan
- Colorado River

See Figure 4-1 at the end of this chapter for statewide precipitation by hydrological area.

During the 1991–92 water year, early winter precipitation was only 50 percent of average. Precipitation on February 1, 1992, was about 60 percent of average, significantly more than the previous year's 25 percent on February 1. February was a wet month. Statewide precipitation averaged 160 percent of normal with a range of 50 percent of average in some northeastern areas, to more than 300 percent in parts of Southern California, particularly in the normally dry southeastern desert areas. By March 1, seasonal precipitation statewide was 85 percent of normal, a figure that was maintained through the end of the water year.

## Runoff

During the water year, the Department calculates in acre-feet the amount of unimpaired runoff to streams in all hydrological areas in California. Those amounts are reported in *Water Conditions in California* (Bulletin 120), published by the Department in February, March, April, and May of each water year.

In addition to including information about first-of-the-month conditions for the months of February through May, those bulletins include forecasts of unimpaired runoff for the remaining months of the water year.

All forecasts of unimpaired runoff are used by SWP when planning operations. However, the May 1 forecast of the amount of unimpaired runoff to streams in the Sacramento River basin is particularly significant: SWP operations are regulated according to the water year classification based on that forecast.

[2]Water year classifications (*wet, above normal, below normal, dry,* and *critical*) are based on criteria included in Table II of *Water Right Decision 1485: Sacramento-San Joaquin Delta and Suisun Marsh,* issued by the State Water Resources Control Board in August 1978. See "Forecasting Water Delivery Capabilities" in Chapter 2 for information about the procedure used by the Department to estimate the amount of water needed for future deliveries.

The water year classification is used to set water quality and flow requirements for the Delta according to standards included in Decision 1485. In cooperation with the Central Valley Project, SWP works to ensure those requirements are met by:

- Monitoring water quality at various points in the Delta
- Modifying releases and exports when necessary

The snowpack water content on April 1, 1992, was 60 percent of average, significantly less than the 75 percent observed a year earlier on April 1. During April, the snow melted quickly and by May 1, the snow pack water content was only 25 percent of average.

As reported in the May 1, 1992, edition of *Water Conditions in California*, the amount of unimpaired runoff to streams in the Sacramento River basin—commonly known as the Sacramento River Index—for the 1991–92 water year was forecast to be 9.4 million acre-feet or 51 percent of average.

Based on the 1991–92 water year forecast, the water year was classified as *critical* for fish and wildlife and for agricultural, municipal, and industrial uses. The actual amount of unimpaired runoff recorded for the 1991–92 water year in the Sacramento River basin was 8.9 million acre-feet or 48 percent of average.

## Conservation and Storage Facilities

To collect and store water for future deliveries, SWP operates a complex system of 22 dams and reservoirs. Two reservoirs, Lake Oroville in Northern California and San Luis in the central part of the state, are primary SWP conservation facilities. The remaining 20 reservoirs are used primarily to regulate the conserved supply into water delivery patterns designed to fit local needs.

Information about those reservoirs, including amounts of unimpaired runoff to Lake Oroville and storage levels for SWP conservation and other storage facilities, follows. The information is based on the 1991–92 water year.

### Lake Oroville

Lake Oroville, the keystone of SWP, has a maximum capacity of 3,537,580 acre-feet. Runoff from the Feather River is collected and stored in the reservoir; its release to the Sacramento-San Joaquin Delta is regulated through Oroville Dam, Thermalito Diversion Dam, and Thermalito Afterbay. At full reservoir, Lake Oroville has a surface area of 15,805 acres and a shoreline of 167 miles. Located 85 miles north of Sacramento, Lake Oroville is one of the most popular SWP recreational facilities.

The total inflow to Lake Oroville for the 1991-92 water year totaled only about 1.55 million acre-feet, 39 percent of average. Because of low storage at the beginning of 1992 and the small amount of runoff, storage peaked on May 4, 1992, at only 2,026,036 acre-feet, 58 percent of normal maximum operating capacity. By December 31, 1992, storage declined to 1,402,048 acre-feet, 40 percent of normal maximum operating capacity. See Figures 4-2 and 4-3 for monthly and cumulative inflow into Lake Oroville.

In years of normal operations, Lake Oroville is drawn down prior to the flood season to create the storage capacity necessary to prevent downstream floods. During 1992, however, storage levels remained far below

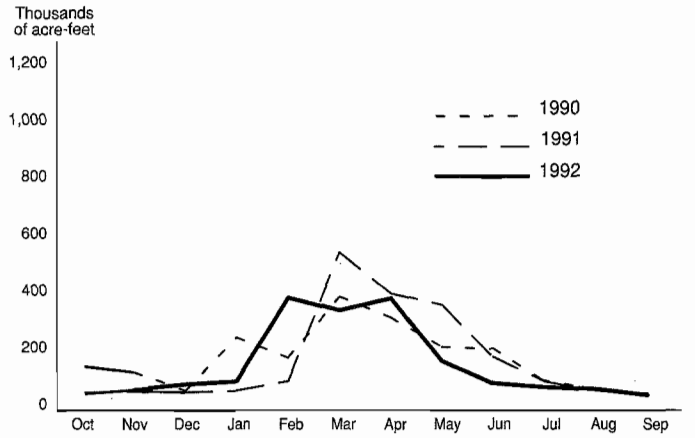


**Fig. 4-2. Monthly amounts of inflow into Lake Oroville from Feather River, 1990 through 1992 water years**

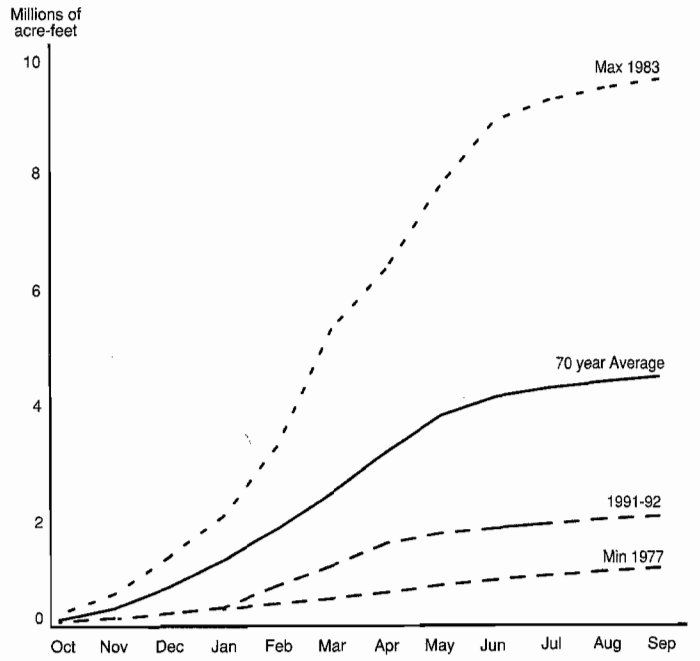


**Fig. 4-3. Cumulative amounts of inflow into Lake Oroville from Feather River**

any drawdown requirements for flood control because of the ongoing drought.

Specifically, storage during January through August was very low but remained above the extremely low levels for the same period in 1991. Storage from September through November was somewhat below levels for the same period in 1991. During December, the storage increased significantly and finished the year above the storage level of 1991. Because the reservoir was used to store water for the California Drought Water Bank program, storage for the 1992 calendar year was for the most part above 1991 levels (see Figure 4-4).

## San Luis Reservoir

San Luis Reservoir, located about 12 miles west of the city of Los Banos in the eastern foothills of the Diablo Mountain Range, is operated jointly with the U.S. Bureau of Reclamation according to operating procedures finalized in June 1981.

With a normal operating capacity of 2,028,000 acre-feet, San Luis Reservoir is the largest off-stream storage reservoir in the United States (an off-stream storage reservoir is filled with water pumped from a source other than its natural watershed).

San Luis was designed to store surplus water pumped from the Sacramento-San Joaquin Delta through the California Aqueduct and the Delta-Mendota Canal during periods of high runoff. Later in the year, the stored water is released for distribution to state and federal service areas. The SWP share of San Luis's normal operating capacity is 1,062,000 acre-feet.

At the beginning of 1992, San Luis Reservoir contained 41 percent of its normal maximum operating capacity; SWP's share was 417,519 acre-feet.

By April 9, 1992, San Luis Reservoir reached its maximum storage for 1992: 1,986,180 acre-feet, or 98 percent of normal maximum operating capacity; SWP's share of storage was 1,025,012 acre-feet (see Figure 4-5).

## Regulatory Storage Facilities

Twenty reservoirs are used by SWP for regulatory and emergency storage. Of those 20 the five largest are Lake Del Valle, located in Alameda County, and Pyramid Lake, Castaic Lake, Silverwood Lake, and Lake Perris, located in Southern California. In addition, those reservoirs are used extensively for recreation.

Lake Del Valle is located approximately 4 miles from the city of Livermore. The four southern reservoirs, Pyramid Lake, Castaic Lake, Silverwood Lake, and Lake Perris, are located near the metropolitan areas of Southern California, where water supplies are primarily imported.

### Lake Del Valle

Lake Del Valle, located off the South Bay Aqueduct, is used primarily to store water used in Santa Clara and Alameda Counties. At the beginning of 1992, Lake Del Valle held 24,995 acre-feet of water, 63 percent of normal maximum operating capacity.

By May 15 storage had increased to 41,301 acre-feet or about 100 percent of normal maximum operating capacity to provide for recreational activities and to serve as a buffer during the summer months when the demand for water is high.

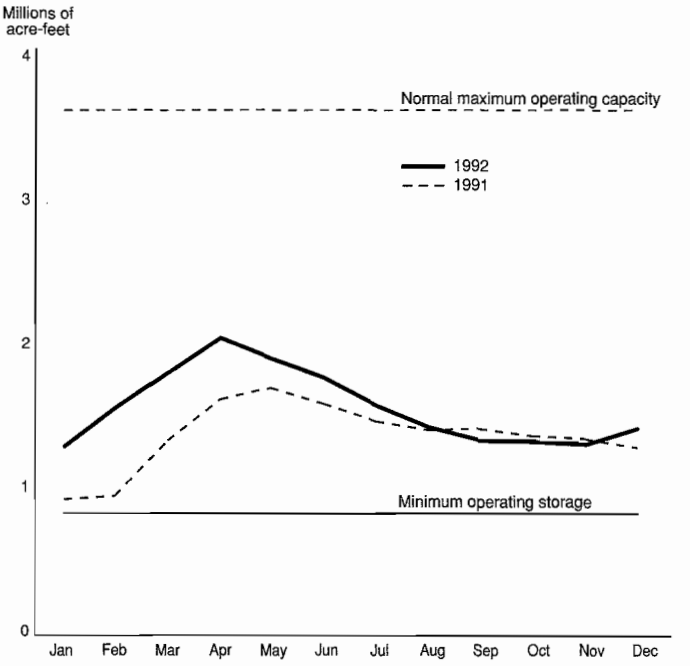


**Fig. 4-4. End-of-month storage in Lake Oroville, 1991 and 1992 calendar years**

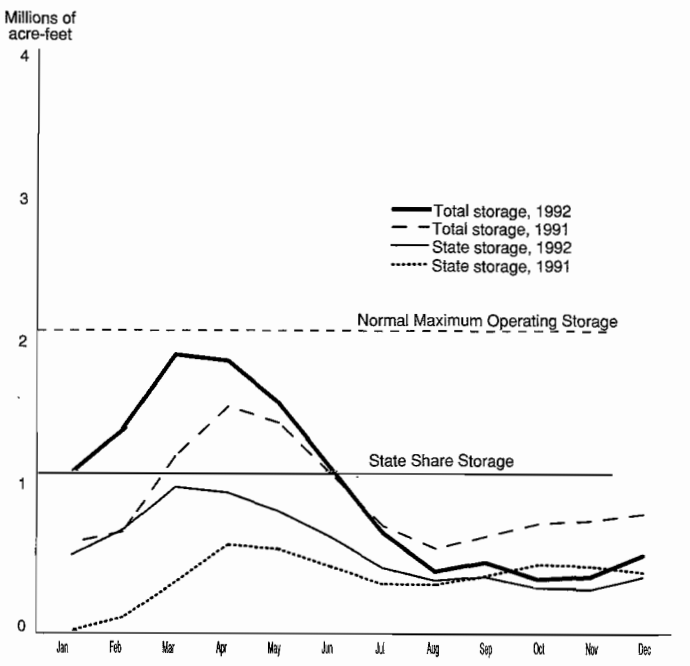


**Fig. 4-5. End-of-month storage in San Luis Reservoir, 1991 and 1992 calendar years**

At the end of 1992 storage in Lake Del Valle had dropped to 25,922 acre-feet, 65 percent of normal maximum operating capacity.

## Southern Reservoirs

During normal operating conditions, the Department maintains its four southern reservoirs, Pyramid, Castaic, and Silverwood Lakes and Lake Perris, at or near full operating capacity to ensure uninterrupted deliveries of water to Southern California contractors.

At the beginning of 1992, those reservoirs held 92 percent of their combined normal maximum operating capacity. At the end of 1992 they held 593,409 acre-feet, 86 percent of normal maximum operating capacity.

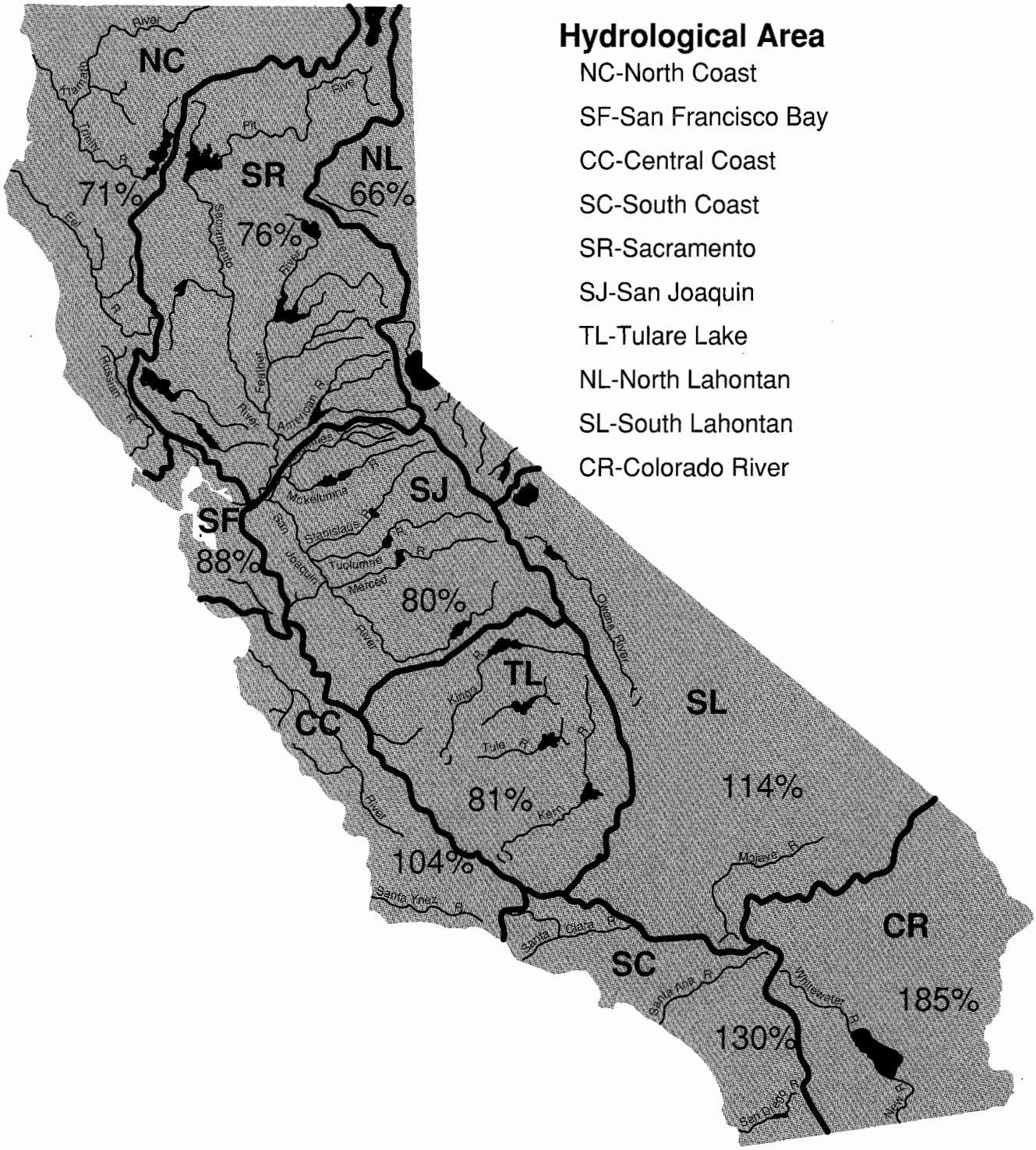


**Fig. 4-1. Statewide precipitation by hydrological area, 1991–92 water year, in percentage of average**

# 5. Negotiating Contracts and Agreements

The long-term water supply contracts between the Department of Water Resources and local agencies for water service from the State Water Project are basic to the project's construction and operation. In return for water service, the agencies contractually agree to repay the SWP's capital and operating costs.

This chapter includes information about (1) SWP's long-term supply contracts and amendments to them, (2) short-term agreements with long-term contractors and other agencies as well as amendments to those agreements, and (3) the Department's contracts concerning claims to rights of usable water in the Delta.

## Long-Term Contracts and Amendments

The first water supply contract was signed with the Metropolitan Water District of Southern California on November 4, 1960. The contract was negotiated by the Department and the district according to terms contained in *Contracting Principles for Water Service Contracts*. Those terms, some of the most rigid ever devised for a water project, were announced by Governor Edmund G. Brown on January 20, 1960.

The Metropolitan Water District contract served as the prototype for all water contracts; by the end of 1967, 31 agencies had contracted for water. In addition, a water supply contract was executed with the City of West Covina in December 1963 but was terminated in August 1965; the city's water entitlement was transferred to the Metropolitan Water District of Southern California through an amendment to the Department's contract with MWD. Long-term contracts with Hacienda Water District and Devil's Den Water District were also terminated when those districts transferred their water entitlements, through contracted amendments, to Tulare Lake Basin Water Storage District (in 1981) and Castaic Lake Water Agency (in 1992), respectively. Today SWP has long-term water supply contracts with 29 agencies. (See Chapter 2, "Water Deliveries," for a listing of long-term water supply contractors.) The long-term contracts have been amended repeatedly to incorporate mutually desired modifications.

### Terms

All water contracts signed in the 1960s included an estimate of the date water would first be delivered and a schedule of the amount

TABLE 5-1
**Amendments to Water Supply Contracts, by Category**

| *Category (a* | *Description* |
|---|---|
| 1. Revision of annual entitlements | Amendments to Table A, "Annual Entitlements," of water supply contracts resulting in changes in amounts of entitlement water |
| 2. Enlargement of East Branch and Extension of Coastal Branch of California Aqueduct | Amendments for allocating costs and benefits of the enlargement of the East Branch and extension of the Coastal Branch of the California Aqueduct |
| 3. Purchase of excess capacity | Amendments to allow contractors to purchase extra water service capacity from the California Aqueduct |
| 4. Provisions to carry over entitlement water [Article 12(e)] | Amendments to allow contractors to carry over entitlement water from one year for delivery in the next year, providing certain conditions are met |
| 5. Surplus water provisions | Amendments to allow contractors to take delivery of surplus water; that is, water in excess of that required to meet all demands for entitlement water—for example, water to be stored in reservoirs or to meet other SWP requirements |
| 6. Unscheduled water provisions | Amendments to allow contractors to take delivery of unscheduled water; that is, water available for a very short period of time when excess water and SWP pumping capacity are available in the Delta |
| 7. Wet-weather provisions | Amendments to allow contractors to take, under certain conditions, delivery of entitlement water in subsequent years if favorable local weather conditions result in adequate local water supplies |

a) See Table 5-2, "Amendments to Water Supply Contracts, June 30, 1993, by Category and Contracting Agency," for names of contractors to which categories apply.

of water the agency could expect to be delivered annually (annual entitlement). That amount was designed to increase gradually until the maximum amount of annual entitlement was reached.

The contracts were initially designed to be valid for 75 years or until all bonds sold as part of the California Water Resources Development Bond Act were repaid, whichever period was longer. (See Chapter 22, "Analyzing Capital Requirements and Financing," for additional information about the Water Resources Development Bond Act.) The total combined annual entitlement for all water contracting agencies was also initially 4,230,000 acre-feet.

As a result of amendments to contracts in the 1980s, the current combined maximum annual entitlement totals 4,217,786 acre-feet, and the contracts are in effect for the longest duration of either (1) the project repayment period, which extends to the year 2035; (2) 75 years from the date of the contract; or (3) the period ending with the latest maturity date of any bond used to finance the construction costs of project facilities.

## Amendments

All of the original contracts signed by the Department and local agencies have been amended to incorporate mutually desired changes. The amendments may be categorized as follows:

1. Revision of annual entitlements
2. Enlargement of the East Branch and extension of the Coastal Branch of the California Aqueduct
3. Purchase of excess capacity
4. Provisions to carry over entitlement water
5. Surplus water provisions
6. Unscheduled water provisions
7. Wet-weather provisions

See Table 5-1 for a list and description of categories of amendments; see Table 5-2 for a list of contractors to which those categories apply.

From July 1, 1992, to June 30, 1993, the Department signed one amendment. That amendment was executed with Santa Barbara County Flood Control and Water Conservation District.

### Santa Barbara County Flood Control and Water Conservation District

In November 1992 amendment number 14 was added to Santa Barbara County Flood Control and Water Conservation District's water supply contract. This amendment provides for an extension of the Coastal Branch of the California Aqueduct from the Santa Maria River to Tank 5, located 3.2 miles south of the town of Casmalia on Vandenberg Air Force Base.

## Short-Term Agreements and Amendments

From July 1,1992, to June 30, 1993, the Department entered into various short-term agreements with long-term contractors and other agencies for conveying, transferring, and exchanging water. Those agreements also included terms and conditions for using the Cross Valley Canal, extracting ground water, and delivering unscheduled water.

During the same period, the Department also amended other agreements, including two agreements for conveying 1991 Drought Water Bank water. Two agreements provided for pumping specific amounts of non-SWP water into the California Aqueduct, at specific reaches, for delivery at different reaches in the aqueduct within the boundaries of the same contracting agencies.

Information about new agreements and amendments to agreements previously signed follow. The information is arranged alphabetically according to subject.

### Agreements

Information about short-term agreements with various agencies involving deliveries of Central Valley Project, Drought Water Bank, entitlement, Kern Water Bank, and unscheduled water follow.

TABLE 5-2
**Amendments to Water Supply Contracts June 30, 1993, by Category and Contracting Agency**

| | *State Water Project Amendment Category (a* | | | | | | |
|---|---|---|---|---|---|---|---|
| *Contracting Agency* | *1* | *2* | *3* | *4* | *5* | *6* | *7* |
| **Upper Feather River Area** | | | | | | | |
| City of Yuba City | • | | | | • | | |
| County of Butte | • | | | • | • | | |
| Plumas County Flood Control and Water Conservation District | | | | • | | | |
| **North Bay Area** | | | | | | | |
| Napa County Flood Control and Water Conservation District | • | | | • | • | • | |
| Solano County Water Agency | • | | • | • | • | • | |
| **South Bay Area** | | | | | | | |
| Alameda County Flood Control and Water Conservation District, Zone 7 | • | | | • | • | | • |
| Alameda County Water District | | | | • | • | • | • |
| Santa Clara Valley Water District | • | | | • | • | • | • |
| **San Joaquin Valley Area** | | | | | | | |
| County of Kings | | | | • | • | | • |
| Devil's Den Water Disrict | • | | | • | • | • | |
| Dudley Ridge Water District | • | | | • | • | • | |
| Empire West Side Irrigation District | • | | | • | • | • | |
| Kern County Water Agency | • | | | | • | • | |
| Oak Flat Water District | | | | • | • | • | • |
| Tulare Lake Basin Water Storage District | • | | | • | • | • | • |
| **Central Coastal Area** | | | | | | | |
| San Luis Obispo County Flood Control and Water Conservation District | | | | • | • | | |
| Santa Barbara County Flood Control and Water Conservation District | • | • | | • | • | | |
| **Southern California Area** | | | | | | | |
| Antelope Valley-East Kern Water Agency | • | • | • | • | • | | |
| Castaic Lake Water Agency | • | | | • | • | | |
| Coachella Valley Water District | • | • | | • | • | | |
| Crestline-Lake Arrowhead Water Agency | • | | | • | • | | |
| Desert Water Agency | • | • | | • | • | • | |
| Littlerock Creek Irrigation District | • | | | • | • | | |
| Metropolitan Water District of Southern California | • | • | • | • | • | • | |
| Mojave Water Agency | • | • | | • | • | | |
| Palmdale Water District | • | • | | • | • | | |
| San Bernardino Valley Municipal Water District | • | • | | • | • | | |
| San Gabriel Valley Municipal Water District | • | | • | • | • | | |
| San Gorgonio Pass Water Agency | | | | • | • | | |
| Ventura County Flood Control District | | | | • | • | | |

a) Categories correspond to those listed in Table 5-1, "Amendments to Water Supply Contracts, by Category."

## Carryover Entitlement

Thirteen long-term contractors signed annual agreements to carry over up to 261,429 acre-feet of their 1992 SWP entitlement water for delivery during the spring of 1993. Names of the contractors and the amounts available to be carried over follow.

- Napa County Flood Control and Water Conservation District: 393 acre-feet
- Solano County Water Agency: 1,051 acre-feet
- Alameda County Flood Control and Water Conservation District, Zone 7: 1,566 acre-feet
- Santa Clara Valley Water District: 493 acre-feet
- Oak Flat Water District: 192 acre-feet
- Dudley Ridge Water District: 2,274 acre-feet
- Kern County Water Agency: 40,156 acre-feet
- Tulare Lake Basin Water Storage District: 6,760 acre-feet
- Antelope Valley-East Kern Water Agency: 1,650 acre-feet
- Metropolitan Water District of Southern California: 193,668 acre-feet
- Palmdale Water District: 1,923 acre-feet
- San Bernardino Valley Municipal Water District: 11,086 acre-feet
- San Gabriel Valley Municipal Water District: 217 acre-feet

In addition a letter agreement between the Metropolitan Water District of Southern California and the Department was signed on April 21, 1993, to provide for delivery of up to 50,000 acre-feet of MWD's 1992 carryover entitlement water to Kern County Water Agency. The water was delivered for temporary storage in the ground water basin within Semitropic Water Storage District, a member agency of KCWA.

## Central Valley Project Water

In 1992 the Department negotiated agreements with six Cross Valley Canal contractors to convey a total of 30,954 acre-feet of CVP water stored in the Department's share of San Luis Reservoir. The Department conveyed (1) 28,504 acre-feet to Reach 12E of the California Aqueduct, including 2,455 acre-feet of water exchanged between several Cross Valley Canal contractors and Kern County Water Agency and (2) 2,450 acre-feet to Reach 5 in accordance with an agreement, described below, between the Department and Rag Gulch Water District. The following Cross Valley Canal contractors signed agreements: County of Fresno, County of Tulare, Kern-Tulare Water District, Lower Tule Irrigation District, Pixley Irrigation District, and Rag Gulch Water District.

An October 30, 1992, agreement between the U.S. Bureau of Reclamation and the Department approved the conveyance of up to 6,200 acre-feet of CVP water for the U.S. Fish and Wildlife Service. The water was conveyed to the Kern National Wildlife Refuge through the Buena Vista Water Storage District's turnout in Reach 10A of the California Aqueduct.

A letter agreement between the U.S. Bureau of Reclamation and the Department, dated November 9, 1992, approved conveying up to 49,840 acre-feet of water to nine CVP contractors. Only one CVP contractor, Musco Olive Products, Inc., scheduled the delivery of 142 are-feet of CVP water under the terms of this agreement.

On December 4, 1992, the Department and Rag Gulch Water District signed an agreement for conveying a portion of Rag Gulch's CVP water, stored in the Department's share of San Luis Reservoir, to Westlands Water District during 1992. Under that agreement

the Department conveyed 2,450 acre-feet of water to Westlands Water District's turnout in Reach 5 of the California Aqueduct.

On April 1, 1993, the Department signed a contract with the Western Canal Water District to convey up to 4,600 acre-feet of water from Thermalito Afterbay through the Western Canal Outlet for the 1992–93 Sacramento Valley Ricelands/Wetlands conjunctive-use program. This water was part of an exchange with USBR in which USBR would release up to 5,000 acre-feet of CVP water from Shasta Lake under an operational exchange agreement between USBR and the Department based on the provisions of the Coordinated Operation Agreement.

## Cross Valley Canal Use

At the end of 1992 the Department signed 1-year agreements with seven Cross Valley Canal participants, which allowed the Department to make simultaneous exchanges of SWP water for participants' water in the California Aqueduct during 1993. The SWP water is stored under the Kern Water Bank program and would normally be extracted and transported through the Cross Valley Canal to the California Aqueduct. The participants' water is CVP water that the Department agreed to store in San Luis Reservoir or pump from the Delta and then convey to the participants under other agreements. The agreements will benefit all parties, since the Department will pay less for use of the Cross Valley Canal, and the participants will pay lower conveyance costs.

The following Cross Valley Canal participants signed agreements: Rag Gulch Water District, Kern-Tulare Water District, Lower Tule Irrigation District, Pixley Irrigation District, County of Fresno, Tri-Valley Water District, and Arvin-Edison Water Storage District.

## Drought Water Bank

Contracts for the conveyance of 1992 Drought Water Bank water were signed between the Department and four agencies. The agencies, dates of contracts, and the maximum quantities of water for conveyance are listed in Table 5-3. For additional information about the Emergency Drought Water Bank program see Chapter 16, "Augmenting the Water Supply."

An agreement between Dudley Ridge Water District and the Department, signed July 9, 1992, provided for the change in delivery point for up to 850 acre-feet of the district's 1991 Drought Water Bank water from Reach 8D to Kern County Water Agency's turnouts in reaches 9, 10A, and 31A.

## Entitlement Water Exchanges

An agreement signed December 24, 1992, provides for the exchange of up to 5,000 acre-feet of the Metropolitan Water District of Southern California's 1992 SWP entitlement water for a like amount of San Gabriel Valley Municipal Water District's SWP entitlement water during 1993 or subsequent years.

TABLE 5-3

**Agreements for Conveying 1992 Drought Water Bank Water, by Contracting Agency, Date of Contract, and Amount**

| *Contracting Agency* | *Date of Contract* | *Maximum Amount of Water for Conveyance (Acre-feet)* |
|---|---|---|
| City and County of San Francisco | November 30, 1992 | 19,000 |
| Tulare Lake Basin Water Storage District | November 30, 1992 | 31,550 |
| Metropolitan Water District of Southern California | December 23, 1992 | 15,000 |
| Kern County Water Agency | March 3, 1993 | 8,170 |

TABLE 5-4

**Agreements for 1993 Service Area Transfers of Farmers' Entitlement Water, July 1, 1992, through June 30, 1993**

| *Contracting Agency (a* | *Date of Agreement* | *Contractual Amount of Water (Acre-feet)* |
|---|---|---|
| Castaic Lake Water Agency (F)<br>Westlands Water District (T) | April 20, 1993 | 5,095 |
| Tulare Lake Basin Water Storage District (F)<br>Westlands Water District (T) | April 27, 1993 | 1,700 |
| Dudley Ridge Water District (F)<br>Westlands Water District (T) | April 29,1993 | 27,200 |
| Oak Flat Water District (F)<br>Westlands Water District (T) | June 11, 1993 | 2,000 |
| Dudley Ridge Water District (F)<br>Kern County Water Agency (T) | June 17, 1993 | 200 (b |
| Kern County Water Agency (F)<br>Westlands Water District (T) | June 18,1993 | 10,000 |

a) F: Water delivered from; T: Water delivered to
b) 1992 carryover water for 1993 delivery

On June 28, 1993, an agreement between Kern County Water Agency and the Department was signed to provide for the exchange of up to 100,000 acre-feet of Kern County Water Agency's 1993 entitlement water with Westlands Water District for a like amount of Tulare Irrigation District's 1993 CVP water from the Friant-Kern Canal.

## Service Area Transfers of Farmers' Entitlement Water

Between July 1, 1992, and June 30, 1993, the Department negotiated seven entitlement water transfer agreements with six long-term contractors. Six of the agreements allowed the contractors to transfer 1993 entitlement water to Westlands Water District. One agreement allowed Dudley Ridge Water District to transfer a portion of its 1992 carryover entitlement water to Kern County Water Agency. Requests for negotiating entitlement water transfer agreements were initiated by farmers who farm parcels of land within the boundaries of both agencies named in the agreement. The agreements allowed water to be delivered within the boundaries of the agencies where the farmers' most productive land was located. The transfer of entitlement water under these agreements was intended to partially relieve contracting agencies and involved landowners of drought-related financial hardships.

Contracting agencies, dates of agreements, and the contractual amounts of water for delivery are listed in Table 5-4.

## Entitlement Water, Miscellaneous

An agreement signed August 7, 1992, approved a water release of up to 50 cubic feet per second from Silverwood Lake into the Mojave River for delivery to Mojave Water Agency as part of Mojave Water Agency's 1992 annual entitlement.

On August 20, 1992, the Department signed an agreement with Kern County Water Agency to provide for the return of 2,000 acre-feet of KCWA's SWP entitlement water to Antelope Valley-East Kern Water Agency. Under a turn-in agreement between the Department and AV-EKWA dated June 17,1991, AV-EKWA provided 2,000 acre-feet of its SWP entitlement water to Kern County Water Agency for use by Tejon Ranch. Kern County Water Agency will return the water to AV-EKWA within ten years. The turn-in agreement permits pumping local ground water into the California Aqueduct.

## Ground Water Extraction

In 1990 the Department purchased 98,005 acre-feet of ground water from La Hacienda, Inc., a Kern County corporation. The water is located in the Kern County water basin and can be extracted according to terms of a December 20, 1990, operating agreement between the Department and Kern County

Water Agency. After purchasing the water, the Department reconstructed existing wells formerly used by farmers and constructed conveyance facilities on property purchased for the Kern Fan Element of the Kern Water Bank.

According to the operating agreement, water can be extracted from the La Hacienda well field only during years when (1) SWP cannot deliver the total entitlement requested by the long-term contractors and (2) the Department projects storage levels in Lake Oroville to drop below the minimum power pool. This latter criterion, however, proved difficult to interpret to the satisfaction of Kern County Water Agency and the Department. As a consequence, an interim letter agreement, which applied only to the 1992-93 water year, waived the minimum power pool requirement and allowed the Department to extract ground water under temporary criteria to alleviate water shortages caused by the continuing drought. During 1992 a total of 14,878 acre-feet was extracted; however, only 14,854 acre-feet was delivered to SWP due to losses in conveyance systems. Negotiations to modify extraction criteria and amend the operating agreement are now under way.

In late June 1993 the Department signed an agreement with Kern County Water Agency for the use of 1 mile of the Pioneer Canal that traverses Kern Fan Element lands. Through March 31, 1994, up to 4,000 AF of water may be recharged in the canal.

In 1990, as part of the 1990 Ground Water Demonstration Program, the Department delivered 140,500 acre-feet of entitlement water to Kern County Water Agency for storage in ground water basins within its service area. The Department also purchased 9,500 acre-feet of ground water in storage for a total of 150,000 acre-feet for the Ground Water Demonstration Program. This water was stored for future extraction as part of the SWP water supply (for additional information see Bulletin 132-91, page 118).

During 1992 the Department utilized a total of 57,171 acre-feet of water previously stored under the 1990 Ground Water Demonstration Program. Names of the ground water elements and amounts are:

Semitropic Element, 41,499 acre-feet
Buena Vista Element, 9,300 acre-feet
Kern Delta Element, 2,814 acre-feet
Rosedale Element, 3,558 acre-feet

## Miscellaneous Agreements

An agreement signed January 27, 1993, among Solano County Water Agency, Napa County Flood Control and Water Conservation District, and the Department approved the conveyance of up to 800 acre-feet of water through the North Bay Aqueduct facilities. The water supply was purchased by Solano County Water Agency and Napa County Flood Control and Water Conservation District from Glenn-Colusa Irrigation District under a separate agreement.

On June 21, 1993, the Department signed an additional agreement with Solano County Water Agency. This agreement was written to approve the conveyance of up to 600 acre-feet of water through North Bay facilities. The water was made available to Solano County Water Agency by Alhambra Pacific Joint Venture under a separate transfer agreement.

## Unscheduled Water

According to provisions of the surplus water amendment for Napa County Flood Control and Water Conservation District—Amendment number 16, signed July 29, 1991—scheduling unscheduled water will be done pursuant to provisions of an annual agreement executed for any year when unscheduled water is available for delivery. On

April 13, 1992, the district signed the required agreement for scheduling unscheduled water deliveries during 1992. Under this agreement the district took delivery of 1,156 acre-feet of unscheduled water.

### Water Payback Agreement

On April 22, 1991, the Department signed an agreement with Kern County Water Agency for the use of the California Aqueduct for conveyance and storage of local water supplies from the Cross Valley Canal. The agreement, which dealt with the location of facilities, metering, and water quality, allowed the member units of the agency to pump local ground water into the aqueduct for redistribution within their service areas. However, in some areas the ground water could not be pumped fast enough to meet peak summer agricultural demands from May through August. The agency subsequently requested that the Department advance deliveries of surface water during this peak period and the agency would repay the loan during other months of the year by continuous pumping from the ground water wells. This letter agreement was signed on September 24, 1991, and all the water was eventually paid back by the end of 1992.

## Amendments

This section includes information about amendments to agreements previously signed by the Department.

### Amendments to Short-Term Agreements

Nine turn-in agreements, signed in 1991, allowed participating agencies to pump specific amounts of water into the California Aqueduct for later delivery or delivery at a different reach in the aqueduct. Of those agreements, seven were extended to 1992 under the original general terms and conditions. Two agreements were extended to 1993 under additional terms and conditions. The San Bernardino Valley Municipal Water District agreement was extended through December 31, 1993, and the Kern County Water Agency/Wheeler Ridge-Maricopa Water Storage District agreement was extended through February 28, 1993.

On October 5, 1992, the Department signed an agreement with Westlands Water District to extend use of San Luis Reservoir storage by Westlands Water District from March 31, 1992, to April 6, 1992. (The original agreement providing for Westlands' use of San Luis Reservoir was signed in 1991.) On April 6, the Department transferred the district's remaining 12,460 acre-feet of local water, stored in the Department's share of San Luis Reservoir, to USBR's share of San Luis Reservoir storage. The transfer was necessary to provide storage capacity for SWP water.

An agreement between Kern County Water Agency and the Department signed October 9, 1992, extended through March 1992 the 1991 contract for conveying 1991 Drought Water Bank water. The October 9 agreement allowed the carryover and delivery of 6,327 acre-feet of 1991 Drought Water Bank water through March 1992.

An agreement signed May 27, 1993, between Dudley Ridge Water District and the Department extended the November 7, 1991, agreement for conveying 1991 Drought Water Bank water to the district's turnouts in the California Aqueduct. The May agreement allowed the district to carry over up to 1,278 acre-feet of 1991 Drought Bank water for delivery through March 1992.

# Water Rights Management

This section includes information about water rights management contracts negotiated with Delta agricultural water users, including South Delta Water Agency and western Delta industrial and municipal water users.

The agencies claim rights to usable water in the Delta, and contracts with the agencies help the Department resolve those water rights issues.

## Delta Agricultural Water Users

The Department successfully negotiated contracts with various Delta agricultural agencies to help SWP meet necessary water level, circulation, and quality standards throughout each agency's area.

### Agency Contracts

In 1974 the Delta Water Agency was replaced by six Delta agricultural water agencies. Those agencies are North Delta Water Agency, South Delta Water Agency, Central Delta Water Agency, East Contra Costa Irrigation District, Contra Costa County Water Agency, and Byron-Bethany Irrigation District. Of those agencies, two—North Delta Water Agency and East Contra Costa Irrigation District— signed contracts with the Department in 1981.[1]

In September 1990 the Department completed negotiations for a long-term contract with the South Delta Water Agency and the U.S. Bureau of Reclamation. The three agencies are now working to obtain approvals from control agencies to sign the contract, which includes provisions to address SDWA's concerns, including those about the quality of water entering SDWA through the San Joaquin River system. Information about the long-term contract with SDWA and USBR follows.

### Contract Provisions

According to provisions of the proposed SDWA contract, parties agree to proceed with the design, construction, and operation of certain barrier facilities in the channels of SDWA. The facilities resolve those portions of the lawsuit that SDWA filed in 1982 relating to the alleged effects of export pumping by SWP or the Central Valley Project or both on water levels, quality, and circulation in the south Delta.

#### Barrier Facilities

At this time the Department is conducting a project designed to test barriers in SDWA's channels. The test involves:

- Reducing or eliminating some adverse water levels
- Improving hydraulic circulation
- Reviewing alternative timing patterns for the barriers
- Monitoring fish and vegetation
- Evaluating and reviewing computer model calibration
- Developing comprehensive environmental information
- Defining the potential effects on vegetation and fisheries

The biological information gathered during implementation of this project will be used as a guide for finding solutions to fishery resources and water use problems in the south Delta.

[1]The Department also periodically conducts informational meetings with Central Delta Water Agency and is requesting to begin negotiations on contracts designed to meet the needs of that agency.

### Interim Releases

The proposed contract defines amounts of certain interim releases from New Melones Reservoir and other related actions to be taken by USBR as a temporary solution to that portion of the litigation relating to San Joaquin River flows and water quality as measured at Vernalis.

### Additional Amendments

The proposed contract also includes the framework for USBR and SDWA to use in negotiating an amendment to provide a permanent settlement to the remaining issues in dispute. Those issues concern the quantity and quality of water as well as the salt entering SDWA boundaries from the south through the San Joaquin River system.

## Western Delta Industrial Water Users

Industries near the cities of Antioch and Pittsburg in the western Delta use offshore water for processing. When offshore water quality falls below the industries' requirements, a substitute supply is provided through the Contra Costa Canal. According to terms of contracts signed in 1987 and 1991, at times the Department pays for providing that water.

### Payment for Suitable Water

According to terms of a water entitlement contract executed in 1987, the Department makes payments to an operator of a mill located in the western Delta, Fibreboard Corporation and its successors (now Gaylord Container Corporation), in water years that do not include a sufficient number of days when water is deemed suitable for offshore use.

When the number of days in which water is deemed suitable for use is less than the number of days to which Gaylord is entitled, the Department compensates Gaylord for added costs by purchasing a substitute water supply and treating water needed to operate the mill. According to the provisions, payments were due in water years 1986–87, 1987–88, 1988–89, 1989–90, 1990–91, and 1991–92.

On November 19, 1991, the Department negotiated a second agreement with Gaylord Corporation regarding another mill Gaylord owns downstream of the mill purchased from Fibreboard. The provisions of that agreement are similar to those contained in the 1987 water entitlement agreement.

### Determination of Payments

The contracts contain a chart used by the Department to determine the number of days for which Gaylord Container Corporation should be paid. The determination is based on the relationship between the Sacramento River Index and the number of days the corporation is entitled to suitable water quality.

The payment formula is the same in both contracts except for one factor relating to the method of obtaining water from the Contra Costa Canal. (The second mill obtains water by gravity flow; the first, by pumps.)

## Western Delta Municipal Water Users

To compensate the Contra Costa Water District and the City of Antioch for purchasing water of usable quality when such water is not available in the Antioch-Pittsburg area, the Department signed contracts with those

agencies in 1967 (Contra Costa Water District) and 1968 (City of Antioch).

### Provisions for Payments

In 1993 the Department made compensation payments for the 1991–92 water year to Contra Costa Water District for 3,528 acre-feet of water of usable quality ($17,993) and to the City of Antioch for 1,192 acre-feet of usable water ($473,963).

According to terms of the contracts, the Department compensates each agency for additional costs of purchasing a substitute water supply from the Contra Costa Canal to replace offshore water supplies of usable quality lost because of SWP's operations. Credits for the number of days of above-average offshore water supplies of usable quality accrue to offset the number of below-average days in future years.

### Basis for Payments

During the 1991–92 water year, water of usable quality was available to Contra Costa Water District for 11 days of the water year; its standard is 142 days. For the City of Antioch, usable water was available for 51 days; its standard is 208 days.

Because the 1990–91 water year was also deficient in water of usable quality, the actual deficient number of days in the 1991–92 water year (131 for Contra Costa Water District and 157 for the City of Antioch) were not offset by any accumulated credits specified in the contracts with the Department.

## Transfer of the CVP

In response to various federal legislative efforts to impact water policy and fish and wildlife issues in California, Governor Wilson proposed in February 1992 that state and federal officials negotiate a transfer of the CVP to the state. Consequently, transfer of the CVP to the state became one of the key elements of the governor's Long-Term Water Policy Framework for California. Governor Wilson stated that operating CVP and SWP under the same rules and requirements will allow California to meet its needs in a balanced and integrated fashion.

In 1992 representatives of California and the Department of the Interior negotiated the Memorandum of Agreement for Transfer of the CVP. The MOA recognizes that any transfer requires authorizing legislation from Congress, sets forth a framework for negotiating terms and conditions for a transfer, and specifies procedures for complying with the National Environmental Policy Act and the California Environmental Quality Act. The MOA was signed by Governor Wilson and Secretary of the Interior Manuel Lujan, Jr. on December 14, 1992.

Further work on the CVP transfer has been on hold because of the immediate requirements of the Central Valley Project Improvement Act of 1992. The Department recognizes that implementing CVPIA requirements has priority, and any further efforts on the CVP transfer may await development of the programmatic EIS required by the act.

# 6. Delivering Water

Water is delivered by the State Water Project for a variety of beneficial uses. In addition to delivering entitlement water to long-term water supply contractors, SWP:

- Conveys water to and stores water for other public agencies through special contracts and agreements
- Provides water for wildlife and recreational uses
- Stores, releases, and delivers local runoff water from SWP facilities to agencies that hold local water rights

In 1992 a total of 2,233,982 acre-feet of water was conveyed to 25 long-term contractors and 25 other agencies. That amount includes the following deliveries:

*Entitlement and entitlement-related water:* 1,471,199 acre-feet of entitlement and 2,605 of entitlement-related (recreation) water was delivered to long-term SWP contractors.[1]

*Nonentitlement water:* 760,178 acre-feet of nonentitlement water was delivered to satisfy agreements made with SWP contractors and other agencies, including the U.S. Bureau of Reclamation.

Specific information about water deliveries made to long-term contractors and other agencies during 1992 and historical deliveries from 1962 through 1992 has been organized into the following three sections, each with a corresponding table located at the end of this chapter:

1. Total amounts of water delivered and future credits granted to long-term contractors in 1992 (Table 6-1)
2. Total amounts of water delivered in 1992, by month (Table 6-2)
3. Total amounts of annual water entitlements and water conveyed from 1962 through 1992 (Table 6-3)

## Water Deliveries and Credits to Long-Term Contractors

Information about the total amounts of water delivered in 1992 and future entitlement credits granted to long-term contractors through 1992 is included in Table 6-1.

Information about specific columns included in the table follows. The information is arranged according to column numbers.

[1]Entitlement water is defined as the amount of water long-term contractors may request each year as part of Article 12(a), "Procedure for Determining Water Delivery Schedule," of their water supply contract.

## 1992 Entitlement Water Delivered

Column 1 includes the amount of current- year entitlement water delivered to each long-term water supply contractor in 1992.

In 1992 a total of 1,375,433 acre-feet of all categories of entitlement water was delivered, excluding 1991 carryover entitlement and make-up water under Article 12(d) of the long-term water supply contracts.

## Article 12(d) Water Delivered

In some instances, with the Department's approval, contractors may defer delivery of entitlement water to another year (carryover entitlement water) or request delivery of previously acquired entitlement water credits according to provisions of their water supply contracts. Columns 2 and 3 show amounts of Article 12(d) water delivered.

In 1992 the State Water Project delivered a total of 92,282 acre-feet of entitlement water carried over from 1991 to seven contractors.

In addition, SWP delivered 38 and 3,446 acre-feet of Article 12(d) water to Napa County Flood Control and Water Conservation District and Solano County Water Agency, respectively (see Column 3).

## Total Entitlement Water Delivered

Column 4 includes the sum of all entitlement water delivered in 1992. A total of 1,471,199 acre-feet of entitlement water was delivered in 1992.

## Other Water Deliveries

Column 5 includes deliveries to long-term water contractors of project water other than entitlement water, such as unscheduled water, and deliveries of nonproject water.

Nonproject water is generally defined as water purchased from non-SWP agencies. Water is conveyed by the Department and in some instances stored in SWP facilities under special agreements for future deliveries.

In 1992 a total of 66,157 acre-feet of other water deliveries, including 1,156 acre-feet of unscheduled water, was delivered to long-term water contractors.

## Total Deliveries

Column 6 includes total amounts of water delivered to long-term contractors. In 1992 SWP delivered 1,537,356 acre-feet to 25 long-term contractors, which included 1,471,199 acre-feet of entitlement water and 66,157 acre-feet of other SWP and nonproject water.

## Make-up Water

Column 7 includes total amounts of make-up water credited to contractors according to Article 12(d) and Article 14(b) of the long-term water supply contracts.

According to Article 12(d), if in any year as a result of causes beyond the Department's control, water is not available for delivery according to the established schedule for that year, the water may be delivered at a later date. This type of credit is referred to as 12(d) water.

Article 14(b) provides for the delivery of water at a later time if, due to necessary investigations, inspections, maintenance, repairs, or replacement of SWP facilities, water is not delivered.

In 1992 long-term contractors earned credits for make-up water according to Article 12(d) and Article 14(b). However, the ex-

act amount of those credits is being negotiated with the Department.

### Wet-Weather Water

According to provisions of their water supply contracts, South Bay and certain San Joaquin Valley contractors may reduce deliveries of entitlement water in years when above-average amounts of local water are available and may request increased deliveries by an equal amount in later years.

No additional credits for wet-weather water were acquired during 1992. Column 8 includes the total amount of credits acquired in previous years, 283,668 acre-feet.

### Carryover Water Approved for Delivery

For several years the Department has offered contractors the opportunity to carry over a portion of their entitlement water approved for delivery in the current year for delivery during the next year. The carryover program was designed to encourage the most effective and beneficial use of water and to avoid obligating the contractors to use or lose the water by December 31 of each year.

Because operational constraints may change from year to year, the Department prepares an agreement that lists the conditions of carryover water delivery for a given year. The agreement is signed by participating contractors.

Contractors were informed by the Department of its willingness to consider requests to carry over 1992 entitlement water to January, February, and March 1993 in *Water Service Contractors Council Memorandum* Number 2032.

Column 9 includes amounts of 1992 entitlement water approved for delivery in 1993. The total amount of 1992 entitlement water carried over for delivery in 1993 was 219,582 acre-feet.

### Total Delivery Credits

Column 10 includes total amounts of future entitlement credits according to Articles 7, 12(d), and 45 of the long-term water supply contract for specific agencies. On January 1, 1993, the total amount of credits was 503,250 acre-feet, including 283,668 acre-feet of wet-weather water and 219,582 acre-feet of 1992 carryover water.

### Reduction Credits

According to the provisions of their water supply contracts, South Bay and San Joaquin Valley contractors may increase their allocated entitlement water (up to their maximum annual entitlement) in years of need, provided that additional water is available from SWP according to Article 7 or Article 45 of the long-term water supply contracts.

Contractors who have increased their allocation of entitlement water in previous years may in any one year reduce their supply by the amount the supply had been increased previously. Column 11 includes those credits.

Oak Flat Water District has 2,466 acre-feet of future reduction credits available according to Article 45. At this time no other contractors have reduction credit balances.

## Total Amounts Delivered in 1992, by Month

During 1992 SWP provided water service to 50 agencies, including 25 long-term water contractors. The names of those agen-

cies and amounts of water delivered to them by month may be found in Table 6-2.

A summary of water deliveries is included in this section. Information is arranged according to the categories, "State Water Project Water" and "Nonproject Water."

## State Water Project Water

State Water Project water is classified into the following categories:

*Entitlement water*
- current year entitlement (1992)
- carryover entitlement (1991)
- transfer entitlement
- Article 12(d) make-up water
- Article 14(b) water
- wet-weather water

*Surplus water*
- scheduled surplus
- unscheduled surplus

*Recreation and fish and wildlife water*
- enhancement
- mitigation

In addition, SWP may approve transfers of entitlement water among various contractors if certain conditions are met. The SWP may temporarily loan water to contractors if satisfactory arrangements are made for repayment and water is available within the system.

### Entitlement Water

A total of 1,375,433 acre-feet of 1992 entitlement water was delivered to 25 long-term contractors.

### Carryover Entitlement Water

In 1992 SWP delivered 92,282 acre-feet of 1991 carryover entitlement water to the following agencies: Napa County Flood Control and Water Conservation District, Solano County Water Agency, Alameda County Water District, Kern County Water Agency, Antelope Valley-East Kern Water Agency, Castaic Lake Water Agency, and Metropolitan Water District of Southern California.

### Transfers of Entitlement Water

During 1992 a total of 16,476 acre-feet of entitlement water was transferred between six SWP long-term contractors and one non-SWP water agency as follows:

- Dudley Ridge Water District to Westlands Water District, 10,823 acre-feet
- Dudley Ridge Water District to Tulare Lake Basin Water Storage District, 280 acre-feet
- Mojave Water Agency to Antelope Valley-East Kern Water Agency, 1,310 acre-feet
- Metropolitan Water District of Southern California to San Gabriel Valley Municipal Water District, 4,063 acre-feet

### Make-up Water

A total of 3,484 acre-feet of make-up water was delivered in 1992, 38 acre-feet to Napa County Flood Control and Water Conservation District and 3,446 acre-feet to Solano County Water Agency.

### Unscheduled Water

Unscheduled water is surplus water that is available for only a short period of time when excess water and SWP pumping capabilities are available in the Delta.

In 1992 a total of 1,156 acre-feet of unscheduled water was delivered to Napa County Flood Control and Water Conservation District.

## Water for Recreation and Fish and Wildlife

A total of 2,605 acre-feet of SWP water was conveyed for recreational use and enhancement of fish and wildlife.

### Recreational Use

The State Water Project delivered 877 acre-feet of water for facilities at Lake Del Valle, O'Neill Forebay, Silverwood Lake, and Lake Perris.

In addition, 1,543 acre-feet was delivered to Castaic Lagoon, an impoundment downstream from Castaic Lake devoted entirely to recreation.

### Trout Fishery

The State Water Project released 29 acre-feet of water to maintain a trout fishery in Piru Creek as a condition of obtaining a license from the Federal Energy Regulatory Commission to develop a power plant at Pyramid Lake.

### Wildlife Management

The State Water Project delivered 156 acre-feet of water to use in managing wildlife in the Pilibos Wildlife Area, 40 miles south of Los Banos, and on about 770 acres of land near O'Neill Forebay.

## Loans of SWP Water

The SWP loan program provided surface water to agricultural contractors during peak irrigation periods when ground water, pumped at a constant rate from agricultural contractors' wells, could not meet contractors' short-term water supply needs.

In 1992 SWP loaned a total of 14,949 acre-feet of water to Kern County Water Agency as an extension of the loan program initiated in 1991. Kern County paid back 36,383 acre-feet to repay loans in 1991 and 1992 and to make up for losses incurred. The payback included 20,871 acre-feet of local ground water and 15,512 acre-feet of the agency's entitlement water released to the Department.

# Nonproject Water

In 1992 SWP facilities were used to deliver nonproject water for other agencies, including the Central Valley Project. In addition, SWP facilities were used to deliver water purchased from the 1991 and the 1992 Drought Water Banks. Also included in this category is nonproject water conveyed from one agency to another.

## Central Valley Project Water

In 1992 the Department conveyed 38,640 acre-feet of CVP water through SWP facilities, including transfers and exchanges.

The deliveries were accomplished according to agreements negotiated with the U.S. Bureau of Reclamation throughout the year as well as with participants of existing three-party contracts for the use of the Cross Valley Canal, a water conveyance facility that connects with the California Aqueduct near Tupman in Kern County. Information about those deliveries follows.

### Musco Olive Products, Inc.

According to terms of an annual conveyance agreement with USBR, the Department agreed to convey to CVP water contractors water furnished by USBR at O'Neill Forebay.

From January to December 1992, the Department delivered 136 acre-feet of water to Musco Olive Products, Inc.

### U.S. Fish and Wildlife Service

The Department conveyed 6,030 acre-feet of CVP water for the U.S. Fish and Wildlife Service according to provisions of an agreement with USBR. That water was conveyed from October through December 1992 to the Kern National Wildlife Refuge.

State Water Project facilities were also used to deliver 381 acre-feet of CVP water for recreational and fish and wildlife use.

### U.S. Department of Veterans Affairs

A short-term agreement is signed annually with USBR to convey CVP water for the U.S. Department of Veterans Affairs. A long-term agreement is in the process of being negotiated. In 1992, 18 acre-feet of water was delivered through SWP facilities to maintain a national cemetery near Santa Nella, California.

### Cross Valley Canal Contractors

The Cross Valley Canal in Kern County is used by seven CVP water or irrigation districts and two counties to obtain water from the California Aqueduct. These districts and counties include Ducor, Hills Valley, Lower Tule River, and Pixley Irrigation Districts; Kern-Tulare, Rag Gulch, and Tri-Valley Water Districts; and Counties of Fresno and Tulare.

In 1992 all contractors except Ducor Irrigation District received CVP water either through a water exchange with another agency or through deliveries made from the Cross Valley Canal. That water was made available by USBR at the Delta. Some CVP water was delivered directly from the Delta; the balance was stored in San Luis Reservoir and released for delivery later.

Water conveyed in 1992 totaled 32,075 acre-feet, including the following transfers and exchanges:

*Cross Valley Canal Contractors and Kern County Water Agency.* Water delivered included 2,455 acre-feet exchanged between several Cross Valley Canal contractors and Kern County Water Agency.

*Rag Gulch Water District to Westlands Water District.* From Rag Gulch Water District, 2,450 acre-feet was transferred to Westlands Water District.

Electrical energy required to convey CVP water through Harvey O. Banks Delta Pumping Plant and Dos Amigos Pumping Plant was supplied as needed by USBR.

## Water Transfers

During 1992 the Department conveyed nonproject water according to terms of several water transfer agreements. Nonproject water includes water purchased through the 1991 and 1992 Drought Water Banks as well as water purchased by other agencies from non-SWP sources.

### Agency Transfers

In addition to conveying the CVP water transfers discussed in "Cross Valley Canal Contractors," SWP transferred 1,835 acre-feet of non-SWP water for four water districts or agencies in 1992.

*Dudley Ridge Water District to Kern County Water Agency.* Dudley Ridge Water District transferred a total of 448 acre-feet of 1991 Drought Water Bank Water to Kern County Water Agency during March.

*Kern County Water Agency to Westlands Water District.* Kern County Water

Agency transferred a total of 800 acre-feet of 1992 Drought Water Bank water to Westlands Water District.

*Solano County Water Agency to Napa County Flood Control and Water Conservation District.* Solano County Water Agency transferred 237 acre-feet of the City of Vallejo's water rights water to Napa County Flood Control and Water Conservation District during April and August.

*Westlands Water District to San Luis Water District.* Westlands Water District made available 350 acre-feet of CVP water to San Luis Water District during March.

### 1991 Drought Water Bank

In 1992 the Department conveyed a total of 7,614 acre-feet of 1991 Drought Water Bank water for three agencies, including 448 acre-feet transferred from Dudley Ridge Water District to Kern County Water Agency (see "Agency Transfers"). Names of those agencies and amounts follow.

City of San Francisco, 9 acre-feet
Kern County Water Agency, 6,327 acre-feet
Dudley Ridge Water District, 1,278 acre-feet

### 1992 Drought Water Bank

Three long-term SWP contractors and the City of San Francisco originally purchased a total of 68,720 acre-feet of water from the 1992 Drought Water Bank program. In 1992 the Department conveyed a total of 63,501 acre-feet of that water to those contractors, including 800 acre-feet transferred from Kern County Water Agency to Westlands Water District (see "Agency Transfers"). Names of those contractors and amounts follow.

City of San Francisco, 13,781 acre-feet
Kern County Water Agency, 8,170 acre-feet
Tulare Lake Basin Water Storage District, 31,550 acre-feet
Metropolitan Water District of Southern California, 10,000 acre-feet

The City of San Francisco carried over a total of 5,219 acre-feet for delivery in January and February 1993.

### Habitat Preservation

In 1991 the Department of Fish and Game purchased 5,920 acre-feet of water, stored in Folsom Lake, from the City of San Francisco for wetlands management programs in the San Joaquin Valley. Under an agreement between the Department and DFG, DFG had the water released from the Folsom reservoir storage and made 4,736 acre-feet available to the Department for conveyance at Banks Pumping Plant. Under the agreement the Department conveyed the water to O'Neill Forebay and then pumped it, for later release, into the Department's share of storage of San Luis Reservoir. The balance, 1,184 acre-feet, was used for Delta outflow to satisfy Water Resources Control Board requirements. Two thousand acre-feet of that water was released during January, February, and March 1992; the balance—2,736 acre-feet—was transferred to the USBR's share of storage in San Luis Reservoir in March 1992 for later release and USBR conveyance to DFG.

## Water Rights Permit Water

Water in this category is transported through SWP facilities to long-term SWP con-

tractors and other agencies according to terms of various local water rights agreements. Some of this water simply passes through SWP transportation facilities, and a portion is stored in SWP reservoirs for release at a later time.

In 1992 a total of 640,055 acre-feet of water in this category was delivered to the Feather River, North Bay, South Bay, and Southern California areas.

### Feather River Area

Nine nonproject agencies in the Feather River area received 613,978 acre-feet. Those agencies are Last Chance Creek Water District, Thermalito Irrigation District, Oroville-Wyandotte Irrigation District, Western Canal Water District, Joint Water Districts Board, Tudor Mutual Water Company, Oswald Water District, Garden Highway Water Company, and Plumas Mutual Water Company.

### North Bay Area

In the North Bay area 11,275 acre-feet of water was delivered as Vallejo permit water to Solano County Water Agency. The City of Vallejo, as a member agency, has contractual rights to extra capacity in the North Bay Aqueduct to transport this water for which the city has a recognized water right. An additional 237 acre-feet of Vallejo permit water was transferred, under agreement, to Napa County Flood Control and Water Conservation District.

### South Bay Area

In the South Bay area 13,512 acre-feet of local water was delivered to SWP contractors. Alameda County Flood Control and Water Conservation District, Zone 7, received 8,415 acre-feet and Alameda County Water District received 5,097. These two agencies have joint ownership of the water rights to the runoff from the Lake Del Valle watershed.

### Southern California

In Southern California 1,053 acre-feet of local runoff from the Houston Creek watershed was stored and delivered to Crestline-Lake Arrowhead Water Agency. These local water rights have been signed over to the Department as part of the contractual arrangements for storing and delivering this local runoff for the Crestline-Lake Arrowhead Water Agency.

## Total Amounts of Annual Water Entitlements and Water Delivered Since 1962

Information about the total amount of annual water entitlements and water conveyed for the past 30 years is contained in Table 6-3. Specific information about entitlements and water conveyed, arranged according to column number, follows.

### Annual Entitlements

Columns 1 through 7 include the amount of each long-term contractor's entitlement water for years 1962 through 1992 as specified in the entitlement schedules (Table A, "Annual Entitlements") of the long-term water supply contracts. The information is arranged according to geographical area.

In some instances those entitlement schedules, projections of each contractor's

need for water to 2035, have been amended to meet the needs of individual contractors.

The amounts of entitlement water each contractor may request for years 1962 through 2035 may be found in Table B-4, "Annual Entitlements to Project Water," in Appendix B.

## Entitlement Water

Column 8 includes total amounts of entitlement water delivered each year from 1962 through 1992. In 1992 entitlement water delivered to 25 contractors totaled 1,471,199 acre-feet. That amount includes:

- 1991 carryover entitlement water (entitlement water carried over from 1991 and delivered in 1992), 92,282 acre-feet
- 1992 transfer entitlement water (entitlement water transferred from one contractor to another), 16,476 acre-feet
- Make-up water under Article 12(d) of the long-term water supply contracts, 3,484 acre-feet

Chapter 2, "Water Deliveries," includes information about the Department's procedure for determining amounts of entitlement water to be delivered.

## Surplus and Unscheduled Water

Surplus water is water in excess of that required to meet all demands for entitlement water and water to be stored in SWP reservoirs.

Column 9 includes amounts of surplus and unscheduled water delivered during the year. During 1992 surplus water was not available.

In 1992 a total of 1,156 acre-feet of unscheduled water was delivered to Napa County Flood Control and Water Conservation District.

## Other Water

Column 10 includes amounts of water classified as *other water* delivered in 1992, including Central Valley Project water conveyed through SWP facilities; regulated delivery of local supply; water loaned by SWP; water paid back to SWP; purchased, emergency relief, and preconsolidation repayment water; Vallejo water rights permit water; 1991-1992 Drought Water Bank water; and local water released and taken out of the SWP system.

In 1992 a total of 145,044 acre-feet of other water was delivered.

## Feather River Diversions

Column 11 includes amounts of water from the Feather River delivered according to agreements for water rights water. In 1992 a total of 613,978 acre-feet in this category was delivered to contractors in the Feather River area.

## Recreation Water

Column 12 includes the amount of water conveyed for recreational use or to provide water or improve water quality for fish and wildlife. In 1992 a total of 2,605 acre-feet of SWP water was conveyed for this purpose.

## Initial Fill Water

The quantities listed in Column 14 represent the amounts used to initially fill to maximum operational capacities the aqueducts and reservoirs south of the Delta.

Initial filling began in 1962 with the filling of the South Bay Aqueduct and was completed in 1979 when Lake Perris reached its maximum operational capacity of 127,000 acre-feet.

## Operational Losses

Column 15 includes the total amounts of (1) water lost through evaporation and seepage, (2) net storage changes in reservoirs south of the Delta, and (3) amounts of inflow from local drainage areas, including inflows into San Luis Canal and from the Kern River Intertie. In 1992 that amount totaled 63,541 acre-feet.

Negative values are indicated for years when withdrawals and evaporation from reservoirs south of the Delta exceeded the amounts of water added to the reservoirs.

TABLE 6-1

# Total Amounts of Water Delivered in 1992 and Credits Granted to Long-Term Contractors through 1992, by Service Area

(Acre-feet)

| | Water Deliveries in 1992 | | | | | | Future Entitlement Credits as of January 1, 1993 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Entitlement Water Deliveries | | | | | | | | | | |
| *Long-Term Water Supply Contractor* | *1992 Entitlement (1)* | *1991 Entitlement Delivered During 1992 (2)* | *Make-up Water per Article 12(d) (3)* | *Total Entitlement (4)* | *Other Water Deliveries (a (5)* | *Total Deliveries (6)* | *Make-up Water per Articles 12(d) or 14(b) (7) (b* | *Wet-Weather Water per Articles 7 or 45 (8)* | *1992 Carryover Approved for Delivery in 1993 (9)* | *Total Delivery Credit (10)* | *Future Entitlement Reduction Credit per Articles 7 or 45 (11)* |
| **Upper Feather River Area** | | | | | | | | | | | |
| City of Yuba City | 642 | | | 642 | | 642 | | | | 0 | |
| County of Butte | 117 | | | 117 | | 117 | | | | 0 | |
| Plumas County Flood Control and Water Conservation District | 485 | | | 485 | | 485 | | | | 0 | |
| **North Bay Area** | | | | | | | | | | | |
| Napa County Flood Control and Water Conservation District | 3,146 | 817 | 38 | 4,001 | 1,509 | 5,510 | | | 40 | 40 | |
| Solano County Water Agency | 9,859 | 1,468 | 3,446 | 14,773 | 11,313 | 26,086 | | | 1,051 | 1,051 | |
| **South Bay Area** | | | | | | | | | | | |
| Alameda County Flood Control and Water Conservation District, Zone 7 | 14,669 | | | 14,669 | 8,415 | 23,084 | | 111,580 | 711 | 112,291 | |
| Alameda County Water District | 17,801 | 1,352 | | 19,153 | 5,097 | 24,250 | | 172,088 | | 172,088 | |
| Santa Clara Valley Water District | 42,839 | | | 42,839 | | 42,839 | | | 493 | 493 | |
| **San Joaquin Valley Area** | | | | | | | | | | | |
| County of Kings | 1,806 | | | 1,806 | | 1,806 | | | | 0 | |
| Dudley Ridge Water District | 23,770 | | | 23,770 | 1,278 | 25,048 | | | 2,077 | 2,077 | |
| Empire West Side Irrigation District | 1,354 | | | 1,354 | | 1,354 | | | | 0 | |
| Kern County Water Agency | 480,462 | 2,758 | | 483,220 | (4,482) | 478,738 | | | 40,156 | 40,156 | |
| Oak Flat Water District | 2,239 | | | 2,239 | 128 | 2,367 | | | 27 | 27 | 2,466 |
| Tulare Lake Basin Water Storage District | 46,728 (c | | | 46,728 | 31,550 | 78,278 | | | 6,760 | 6,760 | |
| **Central Coastal Area** | | | | | | | | | | | |
| San Luis Obispo County Flood Control and Water Conservation District | 0 | | | 0 | | 0 | | | | 0 | |
| Santa Barbara County Flood Control and Water Conservation District | 0 | | | 0 | | 0 | | | | 0 | |
| **Southern California Area** | | | | | | | | | | | |
| Antelope Valley-East Kern Water Agency | 28,041 (c | 2,224 | | 30,265 | 352 | 30,617 | | | 1,650 | 1,650 | |
| Castaic Lake Water Agency | 17,863 | 2,836 | | 20,699 | | 20,699 | | | | 0 | |
| Coachella Valley Water District | 10,427 | | | 10,427 | | 10,427 | | | | 0 | |
| Crestline-Lake Arrowhead Water Agency | 264 | | | 264 | 1,053 | 1,317 | | | | 0 | |
| Desert Water Agency | 17,197 | | | 17,197 | | 17,197 | | | | 0 | |
| Littlerock Creek Irrigation District | 251 | | | 251 | | 251 | | | | 0 | |
| Metropolitan Water District of Southern California | 629,486 | 80,827 | | 710,313 | 10,000 | 720,313 | | | 164,809 | 164,809 | |
| Mojave Water Agency | 10,686 | | | 10,686 | | 10,686 | | | | 0 | |
| Palmdale Water District | 4,035 | | | 4,035 | | 4,035 | | | 189 | 189 | |
| San Bernardino Valley Municipal Water District | 3,358 | | | 3,358 | (56) | 3,302 | | | 1,402 | 1,402 | |
| San Gabriel Valley Municipal Water District | 7,908 (c | | | 7,908 | | 7,908 | | | 217 | 217 | |
| San Gorgonio Pass Water Agency | 0 | | | 0 | | 0 | | | | 0 | |
| Ventura County Flood Control District | 0 | | | 0 | | 0 | | | | 0 | |
| Total | 1,375,433 | 92,282 | 3,484 | 1,471,199 | 66,157 | 1,537,356 | | 283,668 | 219,582 | 503,250 | 2,466 |

a) See Table 6-2 for other water deliveries specified by non-entitlement category for each agency.
b) State Water Project long-term contractors and the Department are negotiating amounts of make-up water; exact amounts are not available at this time.
c) This amount includes entitlement water transferred from another agency.

TABLE 6-2

# Total Amounts of Water Delivered in 1992, by Month (Page 1 of 6)

(Acre-feet)

| Contracting Agency and Type of Service | Month | | | | | | | | | | | | 1992 Total Deliveries | 1992 Contract Entitlement | 1992 Entitlement Not Delivered | Net Cumulative Entitlement Not Delivered through (a | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | | | | 1991 | 1992(b |
| **Feather River Area** | | | | | | | | | | | | | | | | | |
| City of Yuba City | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 0 | 0 | 17 | 267 | 358 | 0 | 0 | 0 | 0 | 642 | 9,600 | 8,958 | 25,449 | 34,407 |
| County of Butte | | | | | | | | | | | | | | | | | |
| Entitlement water | 12 | 35 | 16 | 1 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 48 | 117 | 1,200 | 1,083 | 17,778 | 18,861 |
| Plumas County Flood Control and Water Conservation District | | | | | | | | | | | | | | | | | |
| Entitlement water | 12 | 8 | 8 | 30 | 73 | 77 | 80 | 82 | 62 | 34 | 9 | 10 | 485 | 1,120 | 635 | 8,308 | 8,943 |
| Last Chance Creek Water District | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 0 | 0 | 0 | 375 | 2,472 | 1,032 | 802 | 307 | 0 | 0 | 0 | 0 | 4,988 | | | | |
| Thermalito Irrigation District | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 91 | 77 | 92 | 125 | 291 | 284 | 330 | 321 | 292 | 209 | 106 | 97 | 2,315 | | | | |
| Oroville-Wyandotte Irrigation District | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 130 | 121 | 128 | 132 | 813 | 950 | 984 | 1,060 | 1,030 | 772 | 241 | 164 | 6,525 | | | | |
| Western Canal Water District | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 0 | 0 | 0 | 1,530 | 50,623 | 36,779 | 36,552 | 31,059 | 4,677 | 12,530 | 12,973 | 6,813 | 193,536 | | | | |
| Joint Water Districts Board | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 1,202 | 0 | 0 | 6,510 | 79,771 | 65,272 | 74,274 | 68,456 | 29,011 | 25,030 | 19,080 | 17,010 | 385,616 | | | | |
| Oswald Water District | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 0 | 0 | 0 | 0 | 31 | 25 | 141 | 56 | 42 | 0 | 0 | 0 | 295 | | | | |
| Tudor Mutual Water Company | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 4 | 0 | 0 | 0 | 849 | 876 | 761 | 537 | 31 | 0 | 0 | 0 | 3,058 | | | | |
| Garden Highway Water Company | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 0 | 0 | 0 | 324 | 1,852 | 1,804 | 2,164 | 2,581 | 904 | 299 | 173 | 0 | 10,101 | | | | |
| Plumas Mutual Water Company | | | | | | | | | | | | | | | | | |
| Regulated delivery of local supply | 0 | 0 | 0 | 43 | 2,011 | 932 | 1,936 | 1,451 | 1,146 | 25 | 0 | 0 | 7,544 | | | | |
| SWP | 24 | 43 | 24 | 31 | 73 | 94 | 347 | 440 | 62 | 39 | 9 | 58 | 1,244 | 11,920 | 10,676 | 51,535 | 62,211 |
| Non-SWP | 1,427 | 198 | 220 | 9,039 | 138,713 | 107,954 | 117,944 | 105,828 | 37,133 | 38,865 | 32,573 | 24,084 | 613,978 | | | | |
| Area total | 1,451 | 241 | 244 | 9,070 | 138,786 | 108,048 | 118,291 | 106,268 | 37,195 | 38,904 | 32,582 | 24,142 | 615,222 | 11,920 | 10,676 | 51,535 | 62,211 |
| **North Bay Area** | | | | | | | | | | | | | | | | | |
| Napa County Flood Control and Water Conservation District (NCFCWCD) | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 62 | 0 | 755 | 1,314 | 280 | 184 | 40 | 143 | 123 | 171 | 74 | 3,146 | 7,840 | 4,694 | 6,263 | 10,102 |
| Carryover entitlement water | 579 | 238 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 817 | | | | |
| General wheeling | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 116 | 0 | 0 | 116 | | | | |
| Article 12(d) M & I water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 38 | | | | |
| Unscheduled water | 111 | 313 | 690 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,156 | | | | |
| Vallejo permit water transferred from Solano Co. WA | 0 | 0 | 0 | 101 | 0 | 0 | 0 | 136 | 0 | 0 | 0 | 0 | 237 | | | | |
| Agency total | 690 | 613 | 690 | 898 | 1,314 | 280 | 184 | 176 | 143 | 239 | 171 | 112 | 5,510 | | | | |
| Solano County Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 471 | 1,030 | 2,975 | 2,302 | 2,346 | 514 | 125 | 96 | 0 | 9,859 | 24,170 | 14,311 | 20,961 | 30,358 |
| Carryover entitlement water | 1,069 | 399 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,468 | | | | |
| Vallejo permit water | 551 | 442 | 0 | 1,774 | 1,938 | 0 | 0 | 0 | 1,736 | 1,937 | 1,720 | 1,177 | 11,275 | | | | |
| Vallejo permit water transferred to Napa Co. FCWCD | 0 | 0 | 0 | 101 | 0 | 0 | 0 | 136 | 0 | 0 | 0 | 0 | 237 | | | | |
| Article 12(d) M & I water | 357 | 657 | 1,915 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 381 | 3,446 | | | | |
| General wheeling (c | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 0 | 0 | 38 | | | | |
| Unscheduled water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Agency total (excludes Vallejo permit water transferred to Napa County FCWCD) | 1,977 | 1,498 | 1,915 | 2,381 | 2,968 | 2,975 | 2,302 | 2,346 | 2,250 | 2,100 | 1,816 | 1,558 | 26,086 | | | | |
| SWP | 2,116 | 1,669 | 2,605 | 1,505 | 2,344 | 3,255 | 2,486 | 2,522 | 657 | 248 | 267 | 493 | 20,167 | 32,010 | 19,005 | 27,224 | 40,460 |
| Non-SWP | 551 | 442 | 0 | 1,774 | 1,938 | 0 | 0 | 0 | 1,736 | 2,091 | 1,720 | 1,177 | 11,429 | | | | |
| Area total | 2,667 | 2,111 | 2,605 | 3,279 | 4,282 | 3,255 | 2,486 | 2,522 | 2,393 | 2,339 | 1,987 | 1,670 | 31,596 | 32,010 | 19,005 | 27,224 | 40,460 |

a) These columns include amounts of entitlement deferred or otherwise not delivered, regardless whether contractor received remuneration.
b) These amounts reflect 1991 carryover entitlement and/or Article 12(d) M & I water delivered in 1992.
c) General wheeling refers to non-SWP water conveyed by SWP under special agreements.

TABLE 6-2

# Total Amounts of Water Delivered in 1992, by Month (Page 2 of 6)

(Acre-feet)

| Contracting Agency and Type of Service | Month | | | | | | | | | | | | 1992 Total Deliveries | 1992 Contract Entitlement | 1992 Entitlement Not Delivered | Net Cumulative Entitlement Not Delivered through (a | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | | | | 1991 | 1992(b |
| **South Bay Area** | | | | | | | | | | | | | | | | | |
| Alameda County Flood Control and Water Conservation District, Zone 7 | | | | | | | | | | | | | | | | | |
| Entitlement water | 319 | 1 | 88 | 839 | 947 | 1,066 | 2,819 | 2,842 | 2,279 | 2,295 | 1,142 | 32 | 14,669 | 36,000 | 21,331 | 188,944 | 210,275 |
| Regulated delivery of local supply | 337 | 825 | 1,280 | 1,102 | 1,736 | 1,658 | 204 | 0 | 177 | 109 | 0 | 987 | 8,415 | | | | |
| Agency total | 656 | 826 | 1,368 | 1,941 | 2,683 | 2,724 | 3,023 | 2,842 | 2,456 | 2,404 | 1,142 | 1,019 | 23,084 | | | | |
| Alameda County Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 600 | 0 | 0 | 0 | 0 | 2,286 | 2,863 | 3,303 | 2,950 | 2,570 | 2,350 | 879 | 17,801 | 39,900 | 22,099 | 302,417 | 323,164 |
| Carryover entitlement water | 686 | 612 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,352 | | | | |
| Regulated delivery of local supply | 0 | 0 | 489 | 1,269 | 2,501 | 838 | 0 | 0 | 0 | 0 | 0 | 0 | 5,097 | | | | |
| Agency total | 1,286 | 612 | 543 | 1,269 | 2,501 | 3,124 | 2,863 | 3,303 | 2,950 | 2,570 | 2,350 | 879 | 24,250 | | | | |
| Santa Clara Valley Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 2,792 | 2,180 | 1,588 | 0 | 2,377 | 3,814 | 3,895 | 8,943 | 8,218 | 3,179 | 3,497 | 2,356 | 42,839 | 96,000 | 53,161 | 106,621 | 159,782 |
| Agency total | 2,792 | 2,180 | 1,588 | 0 | 2,377 | 3,814 | 3,895 | 8,943 | 8,218 | 3,179 | 3,497 | 2,356 | 42,839 | | | | |
| City of San Francisco | | | | | | | | | | | | | | | | | |
| General wheeling (c | 2,294 | 848 | 901 | 3,422 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,465 | | | | |
| 1991 Drought Water Bank water | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | | | | |
| 1992 Drought Water Bank water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,887 | 4,381 | 4,513 | 13,781 | | | | |
| Agency total | 2,294 | 848 | 901 | 3,431 | 0 | 0 | 0 | 0 | 0 | 4,887 | 4,381 | 4,513 | 21,255 | | | | |
| Recreation/fish and wildlife water | | | | | | | | | | | | | | | | | |
| Agency total | 6 | 6 | 6 | 9 | 11 | 26 | 26 | 22 | 24 | 1 | 8 | 2 | 147 | | | | |
| SWP | 4,403 | 2,799 | 1,736 | 848 | 3,335 | 7,192 | 9,603 | 15,110 | 13,471 | 8,045 | 6,997 | 3,269 | 76,808 | 171,900 | 96,591 | 597,982 | 693,221 |
| Non-SWP | 2,631 | 1,673 | 2,670 | 5,802 | 4,237 | 2,496 | 204 | 0 | 177 | 4,996 | 4,381 | 5,500 | 34,767 | | | | |
| Area total | 7,034 | 4,472 | 4,406 | 6,650 | 7,572 | 9,688 | 9,807 | 15,110 | 13,648 | 13,041 | 11,378 | 8,769 | 111,575 | 171,900 | 96,591 | 597,982 | 693,221 |
| **San Joaquin Valley Area** | | | | | | | | | | | | | | | | | |
| *SWP water* | | | | | | | | | | | | | | | | | |
| Castaic Lake Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 765 | 1,206 | 1,575 | 1,092 | 1,016 | 235 | 0 | 0 | 0 | 5,887 | | | | |
| County of Kings | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 0 | 0 | 500 | 600 | 700 | 0 | 0 | 6 | 0 | 1,806 | 4,000 | 2,194 | 6,000 | 8,194 |
| Dudley Ridge Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 708 | 1,874 | 2,860 | 3,143 | 2,335 | 446 | 630 | 410 | 261 | 12,667 | 57,700 | 33,930 (d | 87,346 | 121,276 |
| Transfer entitlement to Westlands WD | 0 | 0 | 0 | 0 | 0 | 3,250 | 3,250 | 4,323 | 0 | 0 | 0 | 0 | 10,823 | | | | |
| Transfer entitlement to Tulare Lake Basin WSD | 0 | 0 | 0 | 0 | 0 | 0 | 280 | 0 | 0 | 0 | 0 | 0 | 280 | | | | |
| 1991 Drought Water Bank water | 14 | 346 | 470 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 830 | | | | |
| Transferred to KCWA | 0 | 0 | 448 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 448 | | | | |
| Agency total (excludes transferred water) | 14 | 346 | 470 | 708 | 1,874 | 2,860 | 3,143 | 2,335 | 446 | 630 | 410 | 261 | 13,497 | | | | |
| Empire West Side Irrigation District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 0 | 0 | 142 | 530 | 616 | 19 | 0 | 47 | 0 | 1,354 | 3,000 | 1,646 | 16,523 | 18,169 |
| Kern County Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 62 | 1,648 | 3,666 | 32,779 | 60,361 | 110,048 | 116,725 | 66,440 | 14,799 | 11,631 | 2,293 | 2,839 | 423,291 | 1,153,400 | 730,109 | 1,964,434 | 2,634,614 |
| Carryover entitlement water | 842 | 1,148 | 768 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,758 | | | | |
| Transferred 1991 Drought Water Bank water | | | | | | | | | | | | | | | | | |
| Transferred from Dudley Ridge Water District | 0 | 0 | 448 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 448 | | | | |
| Transferred pumped-in well water | | | | | | | | | | | | | | | | | |
| Transferred from Oak Flat Water District | 0 | 0 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | | | | |
| Loan water from SWP | 2,330 | 1,298 | 1,702 | 995 | 493 | 2,941 | 218 | 455 | 284 | 515 | 1,540 | 2,178 | 14,949 | | | | |
| Payback for loan water | (5,352) | (4,379) | (1,149) | (2,238) | (6,895) | (5,087) | (4,311) | (2,455) | (284) | (515) | (1,540) | (2,178) | (36,383) | | | | |
| 1991 Drought Water Bank water | 277 | 589 | 5,461 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,327 | | | | |
| 1992 Drought Water Bank water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 114 | 4,719 | 2,537 | 0 | 0 | 7,370 | | | | |
| Transfer 1992 Drought Bank water to Westlands WD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 800 | 0 | 0 | 0 | 0 | 800 | | | | |
| Exchange water with various CVC contractors | 0 | 0 | 0 | 0 | 0 | 829 | 639 | 0 | 389 | 598 | 0 | 0 | 2,455 | | | | |
| Ground Water Demonstration Program | 0 | 5,929 | 5,929 | 5,929 | 5,928 | 11,811 | 12,101 | 8,031 | 613 | 675 | 93 | 132 | 57,171 | | | | |
| Agency total (excludes water transferred to Westlands Water District) | (1,841) | 6,233 | 16,953 | 37,465 | 59,887 | 120,542 | 125,372 | 72,585 | 20,520 | 15,441 | 2,386 | 2,971 | 478,514 | | | | |

a) These columns include amounts of entitlement deferred or otherwise not delivered, regardless whether contractor received remuneration.
b) These amounts reflect 1991 carryover entitlement and/or Article 12(d) M & I water delivered in 1992 and Ground Water Demonstration Program water.
c) General wheeling refers to non-SWP water conveyed by SWP under special agreements.
d) This amount reflects deduction of entitlement transferred to other agencies.

TABLE 6-2

# Total Amounts of Water Delivered in 1992, by Month (Page 3 of 6)

(Acre-feet)

| Contracting Agency and Type of Service | Month: Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | 1992 Total Deliveries | 1992 Contract Entitlement | 1992 Entitlement Not Delivered | Net Cumulative Entitlement Not Delivered through (a: 1991 | 1992(b |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **San Joaquin Valley Area (continued)** | | | | | | | | | | | | | | | | | |
| Oak Flat Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 51 | 456 | 390 | 669 | 234 | 331 | 108 | 0 | 0 | 2,239 | 5,700 | 3,461 | 9,049 | 12,510 |
| Pumped-in well water transferred to KCWA | 9 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 128 | | | | |
| Agency total (excludes water transferred to KCWA) | 0 | 0 | 0 | 51 | 456 | 390 | 669 | 234 | 331 | 108 | 0 | 0 | 2,239 | | | | |
| *Tulare Lake Basin Water Storage District* | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 237 | 369 | 19,452 | 22,805 | 0 | 0 | 0 | 3,116 | 749 | 46,728 | 118,500 | 71,772 | 258,412 | 330,184 |
| 1992 Drought Water Bank water | 0 | 0 | 0 | 0 | 0 | 3,903 | 0 | 27,266 | 0 | 381 | 0 | 0 | 31,550 | | | | |
| Transferred entitlement water from Dudley Ridge WD | 0 | 0 | 0 | 0 | 0 | 0 | 280 | 0 | 0 | 0 | 0 | 0 | 280 | | | | |
| Agency total | 0 | 0 | 0 | 237 | 369 | 23,355 | 23,085 | 27,266 | 0 | 381 | 3,116 | 749 | 78,558 | | | | |
| Westlands Water District | | | | | | | | | | | | | | | | | |
| Transferred entitlement from Dudley Ridge WD | 0 | 0 | 0 | 0 | 0 | 3,250 | 3,250 | 4,323 | 0 | 0 | 0 | 0 | 10,823 | | | | |
| Transferred 1992 Drought Bank water from KCWA | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 800 | 0 | 0 | 0 | 0 | 800 | | | | |
| General wheeling (CVP) (c | 0 | 0 | 14,329 | 3,347 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17,676 | | | | |
| General wheeling (CVP) water transferred to San Luis Water District (c | 0 | 0 | 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | | | | |
| Agency total (excludes water transferred to San Luis Water District | 0 | 0 | 14,329 | 3,347 | 0 | 3,250 | 3,250 | 5,123 | 0 | 0 | 0 | 0 | 29,299 | | | | |
| San Luis Water District | | | | | | | | | | | | | | | | | |
| General wheeling (CVP) water transferred from Westlands Water District (c | 0 | 0 | 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | | | | |
| Agency total | 0 | 0 | 350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 350 | | | | |
| California Department of Fish & Game | | | | | | | | | | | | | | | | | |
| Recreation/fish and wildlife water | 36 | 47 | 26 | 40 | 15 | 0 | 33 | 21 | 30 | 17 | 98 | 28 | 391 | | | | |
| General wheeling (habitat preservation)(c | 99 | 1,641 | 2,996 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,736 | | | | |
| Agency total | 135 | 1,688 | 3,022 | 40 | 15 | 0 | 33 | 21 | 30 | 17 | 98 | 28 | 5,127 | 1,342,300 | 843,112 | 2,341,764 | 3,124,947 |
| California Department of Parks and Recreation | | | | | | | | | | | | | | | | | |
| Agency total | 1 | 1 | 1 | 11 | 9 | 12 | 11 | 7 | 8 | 8 | 2 | 1 | 72 | | | | |
| SWP | 904 | 8,725 | 10,363 | 40,469 | 70,192 | 150,026 | 161,195 | 83,695 | 16,443 | 13,044 | 5,965 | 3,981 | 565,004 | | | | |
| Non-SWP | (2,595) | (457) | 24,412 | 2,155 | (6,378) | 2,598 | (3,410) | 26,208 | 5,146 | 3,541 | 100 | 29 | 51,349 | | | | |
| Area subtotal (SWP water) | (1,691) | 8,268 | 34,775 | 42,624 | 63,814 | 152,626 | 157,785 | 109,903 | 21,589 | 16,585 | 6,065 | 4,010 | 616,353 | 1,342,300 | 843,112 | 2,341,764 | 3,124,947 |
| **San Joaquin Valley Area** | | | | | | | | | | | | | | | | | |
| *CVP water conveyed* | | | | | | | | | | | | | | | | | |
| Annual contracts | | | | | | | | | | | | | | | | | |
| Green Valley Water District | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Kings County Water District | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Lakeside Irrigation Water District | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Musco Olive Products, Inc. | 7 | 8 | 10 | 10 | 11 | 12 | 11 | 13 | 13 | 16 | 12 | 13 | 136 | | | | |
| Tracy Golf and Country Club | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Cawelo Water District | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Veterans Administration Cemetery | 1 | 1 | 2 | 0 | 2 | 1 | 4 | 1 | 3 | 1 | 1 | 1 | 18 | | | | |
| Subtotal | 8 | 9 | 12 | 10 | 13 | 13 | 15 | 14 | 16 | 17 | 13 | 14 | 154 | | | | |
| Cross Valley Canal Contracts | | | | | | | | | | | | | | | | | |
| Fresno County | 0 | 0 | 274 | 155 | 203 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 750 | | | | |
| Lower Tule River Irrigation District | 0 | 0 | 2,845 | 1,535 | 2,130 | 1,266 | 0 | 0 | 0 | 0 | 0 | 0 | 7,776 | | | | |
| Pixley Irrigation District | 0 | 0 | 2,845 | 1,535 | 2,130 | 437 | 0 | 0 | 0 | 0 | 0 | 0 | 6,947 | | | | |
| Exchange water transferred to KCWA | 0 | 0 | 0 | 0 | 0 | 829 | 0 | 0 | 0 | 0 | 0 | 0 | 829 | | | | |
| Agency total (excludes water transferred to KCWA) | 0 | 0 | 2,845 | 1,535 | 2,130 | 437 | 0 | 0 | 0 | 0 | 0 | 0 | 6,947 | | | | |
| Rag Gulch Water District | 0 | 0 | 0 | 0 | 0 | 0 | 482 | 0 | 0 | 0 | 0 | 0 | 482 | | | | |
| Transfer to Westlands Water District | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,450 | 0 | 0 | 0 | 0 | 2,450 | | | | |
| Exchange water transferred to KCWA | 0 | 0 | 0 | 0 | 0 | 0 | 393 | 0 | 0 | 0 | 0 | 0 | 393 | | | | |
| Agency total (excludes water transferred to KCWA and Westlands Water District) | 0 | 0 | 0 | 0 | 0 | 0 | 482 | 0 | 0 | 0 | 0 | 0 | 482 | | | | |

a) These columns include amounts of entitlement deferred or otherwise not delivered, regardless whether contractor received remuneration.
b) These amounts reflect 1991 carryover entitlement and/or Article 12(d) M & I water delivered in 1992.
c) General wheeling refers to non-SWP water conveyed by SWP under special agreements.

TABLE 6-2

# Total Amounts of Water Delivered in 1992, by Month (Page 4 of 6)

(Acre-feet)

| Contracting Agency and Type of Service | Month | | | | | | | | | | | | 1992 Total Deliveries | 1992 Contract Entitlement | 1992 Entitlement Not Delivered | Net Cumulative Entitlement Not Delivered through (a | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | | | | 1991 | 1992(b |
| **San Joaquin Valley Area (continued)** | | | | | | | | | | | | | | | | | |
| *CVP water conveyed (continued)* | | | | | | | | | | | | | | | | | |
| Cross Valley Canal contracts (continued) | | | | | | | | | | | | | | | | | |
| Tulare County | 0 | 0 | 485 | 260 | 358 | 224 | 0 | 0 | 0 | 0 | 0 | 0 | 1,327 | | | | |
| Kern-Tulare Water District | 0 | 0 | 1,440 | 5,301 | 1,523 | 0 | 303 | 0 | 126 | 74 | 0 | 0 | 8,767 | | | | |
| Exchange water transferred to KCWA | 0 | 0 | 0 | 0 | 0 | 0 | 246 | 0 | 389 | 598 | 0 | 0 | 1,233 | | | | |
| Agency total (excludes water transferred to KCWA) | 0 | 0 | 1,440 | 5,301 | 1,523 | 0 | 303 | 0 | 126 | 74 | 0 | 0 | 8,767 | | | | |
| Hills Valley Irrigation District | 0 | 0 | 0 | 0 | 226 | 610 | 0 | 0 | 0 | 0 | 0 | 0 | 836 | | | | |
| Tri-Valley Water District | 0 | 0 | 0 | 0 | 77 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 285 | | | | |
| Subtotal | 0 | 0 | 7,889 | 8,786 | 6,647 | 2,863 | 785 | 0 | 126 | 74 | 0 | 0 | 27,170 | | | | |
| U.S. Bureau of Reclamation | | | | | | | | | | | | | | | | | |
| Federal wheeling (U.S. Fish & Wildlife Service) (c | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,026 | 3,215 | 789 | 6,030 | | | | |
| Decision 1485 water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Subtotal | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,026 | 3,215 | 789 | 6,030 | | | | |
| Westlands Water District | | | | | | | | | | | | | | | | | |
| Water transferred from Rag Gulch Water District | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,450 | 0 | 0 | 0 | 0 | 2,450 | | | | |
| Agency total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,450 | 0 | 0 | 0 | 0 | 2,450 | | | | |
| Recreation/fish and wildlife water (U.S. Bureau of Reclamation, San Luis) | 31 | 39 | 22 | 41 | 20 | 10 | 37 | 23 | 32 | 21 | 81 | 24 | 381 | | | | |
| Non-SWP | 39 | 48 | 7,923 | 8,837 | 6,680 | 2,886 | 837 | 2,487 | 174 | 2,138 | 3,309 | 827 | 36,185 | | | | |
| Area subtotal (CVP water) | 39 | 48 | 7,923 | 8,837 | 6,680 | 2,886 | 837 | 2,487 | 174 | 2,138 | 3,309 | 827 | 36,185 | | | | |
| Area summary | | | | | | | | | | | | | | | | | |
| SWP | 904 | 2,796 | 4,434 | 34,540 | 64,264 | 138,217 | 149,094 | 75,664 | 15,830 | 12,369 | 5,872 | 3,849 | 507,833 | 1,342,300 | 843,112 | 2,341,764 | 3,182,118 |
| Non-SWP | (2,556) | 5,520 | 38,264 | 16,921 | 6,230 | 17,295 | 9,528 | 36,726 | 5,933 | 6,354 | 3,502 | 988 | 144,705 | | | | |
| Total | (1,652) | 8,316 | 42,698 | 51,461 | 70,494 | 155,512 | 158,662 | 112,390 | 21,763 | 18,723 | 9,374 | 4,837 | 652,538 | 1,342,300 | 843,112 | 2,341,764 | 3,182,118 |
| **Central Coastal Area** | | | | | | | | | | | | | | | | | |
| San Luis Obispo County Flood Control and Water Conservation District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25,000 | 25,000 | 127,000 | 152,000 |
| Santa Barbara County Flood Control and Water Conservation District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 45,486 | 45,486 | 228,870 | 274,356 |
| SWP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70,486 | 70,486 | 355,870 | 426,356 |
| Non-SWP | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Area Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 70,486 | 70,486 | 355,870 | 426,356 |

a) These columns include amounts of entitlement deferred or otherwise not delivered, regardless whether contractor received remuneration.
b) These amounts reflect 1991 carryover entitlement and/or Article 12(d) M & I water delivered in 1992.
c) General wheeling refers to non-SWP water conveyed under special agreements.

TABLE 6-2

# Total Amounts of Water Delivered in 1992, by Month (Page 5 of 6)

(Acre-feet)

| Contracting Agency and Type of Service | Month | | | | | | | | | | | | 1992 Total Deliveries | 1992 Contract Entitlement | 1992 Entitlement Not Delivered | Net Cumulative Entitlement Not Delivered through (a | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | | | | 1991 | 1992(b |
| **Southern California Area** | | | | | | | | | | | | | | | | | |
| Antelope Valley-East Kern Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 1,817 | 3,221 | 4,077 | 4,509 | 4,573 | 3,917 | 3,021 | 2,095 | 811 | 28,041 | 138,400 | 110,359 | 579,955 | 688,090 |
| Carryover entitlement water | 0 | 666 | 1,302 | 256 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,224 | | | | |
| Entitlement transferred from Mojave Water Agency | 47 | 33 | 51 | 83 | 141 | 161 | 201 | 173 | 160 | 127 | 43 | 90 | 1,310 | | | | |
| Local water in | (756) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (756) | | | | |
| Local water out | 946 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,108 | | | | |
| Agency total | 237 | 861 | 1,353 | 2,156 | 3,362 | 4,238 | 4,710 | 4,746 | 4,077 | 3,148 | 2,138 | 901 | 31,927 | | | | |
| Castaic Lake Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 1,007 | 1,483 | 1,716 | 1,879 | 2,165 | 1,032 | 1,132 | 1,340 | 222 | 11,976 | 54,200 | 36,337 (d | 278,279 | 311,780 |
| Carryover entitlement water | 865 | 900 | 882 | 189 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,836 | | | | |
| Agency total | 865 | 900 | 882 | 1,196 | 1,483 | 1,716 | 1,879 | 2,165 | 1,032 | 1,132 | 1,340 | 222 | 14,812 | | | | |
| Coachella Valley Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 1,155 | 1,155 | 1,155 | 1,155 | 1,155 | 1,155 | 1,155 | 1,155 | 1,187 | 10,427 | 23,100 | 12,673 | 21,370 | 34,043 |
| Crestline-Lake Arrowhead Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 81 | 110 | 264 | 5,800 | 5,536 | 41,838 | 47,374 |
| Local entitlement water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Regulated delivery of local supply | 76 | 82 | 91 | 52 | 126 | 121 | 125 | 147 | 134 | 99 | 0 | 0 | 1,053 | | | | |
| Agency total | 120 | 82 | 91 | 52 | 126 | 121 | 125 | 147 | 134 | 128 | 81 | 110 | 1,317 | | | | |
| Desert Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 1,905 | 1,905 | 1,905 | 1,905 | 1,905 | 1,905 | 1,905 | 1,905 | 1,957 | 17,197 | 38,100 | 20,903 | 34,670 | 55,573 |
| Littlerock Creek Irrigation District | | | | | | | | | | | | | | | | | |
| Entitlement water | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 114 | 87 | 44 | 251 | 2,300 | 2,049 | 17,182 | 19,231 |
| Metropolitan Water District of Southern California | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 49,732 | 77,976 | 88,694 | 65,441 | 80,609 | 77,335 | 79,797 | 55,694 | 50,145 | 625,423 | 2,011,500 | 1,382,014(e | 11,826,960 | 13,208,974 |
| Carryover entitlement water | 28,831 | 27,848 | 19,798 | 4,350 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 80,827 | | | | |
| Entitlement water transferred to San Gabriel Valley Municipal Water District | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,061 | 3,002 | 4,063 | | | | |
| 1992 Drought Water Bank water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,000 | 5,000 | 0 | 0 | 10,000 | | | | |
| Agency total (excludes transferred entitlement) | 28,831 | 27,848 | 19,798 | 54,082 | 77,976 | 88,694 | 65,441 | 80,609 | 82,335 | 84,797 | 55,694 | 50,145 | 716,250 | | | | |
| Mojave Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 2,000 | 0 | 30 | 0 | 2,750 | 647 | 0 | 12 | 0 | 605 | 2,914 | 418 | 9,376 | 50,800 | 40,114 (e | 548,545 | 588,659 |
| Entitlement water transferred to AntelopeValley-East Kern Water Agency | 47 | 33 | 51 | 83 | 141 | 161 | 201 | 173 | 160 | 127 | 43 | 90 | 1,310 | | | | |
| Agency total (excludes transferred water) | 2,000 | 0 | 30 | 0 | 2,750 | 647 | 0 | 12 | 0 | 605 | 2,914 | 418 | 9,376 | | | | |
| Palmdale Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 5 | 409 | 458 | 1,049 | 1,419 | 643 | 32 | 19 | 1 | 4,035 | 17,300 | 13,265 | 189,186 | 202,451 |
| San Bernardino Valley Municipal Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 45 | 138 | 3 | 3 | 6 | 5 | 7 | 6 | 396 | 1,280 | 697 | 772 | 3,358 | 102,600 | 99,242 | 1,140,225 | 1,239,467 |
| Local water in | 0 | 0 | (149) | (423) | (904) | (366) | 0 | 0 | 0 | 0 | 0 | 0 | (1,842) | | | | |
| Local water out | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 446 | 1,309 | 0 | 0 | 0 | 1,755 | | | | |
| Agency total | 45 | 138 | (146) | (420) | (898) | (361) | 7 | 452 | 1,705 | 1,280 | 697 | 772 | 3,271 | | | | |
| San Gabriel Valley Municipal Water District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 840 | 1,302 | 2,017 | 1,103 | 1,228 | 1,079 | 339 | 0 | 0 | 0 | 7,908 | 28,800 | 20,892 | 250,292 | 271,184 |
| Entitlement water transferred from MWD | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,061 | 3,002 | 4,063 | | | | |
| Agency total | 0 | 0 | 840 | 1,302 | 2,017 | 1,103 | 1,228 | 1,079 | 339 | 0 | 1,061 | 3,002 | 11,971 | | | | |
| San Gorgonio Pass Water Agency | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17,300 | 17,300 | 148,600 | 165,900 |
| Ventura County Flood Control District | | | | | | | | | | | | | | | | | |
| Entitlement water | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20,000 | 20,000 | 102,176 | 122,176 |

a) These columns include amounts of entitlement deferred or otherwise not delivered, regardless whether contractor received remuneration.
b) These amounts reflect 1991 carryover entitlement and/or Article 12(d) M & I water delivered in 1992.
c) General wheeling refers to non-SWP water conveyed under special agreements.
d) This amount includes entitlement delivered in San Joaquin Valley area.
e) This amount reflects deduction of transferred entitlement to another agency.

TABLE 6-2

# Total Amounts of Water Delivered in 1992, by Month (Page 6 of 6)

(Acre-feet)

| Contracting Agency and Type of Service | Month | | | | | | | | | | | | 1992 Total Deliveries | 1992 Contract Entitlement | 1992 Entitlement Not Delivered | Net Cumulative Entitlement Not Delivered through (a | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | | | | 1991 | 1992(b |
| **Southern California Area (continued)** | | | | | | | | | | | | | | | | | |
| Los Angeles Department of Water and Power | | | | | | | | | | | | | | | | | |
| Local water in | 0 | 0 | (16) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (16) | | | | |
| Local water out | 0 | 0 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | | | | |
| Agency total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Recreation/fish and wildlife water | 51 | 35 | 36 | 37 | 155 | 222 | 235 | 259 | 588 | 178 | 140 | 59 | 1,995 | | | | |
| SWP | 31,886 | 29,620 | 22,942 | 61,841 | 91,218 | 100,146 | 77,609 | 93,355 | 87,470 | 89,375 | 67,231 | 58,818 | 811,511 | 2,510,200 | 1,780,684 | 15,179,278 | 16,954,902 |
| Non-SWP | 266 | 244 | (58) | (371) | (778) | (245) | 125 | 593 | 6,443 | 5,099 | 0 | 0 | 11,318 | | | | |
| Area total | 32,152 | 29,864 | 22,884 | 61,470 | 90,440 | 99,901 | 77,734 | 93,948 | 93,913 | 94,474 | 67,231 | 58,818 | 822,829 | 2,510,200 | 1,780,684 | 15,179,278 | 16,954,902 |
| **All Agencies** | | | | | | | | | | | | | | | | | |
| Total 1992 entitlement water | 5,936 | 10,034 | 12,219 | 99,574 | 166,996 | 260,467 | 250,979 | 194,705 | 117,491 | 110,572 | 80,321 | 66,139 | 1,375,433 | | | | |
| Total 1991 carryover entitlement water | 32,872 | 31,811 | 22,804 | 4,795 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 92,282 | | | | |
| Total 1992 Article 12(d) M & I water | 357 | 657 | 1,915 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 419 | 3,484 | | | | |
| Subtotal (entitlement water delivered) | 39,165 | 42,502 | 36,938 | 104,505 | 166,996 | 260,467 | 250,979 | 194,705 | 117,491 | 110,572 | 80,321 | 66,558 | 1,471,199 | | | | |
| Unscheduled water | 111 | 313 | 690 | 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,156 | | | | |
| Total loan water from SWP | 2,330 | 1,298 | 1,702 | 995 | 493 | 2,941 | 218 | 455 | 284 | 515 | 1,540 | 2,178 | 14,949 | | | | |
| Total payback for loan water | (5,352) | (4,379) | (1,149) | (2,238) | (6,895) | (5,087) | (4,311) | (2,455) | (284) | (515) | (1,540) | (2,178) | (36,383) | | | | |
| Recreation/fish and wildlife water | 94 | 89 | 69 | 97 | 190 | 260 | 305 | 309 | 650 | 204 | 248 | 90 | 2,605 | | | | |
| Subtotal (SWP water) | 42,277 | 39,823 | 38,250 | 97,472 | 160,784 | 258,581 | 247,191 | 193,014 | 118,141 | 110,776 | 80,569 | 66,648 | 1,453,526 | | | | |
| Vallejo permit water | 551 | 442 | 0 | 1,875 | 1,938 | 0 | 0 | 136 | 1,736 | 1,937 | 1,720 | 1,177 | 11,512 | | | | |
| Regulated delivery of local supply | 1,840 | 1,105 | 2,080 | 11,462 | 143,076 | 110,571 | 118,273 | 105,975 | 37,444 | 39,073 | 32,573 | 25,071 | 628,543 | | | | |
| Total local water in | (756) | 0 | (165) | (423) | (904) | (366) | 0 | 0 | 0 | 0 | 0 | 0 | (2,614) | | | | |
| Total local water out | 946 | 162 | 16 | 0 | 0 | 0 | 0 | 446 | 1,309 | 0 | 0 | 0 | 2,879 | | | | |
| 1991 Drought Water Bank water | 291 | 935 | 6,379 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,614 | | | | |
| 1992 Drought Water Bank water | 0 | 0 | 0 | 0 | 0 | 3,903 | 0 | 28,180 | 9,719 | 12,805 | 4,381 | 4,513 | 63,501 | | | | |
| General wheeling (c | 2,393 | 2,489 | 18,576 | 6,769 | 0 | 0 | 0 | 0 | 0 | 154 | 0 | 0 | 30,381 | | | | |
| Kern County Water Agency exchange water with Cross Valley Canal contractors | 0 | 0 | 0 | 0 | 0 | 829 | 639 | 0 | 389 | 598 | 0 | 0 | 2,455 | | | | |
| Conveying CVP water, annual contract | 8 | 9 | 12 | 10 | 13 | 13 | 15 | 14 | 16 | 17 | 13 | 14 | 154 | | | | |
| Conveying CVP water, Cross Valley Canal | 0 | 0 | 7,889 | 8,786 | 6,647 | 2,863 | 785 | 2,450 | 126 | 74 | 0 | 0 | 29,620 | | | | |
| Conveying CVP water, Decision 1485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | | |
| Conveying CVP water, U.S. Fish and Wildlife Service | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,026 | 3,215 | 789 | 6,030 | | | | |
| Conveying CVP water, recreation/fish and wildlife water | 31 | 39 | 22 | 41 | 20 | 10 | 37 | 23 | 32 | 21 | 81 | 24 | 381 | | | | |
| Subtotal (other water) | 5,304 | 5,181 | 34,809 | 28,529 | 150,790 | 117,823 | 119,749 | 137,224 | 50,771 | 56,705 | 41,983 | 31,588 | 780,456 | | | | |
| Grand Total | 41,652 | 45,004 | 73,059 | 131,930 | 311,574 | 376,404 | 366,940 | 330,238 | 168,912 | 167,481 | 122,552 | 98,236 | 2,233,982 | 4,138,816 | 2,820,554 | 18,553,653 | 21,359,268 |

a) These columns include amounts of entitlement deferred orotherwise not delivered, regardless whether contractor received remuneration.
b) These amounts reflect 1991 carryover entitlement and/or Article 12(d) M & I water delivered in 1992.
c) General wheeling refers to non-SWP water conveyed by SWP under special agreements.
d) This amount includes entitlement delivered in San Joaquin Valley area.
e) This amount reflects deduction of transferred entitlement to another agency.

TABLE 6-3

# Total Amounts of Annual Water Entitlements and Water Conveyed, by Type, 1962 through 1992

(Acre-feet)

| | Annual Entitlements According to Long-Term Water Supply Contracts | | | | | | | Water Conveyed | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Deliveries | | | | | | | | |
| Year | Upper Feather River Area (1) | North Bay Area (2) | South Bay Area (3) | San Joaquin Valley Area (4) | Central Coastal Area (5) | Southern California Area (6) | Total (7) | 1992 Entitlement Water (8) | Surplus and Unscheduled Water (a (9) | Other Water (b (10) | Feather River Diversions (c (11) | Recreation Water (12) | Subtotal (13) | Initial Fill Water (14) | Operational Losses and Storage Changes (d (15) | Total (16) |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,289 | | 0 | 18,289 | 9 | 272 | 18,570 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22,456 | | 0 | 22,456 | 71 | 185 | 22,712 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 32,507 | | 0 | 32,507 | 171 | 152 | 32,830 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44,105 | | 0 | 44,105 | 93 | 729 | 44,927 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 67,928 | | 0 | 67,928 | 0 | 1,746 | 69,674 |
| 1967 | 0 | 0 | 11,538 | 0 | 0 | 0 | 11,538 | 11,538 | 0 | 53,605 | | 0 | 65,143 | 8,328 | 4,212 | 77,683 |
| 1968 | 550 | 0 | 109,900 | 81,050 | 0 | 0 | 191,500 | 171,709 | 121,534 | 14,777 | 866,926 | 0 | 1,174,946 | 498,926 | 117,906 | 1,791,778 |
| 1969 | 620 | 0 | 98,700 | 168,075 | 0 | 0 | 267,395 | 193,020 | 72,397 | 18,829 | 794,374 | 0 | 1,078,620 | 510,614 | 72,196 | 1,661,430 |
| 1970 | 700 | 0 | 114,200 | 207,700 | 0 | 0 | 322,600 | 233,993 | 133,024 | 38,080 | 759,759 | 0 | 1,164,856 | 23,947 | 2,435 | 1,191,238 |
| 1971 | 890 | 0 | 116,200 | 258,500 | 0 | 0 | 375,590 | 357,340 | 296,019 | 44,119 | 778,362 | 8 | 1,475,848 | 7,853 | 5,812 | 1,489,513 |
| 1972 | 970 | 0 | 118,300 | 420,766 | 0 | 201,723 | 741,759 | 611,801 | 423,964 | 66,638 | 817,398 | 6,489 | 1,926,290 | 100,274 | 53,062 | 2,079,626 |
| 1973 | 1,100 | 0 | 120,400 | 392,352 | 0 | 472,400 | 986,252 | 694,388 | 296,416 | 42,511 | 800,743 | 1,155 | 1,835,213 | 204,638 | 53,798 | 2,093,649 |
| 1974 | 1,230 | 0 | 122,400 | 470,350 | 0 | 588,220 | 1,182,200 | 874,077 | 417,676 | 46,224 | 911,613 | 2,118 | 2,251,708 | 237,554 | 10,657 | 2,499,919 |
| 1975 | 1,610 | 0 | 124,500 | 556,509 | 0 | 704,250 | 1,386,869 | 1,223,990 | 622,902 | 63,793 | 862,218 | 3,377 | 2,776,280 | 103,352 | (94,606) | 2,785,026 |
| 1976 | 1,990 | 0 | 126,500 | 555,117 | 0 | 824,780 | 1,508,387 | 1,373,002 | 580,110 | 115,217 | 946,440 | 1,745 | 3,016,514 | 61,122 | (681,025) | 2,396,611 |
| 1977 | 2,420 | 0 | 128,600 | 594,100 | 0 | 942,201 | 1,667,321 | 574,155 | 0 | 389,065 | 581,994 | 1,111 | 1,546,325 | 0 | (131,151) | 1,415,174 |
| 1978 | 1,850 | 0 | 130,700 | 647,262 | 0 | 1,038,222 | 1,818,034 | 1,452,699 | 16,914 | 121,225 | 786,517 | 1,691 | 2,379,046 | 64,443 | 717,370 | 3,160,859 |
| 1979 | 2,130 | 0 | 132,700 | 715,385 | 0 | 1,177,873 | 2,028,088 | 1,659,896 | 648,389 | 187,630 | 882,549 | 1,766 | 3,380,230 | 12,302 | (83,430) | 3,309,102 |
| 1980 | 1,810 | 500 | 134,800 | 770,800 | 1,946 | 1,304,914 | 2,214,770 | 1,529,749 | 404,557 | 46,459 | 875,045 | 2,131 | 2,857,941 | 0 | (26,606) | 2,831,335 |
| 1981 | 1,940 | 650 | 137,000 | 830,700 | 2,813 | 1,419,365 | 2,392,468 | 1,909,562 | 908,428 | 279,161 | 838,557 | 4,688 | 3,940,396 | 0 | (802,263) | 3,138,133 |
| 1982 | 1,970 | 800 | 139,200 | 889,200 | 5,626 | 1,537,749 | 2,574,545 | 1,750,024 | 215,873 | 154,882 | 776,330 | 4,646 | 2,901,755 | 0 | 480,752 | 3,382,507 |
| 1983 | 2,000 | 950 | 141,400 | 880,648 | 8,439 | 1,668,557 | 2,701,994 | 1,184,869 | 13,019 | 181,453 | 602,905 | 7,849 | 1,990,095 | 0 | (90,997) | 1,899,098 |
| 1984 | 3,630 | 1,100 | 143,600 | 991,911 | 12,698 | 1,731,398 | 2,884,337 | 1,588,619 | 262,917 | 381,024 | 832,332 | 7,040 | 3,071,932 | 0 | (140,182) | 2,931,750 |
| 1985 | 3,760 | 1,250 | 145,800 | 1,031,749 | 21,138 | 1,852,149 | 3,055,846 | 1,995,453 | 307,672 | 404,842 | 870,008 | 4,033 | 3,582,008 | 0 | 92,885 | 3,674,893 |
| 1986 | 4,190 | 1,400 | 148,100 | 1,139,200 | 28,210 | 1,971,190 | 3,292,290 | 1,995,636 | (e 36,620 | (f 193,606 | 791,737 | 3,865 | 3,021,464 | 0 | 284,380 | 3,305,844 |
| 1987 | 4,620 | 1,550 | 150,300 | 1,201,200 | 35,204 | 2,091,241 | 3,484,115 | 2,130,086 | (g 114,907 | 377,592 | 831,947 | 7,672 | 3,462,204 | 0 | (390,413) | 3,071,791 |
| 1988 | 5,060 | 15,471 | 152,500 | 1,258,800 | 43,722 | 2,212,782 | 3,688,335 | 2,385,122 | (h 0 | 516,481 | 794,834 | 4,889 | 3,701,326 | 0 | (92,850) | 3,608,476 |
| 1989 | 5,500 | 24,615 | 156,700 | 1,303,100 | 56,342 | 2,411,933 | 3,958,190 | 2,853,747 | (i 0 | 487,567 | 809,250 | 8,135 | 4,158,699 | 0 | 447,917 | 4,606,616 |
| 1990 | 6,040 | 28,190 | 160,900 | 1,355,000 | 70,486 | 2,487,900 | 4,108,516 | 2,582,151 | (j 90 | 457,316 | 851,247 | 9,262 | 3,900,066 | 0 | (528,869) | 3,371,197 |
| 1991 | 11,880 | 29,590 | 166,400 | 1,355,000 | 70,486 | 2,497,500 | 4,130,856 | 549,116 | (k 3,521 | 551,048 | 565,395 | 4,912 | 1,673,992 | 0 | 167,435 | 1,841,427 |
| 1992 | 11,920 | 32,010 | 171,900 | 1,342,300 | 70,486 | 2,510,200 | 4,138,816 | 1,471,199 | (l 1,156 | 145,044 | 613,978 | 2,605 | 2,233,982 | 0 | (63,541) | 2,170,441 |
| **Total** | **80,380** | **138,076** | **3,403,238** | **19,416,774** | **427,596** | **31,646,547** | **55,112,611** | **33,356,941** | **5,898,105** | **5,563,473** | **19,842,458** | **91,187** | **64,752,164** | **1,833,697** | **(612,032)** | **65,973,829** |

a) Values include amounts of deliveries to short-term contractors (Mustang Water District, 1970-72; Tracy Golf and Country Club, 1974, 1979, and 1980; and Green Valley Water District, 1974, 1975, 1978, 1979, 1980, and 1985; Granite Construction Company, 1980).
b) Includes amounts of SWP and non-SWP water conveyed for SWP and non-SWP contractors.
c) Includes amounts of water diverted under various water rights agreements.
d) Amounts reflect net effect of (1) operational losses from SWP transportation facilities; (2) changes in reservoir storage south of the Delta; (3) storable local inflows to SWP reservoirs; (4) side inflow to San Luis Canal; and (5) inflow into California Aqueduct from Kern River Intertie.
e) Includes 37,170 acre-feet of entitlement water carried over from 1985.
f) Includes 12,270 acre-feet of surplus water carried over from 1985.
g) Includes 639 acre-feet of 1988 entitlement water delivered during 1987 and 16,171 acre-feet of entitlement water recaptured from ground water storage.
h) Includes 67,581 acre-feet of 1987 entitlement water delivered in 1988 and 8,749 acre-feet recaptured from ground water storage.
i) Includes 149,880 acre-feet of 1988 entitlement water delivered in 1989 and 89 acre-feet of 1990 entitlement water delivered during 1989.
j) Includes 128,546 acre-feet of 1989 water delivered in 1990.
k) Includes 27,075 acre-feet of 1990 entitlement water and 148 acre-feet of 1992 entitlement water delivered in 1991.
l) Includes 92,282 acre-feet of 1991 entitlement water delivered in 1992; 3,484 acre-feet of make-up water; and 72,000 acre-feet recaptured from ground water storage (including 57,171 acre-feet of Ground Water Demonstration Program water).

# 7. Designing and Constructing Facilities

The State Water Project is being built in stages to match the Department of Water Resources' need for facilities to meet its contractual obligations.

Construction of the project's initial facilities began in 1957 with the relocation of the Western Pacific Railroad yards and Highway 70 near Oroville. In 1962 the first water deliveries were made from the partially completed South Bay Aqueduct, and work was started on the Oroville Dam and joint-use San Luis facilities.

In 1963 work began on the Governor Edmund G. Brown California Aqueduct; by 1968 SWP was able to deliver water to long-term contractors in the San Joaquin Valley. By 1973 the initial facilities were completed; and SWP was able to deliver water to Lake Perris, its southernmost point. Since the 1970s, design and construction activities have centered on:

- Building power plants and pumping units that were deferred initially
- Enlarging or extending aqueduct reaches
- Providing facilities to ensure water quality in Suisun Marsh

In the 1990s design and construction activities will center around completing authorized facilities to deliver water to San Luis Obispo and Santa Barbara Counties.

This chapter includes information about the Department's design and construction activities from July 1992 through June 1993. The chapter also includes information about purchases of land and rights-of-way, activities that must be completed before the Department can begin constructing facilities.

## Design and Construction Activities

Designs for about 70 projects were in process or completed between July 1992 and June 1993. A list of those projects, along with expected completion dates, if applicable, may be found in Table 7-1 at the end of this chapter.[1]

Eighty-eight construction projects were in progress or completed during the same period. A list of those projects, including cost,

[1]Information included in Table 7-1 and Table 7-2 is organized geographically according to construction divisions. Within each division, facilities at which design or construction activities occurred are listed alphabetically. Descriptions of activities taking place at each facility are listed chronologically according to date work began.

date notice to begin work was given to the contractor, and date work was operationally complete and recommended for acceptance, may be found in Table 7-2 also located at the end of this chapter. Costs of contracts included in Table 7-2 represent actual costs of completed work or estimated costs of construction in progress.

The following information about the most significant design and construction projects is arranged geographically according to construction divisions (except for miscellaneous activities, which are listed last). Within each construction division, names of facilities where projects occurred are arranged alphabetically.

## Oroville Division

Design and construction work in the Oroville Division involved the Oroville Complex communication system and Thermalito Powerplant.

### Oroville Complex Communication System

Installation of the fiber-optic cable for the fiber-optic communication system network is being performed through two primary contracts and a completion contract. The completion contract was awarded in June 1993 and is scheduled for completion in November 1993.

The communication system serves to operate all major portions of the Oroville-Thermalito complex.

### Thermalito Powerplant

Work under a contract for replacing 13.8 kV motor unit breakers began in October 1991 and was completed in July 1992. This work is part of the ongoing plant maintenance and replacement program.

## North San Joaquin Division

Design and construction activities in the North San Joaquin Division involved enlargement of Harvey O. Banks Delta Pumping Plant and John E. Skinner Delta Fish Protective Facility, rock barriers at Old River and Middle River, South Bay Aqueduct, South Bay Pumping Plant, and various miscellaneous projects.

### Banks Pumping Plant

The second-phase enlargement of Banks Pumping Plant, which included furnishing and installing four vertical centrifugal pumps, motors, discharge valves, transformers, and appurtenant electrical and mechanical equipment, was completed during this reporting period. Punch list work and close-out of the contracts remain. With completion of the enlargement, the plant has a pumping capacity of 10,300 cubic feet per second.

A construction contract for furnishing 480-volt switchgear equipment was awarded in March 1993. This contract is one of several contracts that will enhance the operational capabilities of the plant's peripheral electrical systems.

### Skinner Fish Facility

Construction of additional facilities reported as completed during the previous period was extended because of added work. The additional work involves furnishing additional flowmeters and is scheduled for completion in January 1994.

### Rock Barriers at Old River and Middle River

The annual temporary barriers at Old River and Middle River were constructed and removed as required under various agree-

ments. The purposes of this activity are to alternately (1) increase and stabilize water levels associated with agricultural water diversions during the irrigation season, and (2) increase fall flows in the lower San Joaquin River to help migrating salmon and steelhead trout survive.

### South Bay Aqueduct

A contract to furnish and install fiber-optic cables along the aqueduct to upgrade the communication and control system was awarded in April 1993. The contract is scheduled for completion in May 1994.

### South Bay Pumping Plant

One contract to furnish spare pumps and another to furnish spare motors were awarded in October 1992. The pumps contract is scheduled for completion in October 1993. The motors are expected to be shipped in April 1994 with an expected completion date for this contract of May 1994. The new pumps and motors will allow removal of existing units for major repairs and maintenance.

### Miscellaneous Projects

Construction work for modifications to the Delta Operations and Maintenance Center administration building, warehouse, and carpenter shop was performed during this reporting period. The construction included structural work to make facilities accessible to persons with disabilities.

Miscellaneous design activities included modifications to the fish protective facilities at Hood and to Cordelia Forebay spillway as part of the Suisun Marsh program. Preliminary designs for installing rock barriers at Chadbourne and Goodyear Sloughs were also completed. Construction of the Cordelia Forebay spillway modifications is scheduled to begin in late 1993. The temporary rock barriers may be constructed in 1994 depending on permit acquisition.

## San Luis Division

Construction work consisted of (1) furnishing replacement pump impellers for Dos Amigos Pumping Plant, completed in June 1993; (2) replacing the roof at William R. Gianelli Pumping-Generating Plant, scheduled for completion in March 1994; and (3) repairing stone slope protection at B.F. Sisk San Luis Dam, which was completed in December 1992.

## Coastal Branch

A contract to repair the concrete lining and seal the embankment along the Coastal Aqueduct at mile 12.85 was let in October 1992 and completed in December 1992. A contract to modify the heating, ventilating, and air conditioning systems at Las Perillas and Badger Hill Pumping Plants was awarded in June 1993 and is scheduled for completion in March 1994.

In September 1992 final design began for the Coastal Branch Phase II facilities. During 1992 design work for 22 contracts was in progress. The first contract for pipeline reach number 1, Devil's Den to Cholame Valley, was advertised for construction bids on September 10, 1993.

Contract administration pertaining to the Coastal Branch Phase II facilities will be under the jurisdiction of the Coastal Project Headquarters in San Luis Obispo. This addition to the Construction Office organization will open for business on July 1, 1993.

## South San Joaquin Division

Projects in the San Joaquin Division involved the Buena Vista, Ira J. Chrisman Wind Gap, Oso, and John R. Teerink Wheeler Ridge Pumping Plants; La Hacienda Extraction Facility; and San Joaquin Operations and Maintenance Center.

### Buena Vista, Chrisman, and Teerink Pumping Plants

Work let through two contracts for furnishing and replacing pump impellers, scheduled to be completed in late 1992, was actually completed in July 1993 because of unexpected construction delays.

Construction contracts to furnish and replace stator coils for the three plants were awarded in October 1992 and are scheduled for completion in July and August 1993.

### La Hacienda Water Extraction Facility

A construction contract let in December 1990 for rehabilitating wells was completed in April 1993.

Construction contracts for rehabilitating well pumps and motors and constructing an additional conveyance facility were completed in April 1993, after being delayed by difficulties in obtaining environmental permits.

### San Joaquin Operations and Maintenance Center

Three construction contracts were awarded between January 1992 and March 1993 for (1) replacing the roof of the administration and training center, (2) modifying the civil maintenance shop and warehouse, and (3) furnishing and installing above-ground fuel storage tanks. The third contract also included similar installations at Lost Hills Operations and Maintenance Subcenter and A.D. Edmonston Pumping Plant. The first contract was completed in October 1992; the other two are scheduled for completion in September and October 1993.

## Tehachapi Division

Division activities included rewinding several pumping unit motors at Edmonston Pumping Plant. The work was completed during this reporting period. A contract to furnish stator coils was awarded in April 1993.

## Mojave Division

Activities in the Mojave Division involved Alamo Powerplant, the California Aqueduct, Mojave Siphon Powerplant, and Pearblossom Pumping Plant and the Pearblossom Operations and Maintenance Subcenter.

### Alamo Powerplant

Based on an analysis of data gathered in 1988 and 1991, the Department's consultants recommended that a new shaft be installed and an existing bearing be stiffened as a possible solution to a shaft vibration problem.

Manufacturing and shop testing of the new generator shaft and new lower generator guide bearing bracket were completed in May 1993. The new shaft assembly arrived at the job site for installation in early June with anticipated completion in August 1993.

### California Aqueduct

Modification of existing check structures from Alamo Powerplant to Mojave Siphon continued during this period.

A contract for enlarging Mojave Siphon was let in March 1992 with a completion date scheduled for February 1995. This work will

provide three new 12-foot diameter pipelines to supply the generating units at Mojave Siphon Powerplant.

### Mojave Siphon Powerplant

Construction of the initial Mojave Siphon Powerplant structure and fabrication of a gantry crane were started in fall 1990 and completed in summer 1993. Construction of the plant's final phase is scheduled for completion in 1995.

Manufacturing the three vertical Francis turbines, generators, and governor for the new Mojave Siphon Powerplant is well under way at various overseas manufacturing facilities.

### Pearblossom Pumping Plant and Subcenter

Completion contract work associated with furnishing and installing appurtenant equipment and other related work for completing the enlargement of Pearblossom Pumping Plant was performed during this reporting period. This work is scheduled for completion in October 1993. Enlargement of the plant, which includes adding three pumping units now and provisions for two additional units in the future, began in October 1990. The plant is scheduled to be in full operation at the end of 1993.

Work on the completion contract for the new discharge line, which involved connecting the discharge line to the manifold at the plant outlet, was completed in November 1992.

Contract work for expanding the Pearblossom Subcenter warehouse was completed in May 1993.

## Santa Ana Division

Activities in the Santa Ana Division involved designing a replacement San Bernardino Tunnel intake, enlarging Devil Canyon Powerplant, placing post-tensioned reinforcement associated with repairs to the Santa Ana Pipeline at various locations, and beginning construction of the Devil Canyon Second Afterbay.

### San Bernardino Tunnel Intake

Design work continues for completing contract drawings to replace the existing San Bernardino Tunnel Intake with a more efficient structure. Construction of the new facility is scheduled to begin in November 1994 and to be completed by June 1996.

### Devil Canyon Powerplant and Second Afterbay

Work for enlarging Devil Canyon Powerplant was completed. The work involved completing the expansion of the plant structure; constructing a second penstock; and installing two turbines, governors and valves, bypass equipment, generators, switch gear, switchboards, 115 kV power circuit breakers, and a penstock butterfly valve.

The two new generating units (numbers 3 and 4) were operational in early fall 1992. Final performance and efficiency testing was completed in early 1993. Analysis of the test data is currently in progress. The new generating units are scheduled to begin commercial operation in 1994.

Work was started in November 1992 for the construction of an 800-acre-foot capacity second afterbay adjacent to Devil Canyon Powerplant to improve downstream water delivery capabilities. Construction is scheduled for completion in late 1994.

### Santa Ana Pipeline

Repairs to a section of the Santa Ana Pipeline located between Day Street and

Ellsworth Street were completed in April 1993. Construction of two vaults to house a new control valve at North Park Boulevard and a removable bulkhead at Sugarloaf Mountain began in June 1993.

### West Branch

Construction work for Vista del Lago Visitors Center and Vaquero Recreational Facility at Pyramid Lake was started in mid-1991 and completed in June 1993.

### Miscellaneous Construction Activities

Miscellaneous construction activities during this reporting period include making repairs and modifications to existing facilities and installing acoustic flow meters at various pumping plants and power plants. See "Miscellaneous Activities" in Table 7-2 for additional information.

## Land and Right-of-Way Activities

In fiscal year 1992–93, the Department spent $14.8 million in excess of credits for earlier sales of surplus property and return of condemnation deposits to acquire land and easement rights. Twenty-three parcels (approximately 3,200 acres) were acquired during this fiscal year. Easement rights over three parcels (12.06 acres) were also acquired. No excess land was sold during this fiscal year.

The total net amount spent to acquire rights-of-way and mitigation lands for SWP through June 30, 1993, was $210 million. The Department also monitored 57 leases, which resulted in a revenue of $546,000 during the 1992–93 fiscal year.

The Department's land and right-of-way program for fiscal year 1992–93 included actions involving the Coastal Branch Phase II, Los Banos Grandes, Mojave and Santa Ana Divisions of the California Aqueduct, North Delta, South Bay, South Delta, West Delta, and Suisun Marsh Facilities. Information about those activities follows.

### Coastal Branch Phase II

The Department recently began acquiring rights-of-way for construction reaches 1 and 2. As of June 30, 1993, pipeline and access road easement (12.06 acres) had been obtained over three parcels for $3,350. One 10-acre parcel was acquired in fee for $2,500. Four parcels were condemned at the May 1993 meeting of the California Water Commission because the Department was unable to reach a settlement with the owners of the parcels before the construction contract advertisement date. The condemned parcels are located at the Devil's Den Pumping Plant site and in the right-of-way for the pipeline and access roads within construction reach 1.

The Department acquired rights to enter 38 parcels to conduct geological, archeological, and environmental studies necessary for design studies and regulatory permits. To date, over 600 temporary entry permits have been obtained for this project.

### Los Banos Grandes

The Department completed acquisition of Los Banos Grandes mitigation lands at Orestimba Creek adjacent to Interstate 5. In fiscal year 1992–93, 10 parcels equivalent to 1,693 acres were purchased for $9,137,400. The Department now owns 1,733 acres at a cost of $10.1 million.

The Department acquired rights to enter 80 parcels to conduct geological, archeological, and environmental studies necessary for design studies and regulatory permits.

## Mojave Division

Two parcels of land were acquired at the request of the Division of Operations and Maintenance. The parcels are adjacent to the California Aqueduct, near Palmdale, and will be used in conjunction with aqueduct stabilization activities. The two parcels total 5.2 acres and were acquired at a cost of $111,000.

## North Delta

A 103-acre parcel was purchased on Twitchell Island at a cost of $220,716. The Department now owns almost 85 percent of the island.

The Department purchased a 488-acre parcel in the Cosumnes River area at a cost of $1,492,800. This parcel will be used as a borrow/mitigation site for the North Delta Program and other Department activities.

Fifty-nine permits to install seepage monitoring wells along the Mokelumne River were obtained for the North Delta Program. The permits allow the Department to monitor the sites for 10 years.

Six permits were obtained to drill exploratory holes to gauge soil stability as part of the Delta Seismic Stability Program.

## Santa Ana Division-Devil Canyon Second Afterbay

An agreement was reached during pretrial negotiations for condemnation of one remaining parcel of land needed for this project. A sum of $1,315,000 was paid for the 31.74-acre parcel located at the afterbay site.

## South Bay

The Department obtained temporary entry permits to conduct San Joaquin kit fox studies in 70 parcels along the alignment for installation of the South Bay Aqueduct fiber-optic cable. The studies are part of the regulatory permit process. The Department initiated court action to obtain entry to two other parcels to which the landowners had denied access. However, an agreement was ultimately reached with the landowners.

## South Delta

Five temporary entry permits were obtained to construct the Georgiana Slough temporary rock barriers. Two permits were renewed, one for the Middle River seasonal tide barrier and the other for the Old River temporary rock closure. Three renewals were obtained for the Grant Line drought barrier.

Eight temporary entry permits were obtained at various sites in the south and north Delta area to determine if material dredged from Clifton Court Forebay could be disposed on the back side of existing levees.

## Suisun Marsh Facilities

Two temporary entry permits were obtained for construction of a temporary rock barrier at the confluence of Chadbourne and Wells Sloughs. In addition, two permits were obtained for access rights needed for construction and maintenance of the Goodyear Slough temporary rock barrier.

## West Delta

The Department purchased seven parcels of land on Sherman Island for the West Delta Program. The total cost was $2,585,780 for a total of 871 acres. Further negotiations to purchase additional parcels from willing sellers continue.

TABLE 7-1

## Design Activities, July 1992 through June 1993, by Division

| *Construction Division and Facility* | *Construction Contract* | *Date Design Began* | *Design Completion Date* |
|---|---|---|---|
| **North San Joaquin Division** | | | |
| Harvey O. Banks Delta Pumping Plant | Replace 480 V switchgear and install station transformer | February 1992 | September 1992 |
| | Repair main plant access road slide | May 1993 | January 1994 |
| | Furnish seat rings for 54-inch valve | December 1992 | May 1993 |
| Chadbourne Slough | Construct rock barrier | December 1992 | April 1993 |
| Control System Replacement | Install remote terminal unit | February 1992 | July 1992 |
| Cordelia Forebay | Modify spillway | December 1992 | April 1993 |
| Delta Operations and Maintenance Center | Modify administration building | December 1991 | September 1992 |
| Georgiana Slough | Construct floating dock system | July 1992 | September 1992 |
| | Construct rock barrier | July 1992 | November 1992 |
| Goodyear Slough | Construct rock barrier | December 1992 | April 1993 |
| Hood | Construct fish protection facilities | July 1992 | May 1993 |
| Intake Channel Road | Repave road | April 1993 | May 1993 |
| Middle River | Reconstruct tidal barrier VI | October 1992 | January 1993 |
| Morrow Island distribution system | Remove M-Line ditch sediment | December 1992 | March 1993 |
| Old River at Delta Mendota Canal | Construct rock barrier | November 1992 | January 1993 |
| Old River at head | Construct rock barrier, spring 1993 | November 1992 | January 1993 |
| South Bay Aqueduct communication system | Install fiber-optic cable | December 1990 | January 1993 |
| South Bay Pumping Plant | Furnish 5 kV switchgear | July 1992 | June 1993 |
| Tuolumne River | Reroute river course | May 1993 | May 1993 |
| **San Luis Division** | | | |
| Delta and San Luis Operations and Maintenance Centers, Coalinga Operations and Maintenance Subcenter | Furnish above-ground fuel storage tanks | January 1993 | July 1993 |
| Control system replacement | Install remote terminal unit | February 1992 | July 1992 |
| Secondary operating road | Seal-coat roads | April 1993 | May 1993 |
| William R. Gianelli Pumping-Generating Plant | Replace roofing | April 1992 | February 1993 |
| | Install remote terminal unit | September 1992 | April 1993 |
| **Coastal Branch Phase II** | | | |
| *Pipeline Reaches* | | | |
| Devil's Den to Cholame Valley | Construct pipeline reach number 1 | September 1992 | May 1993 |
| Cholame Valley to Shedd Canyon | Construct pipeline reach number 2 | September 1992 | June 1993 |
| Shedd Canyon to Salinas River | Construct pipeline reach number 3 | January 1993 | November 1993 |
| Salinas River to San Luis Obispo Powerplant | Construct pipeline reach number 4 | June 1993 | April 1994 |
| City of San Luis Obispo | Modify Cuesta Tunnel | September 1992 | December 1993 |
| Devil's Den, Bluestone, Polonio Pass, and Casmalia Pumping Plants | Furnish pumping units | November 1992 | May 1993 |
| Devil's Den, Bluestone, Polonio Pass, Casmalia Pumping Plants and San Luis Obispo Powerplant | Furnish and install bridge cranes | March 1993 | September 1993 |
| Devil's Den to Casmalia | Furnish power circuit breakers | November 1992 | January 1994 |
| | Furnish power transformers | February 1993 | February 1994 |
| | Furnish switchgear for pumping plants | January 1993 | January 1994 |
| Devil's Den to Phase II terminus | Furnish standby engine/generators | March 1993 | October 1994 |
| Devil's Den to Polonio Pass | Construct three pumping plants—initial contract | November 1992 | July 1993 |
| Devil's Den to Vandenberg AFB | Furnish energy dissipator valves | September 1992 | May 1993 |
| | Furnish shutoff valves | September 1992 | August 1993 |
| | Furnish butterfly and control valves | December 1992 | May 1993 |
| | Furnish fiber-optic cable | January 1993 | April 1993 |
| | Furnish control systems | March 1993 | July 1994 |
| | Furnish and install flowmeters | April 1993 | July 1994 |
| Polonio Pass | Construct tank 1 | September 1992 | August 1993 |
| San Luis Obispo Powerplant | Furnish bypass valve | September 1992 | May 1993 |
| | Furnish turbine governor and controls | February 1993 | August 1994 |
| | Furnish switchboards and switchgear | January 1993 | July 1994 |

TABLE 7-1

## Design Activities, July 1992 through June 1993, by Division (Continued)

| *Construction Division and Facility* | *Construction Contract* | *Date Design Began* | *Design Completion Date* |
|---|---|---|---|
| **South San Joaquin Division** | | | |
| Coastal Branch Phase I | Repair leak at milepost 12.85 | June 1992 | August 1992 |
| Control system replacement | Install remote terminal unit | November 1991 | September 1992 |
| A.D. Edmonston Pumping Plant | Furnish motor stator coils 80,000 HP units | October 1991 | December 1992 |
| | Furnish specifications for replacement of the 15 kV circuit breaker | January 1992 | January 1993 |
| | Modify units W2, W4, W6, and W8 | October 1992 | March 1993 |
| A.D. Edmonston Pumping Plant, San Joaquin and Lost Hills Operations and Maintenance Centers | Furnish above-ground fuel storage tanks | May 1991 | August 1992 |
| Kern Water Bank | Rehabilitate pumps and motors, Kern Fan Element, stage 1 | July 1991 | August 1993 |
| | Construct conveyance facility, Kern Fan Element, stage 1 | July 1991 | August 1993 |
| La Hacienda Water Extraction Facility | Complete conveyance system | March 1992 | July 1992 |
| | Expand facilities | July 1992 | October 1992 |
| Las Perillas and Badger Hill Pumping Plants | Modify HVAC | March 1992 | October 1992 |
| Lost Hills Operations and Maintenance Subcenter, San Joaquin, Pearblossom, and Southern California Operations and Maintenance Centers, A. D. Edmonston Pumping Plant, Oso Pumping Plant maintenance yard, Cedar Springs Dam maintenance station | Remove underground storage tanks | December 1992 | July 1993 |
| Pearblossom and Southern California Operations and Maintenance Centers | Furnish fuel storage tanks | September 1992 | March 1993 |
| John R. Teerink Wheeler Ridge Pumping Plant | Furnish two sets of stator coils (small units) | August 1991 | November 1992 |
| **Mojave Division** | | | |
| Mojave Siphon Powerplant | Execute completion contract | July 1989 | October 1992 |
| | Furnish and install flow meters | July 1992 | May 1993 |
| Pearblossom Operations and Maintenance Subcenter, Southern California Operations and Maintenance Center, Oso Pumping Plant maintenance yard, and Cedar Springs Dam maintenance station | Furnish above-ground fuel storage tanks | September 1992 | March 1993 |
| Pearblossom Pumping Plant | Install remote terminal unit | September 1992 | April 1993 |
| **Santa Ana Division** | | | |
| San Bernardino Tunnel | Construct intake structure | May 1991 | January 1994 |
| Santa Ana Valley Pipeline | Modify North Park Boulevard and Sugarloaf Mountain pipelines | August 1992 | March 1993 |
| **West Branch** | | | |
| Gorman Creek Quail Canal | Modify channel | June 1993 | June 1993 |
| Southern California Operations and Maintenance Center | Replace administration and civil maintenance building roof | May 1992 | February 1993 |
| **Miscellaneous Activities** | | | |
| Department of Water Resources Data Center | Modify 7th floor, Resources Building | July 1990 | September 1994 |
| Water Operations Center | Construct new building | July 1986 | Project on hold |

TABLE 7-2

## Construction Activities, July 1992 through June 1993, by Division

| *Construction Division and Facility* | *Construction Contract (Specification Number)* | *Starting Date* | *Ending Date* | *Contract Costs (Thousands of dollars)* |
|---|---|---|---|---|
| **Oroville Division** | | | | |
| Oroville Complex | Complete installation of fiber-optic cable, Phase II (93-13) | June 1993 | November 1993 | 138 |
| Thermalito Powerplant | Furnish 13.8 kV breakers (91-22) | October 1991 | July 1992 | 350 |
| **North San Joaquin Division** | | | | |
| Harvey O. Banks Delta Pumping Plant | Install four centrifugal pumps (87-18) | September 1987 | July 1992 | 7,600 |
| | Install pump discharge valves (88-25) | September 1988 | July 1992 | 4,900 |
| | Execute completion contract (89-09) | August 1989 | June 1992 | 8,550 |
| | Furnish 480-volt switchgear (92-32) | March 1993 | March 1994 | 339 |
| Miscellaneous Activities | Reconstruct tidal barrier V, Middle River (92-03) | March 1992 | October 1992 | 41 |
| | Replace rock barrier, Old River at Delta-Mendota Canal, San Joaquin Division (92-06) | April 1992 | October 1992 | 173 |
| | Replace rock barrier, spring 1992, Old River at San Joaquin River (92-07) | April 1992 | July 1992 | 114 |
| | Replace civil maintenance warehouse and carpenter shop roof (92-13) | August 1992 | November 1992 | 35 |
| | Install temporary closure, fall, Old River at head (92-20) | August 1992 | January 1993 | 31 |
| | Apply seal coat, Clifton Court Forebay (92-23) | October 1992 | November 1992 | 28 |
| | Furnish floating dock system (92-26) | November 1992 | April 1993 | 28 |
| | Modify administration building, Delta Operations and Maintenance Center (92-31) | January 1993 | June 1993 | 154 |
| | Reconstruct tidal barrier VI, Middle River (92-02) | May 1993 | September 1993 | 30 |
| | Construct rock barrier, Old River at Delta Mendota Canal (93-04) | May 1993 | November 1993 | 190 |
| John E. Skinner Delta Fish Protective Facility | Construct new holding tank building and make improvements, Phase II (90-35) | December 1990 | January 1994 | 4,537 |
| | Modify control and vehicle storage buildings, Phase III (92-01) | May 1992 | December 1993 | 315 |
| South Bay Aqueduct | Install communication system (93-05) | April 1993 | May 1994 | 2,500 |
| South Bay Pumping Plant | Furnish motors (92-19) | October 1992 | October 1993 | 2,000 |
| | Furnish pumps (92-18) | October 1992 | October 1993 | 1,400 |
| **San Luis Joint Use Facilities** | | | | |
| William R. Gianelli Pumping-Generating Plant | Replace roofing (93-06) | June 1993 | March 1994 | 180 |
| Miscellaneous | Strengthen stone slope protection, B.F. Sisk San Luis Dam (92-22) | October 1992 | December 1992 | 152 |
| **Coastal Branch** | | | | |
| Miscellaneous | Repair seepage, mile 12.85 (92-25) | November 1992 | November 1992 | 30 |
| **South San Joaquin Division** | | | | |
| Buena Vista Pumping Plant | Furnish stator coils, 17,000 HP and 8,500 HP units (92-21) | October 1992 | August 1993 | 427 |
| Ira J. Chrisman Wind Gap and Oso Pumping Plants | Replace pump impellers (88-14) | July 1988 | July 1993 | 3,897 |
| Ira J. Chrisman Wind Gap Pumping Plant | Furnish motor stator coils, 44,000 HP units (92-12) | October 1992 | July 1994 | 873 |
| Miscellaneous Activities | Civil maintenance shop and warehouse, San Joaquin Operations and Maintenance Center (92-28) | February 1992 | April 1993 | 450 |
| | Replace administration and training center roof, Operations and Maintenance Center (92-10) | August 1992 | October 1992 | 170 |

TABLE 7-2

## Construction Activities, July 1992 through June 1993, by Division (Continued)

| *Construction Division and Facility* | *Construction Contract (Specification Number)* | *Starting Date* | *Ending Date* | *Contract Costs (Thousands of dollars)* |
|---|---|---|---|---|
| Miscellaneous Activities (continued) | Complete conveyance system, La Hacienda water extraction facility (92-24) | October 1992 | April 1993 | 372 |
| | Expand facilities conveyance system, La Hacienda water extraction facility (92-27) | November 1992 | April 1993 | 350 |
| | Furnish above-ground fuel storage tanks (92-29) | March 1993 | September 1993 | 360 |
| John R. Teerink Wheeler Ridge and Buena Vista Pumping Plants | Replace pump impellers (88-13) | July 1988 | July 1993 | 6,380 |
| John R. Teerink Wheeler Ridge Pumping Plant | Furnish stator coils, 20,000 HP units (92-17) | October 1992 | July 1993 | 240 |
| **Tehachapi Division** | | | | |
| A. D. Edmonston Pumping Plant | Rewind stator, units 6 and 8 (90-07) | March 1990 | March 1993 | 1,120 |
| | Rewind stator, unit 1 (90-36) | October 1990 | January 1993 | 483 |
| | Furnish motor stator coils, 80,000 HP units (93-01) | April 1993 | September 1994 | 845 |
| **Mojave Division** | | | | |
| Alamo Powerplant (a | Work on turbine (80-16) | October 1980 | September 1993 | 2,800 |
| | Work on generator (83-14) | August 1983 | September 1993 | 299 |
| | Furnish acoustic flow meter (84-07) | April 1984 | September 1993 | 108 |
| *East Branch Enlargement* | | | | |
| Canals and siphons | Construct third barrel, Antelope Siphon (90-44) | March 1991 | August 1992 | 4,650 |
| | Construct second pipeline, Mojave Siphon (91-33) | March 1992 | February 1995 | 51,000 |
| Miscellaneous | Expand warehouse, Pearblossom Operations and Maintenance Subcenter (92-14) | August 1992 | May 1993 | 614 |
| Mojave Siphon Powerplant | Manufacture turbines, generators, and governors (89-13) | August 1989 | December 1994 | 14,482 |
| | Execute initial contract (90-22) | October 1990 | March 1994 | 22,600 |
| | Construct 75-ton gantry crane (90-38) | December 1990 | October 1992 | 794 |
| | Furnish butterfly valves (91-15) | August 1991 | September 1993 | 3,151 |
| | Furnish control switchboards (91-31) | March 1992 | November 1993 | 769 |
| | Furnish switchgear, motor control center, station service substation, transformer, and load bank (91-34) | April 1992 | December 1993 | 773 |
| | Furnish power transformer (92-15) | December 1992 | March 1994 | 451 |
| | Complete Mojave Siphon Powerplant (92-30) | February 1993 | September 1995 | 6,800 |
| Pearblossom Pumping Plant Enlargement, Phase II | Install vertical centrifugal pumps (87-04) | May 1987 | October 1993 | 2,800 |
| | Install motors (87-48) | June 1988 | October 1993 | 9,600 |
| | Install pump discharge valve units (88-18) | July 1988 | December 1992 | 1,523 |
| | Initial contract (88-17) | August 1988 | May 1992 | 22,410 |
| | Install switchgear (88-30) | September 1988 | September 1990 | 946 |
| | Install bridge cranes (88-37) | September 1988 | March 1992 | 574 |
| | Install power transformer (89-33) | October 1989 | May 1993 | 758 |
| | Execute completion contract (89-36) | November 1989 | August 1993 | 10,830 |
| | Complete third discharge line (90-02) | March 1990 | November 1992 | 6,400 |
| **Santa Ana Division** | | | | |
| *East Branch Enlargement* | | | | |
| Devil Canyon Powerplant Enlargement | Install bypass equipment, sleeve valve (87-05) | July 1987 | January 1993 | 391 |
| | Install turbines, governors, and valves (87-15) | July 1987 | May 1992 | 10,200 |
| | Install generators (88-47) | May 1989 | July 1992 | 9,500 |
| | Install switchboards (89-04) | June 1989 | February 1992 | 560 |
| | Install power transformers (89-32) | October 1989 | August 1992 | 1,890 |
| | Install penstock butterfly shutoff valve (89-46) | December 1989 | April 1992 | 1,032 |

a) Final completion dates cannot be determined until turbine/generator shaft bearing and vibration problems are resolved.

TABLE 7-2

## Construction Activities, July 1992 through June 1993, by Division (Continued)

| *Construction Division and Facility* | *Construction Contract (Specification Number)* | *Starting Date* | *Ending Date* | *Contract Costs (Thousands of dollars)* |
|---|---|---|---|---|
| Devil Canyon Powerplant Enlargement (continued) | Execute completion contract (90-20) | August 1990 | May 1993 | 13,400 |
| | Install butterfly valves (91-15) | August 1991 | December 1993 | 3,151 |
| | Construct Devil Canyon Second Afterbay (92-16) | November 1992 | November 1994 | 49,100 |
| **West Branch** | Construct Vista del Lago Visitors Center (91-16) | July 1991 | June 1993 | 3,400 |
| | Construct Vaquero Recreational Facility (91-04) | September 1991 | April 1993 | 2,370 |
| **Miscellaneous Activities** | Furnish multiplant acoustic flow meters: Oroville, Delta, San Luis, San Joaquin, and Southern Field Divisions (89-28) | July 1989 | December 1993 | 5,176 |
| | Repair electrical power apparatus, Oroville, Delta, and San Luis Field Divisions (89-31) | August 1989 | November 1992 | 2,894 |
| | Replace pump impeller: Banks and Dos Amigos Pumping Plants (89-35) | October 1989 | June 1993 | 7,285 |
| | Make machining and mechanical repairs, Southern and San Joaquin Field Divisions (89-29) | October 1989 | February 1993 | 119 |
| | Excavate and repair pipe, Santa Ana Valley Pipeline, Day Street to Ellsworth Street (91-36) | December 1991 | December 1992 | 4,650 |
| | Modify site and install remote terminal unit, Southern Field Division (92-04) | May 1992 | June 1993 | 510 |
| | Furnish fiber-optic cable, Phase II, Oroville Division (91-29; 93-13) | June 1993 | November 1993 | 125 |
| | Modify HVAC, Las Perillas and Badger Hill Pumping Plants (93-07) | June 1993 | March 1994 | 7,126 |
| | Modify Santa Ana Valley Pipeline, North Park Boulevard to Sugarloaf Mountain | June 1993 | February 1994 | 4,680 |

# 8. Ensuring Safety of Facilities

The Department of Water Resources, through the Division of Operations and Maintenance, monitors the performance of State Water Project facilities to ensure that they are safe and reliable.

Operations and Maintenance staff continually collects and evaluates data relating to the performance of each facility. The Division of Safety of Dams inspects and evaluates SWP dams[1] at least once a year to ensure each dam is safe. The inspections include, among other things, reviewing instrumentation data of each dam. Also, engineers from that division evaluate future modifications to existing dams and the design and construction of new dams which are subject to Division of Safety of Dams approval.

Although Department staff continually inspects and maintains SWP dams, aqueducts, and other facilities, the Department is also required to contract periodically with independent consultants to review the safety of most SWP dams and power facilities.

This chapter includes information about the Department's inspection and maintenance activities as well as information about the activities of independent consultants and federal agencies.

[1]The federal/state joint-use facilities at San Luis, O'Neill, Little Panoche, and Los Banos are inspected and evaluated separately by the Division of Operations and Maintenance and USBR.

## Inspection and Maintenance

Between July 1, 1992, and June 30, 1993, Department personnel inspected and performed routine and scheduled maintenance on all SWP facilities. Inspection findings for 1992 were consolidated in an annual inspection report published by the Division of Operations and Maintenance.

### Inspection of Facilities

The Division of Operations and Maintenance performed the following tasks related to individual facilities. Information about those tasks is arranged alphabetically according to name of facility.

#### Bethany Dam

In October 1990 members of an independent consulting board and Department personnel noted cracking along the crests of Bethany Dam One and Bethany Dam Two. This cracking suggested that the abutment common to both dams had been exposed to differential displacements. To closely monitor those displacements, in late 1991 the Department installed several settlement monuments and slope indicators at the common abutment to supplement those already

in place. Since then, the instruments have been monitored by Department engineers to determine possible remedial procedures. This evaluation continues.

## Grizzly Valley Dam

In September 1992 the Division of Design and Construction conducted a field investigation of Grizzly Valley Dam to determine the extent of deterioration due to weathering of the rockfill shell zones, especially in the downstream face of the dam. The rockfill shell is partially composed of andesite, which has weathered extensively since the dam's construction. The Division of Design and Construction concluded that weathering of the rockfill does not extend to a depth that would affect the safety of the structure. The Division of Safety of Dams concurred with this finding. No further investigation will be performed.

In 1992, during an independent consulting board's periodic review of the dam, concern arose that the outlet conduit was acting as a barrier to seepage exiting the downstream shell of the dam. As a result, the board recommended that the Department consider installing an additional piezometer in the dam near the outlet to monitor water levels at the toe of the dam. The Division of Design and Construction performed a study and concluded that adding the piezometer was unnecessary. The Divisions of Operations and Maintenance and Safety of Dams agreed.

## Oroville Dam

The Division of Design and Construction evaluated (Memorandum Report, October 1992) all the hydraulic instrumentation tubing and the horizontal measuring devices at Oroville Dam. As a result, the Division of Design and Construction, in concurrence with the Division of Operations and Maintenance, proposed that readings of the horizontal movement devices be discontinued because those devices have outlived their useful life and no longer provide meaningful data. The two divisions have also proposed that designated hydraulic instrumentation tubing at the dam be filled with grout to prevent potential seepage. The Division of Safety of Dams has reviewed these proposals.

On a routine inspection of the Oroville Dam Spillway structure in June 1992, Department personnel found that a prestressed anchor in one of the radial gate trunnions had failed, and another anchor in a trunnion of a second gate appeared defective. Department engineers studied the problem and concluded that because of the redundancy of the trunnion's design, safety of the gates was not impaired. Additional maintenance and increased monitoring programs for the radial gate anchors have been implemented by the Department.

## Patterson Dam

Dewatering Patterson Reservoir for inspection and cleaning the reservoir lining was completed in November 1992 after postponement of several months due to environmental concerns. The inspection identified a need for minor maintenance, which was performed immediately.

## San Bernardino Tunnel Intake Tower

The seismic stability of the San Bernardino Tunnel intake tower was evaluated at the recommendation of the 1989 Federal Energy Regulatory Commission consulting team. As a result, the Department concluded that the

tower would be severely distressed during a large earthquake. The Department is proceeding with design drawings to replace the structure. Construction of a new intake tower is scheduled to begin in June 1994 and to be completed by June 1996. Geologic exploration at the new intake tower site as well as environmental assessments began in early 1993. The geologic exploration report is due for completion in July 1993. Environmental assessment work is due for completion in December 1993.

### B. F. Sisk San Luis Dam

In mid-1992 the Division of Operations and Maintenance requested that the Division of Design and Construction's Design Office investigate the dam's instrumentation and test its riprap construction methods. Operations and Maintenance staff initiated these actions to determine (1) the reliability of the piezometer readings, which had been erratic; (2) the origin of the seepage in the piezometer vault; and (3) the cause of displacement of the dam's upstream riprap.

In mid-1993 the Design Office completed those studies and published its findings in a report entitled "Performance Evaluation of B.F. Sisk San Luis Dam." The Design Office concluded that hydraulic piezometer systems had failed, and seepage had resulted from broken hydraulic piezometer tubing behind the vault walls. The Design Office also found that upstream slope riprap was distressed due to wave action in San Luis Reservoir. No deep-seated movement of the dam was evident. The dam was deemed safe for continued full use.

In addition to performing these studies, the Design Office hired a consultant to independently evaluate the dam. The consultant confirmed the Design Office's conclusions. Corrective actions recommended by the Design Office and the consultant are now being implemented.

Department personnel continue to monitor cracks discovered in the dam in 1986. No new cracks have been observed.

## Maintenance of Facilities

Facilities are monitored throughout the year and repairs and modifications are performed to ensure the safe, reliable delivery of water.

Information about those activities, including those involving a section of the California Aqueduct affected by the Arroyo Pasajero watershed, follows.

### Arroyo Pasajero Improvements

The Arroyo Pasajero drains approximately 530 square miles west of the California Aqueduct near Coalinga in Fresno County. During periods of heavy rainfall, the Arroyo Pasajero watershed carries a heavy sediment load, which has been deposited in an alluvial fan covering the Pleasant Valley and extending into the San Joaquin Valley.

Because the California Aqueduct intercepts Arroyo Pasajero's alluvial fan, a retention basin along the aqueduct was designed taking drainage and sediment into account. However, by observing the effects of floods in 1969, the Department discovered that the amount of both the watershed runoff and sediment load was greater than estimated in the original design.

The Department has since developed short-term and long-term actions designed to minimize damage. Information on the Department's activities follows.

### Short-Term Actions

Since 1969 the Department and U.S. Bureau of Reclamation, the agency responsible for designing the section of aqueduct affected by Arroyo Pasajero, have been working to minimize the damage that could occur during heavy flooding. In 1980 a significant amount of asbestos was discovered in runoff from Arroyo Pasajero. The Department has adopted operating procedures to minimize runoff entering the aqueduct.

The Department uses existing facilities to control flood waters at Arroyo Pasajero, mitigate damage to the aqueduct and surrounding lands, and minimize the amount of airborne asbestos and the amount of waterborne asbestos entering the aqueduct.

To minimize airborne asbestos, the Department plants crops on lands owned by USBR and managed by the Department. Waterborne asbestos is not considered a significant hazard because moistened fibers are not easily airborne and subject to inhalation. Waterborne asbestos impacts downstream public water treatment systems that must comply with federal safe drinking water standards. These standards restrict the allowable amounts of asbestos in drinking water. The cost of treatment increases as the fiber content increases.

A draft environmental impact report (EIR) for an interim standard operating procedure (ISOP), published by the Department in June 1993, identifies the preferred alternative for operating the aqueduct and related facilities at Arroyo Pasajero. This alternative enumerates, in order of priority, the designated path of flood waters at the existing retention basin adjacent to the aqueduct.

1. Flood waters would be impounded in the existing basin north of Gale Avenue.
2. If the water level continues to rise in the existing basin, flood waters would be directed south of Gale Avenue to provide a 500 percent increase in westside ponding capacity.
3. If the water level in those basins continues rising, the evacuation culvert would be opened, allowing flood waters to flow east of the aqueduct.
4. If the water level increases further, the inlet gates that allow flow into the aqueduct would be opened.

Public comments on the draft EIR are currently being addressed, and a final draft of the EIR for ISOP is scheduled for completion in summer 1994. Once approved, the ISOP will govern operations at Arroyo Pasajero, including provisions for protecting the aqueduct from a 100-year-storm flood until a permanent solution can be identified.

### Long-Term Actions

At the request of SWP contractors, all studies performed by the Department to pursue an independent solution of the Arroyo Pasajero drainage problem have been suspended until the U.S. Army Corps of Engineers completes its examination of the entire watershed. In the meantime, the Department will continue to rely on existing facilities to protect the aqueduct.

The Corps completed the Arroyo Pasajero Reconnaissance Report for flood control in November 1992. This report has been certified in Washington, D.C., which constitutes approval to proceed with the feasibility study. The objective of the feasibility study is to further evaluate flood control alternatives for Arroyo Pasajero and arrive at the preferred plan. Alternatives for the reconnaissance report will be evaluated in greater detail as will other potentially viable flood control solu-

tions. The feasibility study will take the chosen alternative to a preliminary design level with a fully developed concept. The study is scheduled for completion in September 1997.

After signing the initial project management plan and the federal cost sharing agreement, the Department and the Corps started the joint feasibility study in January 1994. The study will run through 1997 with a projected cost of $4.66 million. The Department, as local sponsor, is committed to 50 percent of the total study cost; further, the Department will supply one-half of its commitment as in-kind services within the various study tasks. The Department and USBR have concurred that the feasibility study is consistent with the intent of the existing Agreement for Operation of Joint Use Facilities governing the San Luis Unit of the SWP. Therefore, USBR has indicted its intent to share in the Department's study cost pursuant to the Joint-Use Agreement.

### Repairs and Modifications

Table 8-1 includes information, arranged chronologically, about significant maintenance activities at SWP pumping plants and power plants.

The table includes information about incidents resulting in outages exceeding 120 hours and may be found at the end of this chapter.

## Independent Reviews

The Department periodically employs consultants to independently review the safety and to assess the conditions of SWP dams, power facilities, and other SWP facilities.

In preparing their reports, consultants review reports and information prepared by Department staff and make physical inspections of facilities. Consultants are selected based on their geotechnical, structural, and civil engineering expertise and their knowledge of and expertise in inspecting dams. The Department then prepares action plans based on consultants' recommendations.

Consultants perform the following reviews for the Department.

1. To comply with FERC regulations, consultants review FERC-licensed dams and power generation facilities owned by the Department. These reviews, which may be conducted by one or more consultants, are conducted every five years.

- The Department and the United States Bureau of Reclamation jointly retained a board of two consultants to review the adequacy of the design and construction of seismic remedial measures for O'Neill Dam. This dam was determined to be founded on liquefiable soils along certain reaches of the dam. Remediation consisted of removing and replacing portions of the foundations along the downstream toe of the dam and constructing stabilization berms. The final report of this board, dated July 14, 1992, concludes that the design deficiencies and liquefaction issues were satisfactorily remediated.

2. To comply with the *Water Code*, consultants are required to review the safety of a dam when it undergoes a major modification or the certificate of approval is issued or renewed. The Department retained a board of three consultants to review the adequacy of the design and construction of Devil Canyon Second Afterbay. This consulting board makes independent findings about conditions that may affect the safety of the dam and reservoir, and determines that the dam is safe to impound water. Since February 1990, thirteen consulting board meetings and inspections have been conducted. The final meeting

is expected to follow the end of construction, currently scheduled for December 1994.

3. To comply with the California *Water Code* pertaining to supervision of dams and reservoirs, an independent review board of consultants evaluates the safety and operational performance of all Department-owned dams. Facilities must be evaluated every 5 years.

- In May 1993 Cedar Springs and Perris Dams were reviewed and found to be safe for continued use.

In addition to these reviews, the Department retained an independent consultant to review the conclusions and recommendations of the Department's report "Performance Evaluation of B.F. Sisk San Luis Dam." The consultant concluded that the dam is safe for continued operation based on review of design, construction and performance data, site inspection and results and analysis of recent investigations.

TABLE 8-1

## Outages for Maintenance and Repair of Facilities in 1992, by Month

| *Month* | *Facility* | *Description* |
|---|---|---|
| January 1992 | Harvey O. Banks Delta Pumping Plant | Unit 8 out of service from January 1 to January 31 to install insulation on cooling water piping. Unit 9 out of service from January 28 to February 4 to install insulation on cooling water piping. |
| | Buena Vista Pumping Plant | Unit 3 out of service from January 1 to September 14 to repair and test scroll case and replace impeller. Unit 9 out of service from January 16 to August 17 for annual preventive maintenance and to replace impeller. |
| | Del Valle Pumping Plant | Unit 1 out of service from January 10 to February 7 to repair rusted piping on discharge side of pump. |
| | A. D. Edmonston Pumping Plant | Unit 3 out of service from January 1 to October 26 to repair impeller. Unit 2 out of service from January 8 to January 24 for annual relay preventive maintenance. |
| | William R. Gianelli Pumping-Generating Plant | Unit 7 out of service from January 20 to February 11 for annual preventive maintenance. |
| | Edward Hyatt Powerplant | Unit 2 out of service from January 2 to March 24 for annual preventive maintenance. Unit 1 out of service from January 15 to March 16 to replace upstream seats on all three discharge valves and perform annual preventive maintenance. |
| | Las Perillas Pumping Plant | Unit 6 out of service from January 24 to March 23 to rebuild trash racks. |
| | Oso Pumping Plant | Unit 7 out of service from January 1 to December 16 to replace impeller and the upstream and downstream seats on the discharge valve. |
| | Pearblossom Pumping Plant | Unit 6 out of service from January 13 to March 6 for annual preventive maintenance. |
| | South Bay Pumping Plant | Unit 3 out of service from January 1 to January 16 for annual preventive maintenance. |
| February 1992 | Harvey O. Banks Delta Pumping Plant | Unit 5 out of service from February 27 to March 3 to inspect piezometer ring. |
| | Devil Canyon Powerplant | Unit 2 out of service from February 3 to March 5 for annual electrical and mechanical preventive maintenance. Unit 1 out of service from February 10 to March 30 to disconnect all alarms and reconnect to new alarm panel. |
| | Las Perillas Pumping Plant | Unit 2 out of service from February 4 to February 11 for annual preventive maintenance. Unit 3 out of service from February 14 to March 10 for annual electrical and mechanical preventive maintenance. |
| | Oso Pumping Plant | Unit 2 out of service from February 18 to March 5 to repair piezometer ring leaks. |
| | John R. Teerink Wheeler Ridge Pumping Plant | Unit 3 out of service from February 21 to April 27 |
| March 1992 | Harvey O. Banks Delta Pumping Plant | Unit 5 out of service from March 9 to the end of the year for complete disassembly for annual preventive maintenance and to replace the impeller. |
| | Del Valle Pumping Plant | Unit 4 out of service from March 31 to April 21 to replace blown capacitor. |
| | A. D. Edmonston Pumping Plant | Unit 4 out of service March 17 to March 20 to repair an oil leak. Unit 10 out of service from March 26 to March 31 to replace trash rack anodes. |
| | Las Perillas Pumping Plant | Unit 5 out of service from March 24 to May 22 to rebuild the trash racks. |
| | Pearblossom Pumping Plant | Unit 3 out of service from March 9 to March 23 for annual preventive maintenance and to replace disxcharge valve "O" ring. |
| | Thermalito Powerplant | Unit 1 out of service from March 16 to April 1 for annual preventive maintenance. |

TABLE 8-1

## Outages for Maintenance and Repair of Facilities in 1992, by Month (Continued)

| *Month* | *Facility* | *Description* |
|---|---|---|
| April 1992 | Harvey O. Banks Delta Pumping Plant | Unit 8 out of service from April 8 to April 14 to rewire switch gear control circuits. Unit 9 out of service from April 13 to April 16 to rewire switch gear control circuits. |
| | Ira J. Chrisman Wind Gap Pumping Plant | Unit 2 out of service from April 14 to May 3 to repair air release line. |
| | Dos Amigos Pumping Plant | Unit 3 out of service from April 5 to April 13 to check plumbing of unit and measure the air gap in the rotor. Unit 4 out of service from April 8 to April 13 for annual relay preventive maintenance. Unit 5 out of service from April 14 to April 17 for annual preventive maintenance of the unit's relay. |
| | John R. Teerink Wheeler Ridge Pumping Plant | Unit 1 out of service from April 27 to the end of the year to refurbish scroll case and install new impeller. |
| | Thermalito Powerplant | Unit 2 out of service from April 2 to April 16 for annual preventive maintenance. Unit 3 out of service from April 20 to May 4 for annual preventive maintenance. |
| | William E. Warne Powerplant | Unit 1 out of service from April 13 to April 29 for annual preventive maintenance. |
| May 1992 | Harvey O. Banks Delta Pumping Plant | Unit 1 out of service from May 15 to May 22 for annual preventive maintenance and to paint pump alcove. Unit 4 out of service from May 20 to May 27 to paint pump alcove. |
| | Buena Vista Pumping Plant | Unit 6 out of service from May 13 to May 29 for annual relay preventive maintenance. |
| | Ira J. Chrisman Wind Gap Pumping Plant | Unit 8 out of service from May 3 to May 27 to replace pump bearing. |
| | Del Valle Pumping Plant | Unit 3 out of service from May 30 to year's end to machine pump shaft and install new mechanical seals. |
| | Dos Amigos Pumping Plant | Unit 2 out of service from May 11 to May 14 for balance testing. |
| | A.D. Edmonston Pumping Plant | Unit 5 out of service from May 8 to May 11 to repair solenoid switch. |
| | Pearblossom Pumping Plant | Units 4, 5, and 6 out of service from May 12 to June 19 to drill 40 foot piling holes for new surge chamber on penstock. |
| | Thermalito Powerplant | Unit 4 out of service from May 5 to May 22 for annual preventive maintenance. |
| | William E. Warne Powerplant | Unit 2 out of service from May 4 to August 1 for annual preventive maintenance. |
| June 1992 | Buena Vista Pumping Plant | Unit 7 out of service from June 1 to June 12 for annual relay preventive maintenance. Unit 8 out of service from June 24 to July 2 for annual relay preventive maintenance. |
| | Ira J. Chrisman Wind Gap Pumping Plant | Unit 3 out of service from June 15 to June 19 to repair leak in bypass line. |
| | South Bay Pumping Plant | Unit 1 out of service from June 19 to December 15 for repairs. |
| | William E. Warne Powerplant | Unit 2 out of service from June 1 to June 12 to calibrate relays. |
| July 1992 | Dos Amigos Pumping Plant | Unit 5 out of service from July 30 to November 19 to repair burned field straps. |
| | Pearblossom Pumping Plant | Unit 4 out of service from July 6 to July 29 for annual preventive maintenance. |
| | William E. Warne Powerplant | Unit 1 out of service from July 27 to July 29 to repair cracked insulator bushing. |
| August 1992 | Harvey O. Banks Delta Pumping Plant | Unit 10 out of service from August 10 to November 16 for motor efficiency testing; uncoupled. Unit 11 out of service from August 10 to August 18 to modify cooling water supply lines. |
| | Buena Vista Pumping Plant | Unit 10 out of service from August 3 to August 19 for annual maintenance. Unit 5 out of service from August 26 to September 11 for annual relay preventive maintenance. |

TABLE 8-1

## Outages for Maintenance and Repair of Facilities in 1992, by Month (Continued)

| *Month* | *Facility* | *Description* |
|---|---|---|
| August 1992 (continued) | Ira J. Chrisman Wind Gap Pumping Plant | Unit 7 out of service from August 3 to August 7 to replace backfill and recirculation valves. Units 1,2, and 3 out of service from August 24 to August 28 to replace backfill and recirculation valves. Unit 8 out of service from August 3 to August 21 to replace "O" rings in discharge valve. |
| | William E. Warne Powerplant | Unit 1 out of service from August 8 to August 18 for annual relay preventive maintenance. |
| September 1992 | Harvey O. Banks Delta Pumping Plant | Unit 7 out of service from September 26 to October 9 to repair leak in thrust bearing oil return line. |
| | Buena Vista Pumping Plant | Unit 1 out of service from September 14 to September 25 for annual relay preventive maintenance. |
| | William R. Gianelli Pumping-Generating Plant | Unit 5 out of service from September 2 to November 24 to overhaul roller headgates on discharge line. Unit 6 out of service from September 2 to year's end for annual maintenance; major overhaul. |
| | South Bay Pumping Plant | Unit 3 out of service from September 22 to September 28 for annual inspection and maintenance. |
| October 1992 | Harvey O. Banks Delta Pumping Plant | Unit 3 out of service from October 6 to October 13 to repair leaks in packing box and balance lines. |
| | Ira J. Chrisman Wind Gap Pumping Plant | Unit 2 out of service from October 10 to year's end to replace stator winding. |
| | Edward Hyatt Powerplant | Unit 6 out of service from October 1 to October 30 for annual preventive maintenance. |
| | South Bay Pumping Plant | Unit 5 out of service from October 8 to October 30 to remove and replace the motor. Unit 2 out of service from October 15 to year's end to remove and repair motor. |
| | Thermalito Powerplant | Unit 1 out of service from October 5 to December 17 for annual preventive maintenance. |
| November 1992 | Badger Hill Pumping Plant | Unit 5 out of service from November 3 to November 23 for annual preventive maintenance. |
| | Harvey O. Banks Delta Pumping Plant | Unit 4 out of service from November 11 to November 17 to test new remote telemetering unit. |
| | Ira J. Chrisman Wind Gap Pumping Plant | Unit 4 out of service from November 17 to December 2 for annual preventive maintenance. Unit 7 out of service from November 23 to December 22 to remove, repair, and recoat balance line. |
| | A.D. Edmonston Pumping Plant | Unit 14 out of service from November 7 to November 13 to repair an oil leak. |
| | Edward Hyatt Powerplant | Unit 4 out of service from November 2 to December 21 for annual preventive maintenance. |
| | Oso Pumping Plant | Unit 8 out of service from November 5 to November 7 for annual preventive maintenance. |
| | John R. Teerink Wheeler Ridge Pumping Plant | Units 6, 7, 8, and 9 out of service from November 3 to November 23 for annual electrical maintenance. |
| December 1992 | Devil Canyon Powerplant | Unit 4 out of service from December 14 to December 21 to waterproof the generator breaker. |
| | Dos Amigos Pumping Plant | Unit 3 out of service from December 14 to year's end for biennial maintenance. |
| | Thermalito Powerplant | Unit 2 out of service from December 21 to year's end for annual preventive maintenance. |

# 9. Generating, Buying, and Selling Power

To deliver water to its 29 long-term water service contractors, the State Water Project requires a dependable and economical source of electric power. To obtain that power, the Department of Water Resources has operated SWP as an independent, interconnected utility since 1983; that is, SWP produces power from its own facilities and buys and sells power on the open market.

For the names and locations of SWP facilities as well as facilities from which the Department purchases power, see Figure 9-1 at the end of this chapter.

Through an extensive computerized network, SWP controls the timing of its pumping load. That control system allows the Department to minimize the cost of power it purchases by maximizing pumping during off-peak periods when power costs are lower—usually at night—and to sell power to other utilities during on-peak periods when power costs are high—usually during the day. By taking advantage of this flexibility in timing its pumping load, SWP is able to reduce the cost of power needed to deliver water.

Information about the total energy used by SWP, including energy produced at its own facilities and energy purchased as well as information about energy sold by SWP on the open market, is included in this chapter.

## Total Energy Used

In 1992 the total amount of energy used at the 19 SWP pumping and power plants was 4.27 billion kWh. Table 9-1 includes information about the amount of energy used each month at SWP's pumping and power plants to operate SWP. That table as well as others referenced in this chapter are found at the end of the chapter.

According to terms and conditions of various water conveyance contracts and exchange agreements, some water belonging to the Central Valley Project is pumped through the SWP Harvey O. Banks Delta Pumping Plant and through the CVP-SWP joint-use facilities at Dos Amigos Pumping Plant and William R. Gianelli Pumping-Generating Plant. The U.S. Bureau of Reclamation furnishes the energy for pumping this water.

### Energy Produced at SWP Facilities

A large amount of SWP energy is produced by the Hyatt-Thermalito power complex, located in Oroville, California. In 1992, 868 million kilowatt-hours (kWh) of energy was generated at Hyatt-Thermalito. That amount was approximately 7 percent more than the amount generated in 1991. However, due to the continued drought and lower-

than-normal rainfall in the Feather River watershed during calendar year 1992, the output of Hyatt-Thermalito was substantially less than the average annual output of 2.20 billion kWh.

Energy generated at SWP recovery plants—Alamo, Devil Canyon, William R. Gianelli, and William E. Warne—totaled about 805 million kWh in 1992, about 12 percent more than the amount generated in 1991. In 1992 the SWP share of energy generated at Reid Gardner Unit 4 totaled 1.07 billion kWh.

Table 9-2 includes information about energy produced at SWP's facilities.

## Energy Purchased

The State Water Project purchases electrical capacity and energy from other utilities through long-term contracts and short-term purchases. Table 9-2 includes the names of those utilities.

In 1992 the Department purchased 1.03 billion kWh of energy at a cost of $34.48 million. Additionally, associated costs for transmission and dispatching services totaled $12.19 million. See Table 9-3 for amounts of power, transmission, and other services purchased in 1992 and cost of purchases. Other SWP power costs, including those for debt service at Pine Flat Powerplant, totaled $8.53 million.

Information about energy obtained through long-term contracts and short-term purchases follows.

### Long-Term Contracts

Long-term SWP hydroelectric power supplies are obtained through contracts with the Kings River Conservation District, Los Angeles Department of Water and Power, and Metropolitan Water District of Southern California.

According to terms of the KRCD contract, the Department receives the total output of the 165-megawatt (MW) Pine Flat Powerplant. The plant provided 92 million kWh to SWP in 1992.

Through a cooperative development agreement with LADWP, the Department receives energy in amounts based on the amount of water scheduled through the West Branch. In 1992, 359 million kWh was provided to the Department.

As part of the MWD contract, the Department received 174 million kWh of energy in 1992 from five small hydroelectric power plants on the MWD system.

The Department also has two agreements with the Southern California Edison Company for the purchase and/or exchange of power. According to terms of the 1979 Power Contract between the Department and SCE (in effect since April 1983), part of the output of the Hyatt-Thermalito complex and all output of Alamo and Devil Canyon power plants are delivered to SCE.

Generally, the energy is delivered to SCE during on-peak periods and is returned to the Department during off-peak periods. Additional energy is delivered to the Department during off-peak periods for payment of capacity made available to SCE. According to terms of the 1981 Capacity Exchange Agreement, which has been in effect since April 1987, the Department delivers energy to SCE each year during on-peak periods and, in return, receives a greater amount of off-peak energy as well as transmission considerations. Those two exchange agreements resulted in a net of about 2.66 billion kWh to SWP in 1992.

The Department also has two other contracts for purchasing energy. One contract is with PacifiCorp, from which the Department purchased 624 million kWh in 1992; the other contract is with TERA Power Corporation for

purchasing energy produced at Bethany Wind Park near the South Bay Pumping Plant. About 60 wind turbines were operational at the end of 1992, providing about 3.5 million kWh of wind-generated energy during the year.

The net gain to SWP during 1992 from its long-term contracts was 3.90 billion kWh (see Table 9-2). Table 19-1, "Power Contracts, by Title and Date Signed," includes additional information about those contracts and agreements.

### Short-Term Purchases

Existing resources and long-term power and transmission contracts ensure that SWP has enough power to meet long-term needs. Periodically, when SWP power requirements exceed resources during daily operations, short-term purchases are made to meet the difference.

In 1992 SWP purchased short-term energy from 11 utilities. The total amount of short-term energy purchased was 142 million kWh. See "Purchases" in Table 9-2.

## Power Sold

When generation from SWP power resources exceeds requirements, the Department sells this excess power on the market. Currently, the Department has contracts with approximately 30 utilities for the short-term purchase, sale or exchange of power. Through these contracts, the Department sells excess capacity and energy at market rates.

In determining the most advantageous time to sell power, the Department considers projected SWP operations and changes in the power market as well as energy losses and transmission and dispatching costs.

Total energy sold to 15 utilities in 1992 was 2.55 billion kWh, which resulted in revenues of $62.67 million. The Department also received $13.47 million in revenues for capacity payments or transmission sales from the following utilities:

- Los Angeles Department of Water and Power (capacity foregone)
- Modesto Irrigation District (capacity)
- Nevada Power Company (capacity)
- Northern California Power Agency (transmission)
- City of Santa Clara (transmission)
- Southern California Edison (transmission payments)
- Turlock Irrigation District (capacity)
- City of Vernon (capacity)

Information about the amount of energy sold and the revenue received may be found in Table 9-4.

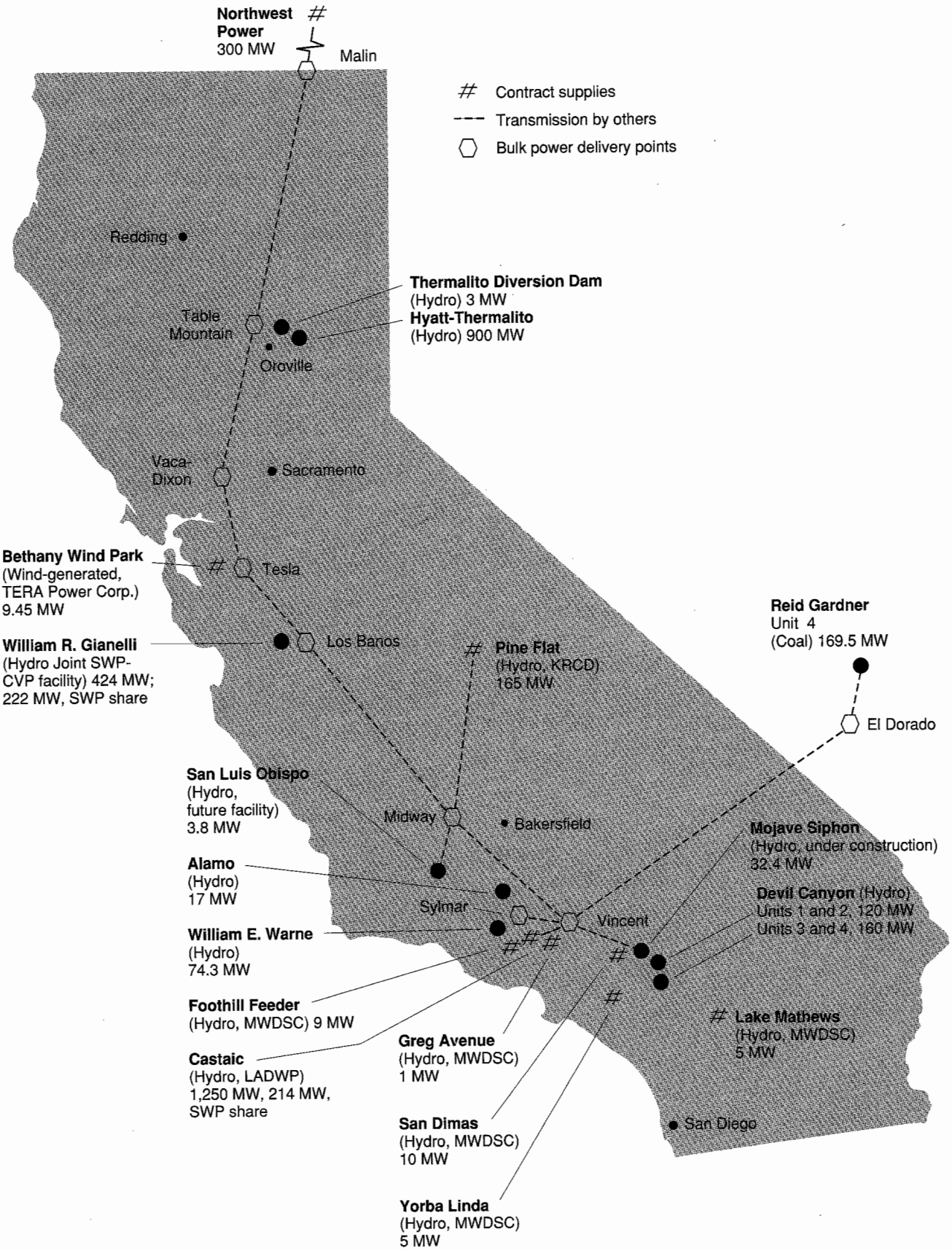


**Fig. 9-1. Names, locations, and generating capacity of primary power facilities**

TABLE 9-1

## Amounts of Energy Used at Pumping Plants and Power Plants in 1992, by Month

(Millions of kilowatt-hours)

| *Pumping Plants and Power Plants* | *Month* | | | | | | | | | | | | *Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Jan.* | *Feb.* | *Mar.* | *Apr.* | *May* | *June* | *July* | *Aug.* | *Sep.* | *Oct.* | *Nov.* | *Dec.* | |
| Alamo Powerplant (station service) | 0.06 | 0.07 | 0.05 | 0.04 | 0.00 | 0.01 | 0.02 | 0.03 | 0.03 | 0.02 | 0.03 | 0.05 | 0.41 |
| Badger Hill Pumping Plant | 0.02 | 0.09 | 0.79 | 1.71 | 3.47 | 3.71 | 3.70 | 2.05 | 1.37 | 0.97 | 0.11 | 0.06 | 18.05 |
| Barker Slough Pumping Plant | 0.47 | 0.38 | 0.47 | 0.59 | 0.81 | 0.60 | 0.44 | 0.47 | 0.45 | 0.43 | 0.36 | 0.31 | 5.78 |
| Buena Vista Pumping Plant | 15.06 | 3.77 | 3.48 | 12.35 | 30.41 | 29.29 | 23.30 | 22.80 | 22.26 | 21.57 | 14.99 | 16.75 | 216.03 |
| Ira J. Chrisman Wind Gap Pumping Plant | 38.79 | 9.11 | 7.18 | 25.92 | 68.91 | 62.60 | 48.03 | 48.92 | 54.58 | 53.39 | 38.54 | 43.22 | 499.19 |
| Cordelia Pumping Plant | 0.72 | 0.58 | 0.60 | 0.81 | 1.11 | 0.57 | 0.72 | 0.83 | 0.47 | 0.51 | 0.44 | 0.35 | 7.71 |
| Del Valle Pumping Plant | 0.01 | 0.03 | 0.08 | 0.30 | 0.18 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.66 |
| Devil Canyon Powerplant (station service) | 0.00 | 0.00 | 0.00 | 0.08 | 0.00 | 0.00 | 0.06 | 0.17 | 0.13 | 0.11 | 0.00 | 0.00 | 0.55 |
| Dos Amigos Pumping Plant (SWP share) | 7.43 | 2.13 | 4.37 | 12.17 | 21.66 | 30.19 | 28.74 | 21.58 | 13.79 | 13.12 | 8.78 | 9.37 | 173.33 |
| A. D. Edmonston Pumping Plant | 135.31 | 31.00 | 23.69 | 88.79 | 239.97 | 214.32 | 164.15 | 167.61 | 189.18 | 186.34 | 134.30 | 151.39 | 1,726.05 |
| William R. Gianelli Pumping-Generating Plant (SWP share) | 38.27 | 54.68 | 107.93 | 16.04 | 0.13 | 0.10 | 0.08 | 5.60 | 12.04 | 1.00 | 2.44 | 20.66 | 258.97 |
| Harvey O. Banks Delta Pumping Plant | 56.00 | 60.36 | 114.48 | 21.46 | 13.37 | 16.88 | 7.21 | 27.02 | 43.86 | 7.81 | 18.35 | 48.85 | 435.65 |
| Hyatt-Thermalito Pumping-Generating (pumpback and station service) | 0.36 | 4.15 | 57.23 | 11.83 | 9.86 | 33.86 | 16.21 | 0.14 | 0.28 | 0.02 | 0.04 | 0.27 | 134.25 |
| Las Perillas Pumping Plant | 0.03 | 0.05 | 0.30 | 0.65 | 1.33 | 1.42 | 1.37 | 0.78 | 0.52 | 0.37 | 0.06 | 0.04 | 6.92 |
| North Bay Interim Pumping Plant | 0.03 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.03 |
| Oso Pumping Plant | 12.90 | 3.18 | 0.53 | 5.84 | 12.36 | 13.29 | 8.64 | 5.63 | 10.26 | 11.63 | 9.19 | 13.41 | 106.86 |
| Pearblossom Pumping Plant | 8.73 | 2.08 | 5.50 | 10.89 | 38.31 | 27.14 | 23.97 | 32.38 | 27.96 | 24.35 | 16.28 | 11.72 | 229.31 |
| South Bay Pumping Plant | 5.71 | 3.32 | 3.18 | 8.66 | 7.90 | 7.85 | 6.72 | 12.59 | 6.93 | 5.68 | 8.70 | 7.52 | 84.76 |
| Wheeler Ridge Pumping Plant | 16.95 | 4.13 | 3.27 | 11.96 | 31.33 | 28.86 | 21.88 | 21.99 | 24.39 | 23.97 | 16.89 | 19.25 | 224.87 |
| William E. Warne Powerplant (station service) | 0.04 | 0.10 | 0.14 | 0.06 | 0.01 | 0.00 | 0.06 | 0.12 | 0.01 | 0.05 | 0.05 | 0.00 | 0.64 |
| *Subtotal* | 336.89 | 179.21 | 333.27 | 230.15 | 481.12 | 470.69 | 355.31 | 370.72 | 408.52 | 351.35 | 269.56 | 343.23 | 4,130.02 |
| Scheduled high voltage transmission line losses | 13.44 | 7.43 | 11.88 | 6.83 | 9.91 | 9.61 | 15.25 | 18.29 | 10.84 | 4.90 | 15.85 | 18.63 | 142.86 |
| **Total Energy Required** | **350.33** | **186.64** | **345.15** | **236.98** | **491.03** | **480.30** | **370.56** | **389.01** | **419.36** | **356.25** | **285.41** | **361.86** | **4,272.88** |

TABLE 9-2

## Sources and Amounts of Energy Generated and Purchased in 1992, by Month

(Millions of kilowatt-hours)

| Sources of Energy | Month | | | | | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Jan. | Feb. | Mar. | Apr. | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | |
| **SWP Energy Sources** | | | | | | | | | | | | | |
| Alamo Powerplant | 0.87 | 0.22 | 0.51 | 1.31 | 4.01 | 3.25 | 2.79 | 3.10 | 2.91 | 2.68 | 2.18 | 1.11 | 24.94 |
| Bottle Rock Powerplant (required for station service) | (0.12) | (0.11) | (0.12) | (0.10) | (0.08) | (0.07) | (0.07) | (0.06) | (0.07) | (0.09) | (0.11) | (0.12) | (1.12) |
| Devil Canyon Powerplant | 10.17 | 8.33 | 11.05 | 20.05 | 56.74 | 48.56 | 41.89 | 53.37 | 51.28 | 42.47 | 22.85 | 28.42 | 395.18 |
| Reid Gardner Unit 4 | 118.97 | 91.49 | 33.98 | (1.44) | 58.94 | 98.71 | 106.91 | 122.96 | 112.66 | 114.78 | 105.84 | 105.23 | 1,069.03 |
| William R. Gianelli Pumping-Generating Plant (SWP share) | 0.26 | 0.43 | 0.00 | 17.60 | 30.74 | 39.83 | 36.91 | 17.34 | 0.32 | 9.73 | 2.39 | 1.27 | 156.82 |
| Hyatt-Thermalito Pumping-Generating Plant | 32.07 | 19.51 | 55.58 | 21.10 | 143.54 | 119.62 | 138.68 | 112.21 | 90.79 | 51.85 | 35.66 | 47.00 | 867.61 |
| William E. Warne Powerplant | 26.88 | 6.26 | 1.99 | 12.05 | 26.69 | 29.25 | 18.92 | 11.06 | 22.27 | 24.33 | 19.56 | 28.92 | 228.18 |
| **Energy Sources from Short-Term Agreements** | | | | | | | | | | | | | |
| Bonneville Power Administration, power exchange | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 30.50 | (13.22) | (25.08) | (26.02) | 0.00 | (33.82) |
| Northern California Power Agency, power exchange | 0.00 | 0.00 | 0.00 | 0.00 | 0.53 | 2.07 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.60 |
| **Energy Sources from Long-Term Agreements (a** | | | | | | | | | | | | | |
| Castaic Powerplant | 34.51 | 16.73 | 3.87 | 25.11 | 41.67 | 46.35 | 30.66 | 14.45 | 34.25 | 37.21 | 29.88 | 44.76 | 359.45 |
| Metropolitan Water District of Southern California hydroelectric plants | 9.27 | 7.44 | 8.77 | 13.48 | 20.04 | 19.80 | 16.75 | 18.02 | 18.17 | 17.97 | 10.89 | 13.58 | 174.18 |
| PacifiCorp | 61.25 | 45.63 | 46.37 | 48.08 | 47.40 | 55.20 | 44.88 | 45.60 | 52.90 | 58.30 | 60.83 | 57.06 | 623.50 |
| Pine Flat Powerplant | (0.25) | (0.17) | 0.25 | 14.24 | 21.91 | 48.75 | 8.61 | (0.21) | (0.20) | (0.22) | (0.23) | (0.25) | 92.23 |
| Power exchange delivered to PG&E | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | (2.39) | (25.52) | (16.68) | (0.88) | 0.00 | 0.00 | (45.47) |
| Power exchange received from PG&E | 7.28 | 11.20 | 5.04 | 3.29 | 0.00 | 0.00 | 3.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.81 |
| Power exchange delivered to SCE | (61.63) | (53.84) | (73.55) | (82.92) | (173.21) | (167.65) | (162.00) | (156.40) | (146.52) | (113.53) | (64.12) | (75.12) | (1,330.49) |
| Power exchange received from SCE | 231.64 | 146.01 | 266.33 | 209.10 | 337.60 | 298.62 | 445.26 | 492.19 | 434.36 | 403.60 | 429.51 | 293.07 | 3,987.29 |
| TERA Power Corporation | (0.01) | 0.00 | 0.05 | 0.19 | 0.54 | 0.64 | 0.73 | 0.78 | 0.38 | 0.12 | 0.03 | 0.04 | 3.49 |
| Power system deviations account transactions | 0.91 | 1.47 | 1.30 | 1.41 | 0.71 | (0.52) | 1.76 | (2.07) | (2.47) | (1.55) | (3.33) | (2.78) | (5.16) |
| **Purchases (a** | | | | | | | | | | | | | |
| Bonneville Power Administration | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.09 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 13.09 |
| British Columbia Power Export Corporation | 1.61 | 0.00 | 2.38 | 0.00 | 0.31 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.30 |
| Eugene Water and Electric Board | 0.00 | 0.17 | 2.75 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.92 |
| Montana Power Company | 0.00 | 0.60 | 1.18 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.78 |
| Portland General Electric Company | 4.78 | 4.30 | 7.43 | 4.27 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 20.78 |
| Puget Sound Power and Light Company | 0.00 | 7.75 | 3.60 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 11.35 |
| Salt River Agricultural Improvement and Power District | 1.07 | 10.82 | 37.70 | 17.00 | 6.50 | 0.47 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.95 | 78.51 |
| Seattle City Light | 0.00 | 2.20 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 2.20 |
| Southern California Edison Company | 0.00 | 0.00 | 0.00 | 1.41 | 0.00 | 0.00 | 0.20 | 0.81 | 0.00 | 0.00 | 0.00 | 0.00 | 2.42 |
| Washington Water Power Company | 0.00 | 0.00 | 3.95 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 3.95 |
| Western Area Power Administration, Lower Colorado | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.66 | 0.66 |
| *Subtotal* | 479.53 | 326.44 | 420.41 | 325.23 | 624.58 | 655.97 | 733.49 | 738.13 | 641.13 | 621.69 | 625.81 | 547.80 | 6,740.21 |
| Less Sales | (129.22) | (139.78) | (75.25) | (88.26) | (133.52) | (175.66) | (362.90) | (349.14) | (221.76) | (265.44) | (340.39) | (185.93) | (2,467.25) |
| **Total Energy Provided to SWP** | **350.31** | **186.66** | **345.16** | **236.97** | **491.06** | **480.31** | **370.59** | **388.99** | **419.37** | **356.25** | **285.42** | **361.87** | **4,272.96** |

a) Amounts show actual energy available for SWP use and include transmission losses, return energy provided for by specific contracts, and other necessary adjustments.

TABLE 9-3

## Amounts of Power, Transmission, and Other Services Purchased in 1992 and Costs of Purchases, by Area

| *Name of Supplier* | *Type of Service Purchased* | *Energy (kwh)(a* | *Energy Cost (Dollars)* | *Transmission Cost (Dollars)* | *Total Cost (Dollars)* |
|---|---|---|---|---|---|
| ***Power and Transmission Purchases*** | | | | | |
| **Northwest Area** | | | | | |
| Bonneville Power Administration | Nonfirm energy | 13,094,000 | $162,828 | | $162,828 |
| British Columbia Power Export Corporation | Nonfirm energy | 4,297,000 | 102,310 | | 102,310 |
| Eugene Water and Electric Board | Nonfirm energy | 2,915,000 | 61,230 | | 61,230 |
| Montana Power Company | Nonfirm energy | 1,775,000 | 37,744 | | 37,744 |
| PacifiCorp | Firm and nonfirm energy | 623,497,000 | 23,574,002 | | 23,574,002 |
| Portland General Electric Company | Nonfirm energy | 20,774,000 | 453,678 | | 453,678 |
| Puget Sound Power and Light Company | Nonfirm energy | 11,350,000 | 255,650 | | 255,650 |
| Seattle City Light | Nonfirm energy | 2,200,000 | 46,200 | | 46,200 |
| Washington Water Power Company | Nonfirm energy | 3,950,000 | 82,490 | | 82,490 |
| **Northern California Area** | | | | | |
| Pacific Gas & Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company | EHV transmission | | | $1,500,000 | $1,500,000 |
| Kings River Conservation District | Hydroelectric energy | 95,432,832 | $725,290 | | 725,290 |
| Pacific Gas & Electric Company | Transmission and capacity | | | 6,086,881 | 6,086,881 |
| TERA Power Corporation | Wind energy | 3,508,083 | 278,217 | | 278,217 |
| **Southern California Area** | | | | | |
| Los Angeles Department of Water and Power | Transmission | | | $208,692 | $208,692 |
| Metropolitan Water District of Southern California | Hydroelectric energy | 162,399,000 | 7,098,460 | | 7,098,460 |
| Southern California Edison Company | Nonfirm energy; transmission | 2,420,000 | 52,698 | 2,817,213 | 2,869,911 |
| **Southwest Area** | | | | | |
| Nevada Power Company | Nonfirm energy; transmission | 2,000 | $44 | $1,575,096 | $1,575,140 |
| Salt River Agricultural Improvement and Power District | Nonfirm energy | 78,515,000 | 1,537,304 | | 1,537,304 |
| Western Area Power Administration, Lower Colorado | Nonfirm energy | 660,000 | 12,540 | | 12,540 |
| *Subtotal* | | 1,026,788,915 | $34,480,685 | $12,187,882 | $46,668,567 |
| ***Other Purchases*** | | | | | |
| Kings River Conservation District | Pine Flat operations and maintenance | | | | $2,155,257 |
| | Pine Flat debt service | | | | 4,576,206 |
| Los Angeles Department of Water and Power | Hydro power plant scheduling | | | | 1,150 |
| Nevada Power Company | Reid Gardner no. 4 operations and maintenance | | | | 1,492,089 |
| Pacific Gas & Electric Company | Midway-Wheeler Ridge and Bottle Rock transmission | | | | 284,897 |
| | Pine Flat ownership and Lakeville Line operations and maintenance | | | | |
| | Federal Energy Regulatory Commission filing fees | | | | 23,930 |
| *Subtotal* | | | | | $8,533,529 |
| **Total** | | | | | **$55,202,096** |

a) Amounts reflect energy for which SWP was billed.

TABLE 9-4

## Total Amounts of Energy Sold in 1992 and Revenue from Sales, by Area

| *Name of Purchaser* | *Amount of Energy Sold (kWh)* | *Revenue from Energy Sales (Dollars)* | *Revenue from Capacity and Transmission Sales (Dollars)* | *Total Power Sales (Dollars)* |
|---|---|---|---|---|
| **Pacific Northwest Area** | | | | |
| Bonneville Power Administration | 117,294,000 | $2,405,246 | | $2,405,246 |
| Portland General Electric Company | 110,030,000 | 2,557,992 | | 2,557,992 |
| **Northern California Area** | | | | |
| Hetch Hetchy Water and Power | 123,575,000 | $2,697,685 | | $2,697,685 |
| Modesto Irrigation District | 349,834,000 | 9,855,773 | $1,242,000 | 11,097,773 |
| Northern California Power Agency | 35,811,000 | 904,035 | 336,457 | 1,240,492 |
| Pacific Gas & Electric Company | 289,718,000 | 6,294,975 | | 6,294,975 |
| Sacramento Municipal Utility District | 947,253,000 | 22,324,053 | | 22,324,053 |
| City of Santa Clara | | | 85,886 | 85,886 |
| Turlock Irrigation District | 141,432,000 | 3,975,596 | 2,776,800 | 6,752,396 |
| **Southern California Area** | | | | |
| City of Anaheim | 3,530,000 | $60,300 | | $60,300 |
| Los Angeles Department of Water and Power | | | $663,600 | 663,600 |
| Metropolitan Water District of Southern California | 22,621,000 | 449,898 | | 449,898 |
| City of Riverside | 4,582,000 | 151,866 | | 151,866 |
| Southern California Edison Company | 42,734,000 | 603,806 | 900,000 | 1,503,806 |
| City of Vernon (a | 148,294,000 | 4,429,243 | 5,957,042 | 10,386,285 |
| **Southwest Area** | | | | |
| Nevada Power Company (b (c | 212,674,000 | $5,936,963 | $1,512,988 | $7,449,951 |
| Salt River Agricultural Improvement and Power District | 900,000 | 18,000 | | 18,000 |
| **Total** | **2,550,282,000** | **$62,665,431** | **$13,474,773** | **$76,140,204** |

a) Includes $16,187 for dispatching and administration.
b) Includes 83,040,000 kWh upgrade energy from Reid Gardner.
c) Does not include $13,822 interest payment for peaking capacity adjustment.

# Part III. Protecting Environmental Resources


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# 10. Reviewing Environmental Regulations

Before 1960 the effects on the environment of constructing facilities to store and deliver water—damming rivers and building reservoirs, for example—were not emphasized as much as they are today. Water was often viewed as the means to growth and prosperity for all Californians.

In the late 1960s, however, perceptions began to change. Today, water is viewed as a common resource to be shared by all users—fish, plants, and wildlife as well as recreationists and naturalists. And increasingly, along with other natural resources, water is viewed as part of an ecosystem that deserves to be protected.

As a result of this new awareness, state and federal legislators enacted laws to protect the environment. Some of the most comprehensive legislation includes:

- National Environmental Policy Act (Title 42, *United States Code* sections 4321-4370 [1970])
- Federal Endangered Species Act (Title 16, *United States Code* sections 1531-1544 [1973])
- Section 404 of the Federal Water Pollution Control Act or Clean Water Act (Title 33, *United States Code* Section 1344 [1977])
- California Environmental Quality Act (*Public Resources Code* sections 21000-21177 [1970])
- California State Endangered Species Act (*Fish and Game Code* sections 2050-2098 [1984])

The Public Trust Doctrine, which is based on case law, requires that public trust uses of water be considered when rights to divert water from navigable waterways are at issue. Recent decisions, such as the landmark decision *National Audubon Society* v. *Superior Court of Alpine County* (1983) 33 Cal.3d 419,189 *Cal. Rptr.* 346, have expanded the traditional public trust uses to be considered to include environmental concerns such as protection of fish and wildlife, scientific study, scenic enjoyment, recreation, and related open-space uses.

When the Department of Water Resources plans and implements programs related to the State Water Project, it takes into account the appropriate environmental laws and doctrines, particularly those previously listed.

A basic understanding of those laws and doctrines will facilitate an understanding of the Department's complex environmental management activities. Therefore, information about those laws is included in this chap-

ter. The information is organized in two categories, "Legislation" and "Public Trust Doctrine."

# Legislation

Information about the National Environmental Policy Act, California Environmental Quality Act, Federal Endangered Species Act, California Endangered Species Act, and Section 404 of the Federal Water Pollution Control Act or Clean Water Act is included in this section.

## Environmental Policy Acts

The National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) compel governmental agencies to document and consider environmental consequences of their actions in their decision-making process. NEPA states that it is the goal of the federal government to use all practicable means consistent with other considerations of national policy to protect and enhance the quality of the environment. All federal agencies must prepare an environmental impact statement (EIS) for actions significantly affecting environmental quality.

California's Environmental Quality Act is patterned after the National Environmental Policy Act. According to CEQA, agencies are required to (1) disclose, through an environmental impact report (EIR), the significant effects proposed projects would have on the environment; and (2) search for ways to reduce or avoid environmental damage.

NEPA does not generally require federal agencies to adopt mitigation measures or alternatives provided in the EIS. CEQA, on the other hand, does impose substantive duties on all California governmental agencies approving projects with significant environmental impacts to adopt feasible alternatives or mitigation measures that substantially lessen these impacts, unless there are overriding reasons why they cannot. When a project is subject to both CEQA and NEPA, both laws encourage the agencies to cooperate in planning the project and prepare joint environmental documents.

Through the environmental review process, citizens have an opportunity to learn about those significant effects and, if the project is approved, the reasons for approving the project.[1]

The procedures involved in the environmental review process require agencies to:

1. Provide a description of the proposed project
2. Identify the lead and cooperating agencies involved in the project
3. Determine the scope of study with public and governmental agency participation
4. Prepare and distribute a draft EIS or EIR
5. Respond to comments received on the draft
6. Prepare the final EIS or EIR
7. Make findings and adopt mitigation measures to avoid significant effects, if applicable
8. Adopt a monitoring plan to ensure mitigation measures are viable

[1]The California Environmental Quality Act applies only to projects directly undertaken, funded, or approved by state or local agencies. The National Environmental Policy Act applies to projects directly undertaken, funded, or approved by federal agencies. The Department conducts many projects in cooperation with federal agencies. In those cases both CEQA and NEPA must be followed.

9. If the project is approved, prepare and file applications for permits required to implement the project

The Department follows these procedures when it considers the environmental impacts that could result from certain decisions it makes concerning SWP.

The scoping phase of the environmental review process is particularly important. Occurring early in the review process, the scoping phase provides the public and governmental agencies an opportunity to identify the issues and topics to be considered when preparing the report.

Those issues and topics are essential to the agencies preparing an EIR because they depend on the information received to:

- Identify and evaluate responsible alternatives
- Identify potential environmental and socioeconomic impacts of the project

Consequently, members of the public have the opportunity to raise issues during the scoping phase and not just after the draft environmental document is prepared. In addition, the scoping phase helps agencies to determine data and information still needed, develop a work schedule, and allocate resources for preparing and distributing the draft environmental document for public review and comment.

### Endangered Species Acts

In planning and operating SWP, the Department must consider the effects its actions will have on organisms—plants, birds, reptiles, fish, and mammals—listed as threatened or endangered according to the Federal Endangered Species Act and the California Endangered Species Act. An endangered species is one in danger of extinction in all or a significant portion of its range; a threatened species is one likely to become endangered.

The acts are designed to protect threatened and endangered species by:

1. Listing endangered and threatened species
2. Ensuring federal and state agencies adopt measures to protect the species during the design, construction, and operation of the project
3. Prohibiting the taking of endangered species

One important aspect of the acts is preserving habitat critical to the survival of the threatened or endangered species.

### Federal Water Pollution Control Act

Section 404 of the Federal Water Pollution Control Act (or Clean Water Act) requires that a permit be obtained from the U.S. Army Corps of Engineers for any activity that results in disposal of dredged material or placement of fill material in the waters of the United States.

Section 404 has been broadly interpreted by the federal courts to include its application to structures or fills introduced into waters of the United States. This includes wetlands as well as all interstate waters and waters within a state that may be used for interstate or foreign commerce.

## Public Trust Doctrine

According to the Public Trust Doctrine, the state holds navigable waters and their underlying lands in trust to protect public interests. The interests historically protected

were commerce, navigation, and fisheries. In recent cases, such as the 1983 California Supreme Court case of *National Audubon Society* v. *Superior Court of Alpine County* , the doctrine has been expanded to protect the public's stake in recreation, fish and wildlife habitats, scenic values, and environmental preservation.

In the *Audubon* case, the Supreme Court held that:

- Water rights licenses are subject to the public trust doctrine.
- When issuing water rights permits, the state must consider public trust values.
- The state has a continuing duty to supervise and reconsider existing water permits and licenses, if necessary, to take public trust uses into account.

# 11. Preserving the Delta

Perhaps no area in California's water history has been the subject of more investigations or generated more controversy than has the Sacramento-San Joaquin Delta, 738,000 acres of land interlaced with hundreds of miles of waterways. Natural runoff and flood flows from the Sacramento, San Joaquin, Mokelumne, and Cosumnes Rivers flow into the Delta, which receives runoff from 40 percent of the state's land area.

With its concentrated water supply, the Delta supports hundreds of species of fish, wildlife, and plants. As part of an interconnected estuary system that includes Suisun Marsh and San Francisco Bay, the Delta serves as a passageway to and from the Pacific Ocean for migrating fish. It provides refuge for migrating waterfowl and numerous other species. Because of the miles of waterways and diverse wildlife, the Delta is a popular destination for outdoor recreationists. The rich soil and available water sustain many agricultural crops and farms. The Delta also serves as part of a large system designed to export water from the northern part of the state to at least 20 million Californians in the western and southern parts.

The Delta's channels have been used by the Central Valley Project since 1951 and the State Water Project since late 1967. The channels transport winter flows as well as water from upstream reservoirs to the Delta's southern boundary, where pumps lift the water into the Delta Mendota Canal and California Aqueduct for distribution south and west.

The SWP also exports water from Barker Slough in the northern Delta into the North Bay Aqueduct. In 1992 SWP diverted about 1,503,000 acre-feet of water from the Delta at Harvey O. Banks Delta Pumping Plant, including 34,816 acre-feet pumped for the U.S. Bureau of Reclamation. The CVP diverted about 1,314,000 acre-feet through the Tracy Pumping Plant and the Contra Costa Pumping Plant (see Figure 11-1).

Over the past 40 years, various federal and state agencies, including the Department of Water Resources, have participated in developing and implementing several programs designed to preserve the Delta as a unique environmental resource. Many of those programs involve:

- Defining water rights
- Determining the levels of salinity needed to protect fish and wildlife habitation
- Devising methods to control flooding, protect fish and wildlife, and provide for recreational activities

In addition to the Department, several other agencies are active in managing Delta resources. Federal agencies long active in

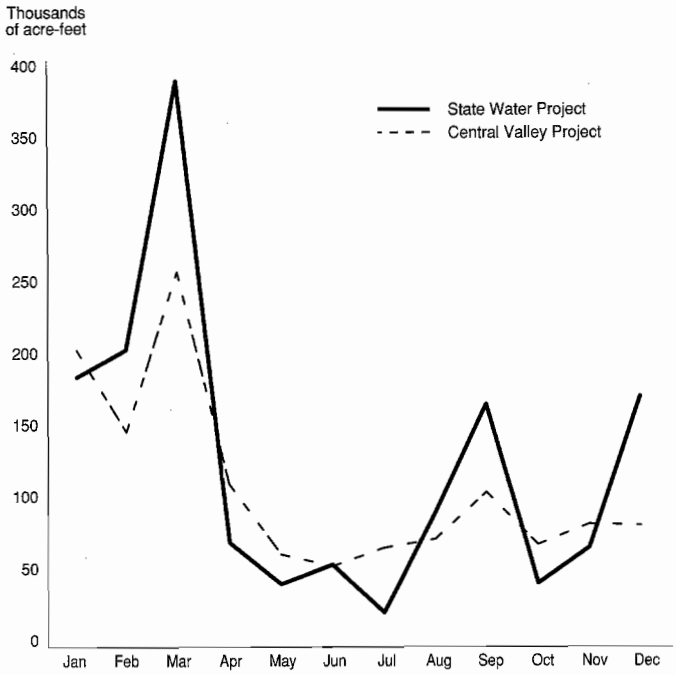


**Fig. 11-1. Amount of water diverted from the Sacramento-San Joaquin Delta by State Water Project and Central Valley Project in 1992, by month**

water management include the U.S. Army Corps of Engineers and U. S. Bureau of Reclamation. Agencies that are becoming increasingly active in Delta issues include the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and U.S. Environmental Protection Agency. State agencies that manage Delta resources include the State Water Resources Control Board and the California Department of Fish and Game.

Information about the responsibilities and activities of these agencies is included in this chapter, arranged according to the headings "Federal Agencies" and "State Agencies." Information about the Department's activities may be found in Chapter 13, "Managing Delta Resources."

# Federal Agencies

The following sections provide information about the activities and responsibilities of federal agencies involved in Delta resource management.

## U.S. Army Corps of Engineers

The U.S. Army Corps of Engineers has been actively involved in Delta flood control and navigation projects since 1877, completing four major flood control projects and eight navigation improvement projects. In addition, the Corps works closely with the Department in planning conservation and protection activities in the Delta.

### Flood Control and Navigation Projects

Most of the Delta land exists below the surrounding water level, and many islands are below sea level. Consequently, high levees are needed to hold back Delta waters. Also, silt settling in Delta channels reduces the channels' capacity to carry water, thus increasing the danger of flooding when rivers rise.

The Corps is responsible for some flood control projects in the Delta, including building levees along the Sacramento River and adjoining sloughs, Mormon Slough, Calaveras River, and the Lower San Joaquin River and its tributaries.

In addition to its historical leadership role in Delta flood control, the Corps regulates structures or work affecting navigable waters of the United States according to Section 10 of the Rivers and Harbors Act (Title 33, *United States Code*, Section 403 [1899]) and discharges of dredged or fill material in waters of the United States (which includes wetlands) according to Section 404 of the Federal Water Pollution Control Act or Clean Water Act.

### Departmental Coordination

The Corps has been active in Delta planning activities since 1962, when it initiated an investigation of the Sacramento-San Joaquin Delta.

Intermittent work on this study, done in close cooperation with the Department, eventually led to the release in October 1982 of a draft feasibility report and draft environmental impact statement for the Sacramento-San Joaquin Delta.

### 1982 Study

The 1982 study listed project alternatives for providing additional flood protection, controlling tidal salinity intrusion, enhancing recreational opportunities, and preserving scenic values.

Changes since 1982 require that the study be revised to reflect present conditions. In August 1991 the Corps, the Reclamation Board, and the Department signed a feasibility cost-sharing agreement (FCSA) for a special study of the Sacramento-San Joaquin Delta.

### 1991 Special Study

As with the 1982 study, the FCSA special study provides for investigating solutions for Delta flood protection, salinity intrusion, recreation, and preservation of scenic values. In accordance with the Water Resources Development Act of 1986 and the federal policy of incurring no net loss of wetlands, additional considerations in the 1991 study include environmental and wildlife habitat restoration measures. Also, the study will consider the Department's water management plans for water supply and flood control when developing alternatives for a comprehensive Delta plan.

The special study is divided into two phases. Phase one began in September 1991 and was completed in March 1993. The phase one report, called the Initial Report, describes problems, their possible solutions, and opportunities to improve and/or provide flood protection, fish and wildlife habitat, water quality, recreation, and navigation.

The Initial Report includes a plan that identifies existing and future land uses in years 2000, 2020, and 2040. In addition, the report includes a discussion on developing a comprehensive plan, primarily for flood control, navigation, and environmental restoration.

The comprehensive plan, called the Regional Planning Report, will become the focus of phase two of the study. Potential Corps involvement in plans and projects in the Delta will be identified within this report. Phase two planning studies will be coordinated with the Delta Protection Commission and Governor Pete Wilson's Bay-Delta Oversight Council, as well as with public agencies and interest groups. The Corps is proceeding with a reconnaissance-level study of three Delta islands and tracts where early flood protection and environmental restoration may be feasible.

An executive committee is providing overall management and policy direction, while a study management team is overseeing and coordinating the execution of the study. The study could lead to authorization of a federal flood control project in the Delta, which would incorporate as many as possible of the Department's Delta planning programs.

## U.S. Bureau of Reclamation

The U.S. Bureau of Reclamation manages the operation of the Central Valley Project and shares with the Department responsibilities for meeting water quality and flow objectives in the Delta.

### Central Valley Project

The Central Valley Project, originally recommended as a state component in California's water plan and constructed by the federal government during the Great Depression,

delivers about 8 million acre-feet of water a year to contractors in the Sacramento and San Joaquin Valleys and Contra Costa and Santa Clara Counties.

### Coordinated Operations Agreement

Because the Department and USBR share responsibilities in the Delta, the Department closely coordinates SWP operation with USBR according to the Coordinated Operations Agreement, signed in 1986. That agreement replaced a system of year-to-year agreements regarding the responsibilities of the Department and USBR in the Delta.

In the agreement USBR agreed to share responsibility for sustaining flows in the Delta during dry periods. The agreement is significant in that the federal government agreed to accept most of the state's water quality requirements for the Delta with certain restrictions as to authority for determination. Acceptance by the federal government meant that SWP would not have to supply all water necessary to meet water quality and flow requirements in the Delta.

## U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service, an agency within the Department of the Interior, has the mission to "conserve, protect and enhance fish, wildlife and their habitats for the continuing benefits of the American people." Among the responsibilities of USFWS is administration of the federal Endangered Species Act to provide protection for terrestrial and aquatic plants and animals including non-anadromous fish. The USFWS also works with federal, state, and local agencies and interests in matters regarding wetland protection.

Within California USFWS is responsible for biological opinions and critical habitat and recovery plans for such threatened and endangered species as the Delta smelt, bald eagle, and elderberry longhorn beetle. Because the biological opinions issued by USFWS—especially those related to Delta smelt—can significantly affect SWP and CVP operations, the Department and USBR are currently preparing a biological assessment upon which the next biological opinion on Delta smelt will be based. The Department also works with USFWS to minimize and provide mitigation for environmental impacts related to SWP operations.

## National Marine Fisheries Service

The National Marine Fisheries Service has primary responsibility for the conservation, management, and development of living marine resources and for the protection of certain marine mammals and endangered species under numerous federal laws. As an agency within the U.S. Department of Commerce, NMFS has responsibilities to the commercial and marine recreational fishing industries and to the general public. NMFS also administers the federal Endangered Species Act with respect to marine or anadromous species such as the winter-run salmon. The mission of NMFS is to "achieve a continued optimum utilization of living marine resources for the benefit of the nation."

The NMFS issues biological opinions, critical habitat designations, and recovery plans on winter-run Chinook and other anadromous salmonids in California and ensures that conditions specified in these opinions are met by the responsible agencies, including the Department.

## The U.S. Environmental Protection Agency

The U.S. Environmental Protection Agency was created to oversee implementation of the federal Clean Water Act, which was approved by Congress in the 1960s to protect the chemical, physical, and biological character of the waters of the United States. The act is broad and complex and includes the National Pollution Discharge Elimination System to reduce toxic and other problems associated with discharge of wastes to the nation's waters.

The USEPA is becoming increasingly active in issues and activities that affect the operation of SWP.

# State Agencies

This section includes information on the State Water Resources Control Board and the California Department of Fish and Game.

## State Water Resources Control Board

The State Water Resources Control Board established by the California Legislature in 1945, is charged with overseeing water rights and water quality for California.

### Composition and Duties

The Board consists of five members appointed by the governor for 4-year terms. Appointments must be approved by the senate. The governor also appoints the Board's chairperson.

Among its many responsibilities, the Board:

- Issues permits for the use of all water except ground water and riparian water
- Distributes state and federal loans and grants for constructing sewage facilities
- Adopts water quality plans, regulations, and policies
- Sets water quality standards for the Delta

In implementing its mandate to set Delta water quality standards, the Board issued *Water Right Decision 1485: Sacramento-San Joaquin Delta and Suisun Marsh* in 1978. In that decision the Board focused on SWP and CVP water right permits and operations.

Basically, the Board required the two water projects to maintain water quality in the Delta at levels that would have existed without the two projects. However, after Decision 1485 was adopted, various water users as well as the federal government challenged it in court.

In 1986 Judge John Racanelli, writing for the state court of appeal, cited *National Audubon Society* v. *Superior Court of Alpine County* (public trust doctrine) in ordering the Board to rethink protections for the San Francisco Bay and Delta. In its decision the court broadly interpreted the authority of the Board to establish and enforce water quality objectives that ensure reasonable protection of beneficial uses of Delta water as well as protection for San Francisco Bay. The court also ordered the Board to consider the effects of all upstream water uses, not just those of the two water projects.

To ensure implementation of the court's ruling, which was allowed to stand by the California Supreme Court, the Board convened the Bay-Delta hearings in July 1987.

### Bay-Delta Hearings

The Bay-Delta proceedings, an extensive multiphase hearing process conducted by the Board, are designed to result in new water quality and flow objectives for the Bay-Delta estuary. The proceedings are significant in California's water history because the

Board's decisions will profoundly affect all water users, including fish and wildlife.

The proceedings are organized into four phases: the evidentiary phase, the water quality phase, the scoping phase, and the water rights phase.

### Evidentiary Phase

During the first six months of the hearings, which began in 1987, the Board completed the evidentiary phase. The Board received and reviewed more than 40,000 pages of exhibits from more than 600 speakers representing over 60 separate organizations.

### Water Quality Phase

In November 1988 the Board began the water quality phase of the proceedings. During this phase in 1991, the Board adopted two reports, *Water Quality Control Plan for Salinity* and *Pollutant Policy Document.*

### Scoping Phase

To receive testimony on planning activities, development of facilities, negotiated settlements, flow objectives, and legislative action, the Board conducted the first scoping phase workshops in March and April 1991.

Many workshops were held with Board staff members through winter 1991 to develop a range of six alternative measures for protecting the uses of Bay-Delta waters.

Those alternatives included curtailments of SWP exports from the Delta, operational restrictions of the Delta Cross Channel gates, and modifications of flow and objectives.

In succeeding months during the scoping phase, Board staff members held additional workshops to analyze the impact of the six alternatives on the water supply and environment. The Department provided the water supply impact analysis by conducting over 30 system-wide operational studies.

The Department has been extensively involved in the scoping phase workshops and has continued to participate in work groups organized during earlier phases of the proceedings to investigate:

- Water-year classification for the Sacramento and San Joaquin River basins
- Agricultural economics
- Delta agriculture
- Agricultural and urban water conservation
- Waste water reclamation

Several work groups have completed their studies and have submitted findings to the Board. Concurrent with the workshops previously described, Board staff initiated a water availability and use study to determine the effects of water use upstream of the estuary on Bay-Delta flows and salinity.

The focus of the study is those water right holders with direct diversion rights greater than 100 cfs or total claimed storage rights exceeding 100,000 acre-feet. A technical advisory committee was formed to allow public participation in the study.

### Water Rights Phase

In April 1992, in conjunction with his new water policy, Governor Pete Wilson directed the Board to develop interim Delta standards for protection of fish and wildlife. Those interim standards, which were to be developed by the end of 1992, were to be applied to the construction and operation of the Department's south Delta facilities, which are designed to improve the environment in the Delta and SWP water supply capability through:

1. Constructing flow control structures
2. Improving the hydraulic capacity of channels, Old River near the SWP export facilities
3. Maximizing the full pumping capability of Banks Pumping Plant

The Board immediately reacted to the governor's directive by suspending the scoping phase of the Bay-Delta hearings and issuing a water rights hearing notice in which a California Environmental Quality Act-exempt process was specified.

The Board began 15 days of formal water rights hearings in June 1992. In December 1992 the Board issued a draft of its findings—draft Decision 1630—which proposed interim water quality and flow and export standards. The Board circulated the draft for review and comment. However, on April 1, 1993, Governor Pete Wilson wrote a letter requesting that the Board not adopt interim standards for the Bay-Delta and, instead, begin work on establishing permanent standards. Governor Wilson stated that recent actions taken to protect Sacramento River winter-run Chinook salmon and Delta smelt had effectively set interim standards under the authority of the Endangered Species Act, making the Board's efforts moot.

The Board subsequently announced that it would not consider adopting Decision 1630 as an interim measure but that it would continue to prepare an environmental impact report (EIR) for establishing long-term standards which would replace Decision 1485. The Board is currently revisiting interim Bay-Delta standards in a series of workshops to lead to water rights hearings in January 1994.

## Department of Fish and Game

In addition to advising the State Water Resources Control Board on all matters affecting fish and wildlife, the Department of Fish and Game administers the California Endangered Species Act (*Fish and Game Code* sections 2050-2068 [1984]).

### Additions to Endangered Species Act

Biologists from DFG review the status of each listed species at least every 5 years and recommend steps to be taken to increase its population. A species or subspecies is listed as *endangered* or *threatened* by vote of the California Fish and Game Commission after considering scientific merits of petition by citizens or state officials.

### Actions for Protection

Once a species is listed, DFG (1) monitors its habitat and population trends; (2) recommends to other agencies, including the Department of Water Resources, actions for protecting the species; and (3) develops management plans for protected habitats.

DFG also maintains a statewide inventory of California's rare species and natural communities.

# 12. Protecting Fish, Plants, and Wildlife

The Department of Water Resources has developed several programs to eliminate, minimize, or offset adverse environmental impacts while operating and maintaining the State Water Project. Those programs are conducted in addition to the environmental documentation and mitigation activities required for proposed facilities.

The Department's programs include:

- Examining impacts of water transfers
- Minimizing environmental impacts along the California Aqueduct right-of-way
- Minimizing impacts of water operations on Delta smelt and Chinook salmon
- Reducing losses of fish at Harvey O. Banks Delta Pumping Plant
- Funding other programs to increase fish populations, such as restoring gravel beds and eradicating weeds
- Identifying and protecting threatened and endangered plants and animals in Suisun Marsh and maintaining the marsh's brackish water habitat

## Water Transfers

California has adopted a statewide policy of encouraging both short-term and long-term water transfers. Transfers that may affect fish and wildlife must be approved by the State Water Resources Control Board.

In 1993 the Department completed a generic environmental impact report on water transfers, including transfers made under drought water bank programs. Specific transfers, however, may require additional environmental documentation.

In 1990, for example, the Department contracted for several one-time water purchases from Yuba County Water Agency. The transfers, needed because of the drought, were deemed short-term actions, and only limited analyses were made of their impacts on fish and wildlife. However, the Department is including annual transfers from YCWA as a possible means of meeting future water demands. Consequently, the Department must assess the effects of those transfers on fish and wildlife.

### Scope and Purpose of Study

As part of its responsibilities for approving certain transfers from the Yuba River, the State Water Resources Control Board mandated that the Department conduct a 4-year study to examine the environmental effects on the Feather River and Lake Oroville of purchasing water from Yuba County

Water Agency over an extended period of time.

The techniques used to examine effects are based on in-stream flow incremental methodology, a system developed by the U.S. Fish and Wildlife Service to help determine fish-flow needs.

### Methodology

At selected transections of the Feather River, the depth, water surface elevation, velocity, and gravel composition are measured at several flow rates. The data are entered into a computer and used to develop fish habitat indices. Divers determine fish habitat preferences in the river relative to the measured physical and flow parameters by direct observation of the fish. A combination of physical and biological measures is then used to determine habitat available at different flows and life stages. The field data have been collected and Department biologists are using computer models to convert the data into habitat indices. The Department will present results of the study to the State Water Resources Control Board in 1994.

A daily temperature model is also being developed for the Feather River. The Department and the University of California at Davis are cooperating in model development and verification.

## Mitigation Along the Aqueduct

To minimize environmental impacts along the California Aqueduct right-of-way, the Department adopted a program through which environmental specialists from districts and the Environmental Services Office work with field division staff to determine if operation and maintenance procedures affect streambeds, wetlands, and threatened or endangered species. When necessary, maintenance activities are modified to comply with environmental regulations.

The Department modifies all activities possible to minimize impacts; however, some activities that may affect listed endangered species cannot be changed. In those situations the Department works with the U.S. Fish and Wildlife Service and California Department of Fish and Game to obtain an incidental take permit as mandated by the Federal Endangered Species Act (Title 16, *United States Code*, Sections 1531-1544 [1973]). An incidental take permit contains conditions, limitations, and mitigation measures to follow when developing a project if take of a legally protected species is incidental to, but not the purpose of, the project or activity. In 1992, for example, the Department obtained an emergency permit to correct bank slippage problems along the aqueduct near Banks Pumping Plant. Bank stabilization work will be completed in 1993 and will result in some mitigation land being dedicated and maintained as wildlife habitat.

Because of the length of the California Aqueduct, the process of obtaining permits initially focused on the Department's San Joaquin Field Division, followed by the Delta and San Luis Field Divisions. Those divisions are located in the San Joaquin Valley. A habitat conservation plan, a necessary part of the incidental take permit process, is being developed for the San Joaquin Field Division by an independent consulting firm with technical support from Department engineers and biologists. The habitat conservation plan will provide for lands to be dedicated as wildlife habitat to compensate for habitat lost through SWP activities.

The permit process for the San Joaquin Field Division is expected to be completed in 1994, followed by San Luis and Delta Field Divisions in 1995. A similar process may be

used to obtain permits for the Southern Field Division although not as many endangered species are listed along the southern right-of-way as are listed in the San Joaquin Valley.

## Threatened and Endangered Fish

Impacts on fish have always been an important consideration in planning and operating the State Water Project. The Feather River Fish Hatchery and John E. Skinner Fish Protective Facilities were included as original facilities to offset or minimize SWP impacts on fish. Through the Department's water rights permit, the State Water Resources Control Board regulates flows and pumping to balance fish protection with other beneficial uses. In addition, the Department contracted with the California Department of Fish and Game to study the life history of fish using the Delta and San Francisco Bay, determine the impact of project operation on key species, and offset fish losses at Banks Pumping Plant.

More than 100 species of native and introduced fish live in the Sacramento-San Joaquin estuary. In recent years studies and mitigation efforts began focusing on Delta smelt and winter-run Chinook salmon. This change started in 1989 when the California Department of Fish and Game and the National Marine Fisheries Service listed the winter Chinook as *endangered* and *threatened*, respectively, pursuant to the state and federal endangered species acts.

### Petitions to List

In 1990 the California Fish and Game Commission received a petition to list the Delta smelt as *endangered*, but at that time the Commission decided not to list the smelt. On April 5, 1993, however, the U.S. Fish and Wildlife Service listed it as *threatened*. The Commission reconsidered its original decision and listed the Delta smelt as *threatened* in late 1993.

Petitions to list two additional fish species, the longfin smelt and the Sacramento splittail, have been submitted to the USFWS. Both species spend much of their life cycle in the Delta near intakes to the state and federal pumping plants. A decision of whether or not to list these species is expected in 1994 or early 1995.

### Biological Opinions

During 1992 and 1993 concerns about the protection of listed fish species have been the major factors controlling project operations in the Delta. Project operations control arises from the required formal consultation process and resulting biological opinion. The opinion determines if project operations will jeopardize the continued existence of the listed species. If a jeopardy opinion is reached, it will include a reasonable and prudent alternative that may be necessary to remove the jeopardy. The opinion will also include an incidental take permit and specific take limits. Thus far the Department has had three opinions to protect winter Chinook and Delta smelt. Their issue date and description follow.

- *February 14, 1992.* A 1-year opinion issued by NMFS on winter Chinook.
- *February 12, 1993.* A long-term opinion issued by NMFS on winter Chinook.
- *May 26, 1993.* A 1-year opinion issued by the USFWS on Delta smelt.

Department and U.S. Bureau of Reclamation staff are currently preparing a biological assessment that will form the basis for the next biological opinion on Delta smelt. The goal is to have a long-term opinion. The short time-frame available to complete the consul-

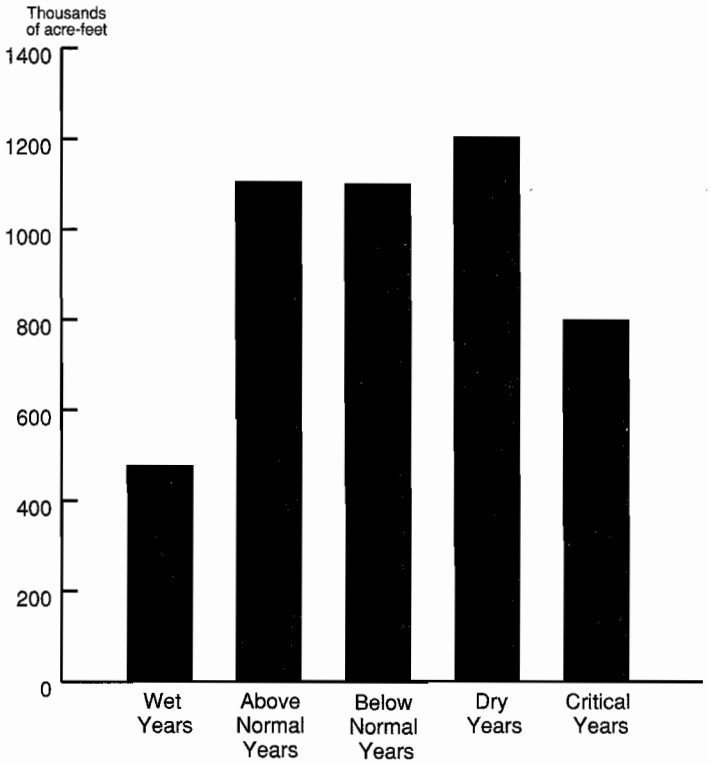


**Fig. 12-1. Average annual reductions in SWP/CVP delivery capability due to Delta smelt and winter-run salmon criteria and Decision 1485 requirements**

tation, however, may result in another 1-year opinion.

Figure 12-1 illustrates opinion alternatives and their impacts on project operations. Figure 12-1 also includes Decision 1485 requirements. As this figure shows, measures to protect listed fish species severely restrict project operations in the Delta.

Project operations control will change as we learn more about the environmental requirements of the listed species and take additional measures that will lead to their recovery. Recovery teams have been appointed by the USFWS and the NMFS to study the environmental requirements of the Delta smelt and winter-run Chinook. The teams will make recommendations for project and nonproject recovery measures. The process will be slow and the Department expects threatened and endangered fish concerns to continue.

## Population Assessment

The following is a brief update of the population status of the Delta smelt and winter Chinook.

### Delta Smelt

The Delta smelt is predominantly an annual fish spawning mostly in April and May. In 1993 the Delta smelt spawned earlier and over a wider geographic area than has been observed in recent years. As a result, large numbers of smelt were salvaged at Banks Pumping Plant in May.

Figure 12-2 shows the results of the annual fall midwater trawl survey that indexes the abundance of Delta smelt as the fish approach maturity. The 1992 fall index was 157, the lowest of the period from 1989 through 1993. Similar indices were observed in the mid-1980s.[1]

The 1993 summer tow-net index, which measures the abundance of Delta smelt at an earlier life stage, was 8.1. This is the highest index since 1982 and is much higher than the average of 2.4 observed from 1983 through 1992. For comparison, from 1959 through 1982 the summer index averaged 19.5. See Figure 12-3.

### Winter Chinook

During the past 3 years, the estimated number of adult winter Chinook passing Red Bluff Diversion Dam fluctuated considerably but continued to be at levels much lower than the tens of thousands of spawners observed in the early 1970s. In 1991 the estimate was 191 spawners—the lowest number recorded. In 1992 there was significant improvement,

[1]The Delta smelt abundance index is used to compare relative abundance on a year-to-year basis. The index is related to smelt population density; it does not represent the number of individual fish in the system.

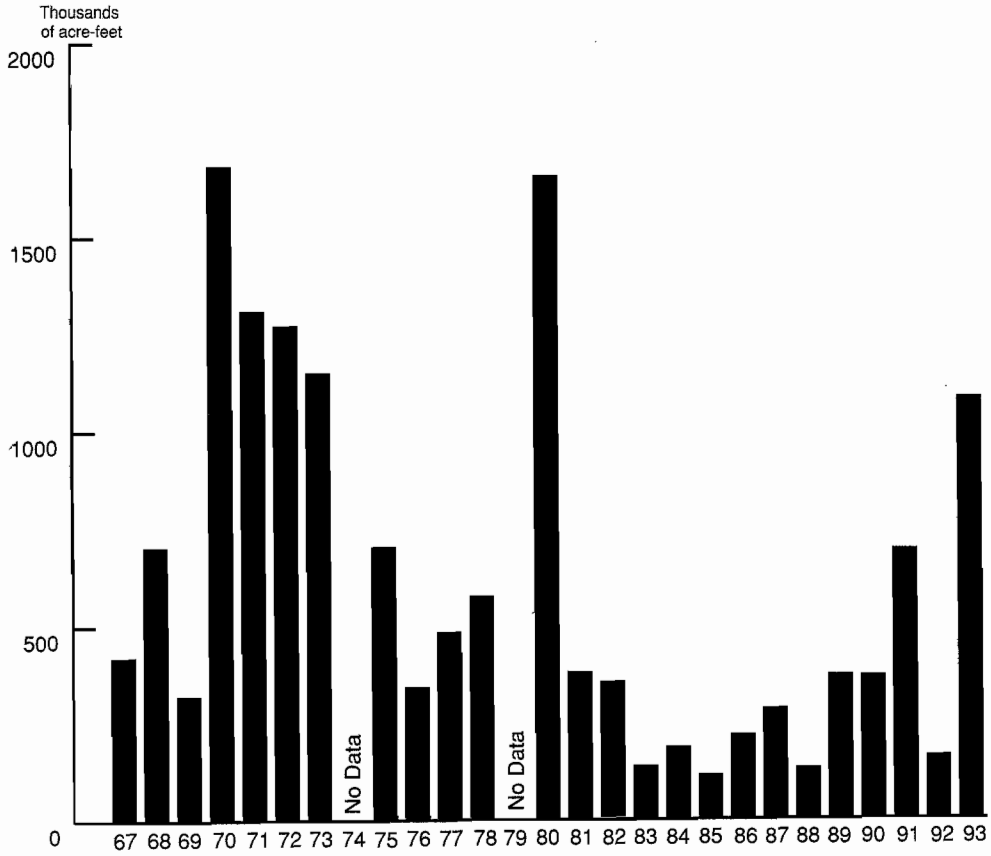


**Fig. 12-2. Delta smelt fall midwater trawl abundance indices, 1967 through 1993**

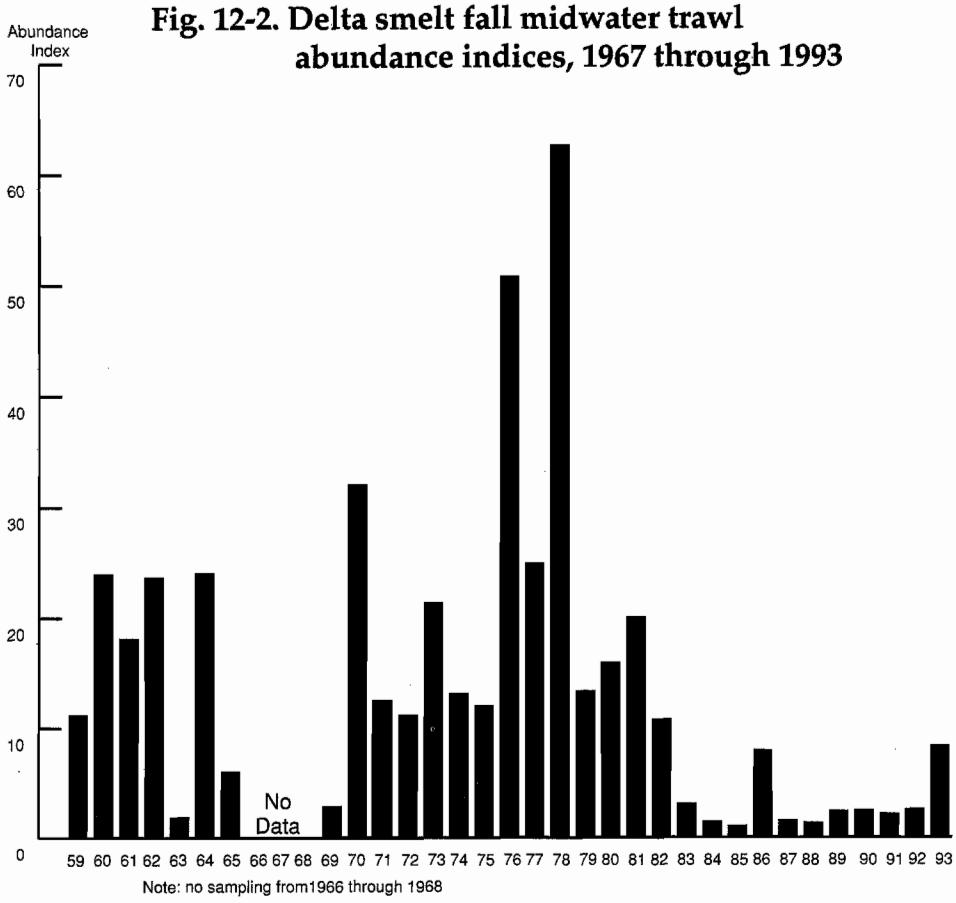


**Fig. 12-3. Delta smelt summer tow-net indices, 1959 through 1993**

1,180 spawners; in 1993 the preliminary estimate is about 340 spawners.

Spawning estimates form the basis for calculating the number of winter-run juveniles produced each year. Juvenile production, in turn, is used to calculate the one percent take[2] the National Marine Fisheries Service allows at the state and federal pumps. For example, it was calculated that the 1,180 spawners in 1992 produced 270,000 juvenile out-migrants (smolts); thus, the combined state and federal allowable take was 2,700 during the 1992–93 out-migration period. During this period, the final calculated take was 1,894, considerably less than the allowable 2,700. This reduction was due to a voluntary pumping curtailment in February 1993 to limit daily take.

## Reduction of Losses at Banks Pumping Plant Complex

Banks Pumping Plant is located in the southern portion of the Sacramento-San Joaquin Delta. Water flows through Delta channels into Clifton Court Forebay and from there to Banks in an open canal. Fish losses at Banks occur primarily in Clifton Court Forebay through the lower screens upstream of the plant's large pumps. Consequently, the Department developed programs to minimize losses in those locations.

### Clifton Court Forebay

The Department of Fish and Game estimates that predatory fish—mostly subadult striped bass—account for the majority of fish losses in the forebay. Procedures are available to calculate losses of salmon smolts, juvenile steelhead trout, and young striped bass. The Department and DFG estimate predation losses caused by subadult striped bass to be 75 percent for Chinook salmon and steelhead. For young striped bass, depending on their size, the loss rate due to predation varies from 0 to 100 percent. The predation rates are based on experiments conducted with hatchery fish and are described in the 1986 agreement between the Department and DFG to mitigate direct losses of fish at Banks Pumping Plant. The procedures listed in the agreement for Chinook salmon were adopted by the NMFS in its February 1993 biological opinion.

Over the years there has been considerable interest in refining the estimated loss rates and finding ways to reduce the number of predators. In March 1992, under a limited predator removal program, about 2,000 striped bass, from 1 to 2 years old, were removed from the forebay. In the fall of 1992, the program expanded considerably, and about 20,000 striped bass were captured in seines and hauled to Delta release sites.

The Department and DFG tentatively plan a major predator removal project for fall and early winter 1994. The general procedure is to estimate the number of striped bass in the forebay, which has been about 150,000 to 200,000 in recent months, and then have several crews with special nets capture the subadult predators.

The captured fish will be counted and transferred to trucks for release into the estuary, probably in San Pablo Bay. After removal, the population in the forebay will be reassessed. Effectiveness of the removal program will be evaluated by another predation rate study. Although there is general agreement that such a project would provide use-

[2]Take is a calculated value derived from fish actually observed at the facilities and adjusted to take into account sampling duration, screen efficiency, prescreening losses—such as predation—and losses in handling and hauling.

ful information, concerns need to be resolved before it can be implemented. For example, striped bass anglers are concerned that the 1- and 2-year-old striped bass may be killed during the capture and transport process. Project operators are concerned that the reduction in predators may result in increased numbers of winter-run-size Chinook being salvaged and that, without adjusting the formula for calculating losses, the Department will reach its take limit sooner.

## Banks Pumping Plant

In 1986 the Department and DFG signed an agreement to offset direct fish losses at the intake of Banks Pumping Plant. The intent was to offset fish losses with projects encouraging natural production and improving survival of fish not reared in hatcheries. The agreement is based on the Department's and DFG's preference for natural production of Chinook salmon, striped bass, and steelhead rainbow trout. Chinook salmon improvement projects are being implemented mainly in the San Joaquin River tributaries. The San Joaquin system was selected because most of the naturally produced salmon smolts salvaged at the Department's Delta facilities originate in San Joaquin River tributaries and these populations have declined to low levels in recent years.

The 1986 agreement resulted in the implementation of several projects to offset calculated losses through direct replacement or improved survival. In addition, there have been projects that helped improve survival of targeted fish but whose benefits could not be completely described. Examples of such projects include (1) gravel restoration in the Merced and upper Sacramento Rivers, (2) conjunctive use of ground water, which leaves natural stream flow in the channel, (3) release of striped bass yearlings grown in hatcheries, and (4) funding for DFG wardens in the Delta to reduce illegal harvest by poachers.

A project setback occurred in 1992 when DFG decided that planting yearling striped bass in the Sacramento-San Joaquin estuary might adversely impact juvenile winter Chinook. As a result, more than two million bass intended for mitigation were planted in the California Aqueduct and project reservoirs. Since the fish were not used for mitigation in the estuary, the 1986 agreement between DFG and the Department could not be used for funding these purchases. After considerable negotiations between the Department and DFG, the two departments agreed to share equally the cost of rearing and planting fish. The fish production and rearing was performed according to contracts between the Department and several growers. The last claims under those contracts are due for payment in August 1993.

The DFG decision not to allow hatchery reared bass to be planted in the estuary left the Department with few options to mitigate the annual loss of approximately 600,000 bass yearlings. In July 1993 a potential alternative replacement strategy was demonstrated when about 30,000 yearling bass grown from fish collected at the Skinner Fish Protective Facilities were released into San Pablo Bay. These fish had a unique life history: they came from the salvage and were transferred to floating net pens anchored in a Suisun Marsh channel. Growth of the pen-reared fish was exceptional. The fish averaged one and one-half to two pounds at release. Hatchery fish of about the same age average about one eighth of a pound. Plans are to grow 200,000 salvaged fish in 1993–94 for release in the Sacramento-San Joaquin estuary. The Department of Fish and Game is consulting with NMFS to determine if a plant of this magnitude would adversely affect winter Chinook.

If the fish can be planted in the estuary, the 1986 agreement will cover project costs, and the Department will receive credit. If the fish cannot be planted in the estuary, costs would be paid by an anglers' organization.

In 1993 and 1994, the 1986 agreement will provide for (1) continued funding of gravel restoration projects in San Joaquin tributaries, (2) increased law enforcement at Deer and Mill Creeks to limit illegal catches of adult spring Chinook, and (3) possible installation of a hydroacoustic barrier to reduce the losses of Chinook through Georgiana Slough in the Delta.

## Identification of Protected Species in Suisun Marsh

To protect threatened or endangered plants and animals listed since the Plan of Protection for Suisun Marsh was adopted in 1984, the State Water Resources Control Board requested that the Department and the California Department of Fish and Game complete a biological assessment of the effects of the plan. Consequently, extensive field surveys of Suisun Marsh and the southern shore of Suisun Bay are being conducted to locate and identify rare, threatened, and endangered plant and animal species. To date, several plant and animal species of concern have been identified including California Delta smelt, Mason's lilaeopsis, winter-run Chinook salmon, and salt marsh harvest mouse.

The information obtained through that assessment, which began in 1990 and will be completed in early 1994, will be used to determine the effects on threatened and endangered species of water quality standards proposed for Suisun Marsh in the Suisun Marsh Preservation Agreement (see Chapter 11, "Preserving the Delta," for information about the Suisun Marsh Preservation Agreement).

# 13. Managing Delta Resources

To effectively manage water in the Sacramento-San Joaquin Delta, the Department of Water Resources has developed water management programs for three distinct areas of the Delta: the north Delta, south Delta, and west Delta. See Figure 13-1 at the end of this chapter for boundaries of these programs.

Work on the Department's Delta water management programs continues under the guidelines contained in Governor Pete Wilson's April 22,1992, water policy. As part of his policy to "restore" the Delta, the governor directed that near-term solutions be implemented and long-term solutions be investigated and recommended.

In keeping with the governor's policy, the Department reviewed its Delta water management programs, which are designed to provide interim solutions for improving conditions in the Delta. Long-term solutions will be investigated and recommended by the 22-member Bay-Delta Oversight Council appointed by Governor Wilson as part of his water policy.

## Interim North Delta Program

The Interim North Delta Program evolved from the former North Delta Program to be consistent with Governor Wilson's water policy. The five objectives of the Interim North Delta Program are to:

1. Alleviate flooding in the north Delta, including the towns of Thornton and Walnut Grove
2. Reduce reverse flow in the lower San Joaquin River
3. Improve water quality
4. Reduce impacts (from water supply projects) on fisheries
5. Increase flexibility of the State Water Project for water transfers and improve reliability of its water supply

The program is also designed to improve navigation and enhance wildlife habitat and recreational opportunities.

### Implementation

The Interim North Delta Program will be implemented in phases. The first phase, which includes preparing the environmental analysis and documentation, is in progress. Other actions considered for the first phase include implementing a fish screen demonstration project to benefit fisheries.

Interim alternatives under consideration include (1) increasing the hydraulic capacity of the Mokelumne River channels by dredging, improving levees, and creating levee setbacks; and (2) enlarging the Delta Cross Channel Gate structure. After interim

actions are completed, the Department will monitor the project to determine its effectiveness.

Alternatives for future phases will be included in evaluations considered by the Bay-Delta Oversight Council. Those alternatives include (1) constructing partial tidal gate structures in the Sacramento River and Steamboat Slough and seasonal barriers in Threemile Slough and Georgiana Slough and (2) constructing a new channel to connect the Sacramento River with the central Delta.

### Water Policy Review

The Interim North Delta Program is being reviewed in the context of the governor's water policy. The Department is examining the program in terms of both a long-term and interim solution to restoring the Delta. In addition, the Department is continuing to coordinate activities with appropriate federal, state, and local agencies and to conduct technical studies.[1]

## Interim South Delta Program

The Interim South Delta Program evolved from the former South Delta Program to be consistent with Governor Wilson's water policy. This policy calls for facilities in the south Delta that can be constructed quickly to improve Delta water conditions during the period prior to the implementation of a long-term solution. The long-term solution is to be developed by the Bay-Delta Oversight Council.

The Interim South Delta Program is designed to improve water levels and circulation in south Delta channels for local agricultural diversions as well as improve south Delta hydraulic conditions. Improved hydraulic conditions will permit increased water diversions into Clifton Court Forebay and enable Harvey O. Banks Delta Pumping Plant to operate more frequently at full pumping capacity.

### Proposals

The environmental review process, currently in progress, includes proposals by the Department and the U.S. Bureau of Reclamation for:

- Constructing up to four control structures in south Delta channels to improve local water levels and circulation
- Enlarging some existing south Delta channels to improve conveyance and circulation
- Constructing an additional intake to Clifton Court Forebay north of the existing intake
- Obtaining a permit from the U.S. Army Corps of Engineers to increase diversions into Clifton Court Forebay, thereby allowing Banks Pumping Plant to pump up to the maximum design capacity of about 10,300 cubic feet per second

The proposal for increasing diversions into Clifton Court Forebay provides the Department with important benefits: (1) increased operational flexibility and capacity to bank water south of the Delta and reduce fish losses, and (2) improved reliability of the water supply. In addition, the alternative allows the Department and USBR to meet the obligations of a pending contract with South Delta Water Agency for improved conditions for local agricultural diversions. Also, im-

[1]The U.S. Army Corps of Engineers is the lead federal agency for the North Delta Program according to its regulatory permit authority (Rivers and Harbors Act and Section 404 of the Federal Water Pollution Control Act [Clean Water Act]).

proved flow patterns should help salmon migrations in the San Joaquin River.

Losses of wildlife habitat due to the Interim South Delta Program will be mitigated by adopting a wildlife management plan at Sherman Island or Twitchell Island, or both, and at other locations as appropriate. The Department and USBR signed an agreement with the Department of Fish and Game to define the area of negotiations concerning fishery mitigations.

### Environmental Review Process

The draft environmental impact report/environmental impact statement (EIR/EIS) for the South Delta Program was released in June 1990. Two public hearings were held in California, one on September 19, 1990, in Sacramento, and the other on September 20, 1990, in Tracy. The public review period was extended and ended September 30, 1991.

The review period was extended to allow concurrent review of environmental documents for the South Delta Program with the draft environmental documents on the North Delta and Los Banos Grandes programs. Those documents were released in late 1990. The Department received comments from 15 public agencies and 60 individuals.

When the final EIR/EIS is completed, a notice of determination will be filed. State and federal regulatory agencies may then act on permits required to construct and operate the proposed facilities.

The key permit required will be issued by the U.S. Army Corps of Engineers according to Section 404 of the Federal Water Pollution Control Act (Clean Water Act) for dredging operations and Section 10 of the River and Harbors Act for navigation. Approval for the permit must be coordinated with the U.S. Fish and Wildlife Service, National Marine Fisheries Service, and the Environmental Protection Agency.

## West Delta Program

The objective of the West Delta Program is to implement a land-use management program to effectively control subsidence and soil erosion on Sherman Island and Twitchell Island as well as provide habitat for wildlife and waterfowl.

The Department of Water Resources and the Department of Fish and Game have jointly developed the wildlife management plan for the two islands. That plan is also designed to benefit species of wildlife that occupy wetland, upland, and riparian habitats and provide recreational opportunities for hunting and viewing. In addition, property acquired and habitat developed through the Department's efforts will be available to use as mitigation for impacts associated with the Department's ongoing Delta water management programs.

As a result of implementing the wildlife management plan, subsidence would be significantly reduced through minimizing oxidation and erosion of the peat soils on the islands. Minimizing oxidation and erosion would be accomplished by replacing present agricultural cultivation practices with land-use management practices designed to stabilize the soil. Those practices range from minimizing tillage to establishing wetland habitats.

Altering land-use practices could result in the following benefits:

- Up to 13,600 acres of managed wildlife and waterfowl habitat
- Increased flood control
- Additional protection of water quality in the Delta
- Increased reliability of the SWP water supply

- Additional recreational opportunities in the Delta

Establishing wetland and wildlife habitats on the two islands is consistent with national and state policies designed to enhance and expand wetlands.

## Special Flood Control Program

As a result of the Delta Flood Protection Act passed by the California Legislature in March 1988, $12 million is to be appropriated each year until January 1, 1999, for developing two programs designed to prevent flooding in the Delta: the Delta Levee Maintenance Subventions Program and the Special Flood Control Program.

Information about the Department's participation in the Special Flood Control Program follows.

### Protection of Towns and Western Delta Islands

The Special Flood Control Program includes a mandate for protecting the towns of Walnut Grove and Thornton and the eight islands of the western Delta—Bethel, Bradford, Holland, Hotchkiss, Jersey, Sherman, Twitchell, and Webb.

Those eight islands require protection because they (1) support urban areas, including public facilities; (2) provide large areas of diverse, valuable habitat; and (3) are critical to the protection of water quality in the Delta. Because fresh and salt waters mix nearby, flooding any of those islands would allow saline water to intrude further into the Delta.

In July 1989 the legislature approved the flood control plan for Thornton and Walnut Grove. Immediate improvements for levees were recommended as well as several long-term improvements to levees, channels, and facilities. Implementation of the plan for protecting Thornton began in 1990.

Since 1990 a financial study of local cost-sharing possibilities has been completed and a cost-sharing agreement signed between the Department and Reclamation District 348, where Thornton is located. The final design of the interim facilities identified in the flood control plan was completed in September 1992. The design was specifically crafted to protect as much of the existing on-levee habitat as possible. Unavoidable loss of habitat will be mitigated by developing replacement habitat on nearby property owned by the Department.

Construction of the Thornton project was scheduled to begin in spring 1993. However, funding reductions imposed as a result of the state's ongoing financial crisis delayed the project. With full funding of the Special Projects Program in fiscal year 1993–94, work will begin in July 1994.

### Implementation

A long-term plan, *Actions and Priorities, Delta Flood Protection Act, Eight Western Delta Islands*, was approved in May 1990 by the California Water Commission as the second step in implementing the flood control program.

That long-term plan will be used by the Department to determine how to best use appropriations to protect the eight western Delta islands. Those protections include:

- Rehabilitating threatened levees
- Documenting levee encroachments on Bethel Island and Hotchkiss Tract
- Investigating subsidence
- Coordinating efforts for rehabilitating levees through the use of imported dredged material

- Verifying elevations in the Delta through the use of Global Positioning System equipment, which is used in conjunction with U.S. Navy navigational satellites
- Upgrading levees to the standards included in Bulletin 192-82, *Delta Levees Investigation*, published by the Department in December 1982

## Levee Rehabilitation

Rehabilitating the threatened levee sites will provide short-term protection for the western Delta until long-term improvements can be made.

To date, more than $4 million has been spent at locations on Hotchkiss and Webb Tracts and Sherman, Twitchell, Bethel, and Bradford Islands. The costs of rehabilitation are divided between the state and the local agencies; those agencies may pay up to 25 percent of the costs. The actual amounts to be paid were determined in an ability-to-pay study completed in May 1992 for each island.

## Encroachment Documentation

Structures encroaching on levees conceal seepage, boils, rodents' burrows, cracks, and other causes of levee failures. In addition, those structures restrict access to sections of the levees needing improvements or repairs. In August 1989 the Department documented 130 encroachments on Bethel Island and Hotchkiss Tract.

The first phase encroachment study was completed in March 1990. This phase covered landside levee encroachments and resulted in a report documenting the location and extent of each encroachment. The second phase covers waterside encroachments. Fieldwork for the second-phase work is done. Two reports covering Bethel and Hotchkiss, respectively, will be published in late 1993.

## Subsidence Investigations

Subsidence of peat soils is an important concern throughout the Delta. As the ground surface on an island subsides, the geometry of the levee changes; the levee is then less likely to withstand the pressure of the water. Flooding is likely to occur if the levees are not returned to their original geometry and elevation.

The legislature recognized that problem with flooding and, with the Delta Flood Protection Act, requested the Department to monitor subsidence and study its causes. Accordingly, the Department has contributed $380,000 to the U.S. Geological Survey to help fund an investigation of subsidence in the Delta.

After reviewing preliminary data provided by USGS, the Department concluded that:

- Land management practices substantially influence subsidence rates
- Permanent shallow flooding can stop the microbial subsidence processes
- Cultivation practices, which help to raise soil temperature and lower the water table, dramatically increase oxidation of the peat soils
- Conversion of highly organic peat soils to a carbon dioxide gas and the subsequent discharge from the peat appears to be the primary cause of subsidence

Studies designed to quantify rates of subsidence, with a focus on the underlying physical and chemical processes that lead to surface subsidence, continue along with identification of land management practices to help minimize subsidence.

## Upland Relocation of Dredged Material

As local sources of fill material are depleted, new economical sources must be located. The Department, in coordination with the U.S. Army Corps of Engineers, Reclamation District 341, Reclamation District 1601, and the Central Valley Regional Water Quality Control Board, implemented two pilot projects to demonstrate the viability of relocating material from the San Francisco Bay area.

The first project, on Sherman Island, Reclamation District 341, consisted of utilizing approximately 1,600 cubic yards of sediment dredged from Suisun Slough as part of constructing a 2,500-cubic-yard experimental berm. The berm was built on the toe of a levee reach along the San Joaquin River. As a condition of allowing the import of dredged sediment from the San Francisco Bay area to Sherman Island for levee rehabilitation, the Central Valley Regional Water Quality Control Board required an extensive program of soil and water testing and monitoring in the berm's vicinity by the Department. The testing program began in late 1990, immediately after construction of the berm was completed. The program continued for 2 years and ended in late 1992 with the approval of the Board. No soil or water quality problems were encountered.

The second project is on Twitchell Island, Reclamation District 1601. That project consisted of transporting approximately 50,000 cubic yards of sediment to Twitchell Island. The sediment, which was dredged from Suisun Slough, was transported from the Corps storage site on Simmons Island. This material was used as part of a major rehabilitation of the San Joaquin River levee on Twitchell Island. The dredged sediment was utilized on Twitchell Island with the permission of the Central Valley Regional Water Quality Control Board. The Board required, as a condition for its approval, that a water quality monitoring program be undertaken on Twitchell Island. This program was implemented in late 1992. As of June 30, 1993, no adverse salinity impacts have been measured as part of our ongoing electrical conductivity monitoring.

## Elevation Verification

In 1987 the Department obtained Global Positioning System equipment, which is used in conjunction with U.S. Navy navigational satellites to establish precise horizontal and vertical positions. Field surveys of the Delta were made with this equipment in 1989. The data are being used to verify elevations in the Delta and to ensure that improved levees will be high enough so overtopping will not occur during high-water conditions.

The National Geodetic Survey will eventually publish data obtained from those surveys. In the meantime the Department published an interim report—*Use of the Global Positioning System to Establish a Common Vertical Datum in the Sacramento-San Joaquin Delta, California,* August 1991— on the surveys, including elevations verified through data from the surveys.

## Levee Upgrades

The Department is upgrading the levees according to standards contained in Bulletin 192-82, *Delta Levees Investigation*. According to those standards, the agricultural levees must be raised to provide 1.5 feet of freeboard for a 300-year flood and widened to increase both land and waterside stability.

To encourage upgrading of levees to the standards contained in Bulletin 192-82, the Department is using available special project funds when other sources of funds are not available.

To augment its flood control actions, the Department is developing long-term plans to provide higher levels of protection for all eight islands. The preparation of those plans was approved by the California Water Commission in May 1990. The programs resulting from those plans will be funded by yearly appropriations as provided for in the Delta Flood Protection Act. The long-term levee improvement program for Twitchell Island will be completed in 1993.

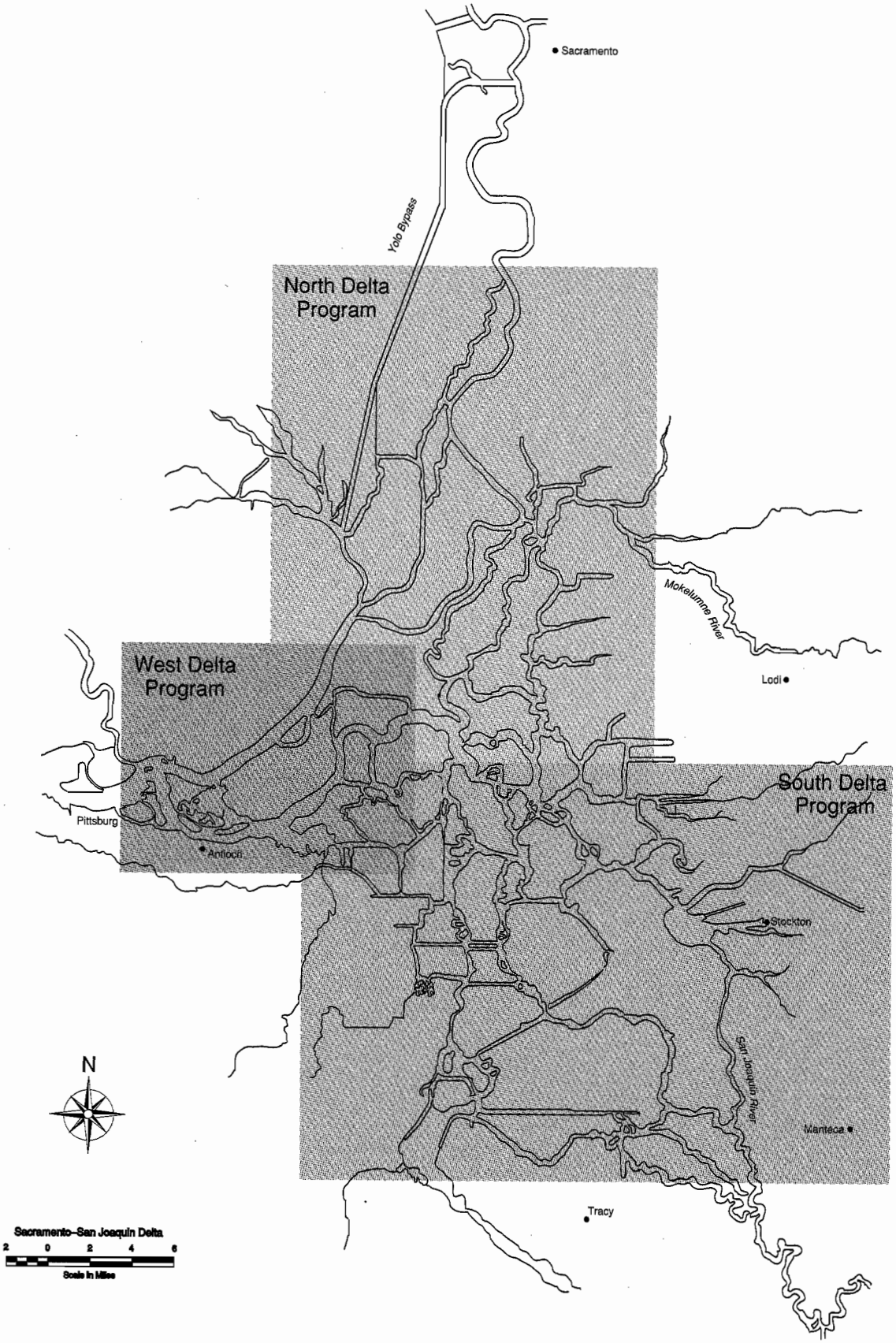


**Fig. 13-1. Boundaries of north, west, and south Delta water management programs**

# 14. Monitoring Water Quality

Approximately 20 million Californians depend on the State Water Project for all or part of the water they use for domestic purposes every day. In addition SWP supplies water for agriculture, industry, power generation, recreation, and fish and wildlife. The quality of water supplied by SWP for those beneficial uses is safeguarded through an extensive water quality monitoring program.

Water quality objectives for existing or potential sources of drinking water are set by the State Water Resources Control Board and Department of Health Services. Additional contractual water quality objectives at points of delivery are set by Article 19 of the long-term SWP water supply contracts. Water quality in the Delta and Suisun Marsh is protected according to the State Water Resources Control Board's Water Right Decision 1485 (1978).

The Department of Water Resources monitors water quality through an automated network of continually operating recorders and laboratory analyses of field samples collected at weekly, quarterly, monthly, or annual intervals. The Department also conducts special studies to investigate water quality at potential problem sites or as a result of unique events.

In 1992 the Department issued Water Resources Engineering Memorandum No. 60, which established a policy for developing a program to assure that water quality related data produced by the Department from field and laboratory investigations meet established standards and can be scientifically corroborated.

Information about the Department's monitoring activities follows.

## Delta Activities

The Department conducts extensive monitoring activities designed to protect beneficial uses of water in the Delta and Suisun Marsh as required by the State Water Resources Control Board's Decision 1485. The decision establishes water quality standards and operational constraints concerning water flow volumes, salinity levels, and export quantities. Locations of monitoring sites are shown in Figure 14-1 at the end of this chapter.

Water quality related constraints on SWP operations in the Delta are determined ac-

cording to water year classifications, which are determined by criteria included in Decision 1485. Each water year classification is based on the Sacramento River Index—the Department's annual May 1 estimate of unimpaired runoff to streams in the Sacramento River Basin. Standards set by Decision 1485 differ for each type of water year classification. (See Chapter 4, "Collecting and Storing Water," for additional information about runoff and water year classifications.)

The Department's May 1, 1992, estimate of Sacramento River Basin unimpaired runoff resulted in a 1991–92 water year classification of *critical* for fish and wildlife, agricultural, and municipal and industrial uses. Since the last *wet* water year (1985–86), all six water years have been classified as *critical* except water year 1989–90, which was classified as *dry*.

Throughout the recent drought, the Department met most Decision 1485 water quality and flow standards through (1) releases from reservoirs, (2) operation of the Delta Cross Channel gates, and (3) reductions in Delta exports. Those operational decisions were based on real-time monitoring data and long-range modeling activities.

## Decision 1485 Standards

Decision 1485 sets standards for the amount of outflow and water exported from the Delta, and for water quality within the Delta and Suisun Marsh. The decision also specifies requirements for monitoring hydrodynamic and biotic conditions throughout the Delta.

### Outflow and Export Standards

Water quality in the Delta is influenced by ocean tides, freshwater outflow from the Sacramento and San Joaquin Rivers, local agricultural and municipal discharges, and water exported from the Delta.

The Delta Outflow Index (DOI) is a calculated approximation of the amount of seaward freshwater outflow passing Chipps Island near Pittsburg, beyond the confluence of the Sacramento and San Joaquin Rivers.

The Delta outflow and export standards are important because they help to ensure:

- Protection of water quality in the Delta
- Preservation of Suisun Marsh
- Survival of striped bass, salmon, and other important aquatic estuarine species

During May, June, and July, water exports from the Delta through Harvey O. Banks Delta Pumping Plant are limited by Decision 1485 export and outflow standards. All Decision 1485 export and Delta outflow standards were met during 1992, the last year of the recent drought. Additionally, April export limits set as a condition of the Central Valley Project and SWP incidental take permit for the endangered winter-run salmon, under the federal Endangered Species Act, were also met.

#### Water Supply Conditions

The average daily DOI for 1992 averaged only 6,760 cubic feet per second (cfs), slightly greater than the 1991 value of 5,900 cfs. By contrast, in the *critical* and *dry* years of 1988 and 1989, the daily outflows averaged 8,621 cfs and 11,507 cfs, respectively. In wet years such as 1984 and 1986, the DOI averaged over 20,000 cfs daily.

During the 1991–92 water year, a dry winter followed a fall season of only average rainfall. However, a series of storms in February and March reduced dry conditions with

statewide monthly precipitation averaging 160 percent and 125 percent of normal, respectively. But statewide distribution of rain was uneven. Under El Niño influence, the heaviest precipitation occurred in Southern California. The county of Los Angeles experienced one of the worst storms on record with precipitation at 256 percent of normal. However, seasonal precipitation in the Sacramento River Basin and northern Sierra Nevada increased to only 75 percent of average during the same storm period.

Storm runoff in February and March produced about 25 percent of the total yearly Delta outflow volume and resulted in 54 of the year's 66 days of average Delta outflow over 10,000 cfs. The highest mean monthly (22,318 cfs) and mean daily (42,479 cfs) DOI during 1992 occurred in February.

Conditions similar to those of early winter, with less-than-normal rainfall, returned in April and May; late spring and early summer months were exceptionally hot and dry. Delta outflow dropped to a mean monthly flow under 4,000 cfs in five of the six remaining 1992 water year months. The lowest mean monthly and mean daily DOI—2,503 cfs and 1,736 cfs, respectively—occurred in August 1992. The May 1 Sacramento River Index was only 9.4 million acre-feet (50 percent of average). The 1991–92 water year was classified as *critical*.

## Water Quality Standards

Water quality in the Delta depends primarily on a balance between freshwater downstream flows and saltwater tidal incursions. During periods of lower-than-normal river flow, water is released from SWP and CVP reservoirs (Shasta, Oroville, and Folsom) to meet Delta standards through balancing Delta outflow and pumping needs.

In 1992 the only Decision 1485-mandated water quality standard not met was the agricultural standard at Emmaton on the Sacramento River. A discussion of the events leading to water quality problems at Emmaton along with the Department's attempts to solve the problems and meet Decision 1485-mandated standards follows.

### Standards at Emmaton and the Contra Costa Canal Intake at Pumping Plant No. 1

The 14-day mean agricultural standard at Emmaton, which has an upper electrical conductivity (specific conductance) limit of 2.78 millimhos (mmhos) as a measure of salinity, was not met for 71 days between May 26 and August 15, 1992. Factors contributing to this event include (1) restrictions on water releases from Keswick Dam, (2) low upstream reservoir storage, (3) high water consumption in the Delta, and (4) actual tides much higher than predicted.

In mid-May 1992, water releases from Keswick Dam to the upper Sacramento River were restricted to benefit fall- and winter-run salmon, and these restrictions resulted in extremely low flows on the Sacramento River. Outflows were further reduced by high water consumption in the Delta due to above-normal temperatures and dry conditions in May. These low flows resulted in increased salt water incursion into the Delta, which was worsened by May tides that were approximately one-half foot higher than predicted.

By the first of June, efforts to meet the agricultural standard at Emmaton were complicated by concerns about also meeting municipal and industrial standards for chloride levels at the Contra Costa Canal Intake at Pumping Plant No. 1 at Rock Slough. To reduce salinity at Emmaton, the Cross Channel gates had been closed on May 15. To assist

in meeting the chloride standard at the Contra Costa Canal Intake, the gates were opened briefly from May 22–26 and from May 29–June 1. However, chloride levels continued to increase.

The problem of meeting standards both at Emmaton and the Contra Costa Canal Intake was made more difficult by existing constraints on water releases by CVP and SWP, including constraints on water releases from Keswick Dam. Meeting the standards without increasing releases from Keswick Dam would have required that releases from Folsom Lake and Lake Oroville be increased significantly. However, increasing releases from these reservoirs was constrained by other factors, including the need to (1) meet future cold-water requirements for fall-run salmon; (2) sustain adequate storage in Folsom Lake to supply delivery commitments to local cities and water districts; (3) meet the steady-state flow release objective of 3,250 cfs through Keswick Dam (measured at Wilkins Slough) that was established by the National Marine Fisheries Service as a condition of the incidental take permit for winter-run salmon; and (4) maintain minimum delivery commitments south of the Delta.

In recognition of the constraints on SWP and CVP in meeting standards both at Emmaton and the Contra Costa Canal Intake at Pumping Plant No. 1, the State Water Resources Control Board allowed the municipal and industrial standard at the canal intake to take precedence over the Emmaton agricultural standard. Beginning June 8, the Delta Cross Channel gates were opened to provide maximum dilution of water in the inner Delta to meet the Contra Costa Canal Intake standard of mean daily chloride ion content at or under 250 milligrams per liter (mg/l). The gates remained opened for the duration of 1992. Although the Emmaton standard was not met, the 250 mg/l Contra Costa Canal Intake standard was met through the end of 1992.

### Relaxation of Additional Decision 1485 Standards at Contra Costa Canal Intake at Pumping Plant No. 1

In addition to the mean daily chloride standard of 250 mg/l, Decision 1485 requires that chlorides not exceed 150 mg/l at the Contra Costa Canal Intake for at least 155 days during a *critical* water year. However, because of adverse water supply conditions in the sixth year of the statewide drought, SWP and CVP experienced difficulties in meeting the 150 mg/l standard in 1992. By November, an additional 32 days of chloride levels below 150 mg/l were required to comply with Decision 1485.

To solve this problem, the Department and USBR petitioned the State Water Resources Control Board to relax or substitute a standard under provision of Order 92-02, which had been issued on March 19, 1992. Order 92-02 recognized that drought-related water supply conditions had affected the Department's and USBR's ability to comply with Decision 1485 standards and allowed the Board to reserve judgment when considering the reasonableness of compliance with the standards. Therefore, the Department and USBR requested that the Board consider the reasonableness of requiring compliance with the Decision 1485 standard for maintaining the chloride ion content at or below 150 mg/l at the Contra Costa Canal Intake.

On November 20, 1992, the Board held a public hearing and, as a result of testimony, waived the chloride standard conditioned on implementation of alternative compliance measures more appropriate to the prevailing drought conditions. The new measures were contained within State Water Resources Con-

trol Board Order 92-08, which restricted the Department and USBR to a combined daily export total of 2,500 cfs at Banks and Tracy Pumping Plants whenever the Jersey Point EC was greater than or equal to 0.8 millimhos per centimeter (mmhos/cm). A more stringent export restriction would have compromised Contra Costa water quality through the buildup of agricultural drainage in the interior Delta. The 2,500 cfs pumping restriction was to remain in place until the Jersey Point EC dropped below 0.8 mmhos/cm.

Order 92-08 became effective on November 29, 1992, and all its provisions were met. Water exports remained below 2,500 cfs through December 14, when combined pumping restrictions were discontinued. However, the Department of Fish and Game set a pumping limit of 4,000 cfs at Banks Pumping Plant for the duration of a 5-day study of predator-prey relationships in Clifton Court Forebay which began on December 13, 1992. By December 17, pumping restrictions associated with Order 92-08 were lifted as the predator-prey study ended, and the Jersey Point EC dropped to less than the 0.8 mmhos/cm limit. Pumping at levels above 4,000 cfs resumed for the remaining 1992 calendar year; Contra Costa Canal Intake chloride fell to less than 150 mg/l by December 26.

## Decision 1485 Biotic Community Surveys

The biotic communities of the Delta are regularly monitored by the Department to identify changes potentially related to SWP operations and to assess the effectiveness of the State Water Resources Control Board's Delta Water Quality Control Plan in preserving Delta and Suisun Marsh water quality. Decision 1485 requires that a monitoring report on water quality and biotic conditions be submitted annually to the Board. Biotic communities reported include phytoplankton, aquatic higher plants, and benthos. The Decision 1485 compliance monitoring was incorporated into the Interagency Ecological Studies Program beginning in 1990.

### Phytoplankton Distribution and Productivity

*Phytoplankton* are small plants with limited powers of locomotion that are the base of the food chain for much of the Delta's aquatic biota. Chlorophyll *a*, the predominant algal pigment, is used to identify the amount of phytoplankton at a determined location. The ratio of chlorophyll *a* to the sum of chlorophyll *a* and phaeophytin, one of its breakdown products, provides an indication of the portion of the community that is actively growing. Generally, communities with chlorophyll ratios at 70 percent or more are considered actively growing.

Chlorophyll concentration was low throughout most of the Sacramento-San Joaquin Delta in 1992 compared with concentrations in previous years. The northern Delta, however, maintained its usual low of less than 5.0 micrograms per liter (µg/l). During 1992, excluding May, chlorophyll concentration was also less than 5 µg/l for the western Delta and the lower San Joaquin River. Chlorophyll concentration higher than 5 µg/l in May was associated with populations of *Melosira granulata* and *Thalassiosira* spp. These populations were healthy but not thriving since percentage chlorophyll values were less than 70. The higher values of chlorophyll concentration in May for the western Delta were relatively low compared with those of previous years, when it often reached 10 to 30 µg/l. In contrast, the chlorophyll concentration for the lower San Joaquin River was one of the

highest on record and was close to those concentrations measured between 1981 and 1988 (25-40 µg/l).

Chlorophyll concentration for the southern Delta in 1992 was consistently above 10 µg/l and peaked at 200 µg/l in July. This concentration is high when compared with concentrations in the 1980s (10-50 µg/l) and is similar to those in the 1970s (100-300 µg/l). Chlorophyll concentrations were higher during the latter years of the 1987–92 drought. The phytoplankton were actively growing throughout 1992 with chlorophyll values of about 70 percent or more. Higher chlorophyll values for June through August were associated with populations of *Cyclotella* spp.

Average chlorophyll concentrations in Suisun and San Pablo Bays—4 µg/l and 7µg/l, respectively—were low in 1992 compared with those of previous years. In contrast, chlorophyll concentrations reached between 20 µg/l and 50 µg/l in Suisun Bay prior to 1987 and between 8 µg/l and 14 µg/l in San Pablo Bay during the early 1980s. Low chlorophyll concentrations in Suisun Bay since 1987 were probably due to filter feeding by the introduced clam, *Potamocorbula amurensis,* which became abundant during the drought years of 1987–92. Low chlorophyll values of 30–60 percent support the presence of relatively high quantities of chlorophyll breakdown products from grazing by the clam.

### Aquatic Higher Plant Community Surveys

The Department has performed biannual surveys of aquatic higher plants since 1989. Those surveys are used to document any long-term and seasonal changes in the Delta's aquatic vegetation. Their results have consistently indicated no obvious correlation between water quality variables and the occurrence of aquatic vegetation, either annually or seasonally. The same plant species have been consistently seen or collected at the same locations during the seven surveys performed to date. However, the presence of several of the submerged aquatic species varied seasonally while emergent species biomass increased over time at several locations. The dominant emergent species continued to be the common tule (*Scripus acutis*); the dominant submerged species were anachoris (*Egeria densa*) and milfoil (*Myriophyllum spicatum*). The overall apparent stability of the aquatic vegetation was the basis for the decision to reduce the surveys to one per year and to discontinue, in 1991, the aerial photography of each sampling site that was part of the program.

The Department usually assists the California Department of Food and Agriculture in its annual search for the aquatic weed *Hydrilla verticillata*. This statewide program was designed to detect the spread of the fast-growing aquatic plant that could quickly clog waterways and pumps. Budget cuts at the Department of Food and Agriculture eliminated this intensive survey in 1992. However, no hydrilla was seen or collected during the Department's own aquatic community survey.

### Benthic Community Survey

The Department works with other agencies to survey and document biological and hydrological conditions in the Delta, including those animals, the benthos, living on the bottom of the channels and bays. The information gained through benthic surveys is used by the Department to identify the many factors influencing community dynamics, including potential impacts from SWP operations.

Through compliance monitoring activities in 1992, the Department documented that the overall dominance of introduced benthic

(bottom-dwelling) species persisted throughout 1992. Since 1987 at least one introduced benthic organism has been among the top four numerically dominant organisms at each of the five benthic monitoring sites, which are located in Suisun Bay and the western and central Delta.

The newly introduced species *Hemileucon hinumensis, Potamocorbula amurensis,* and *Gammarus diaberi* along with the established exotic *Corbicula fluminea* appear to have established dominance in portions of the estuary. The established benthic communities of the Delta and Suisun Bay continue to be altered by the multi-year drought and the introduction of exotic species.

## Rock Barrier Installations

During 1992 three temporary rock barriers were installed in the south Delta on Middle and Old Rivers under several agreements or management programs. The barriers were used to enhance water quality, improve water circulation, control water levels during the agricultural irrigation season, and increase the survival of migrating salmon. Two barriers were installed as part of an experimental program for long-range south Delta planning proposals.

### Old River Barrier

As part of a February 1969 joint agreement between the Department, U.S. Fish and Wildlife Service, U.S. Bureau of Reclamation, and Department of Fish and Game, the Department installs a temporary rock barrier at the head of Old River during years when flows are forecast to be low in the fall. The barrier helps alleviate the dissolved oxygen depression (less than 5 mg/l) that can occur in the Stockton Ship Channel when flows are low and water temperatures are high or when dredging occurs. The improved dissolved oxygen levels help salmon survive their upstream migration.

Flows in the San Joaquin River in 1992 were lowest since the 1976–77 drought and contributed to the lowest measurement of dissolved oxygen levels in the Stockton Ship Channel since the beginning of the 1987–92 drought.

To increase net downstream flows and force more water down the San Joaquin River, a temporary closure was completed at the head of Old River on September 11, 1992. Even with the barrier in place, exceptionally low dissolved oxygen levels (3.0 mg/l or less) continued to be recorded in the Rough and Ready Island area from late September through mid-October.

Recovery to levels greater than 5.0 mg/l finally occurred at the end of November as San Joaquin River flow increased, water temperatures dropped, and dredging ceased. A water exchange agreement between DFG and irrigation districts on the Stanislaus and Merced Rivers contributed to increased San Joaquin River flow. The exchange provided water releases of up to 2,000 cfs into the San Joaquin River from October 17 through 21, 1992. Although the barrier was scheduled for removal in November, through a request from DFG, it remained in place until December 2, 1992.

### Middle River Barrier

A rock barrier was placed in Middle River near Victoria Canal on April 10, 1992, for the agricultural irrigation season and removed on September 28, 1992, as specified in an October 1986 agreement with the Department, South Delta Water Agency, and U.S. Bureau of Reclamation. The barrier helped to (1) increase and stabilize water levels for more consistent diversions of agricultural water and (2) improve circulation and flush the

shallow sloughs and river reaches in the south Delta.

### South Delta Barriers

The South Delta Water Management Program draft environmental impact report was released to the public in 1990. The program was designed to resolve local south Delta water supply issues within the larger context of the Department's water banking program. The program includes proposals to construct up to four barriers in the south Delta to improve local water levels and circulation patterns and meet other South Delta Water Management Program objectives. Under the proposed South Delta contract discussed in Chapter 5, a 5-year test program will precede construction of the permanent barriers. In 1992, two of the test barriers were constructed during spring 1992: one on Old River at its confluence with the San Joaquin River and the other on Old River east of the Delta Mendota Canal intake at Tracy Pumping Plant.

The barrier near the San Joaquin River confluence was completed April 23, 1992; however, its height was increased at the end of April to prevent water overtopping. To provide navigation continuity, boat portage facilities were completed May 1, 1992. The barrier aids spring migrating salmon in their journey along the San Joaquin River to the Pacific Ocean. The barrier increases net downstream flows in the lower San Joaquin River. These increased flows reduce the number of salmon that swim into South Delta channels where they get lost, become victims of predators, or get caught at the intakes of Banks or Tracy Pumping Plants, the barrier helps salmon survive their upstream migration.

Construction of the barrier near the Delta Mendota Canal intake at Tracy Pumping Plant began on April 15, 1992, and was completed on May 1, 1992. Boat portage facilities were completed May 9, 1992. This barrier provides benefits similar to those of the Middle River barrier described previously.

### Georgiana Slough Barrier

Georgiana Slough branches off the Sacramento River just below the Delta Cross Channel gates. A rock barrier was proposed at the head of the slough to improve the survival of downstream migrating winter-run salmon smolts. The barrier would direct the fish into the Sacramento River, thereby preventing entry into Georgiana slough and losses of fish in the inner Delta channels. An initial barrier study was performed and a negative declaration was released August 31, 1992. The proposed installation was set for the middle of January 1993 to permit operation from February through April. However, the construction contract was terminated when the Department and other regulatory agencies were unable to concur on the possible effects of the barrier on water quality, recreational boating, and fisheries.

## Activities Outside the Delta

Activities conducted outside the Delta include monitoring water quality standards, developing a program for data quality assurance and data quality control, conducting temperature studies at Lake Oroville, protecting water quality in Suisun Marsh, and developing and implementing a program for improving drainage in the San Joaquin Valley.

### Water Quality Monitoring

The Department monitors water quality at 30 SWP stations, most of which are located outside the Delta. (This program is separate from the Delta Water Quality Compliance Pro-

gram previously discussed.) Twenty stations are located south of the Delta at reservoirs, power plants, and check structures of the North Bay, South Bay, Coastal Branch, and main canal of the California Aqueduct. Other monitoring activities are conducted at state reservoirs north of the Delta: Lake Oroville, Antelope Lake, and Frenchman Lake.

Delta exports are normally the sole source of water for SWP facilities and reservoirs south of the Delta. Most Delta water is exported south during the winter when the greatest freshwater outflow occurs; as a result, reservoirs south of the Delta are usually supplied with the highest quality water. San Luis Reservoir, the only SWP conservation storage facility between the Delta and Southern California, is usually filled by May 1.

Other sources of water for SWP in 1992 included infrequent, localized storm inflow and ground water pumped into the California Aqueduct as part of a drought relief program.

Water samples at most stations are analyzed monthly to determine total levels of dissolved solids and concentrations of nutrients, chloride, sulfate, sodium, trace metals, and other constituents. Those levels are compared with water quality objectives included in Article 19, "Water Quality," of the long-term water supply contracts and state drinking water standards.[1] Herbicides, pesticides, and organic substances are monitored less frequently.

## Data Quality Assurance and Data Quality Control

Each year the Department invests about $20 million and about 150 person-years of effort in the collection of water quality related data. Since most of the water quality assessment activities are oriented toward State Water Project planning and operations, it is particularly important to protect this investment of time and money through adequate quality assurance and quality control.

Water Resources Engineering Memorandum No. 60, issued in 1992, established the Department policy for developing a program to assure that data produced by the Department are of established high quality and are quantifiable. This policy recognizes that environmentally, economically, and politically sensitive data generated by the Department must meet high quality standards and must be scientifically defensible.

Since implementation, a quality assurance officer has been designated, and a quality assurance plan for the water data collection activities is nearing completion. In addition, project-specific quality assurance plans are being produced for individual water quality monitoring programs within the Department. An important feature of these plans is establishing data quality objectives. Those objectives specify the level of data quality to be achieved for project data to be usable for a desired purpose.

A number of guidance documents have been completed or are currently under development. Those documents include (1) guidelines for preparing quality assurance project plans, (2) a sampling manual for water-related monitoring activities, (3) quality assurance guidelines for analytical laboratories, (4) a laboratory quality assurance/quality control manual for the Department's Bryte Chemical Laboratory, and (5) a quality assurance manual for management of computerized data collected through Department programs.

Training courses in quality assurance and quality control have been developed and

[1]For information about SWP water quality, see Bulletin 132, Appendix E, *Water Operations in the Sacramento-San Joaquin Delta* and the monthly publication, *State Water Project Operations Data.*

are being conducted for departmental staff engaged in water quality monitoring and assessment activities.

These training courses, along with adequate standardization of methodologies and planning for quality, will greatly enhance the probability of staff collecting the correct kind and amount of high-quality data on the first try. The quality assurance program should result in overall program savings, in addition to greatly strengthening the Department's ability to defend its data.

## Temperature Studies

In 1992 the Department completed its third year conducting special studies at Lake Oroville to help meet the required water temperatures at the Feather River Fish Hatchery. Those studies include (1) plotting lake temperature profiles, (2) associating power generation with water temperature in the Feather River below Oroville Dam, and (3) configuring shutter installation and removal at the power plant intake structure. The Department also investigated opening the two river release valves beneath the dam for access to cooler water levels. One of the valves was successfully tested in 1992 after minor modifications were performed. The other valve will be tested in 1993.

## Temperature Control

At the beginning of 1992, storage in Lake Oroville was 36 percent of its maximum capacity, an improvement from 1991 when Lake Oroville storage fell to 26 percent of maximum capacity. In 1992 the water surface elevation in the lake remained between 20 and 50 feet above 1991 levels through the middle of August. From the beginning of September through the beginning of December, the water surface levels remained below those of 1991 during the same period. However, at the end of the year the lake's elevation was about 10 feet higher than the 1991 end-of-the-year level. Lake Oroville storage at the end of 1992 was 40 percent of its maximum capacity.

As a result of low lake elevations during 1992, the colder water layer dropped below the intake structure for the Edward Hyatt Powerplant. Consequently, the potential existed for lake water released through the power plant to enter the Feather River Fish Hatchery at temperatures higher than those specified in a 1983 operations agreement between the Department and the Department of Fish and Game. However, by altering power plant generation patterns; modifying the control shutters of the power plant intake to reach deeper, cooler water; and installing a water chiller at the water supply intake of the hatcheries incubation trays, the Department was able to maintain the required temperatures. The water chiller, which was installed in October 1992, helped maintain a temperature of approximately 51 degrees Fahrenheit in the hatchery's incubator trays during the period of fall-run salmon spawning, October 1 through November 30.

## Protection of Suisun Marsh

Suisun Marsh, 59,000 acres of tidal and managed brackish water wetlands and 30,000 acres of bays and sloughs, is the largest contiguous estuarine marsh in the United States. Situated in southern Solano County, west of the Sacramento-San Joaquin Delta and north of Suisun Bay, the marsh encompasses more than 10 percent of California's remaining natural wetlands. In addition, the marsh is the resting and feeding ground for waterfowl migrating on the Pacific Flyway.

Since the early 1970s, the Department, California legislature, State Water Resources Control Board, U.S. Bureau of Reclamation, and other agencies have acted to preserve Suisun Marsh as a unique environmental resource. As part of its responsibility for protecting Suisun Marsh, the Water Resources Control Board included water quality standards for Suisun Marsh in Decision 1485, which applies to the operation of the State Water Project and Central Valley Project.

## Decision 1485 Standards

Water quality standards issued by the State Water Resources Control Board in Decision 1485 were designed to provide an optimum brackish-water habitat for plants and waterfowl and to preserve the Suisun Marsh as a brackish water tidal marsh.

Through Decision 1485, the Board required the Department and USBR to develop and fully implement a plan in cooperation with other agencies to ensure that standards in Decision 1485 were met. In 1984 the Department published *Plan of Protection for the Suisun Marsh,* which included the environmental impact report prepared in cooperation with the Department of Fish and Game, Suisun Resource Conservation District, and USBR. Contributions were also provided by the U.S. Fish and Wildlife Service. The plan contained a proposal for implementing methods to:

- Monitor water quality
- Develop management plans for wetlands
- Install, in phases, physical facilities to improve the water quality of the inner marsh
- Provide mitigation for construction impacts associated with physical facilities

The EIR included information about actions identified in the plan as well as about effects of each action. According to the plan, the Department and USBR would prepare supplemental environmental documentation if new significant impacts were identified while planning subsequent actions.

A six-phase plan to protect the marsh was suggested. Components of the first two phases of the plan have been completed. Those phases include (1) developing the Morrow Island and Roaring River Slough Distribution Systems and creating the Goodyear Slough Outfall (phase one); and (2) constructing the Suisun Marsh Salinity Control Gates (phase two). Components still to be completed include constructing the Boynton-Cordelia Ditch (phase three) and the Cordelia-Goodyear Ditch and the Goodyear Slough culverts or an alternative facility (phase four); developing the Grizzly Island Distribution System (phase five); and constructing the Potrero Hills Ditch (phase six).

At USBR's request, however, the State Water Resources Control Board reset the time for complying with the condition to protect Suisun Marsh from a one-time completion date of October 1, 1984, to a staged implementation plan to be completed by October 1, 1997. The revised schedule was specified in a letter issued on December 5, 1985, and specific revisions were made to Table II of Decision 1485.

Options for compliance times and locations were also part of the revision. The State Water Resources Control Board provided the Department and USBR with the option to select from a set of alternate times and locations for compliance. The Department and USBR were to inform the Board of their choice, which would depend on the effectiveness of

existing salinity control facilities and operations.

## Preservation Agreement Standards

In 1986 federal legislation (Public Law 99-546) authorized funds to USBR for protecting Suisun Marsh. In March 1987 the Department, USBR, DFG, and the Suisun Resource Conservation District signed the Suisun Marsh Preservation Agreement.

The agreement ensures that salinity levels in Suisun Marsh channel water will be maintained as prescribed to mitigate adverse effects on the marsh from SWP and CVP operations and from other upstream diversions. An important feature of the agreement is the Suisun Marsh Salinity Control Gates facility, which became operational November 22, 1989. The Department and USBR evaluated the effectiveness of the control gate facility during the 1989 control season to determine if the facility could help ensure acceptable salinity levels required by the revised Decision 1485 and the Preservation Agreement.

As in Decision 1485, the agreement included specific salinity compliance standards for marsh channels. However, unlike Decision 1485, the times for compliance are linked to the date when the Suisun Marsh Salinity Control Gates were considered operational. The agreement also includes provisions to allow for higher salinity levels during periods when water supplies are low. Compliance options under Decision 1485, as revised, are not linked to completion of facilities.

Article 8 of the Preservation Agreement contains more explicit requirements than does Decision 1485 for linking the times and locations of future compliance standards to the construction of specific salinity control facilities. The implementation of the next Preservation Agreement compliance standard is scheduled to begin October 1, 1994, five full construction seasons after the Suisun Marsh Salinity Control Gate facility became operational. Before that date, however, Decision 1485 standards control project operations in the marsh. In a petition dated August 30, 1988, the Department, USBR, DFG, and Suisun Resource Conservation District requested that the State Water Resources Control Board adopt the Suisun Marsh Preservation Agreement standards for SWP and CVP operations. The Board did not act on the petition and questioned whether the Department's plans for a flow augmentation into the marsh would make a change to Decision 1485 standards unnecessary.

Because threatened and endangered fish species were identified in the marsh, the Board requested an updated biological assessment to determine the impacts of adopting the Preservation Agreement standards. A study plan for a biological assessment was sent to the Board March 2, 1992. As of June 30, 1993, the Department, DFG, and USBR have completed about 40 percent of the field surveys needed to complete the study.

### Five-Year Review of Standards

Article 4 of the Preservation Agreement provides for a review every 5 years of the objectives specified in the agreement. The review will include an evaluation of the effectiveness of the facilities constructed pursuant to the agreement. The required review is in progress and will be completed in 1994. Topics for review include:

- Examination of field data to evaluate the appropriateness of the existing standards and to recommend revisions when necessary
- Examination of field data to establish a relationship among channel water

salinity, soil water salinity, and plant salinity tolerance for waterfowl food plants in the managed wetlands and for threatened and endangered plants in the tidal wetlands
- Recommendations, based on findings, to improve marsh wildlife habitat

In addition, during the 5-year review, issues that have become relevant since the signing of the Preservation Agreement will be studied.

## Compliance

During 1992 the salinity standards specified in Table II of Decision 1485 were in effect at two locations in Montezuma Slough (Beldons Landing and National Steel) and two locations in the Sacramento River (at Montezuma Slough and Mallard Slough). Those salinity standards were met during 1992. Starting in October 1993, salinity standards will become effective at two additional locations: Chadbourne Slough and Cordelia Slough at Ibis.

## Salinity Control Project

Tests of the salinity control facilities conducted in 1988 and 1989 indicated that additional control measures were needed to meet water salinity standards in the western channels of Suisun Marsh.

Consequently, to prevent duplication of activities and expedite planning and environmental review, the planning and environmental review activities for the third and fourth phases contained in *Plan of Protection for the Suisun Marsh* were combined in a single project, the Western Suisun Marsh Salinity Control Project.

To ensure standards were met, the Department developed both interim and long-range actions.

### Interim Measures

When planning for the combined project began in June 1990, the Department and USBR recognized that they could not complete the project under the Decision 1485 time schedule. Consequently, the Department and USBR began a test to determine whether an interim measure could be used to control salinity in the northwestern region of the marsh. The test increased Green Valley Creek flows by diverting North Bay Aqueduct water to Cordelia Forebay and then releasing it to Green Valley Creek.

If increasing Green Valley Creek flows can be used as an interim measure, the Department and USBR will be able to:

- Obtain information needed for the Western Suisun Marsh Salinity Control Project planning and environmental review documents
- Meet northwestern marsh standards in conjunction with the operation of the Suisun Marsh Salinity Control Gates and within the times set in Decision 1485.

In the event of a critically dry 1993–94 water year, the Department will propose that an estimated 50 cubic feet per second of water be added to Green Valley Creek during January, February, and March, and 30 cubic feet per second be added during April and May to maintain channel water of the northwestern marsh within Decision 1485 standards.

### Long-Term Measures

To implement the third and fourth phases in *Plan of Protection for the Suisun Marsh*, the Department, USBR, and staff members of the Suisun Marsh Technical Advisory Committee used the alternatives in the plan as a starting

point to identify actions for analysis in the environmental review.

A public scoping meeting was held December 13, 1990, on alternative actions to meet future salinity standards. Monthly meetings of the Suisun Marsh Technical Advisory Committee and Western Suisun Marsh Salinity Control Project planning workshops were held to obtain comments from agency representatives.

In August 1991 the Department and USBR published a jointly-prepared scoping report. The scoping report includes information about the plan of protection and alternative actions proposed by agencies and the public during the scoping phase. It also contains study plans for an environmental impact analysis and an engineering feasibility analysis conducted to determine the likelihood of meeting the State Water Resources Control Board water salinity standards in the Suisun Marsh channels.

The scoping report identified more than 100 combinations of actions for consideration. Alternatives to meet future Board standards for the western marsh during selected critically dry periods such as water years 1989, 1990, and 1991 will be included in the draft environmental impact statement/environmental impact report (EIS/EIR) for the Western Suisun Marsh Salinity Control Project.

The determination of whether actions will meet standards will be made by examining results from a mathematical model of salinity levels in Suisun Bay, Suisun Marsh, and the Delta. If an alternative action appears to meet standards, a study will be conducted and its environmental and socioeconomic impacts analyzed.

The Western Suisun Marsh Salinity Control Project EIR and EIS are being prepared according to the guidelines for the California Environmental Quality Act and the National Environmental Policy Act. The work for preparing the reports is grouped into the following five tasks:

1. Evaluation of the existing system
2. Engineering design and analysis
3. Engineering feasibility/environmental impact analysis flow and water quality modeling
4. Environmental and socioeconomic impact analyses
5. Environmental documentation for the joint EIR/EIS, including permits

The draft EIR/EIS is scheduled for distribution in 1995.

## San Joaquin Valley Drainage Program

Agricultural drainage, especially drainage on the west side of the San Joaquin Valley, presents two basic problems for farmland irrigated with water supplied by SWP and the Central Valley Project. Those problems involve:

- Salt buildup and waterlogging of irrigated lands due to a high ground water table—conditions that adversely affect crops and productivity
- Toxic or potentially toxic trace elements in the shallow ground water, which when drained and discharged to streams, ponds, or wetlands, can adversely affect fish and wildlife

To solve or mitigate the effects of those problems, the Department continues to work with federal and state agencies. For example, the Department has entered into a memorandum of understanding with the U.S. Bureau of Reclamation, U.S. Fish and Wildlife Service, U.S. Geological Survey, Department of Fish and Game, U.S. Soil Conservation Service, State Water Resources Control Board, and Department of Food and Agriculture to

implement the recommended plan of the San Joaquin Valley Drainage Program.

For 2 years those agencies have jointly funded a full-time coordinator to provide a lead role in the implementation program and establish liaison with public interest groups, technical groups, and local agricultural and water interests in areas where the drainage problem exists. A coordinator has been selected and will assume appropriate duties in August 1993.

Also, as part of the interagency program the Department continues its drainage-related activities: collecting data, reducing drainage, treating drainage, and constructing evaporation ponds.

## Data Collection

The Department has continued its cooperative studies with USGS on the occurrence, movement, and settlement of selenium in drainage-problem areas. Monitoring continued on a network of 20-foot-deep wells installed in the Tulare Lake Basin to study the horizontal movement of selenium. Monitoring well clusters (well depths ranging from 20 to 200 feet) installed to investigate the vertical movement of selenium also continued.

USGS will interpret data collected from the study and publish the final report when the study ends in 1994. A draft of a report for work conducted in 1991 is being reviewed by USGS.

In addition, the Buena Vista Water Storage District is conducting a comprehensive study of ground water to determine the source and cause of shallow, rising ground water tables. The district is also investigating corrective measures.

## Drainage Reduction

The Department continued its demonstration and education programs to promote the practice of improved irrigation and drainage management techniques. Specifically, those programs included:

- Jointly funding a water conservation coordinator to help eight irrigation districts improve water management practices
- Conducting a field study of four irrigation systems to compare water application, crop yield, and drainage water reduction
- Conducting field demonstrations of furrow irrigation systems to compare uniformity of distribution, efficiency of irrigation, rate of water application, and amount of drainage water reduced
- Studying the quantity/quality relationship of drainage water production
- Testing the effectiveness of tiered-block water pricing at the water district level
- Using saline irrigation water to test the results of an experimental agroforestry project on the long-term maintenance of favorable salt and water balance
- Funding six short courses (one-day and two-day duration) in the technological aspects of irrigation and drainage management for field employees, growers, and water district managers

## Drainage Treatment

The Department has continued operating the multiagency drainage treatment research and demonstration facility near Tranquillity in Fresno County. One of the principal programs, a pilot project for using bacteria to remove selenium from drainage water, is cooperatively funded by the Department and USBR and conducted by California

State University's Fresno Foundation. In addition, Westlands Water District is also a participant and provides land and project-related services.

The program is designed to (1) evaluate the effectiveness of the selenium removal process, (2) generate data to optimize reactor design, and (3) investigate sludge treatment and disposal options. So far, the Foundation has conducted small-scale studies of the treatment process in the laboratory and has started the pilot-scale operation and evaluation.

## Evaporation Ponds

The final report on the cumulative impacts of evaporation ponds on wildlife in the San Joaquin Valley has been completed and submitted to the Central Valley Regional Water Quality Control Board. Environmental impact reports for specific sites have been submitted by evaporation pond operators to the Regional Board, which is expected to issue waste discharge requirements in August 1993.

The Department continues its effort to develop acceptable criteria for designing, constructing, operating, and managing evaporation ponds to minimize impacts on wildlife and ground water. The Department also initiated a study with the University of California at Los Angeles to examine the development of alternative habitats to minimize or offset the adverse impacts of evaporation ponds on wildlife. In addition, the Department-funded U.S. Fish and Wildlife Service studies to assess the effectiveness of evaporation ponds have been completed. A final report is being prepared in two parts and is due for completion in spring and summer 1994.

## Station Number and Name

| | |
|---|---|
| C3 | Sacramento River at Greens Landing |
| C7 | San Joaquin River at Mossdale Bridge |
| C9 | West Canal at mouth of intake to Clifton Court Forebay |
| C10 | San Joaquin River near Vernalis |
| D4 | Sacramento River above Point Sacramento |
| D6 | Suisun Bay off Bulls Head Point near Martinez |
| D7 | Grizzly Bay at Dolphin near Suisun Slough |
| D8 | Suisun Bay off Middle Point near Nichols |
| D9 | Honker Bay near Nichols |
| D10 | Sacramento River at Chipps Island |
| D11 | Sherman Lake near Antioch |
| D12 | San Joaquin River at Antioch Ship Channel |
| D14A | Big Break near Oakley |
| D15 | San Joaquin River at Jersey Point |
| D16 | San Joaquin River at Twitchell Island |
| D19 | Franks Tract near Russo's Landing |
| D22 | Sacramento River at Emmaton |
| D24 | Sacramento River below Rio Vista Bridge |
| D26 | San Joaquin River at Potato Point |
| D28A | Old River opposite Ranch Del Rio |
| D41 | San Pablo Bay near Pinole Point |
| MD7A | Little Potato Slough at Buckley Cove |
| MD10 | Disappointment Slough at Bishop Cut |
| P8 | Middle River at Buckley Cove |
| P10A | Middle River at Union Point |
| P12 | Old River at Tracy Road Bridge |

**Fig. 14-1. Water quality monitoring sites in the Sacramento-San Joaquin Delta**

# Part IV.
# Meeting Future Water Needs


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# 15. Increasing Storage and Delivery Capabilities

To meet the water deliveries specified in water service contracts, the Department of Water Resources intends to construct additional storage and delivery facilities. In planning and developing those facilities, however, the Department often faces two significant challenges: (1) finding technically suitable sites; and (2) satisfying many complex environmental procedures, laws, and regulations.

Nevertheless, meeting contractual water delivery amounts is a priority with the Department, and several projects designed to increase State Water Project delivery capability and yield are either under investigation or construction. Specifically, those projects are designed to:

- Deliver water to municipal and industrial contractors in Santa Barbara and San Luis Obispo Counties (Coastal Branch, Phase II, of the California Aqueduct)
- Provide off-stream storage south of the Delta (Los Banos Grandes facilities and Kern Water Bank)
- Provide an additional water supply north of the Delta in the Cottonwood Creek and Red Bank Creek basins (Red Bank Project)

Information about constructing those facilities, including information about the environmental aspects of the projects, follows.

## Coastal Branch Delivery Facilities

The Coastal Branch of the California Aqueduct, to be constructed in two phases, was designed to deliver water for agricultural use to contractors in northwestern Kern County (Phase I) and for municipal and industrial use to Santa Barbara County Flood Control and Water Conservation District and San Luis Obispo County Flood Control and Water Conservation District (Phase II).

The first phase, completed in the late 1960s, includes two pumping plants and a 14.8-mile coastal stub canal extending from Avenal Gap to the vicinity of Devil's Den in northwestern Kern County. Berrenda Mesa Water District and Castaic Lake Water Agency receive water through the Phase I facilities.

Once constructed, Phase II facilities will consist of (1) 102 miles of buried pipe, which will extend from the existing terminus near Devil's Den to the site of Tank 5 on Vanden-

berg Air Force Base, 12 miles south of the Santa Maria River; (2) four pumping plants; (3) one power plant; and (4) five water-tank facilities. The project will transport about 47,300 acre-feet per year of municipal and industrial water to San Luis Obispo and Santa Barbara Counties.

In October 1986 Santa Barbara County Flood Control and Water Conservation District and San Luis Obispo County Flood Control and Water Conservation District requested that the Department conduct the advance planning and environmental studies needed to complete Coastal Branch Phase II.

## Assessments

While conducting advance planning studies, the Department examined many routes for the pipeline. Based on topographic restrictions, design limitations, cost, and environmental impacts, the Department selected the best overall route. The selected route was then studied in greater detail to determine the best alignment within that route.

The detailed studies for the selected route included geological, archeological, wildlife, botanical, and wetlands surveys. Also, five workshops were held with property owners along the route to inform them of the project and to discover their concerns. All information gained through studies and workshops was used in selecting the best practicable alignment to minimize impacts.

That information, which included appropriate mitigation measures, was also used to prepare an environmental impact report for the project. The final EIR was released in May 1991, and the notice of determination and summary of findings was issued in July 1992. With mitigation, the project will result in no long-term significant impacts. All significant impacts are short-term and associated with construction (traffic, noise, and air quality).

Santa Barbara County FC & WCD and San Luis Obispo County FC & WCD were notified, as required in paragraph 45(d) of the water supply contracts, that the Department would start final design on Phase II in June 1992. The two districts notified the Department of their requests for entitlement water. San Luis Obispo County FC & WCD requested 4,830 acre-feet per year; Santa Barbara County FC & WCD requested 42,486 acre-feet per year.

The Department agreed to honor requests for adjustments in entitlement requests through June 1, 1993, provided that adjustments were due to circumstances beyond the districts' control. As of June 30, 1993, the Department was preparing the final design, acquiring rights-of-way, and obtaining permits necessary to construct the project.

## Construction

This section includes a description of construction activities as well as information about costs.

### Description

Constructing the second phase of the Coastal Branch requires laying 102 miles of buried pipe from the existing terminus near Devil's Den to the site of Tank 5 on Vandenberg Air Force Base. Other facilities to be constructed include Devil's Den, Bluestone, Polonio Pass, and Casmalia Pumping Plants; San Luis Obispo Powerplant; and five water-storage facilities.

San Luis Obispo Powerplant is designed to dissipate excess water pressure in the pipe-

line and generate approximately 4 megawatts of power. The five tank facilities will be used to provide hydraulic stability and control in operating the project.

A regional water treatment plant owned and operated by the local water purveyors will be constructed at the Tank Site 1 at Polonio Pass.

### Costs

The estimated cost of the project (in 1992 dollars for delivering 47,300 acre-feet per year) is about $373,000,000, which includes costs for mitigation and rights-of-way. The unit cost of the water at the turnouts is estimated to vary from about $480 to $650 per acre-foot, depending on the repayment reach and the amount of water subscribed. Costs for treating the water and constructing local facilities to transport water to areas of use are not included.

Construction began in late 1993 and will be divided into about 30 construction contracts. Construction is scheduled to be completed in late 1996.

## Los Banos Grandes

A key component of the Department's efforts to meet California's growing water needs is through water banking. Water banking moves water from the Delta during periods of high flows in the winter into storage facilities located south of the Delta for release later during dry periods.

Water banking south of the Delta offers considerable benefits to SWP users and others. Water banking will help to:

- Improve the reliability of SWP's water supply
- Reduce demands for water exported through the Delta in the summer
- Benefit Delta fisheries by providing the Department with the option of pumping in the Delta when impacts on fisheries are least significant

The Department has designed the Los Banos Grandes facilities to be a primary south-of-the-Delta water bank. Once constructed, the facilities will help to reduce the frequency and magnitude of projected water shortages by increasing the dependability of the existing water supplies available to SWP contractors. Improving the reliability of SWP supplies will reduce the likelihood of long-term water shortages that could otherwise occur more frequently as demand increases.

In addition to improving the reliability of SWP's water supply, Los Banos Grandes can benefit Delta fisheries. The Department will gain flexibility in operating existing and planned delivery systems and be able to shift pumping in the Delta to months when the effects of diversions on fisheries are least significant.

### Investigations, Studies, and Design

A feasibility report and draft environmental impact report for the proposed Los Banos Grandes project were completed in December 1990. The final environmental impact report and statement were scheduled to be completed in 1993, and construction of facilities was to begin in mid-1995. However, since the 1990 reports were released, new constraints to Delta exports have affected the feasibility of the proposed project. Measures have been enacted by the U.S. Fish and Wildlife Service and National Marine Fisheries Service to protect the Delta smelt and winter-run Chinook salmon—two Delta fish species listed under the federal Endangered Species

Act. In addition, new flow and water quality standards for the Delta are under development by the State Water Resources Control Board and the federal Environmental Protection Agency. These actions significantly reduced the amounts of Delta flows that are anticipated to be available for diversion and storage in the proposed Los Banos Grandes facilities.

In 1992, Governor Pete Wilson established the Bay-Delta Oversight Council and directed the group to identify and complete the environmental documentation for a long-term solution for the Delta. The Department will reassess the feasibility of Los Banos Grandes facilities once a Delta solution is identified. The facilities will be resized based on an evaluation of the availability of water for export in the Delta with new flow and water quality standards and a Delta solution in place.

In the meantime, limited studies focus on evaluating mitigation techniques for potential project impacts and completing environmental documentation. These studies include (1) completing delineations of wetlands for alternative reservoir sites and mitigation areas, (2) continued investigations under the Sycamore Pilot Program, and (3) testing potential mitigation measures for impacts to the San Joaquin kit fox.

## Project Design

The planned location for the Los Banos Grandes facilities is in Merced County on Los Banos Creek, 5 miles upstream from the existing Los Banos Detention Dam and Reservoir and 6 miles west of the California Aqueduct. The facilities would consist of three saddle dams, the main dam and reservoir, and two pumping-generating plants. The reservoir is planned to be linked to the California Aqueduct through the existing Los Banos Reservoir.

The project is designed to store exports from the Sacramento-San Joaquin Delta during intermittent periods of high flow. Those flows, pumped at Harvey O. Banks Delta Pumping Plant, are planned to be conveyed through the California Aqueduct to Mile 79.5, where the first pumping-generating plant would lift the water into the existing Los Banos Reservoir.

That water would then be lifted into the proposed Los Banos Grandes Reservoir by a second pumping-generating plant. When water is withdrawn from storage for use downstream, the generating ability of the two plants would allow recovery of some energy used to lift the water into storage.

Pumping would be maximized during off-peak hours when energy rates are lowest; generating would be maximized during on-peak hours when the value of energy is highest.

## Engineering Viability

To construct the main dam and three saddle dams, the Department is planning a standard earth-fill design. However, the Department is also investigating the use of roller-compacted concrete for the main dam and saddle dams. Roller-compacted concrete dams (lean concrete), built with earth-fill construction techniques, are often less costly than conventionally placed concrete and earth-fill dams.

Because the project will generate electrical power, the environmental effects of such generation will be examined through the provisions of the Federal Power Act and the requirements of the Federal Energy Regulatory Commission.

### Environmental Viability

The Department is proceeding with studies necessary to complete the environmental documentation for obtaining required permits. After the feasibility of Los Banos Grandes is reestablished, the Department will resume working with the U.S. Army Corps of Engineers as the lead federal agency (through Section 404 of the Clean Water Act) and prepare a draft environmental impact report and statement (EIR/EIS) to satisfy requirements of both the National Environmental Policy Act and the California Environmental Quality Act.

Since 1984 the Department has conducted environmental studies to identify significant impacts to resources in the project area and identify ways to avoid or compensate for those impacts. After the studies are completed, the Department will formulate a plan designed to avoid or compensate for significant environmental impacts of Los Banos Grandes. Mitigation measures will also be developed to compensate for all cumulative impacts of the project.

### Costs and Financing

The state will finance the capital costs of Los Banos Grandes by selling water revenue bonds, which will be repaid out of the revenue collected from the sale of water to SWP contractors. A contract amendment must then be negotiated with the SWP contractors to provide a mechanism for repaying the bonds. This mechanism could take the form of an amendment to the existing long-term water supply contracts or an external agreement.

The Department and SWP contractors are working together to examine the financial, contractual, and operational issues associated with the possibility that not all SWP contractors will participate in Los Banos Grandes. If some contractors do not participate in the project, it will be necessary to develop arrangements to allow all SWP contractors to receive the water supply benefits they are entitled to—based on the SWP facilities they have invested in.

## Kern Water Bank

The Kern Water Bank is defined as any opportunity to recharge SWP water in Kern County. The purpose of the Kern Water Bank is to store surplus water from the Delta during wet years for extraction during dry years. During wet years the Department would convey surplus water directly to recharging ponds or to local water districts for use in lieu of their pumping from ground water storage. In dry years water is planned to be extracted from storage. In some cases the extracted water would be directly conveyed to the California Aqueduct to supplement SWP water supply. In other cases it would be pumped and used by local districts in exchange for an equivalent amount of their SWP entitlement water. Their entitlement would then be added to the amount of SWP water available for delivery to other SWP contractors.

As a result of the endangered species issues in the Delta and subsequent restrictions on diversions from the Delta to downstream facilities, the water supply for new facilities downstream of Banks Pumping Plant has become uncertain. Consequently, design and planning activities for Kern Water Bank facilities, along with completion of a monitoring well network, have been discontinued.

The program emphasis is now directed toward (1) completing the Habitat Conservation Plan for the Kern Fan Element, which is a component of the Kern Water Bank Pro-

gram; (2) maintaining the Kern Fan Element and existing facilities; (3) monitoring ground water levels and water quality; (4) coordinating with local planning efforts; and (5) reevaluating the Kern Fan Element and addressing water supply uncertainties. Until the Kern Water Bank program has been reassessed and a new implementation program formulated and approved, all other planning efforts will be discontinued.

## Elements

The proposed Kern Water Bank program consists of eight separate projects or elements. One element, the Kern Fan Element, would be owned by the Department. The other seven elements, referred to as local elements, would be owned by various water districts in Kern County.

### Kern Fan Element

The Kern Fan Element is located on both sides of the Kern River, just southwest of Bakersfield, and is planned to be built in two stages. Planned storage capacity of the first stage is about 350,000 acre-feet, with an expected average annual SWP water supply benefit of about 44,000 acre-feet per year and an average annual dry period (AADP) supply benefit of about 50,000 acre-feet per year.

The second stage is expected to increase the storage capacity to about 1 million acre-feet with an expected AADP water supply benefit of about 140,000 acre-feet per year and a corresponding increase in the average annual SWP water supply.

### Local Elements

The seven proposed local elements of the Kern Water Bank could add about 2 million acre-feet of ground water storage and increase the AADP water supply of the Kern Water Bank by about 280,000 acre-feet per year. The local elements are planned in cooperation with the Department and are in various stages of the planning process. A feasibility investigation is nearly complete for one local element, and prefeasibility investigations are nearly complete for the remaining six. Also, a master plan for evaluating and implementing the local elements has been completed. Information about those studies and the master plan follows.

#### Feasibility Studies

As of the end of the 1992–93 fiscal year, prefeasibility studies were completed for local elements sponsored by the Kern Delta Water District, Improvement District Number 4, Buena Vista Water Storage District/ West Kern Water Storage District, Cawelo Water District, and Rosedale Rio-Bravo Water Storage District. The Department is analyzing *Components of Feasibility Study of Semitropic Local Element of Kern Water Bank*, a feasibility report prepared for the Semitropic Water Storage District by Bookman-Edmonston Engineering, Inc.

A draft prefeasibility study for the element sponsored by the North Kern Water Storage District began in mid-1991 and should be completed in 1993.

#### Master Plan

A master plan was prepared by a Kern County working group to ensure that:

- Criteria and procedures are set to ensure local elements are implemented in an orderly manner
- All local elements are assessed on an equitable basis

Once a local element is judged by Kern County Water Agency to meet the criteria contained in the master plan, the feasibility of the element can be determined. Once the project's feasibility has been determined, documents required by the California Environmental Quality Act (CEQA) can be prepared; and negotiations for implementing the local element can begin between the project's sponsor and the Department.

## Environmental Documentation

The purchase by the Department of the Kern Fan Element land and subsequent planning activities for the Kern Water Bank program have been based on a final environmental impact report released in December 1986.

### Environmental Impact Report

A supplemental environmental impact report (EIR) for the Kern Fan Element was prepared according to CEQA guidelines and distributed for review December 31, 1990. Efforts to finalize the EIR depend on resolution of issues related to protection of the Delta smelt and the winter-run salmon. Once these issues and their impacts on the Kern Fan Element are resolved, a schedule for completing the EIR will be established.

### Habitat Conservation Plan

The Department is required to prepare a habitat conservation plan for the Kern Fan Element because maintenance of the Kern Fan Element lands and construction and operation of some facilities could destroy some habitat and result in the take of threatened and endangered species. In the habitat conservation plan, the Department will document threatened and endangered species both known to be on the property and expected to move onto the property.

The plan will include a listing of mitigation requirements for the project, including those designed to minimize the disturbance of listed species and those to compensate for disturbances by setting aside preserves for the listed species.

Threatened and endangered animal species found on or adjacent to the Kern Fan Element include the San Joaquin kit fox, Swainson's hawk, Tipton kangaroo rat, San Joaquin antelope squirrel, and blunt-nosed leopard lizard. Threatened and endangered plant species include the slough thistle, recurved larkspur, Hoover's eriastrum, and San Joaquin woolly threads.

The plan will provide a basis to apply for permits from the Department of Fish and Game and the U.S. Fish and Wildlife Service to construct, operate, and maintain existing and planned facilities necessary to complete the Kern Fan Element.

The regulatory agencies also required that significant existing and planned activities by other entities on Kern Fan Element property as well as related activities on neighboring lands be included in the permit. Those include (1) constructing additional recharge facilities by the Kern County Water Agency; and (2) constructing, operating, and maintaining oil and gas wells and related facilities by ARCO Oil and Gas Company and their leases as well as the activities of other utility easement holders.

In addition, recharge facilities belonging to the City of Bakersfield, Buena Vista Water Storage District, and West Kern Water Storage District are adjacent to the Kern Fan Element and used interchangeably. Conse-

quently, those entities will be included in the permit.

## Red Bank Project

Cottonwood Creek in Shasta County and Tehama County, the largest uncontrolled tributary of the Sacramento River, is a primary cause of flooding locally and along the upper Sacramento River. The U.S. Army Corps of Engineers selected the Cottonwood Creek drainage basin in 1964 as the most suitable for constructing facilities to provide flood protection as well as an additional water supply.

Since then, both the Corps and the Department have conducted studies to determine the feasibility of constructing those facilities. The facilities recommended by the Department for construction are much smaller and are located higher in the watershed than those originally proposed by the Corps. The most promising facility investigated is the Red Bank Project.

### Early Studies

In its early studies, the Department determined Cottonwood Creek to be a good potential source of water but only a fair site for a reservoir. The Red Bank Creek basin, however, was found to be a good site for a reservoir but not for a potential source of water. Consequently, the Department developed a plan to incorporate the strengths and weaknesses of each location, resulting in a site that is a good source of water as well as a good site for a reservoir.

#### Project Description

As defined in a 1993 final report published by the Department, the Red Bank Project would consist of:

- A combination diversion and storage dam and reservoir at the Dippingvat site on the South Fork of Cottonwood Creek
- A storage dam and reservoir at the Schoenfield site in the adjacent Red Bank Creek basin
- A conveyance system for connecting the two reservoirs

Dippingvat Dam would be about 251 feet high with a reservoir capacity of 104,000 acre-feet. The Schoenfield Dam would be about 300 feet high with 250,000 acre-feet of storage capacity.

#### Cost and Benefits

In conducting the study, the Department determined that the cost of constructing the dams and reservoirs would be $209 million (1992 dollars) and that the project would provide the following benefits:

- Approximately 47,000 acre-feet per year of additional water to the SWP system
- An annual flood control benefit of about $2.4 million for the Cottonwood Creek basin
- A warm-water fishery and other recreational facilities (approximately 113,000 recreation-days per year)

The Department also determined that the project could provide significant benefits to the anadromous fisheries in lower Cottonwood Creek through an improved water supply. To facilitate the upstream migration of salmon, gates at the Red Bluff Diversion Dam could be open longer because 47,000 acre-feet of substitutionary water—in trade for existing Sacramento River water—could be supplied to the Tehama-Colusa and Corning canals by a diversion from Red Bank Creek.

## Project Viability

During initial studies in the 1980s, the Red Bank Project was thought to be a viable addition to SWP supplies. However, recent studies identified increased costs, potential onsite environmental concerns such as sensitive plants and wetlands, and serious problems associated with endangered species in the Delta. Those issues have made this project infeasible. Project feasibility could be restored if solutions to those concerns are found. Until then, further study of the Red Bank Project will be minimal.

# 16. Augmenting the Water Supply

To meet State Water Project contractors' increasing need for water, the Department of Water Resources investigated and implemented several water management plans. The plans have evolved from the traditional conserving of existing supply through storage to:

- Entering into programs with various water agencies in which the Department finances facilities in exchange for water through conjunctive use
- Developing programs to transfer water, either through statewide programs such as the Drought Water Bank or through transfers between SWP long-term contractors or other agencies, including the Central Valley Project
- Testing weather modification programs

This chapter includes information about programs the Department conducted or participated in from July 1, 1992, to June 30, 1993.

## Conjunctive Use of Water

As a water management tool, conjunctive use of surface water and ground water provides two important benefits.

1. Conjunctive use is a "win-win" situation for agencies involved. Agencies work together for their own benefit as well as to benefit each other by making the most efficient use of water supplies available.
2. Conjunctive use offers a relatively low-cost method to store water in times of above-average supplies for use during dry periods. Conjunctive use is a way of stretching the water supply, both locally and statewide. For example, agencies with subsurface storage space can capture flood flows at times when surface storage is limited.

The Department has actively promoted conjunctive use as a water management tool since the 1960s. Currently, the Department is working on the Stanislaus and Calaveras river basins conjunctive-use program. In 1992 the Department expanded its conjunctive-use program to include investigating the potential for conjunctive use of surface water and ground water in the Sacramento Valley.

### Stanislaus and Calaveras River Basins

In 1986 two water districts in San Joaquin County, Stockton East Water District and Central San Joaquin Water Conservation Dis-

trict, presented a proposal to the Department for releasing CVP water from the New Melones Dam in exchange for financing diversion and conveyance facilities.

Specifically, according to the proposal, the districts would release downstream in the Stanislaus River as much as 155,000 acre-feet of the districts' contracted water (106,000 acre-feet of interim water and 49,000 acre-feet of firm water) from CVP in years of critical shortages in exchange for SWP financing facilities in the Stanislaus and Calaveras river basins. The agencies would revert to ground water use during critically dry years.

## Participants

In 1988, in response to the proposal, the Department, U.S. Bureau of Reclamation, and local water agencies agreed to investigate the future demands for water in the study area and the most efficient means of meeting those demands.

The Department and USBR prepared a work plan for that investigation, and a memorandum of understanding was signed by the Department; Department of Fish and Game; USBR; Stockton East Water District; Central San Joaquin Water Conservation District; Calaveras County; Calaveras County Water District; Tuolumne County; Tuolumne Regional Water District; Stanislaus County; San Joaquin County; Lathrop County Water District; South Delta Water Agency; and Cities of Escalon, Ripon, Manteca, and Stockton.

Oakdale Irrigation District and South San Joaquin Irrigation District, two irrigation districts with water rights to Stanislaus River water, decided not to sign the memorandum of understanding but instead to monitor and contribute information to the study when necessary.

## Alternatives to Meet Demands

As part of the study process, alternatives to meet estimated water demands are being identified. As part of selecting an alternative to meet those needs, the Department is reviewing all alternatives to determine the one that best:

- Meets the future in-basin and out-of-basin water needs of all involved agencies and counties
- Improves in-stream flows for the Stanislaus, Calaveras, and San Joaquin Rivers
- Improves water quality in the channels of the southern Delta
- Increases CVP and SWP water supplies in the Delta
- Assists in meeting outflow requirements in the Delta

However, Stockton East Water District and Central San Joaquin Water Conservation District decided that they could not wait for completion of the joint study and began constructing a portion of the diversion and conveyance facilities necessary to import CVP water to their service areas.

In 1991 a 3.5-mile diversion tunnel and 8 miles of canal were financed and constructed by the two districts. Construction of the diversion tunnel and canal will enable the two districts to divert 155,000 acre-feet of interim and firm water supplies from the Stanislaus River into Farmington Reservoir, a U.S. Army Corps of Engineers flood control reservoir, via Shirley Creek.

The tunnel and canal conveyance facilities were completed in the summer of 1993. However, due to the passing of the Central Valley Project Improvement Act, the 1993 in-stream flow requirements for the Stanislaus

River increased by 200,000 acre-feet. This increase left no water for Stockton East Water District and Central San Joaquin Water Conservation District to divert. Future CVPIA requirements for the Stanislaus River have not been determined.

### Environmental Documentation

In addition to identifying alternatives, the Department is coordinating with USBR in preparing a combined draft environmental impact report and environmental impact statement. Issues to be examined in the environmental documentation were identified in the scoping report, which was published in 1991. The nine issues identified in the report are:

1. Conjunctive use of Stockton East Water and Central San Joaquin Water Conservation District's 155,000 acre-feet of interim and firm water supply
2. County-of-origin water needs and protection
3. Fishery flows in the Stanislaus River
4. Ground water levels in the eastern San Joaquin County's ground water basin
5. Improved water quality at Vernalis on the San Joaquin River for the South Delta area
6. Protection of existing water rights
7. Return of interim out-of-basin contracted water to in-basin users when needed
8. Recreational needs in the Stanislaus River
9. Source of water supply to cities in the study area

Currently, in addition to conducting environmental studies, planners are focusing on developing surface water and ground water models to be used in evaluating the various alternatives. Water flow requirements for fish in the Stanislaus River are also being evaluated by the Department of Fish and Game and the U.S. Fish and Wildlife Service.

## Sacramento Valley

The Department continues its investigation, begun in 1992, of the potential for conjunctive use of surface and ground water in the Sacramento Valley. The water obtained through conjunctive use projects in the Sacramento Valley will be used to augment SWP water supply.

The Department adopted the following three-part approach to its conjunctive use investigation:

1. Conduct prefeasibility investigations and develop demonstration programs to allow incremental expansion as conditions permit
2. Evaluate water supply and hydrogeologic conditions, existing facilities, legal and institutional relationships, and existing operations
3. Work with local agencies to establish cooperative relationships needed to effectively resolve legal and institutional concerns

### Prefeasibility Studies/Demonstration Projects

The Department completed a cooperative prefeasibility investigation in eastern Yolo County for a proposed ground water recharge project. The project would recharge ground water basins during wet years for extraction during dry years. This operation would add about 30,000 acre-feet to SWP for delivery in

dry years. The Department expects to pursue the development of a 3- to 5-year demonstration program to test this project.

The Department has begun prefeasibility investigations in the basins of the American and Bear Rivers in Sutter, Placer, and northern Sacramento Counties. Additional studies are under way in Butte County. These studies focus on designing small projects that would evolve into demonstration programs to determine actual operational characteristics and provide reliable estimates of the amount of "new" water that can be developed. The demonstration programs will allow incremental evaluation of acceptable project impacts.

### Resource Inventory

To identify areas most suitable for conjunctive-use projects, the Department is conducting an ongoing survey of the hydrogeologic and infrastructure features of the Sacramento Valley. In 1992–93 the Department completed the compilation and review of historical data of ground water levels for the valley; the Department has published this information in a series of county-specific reports.

The Department has identified seven regions in the Sacramento Valley that may be suitable for conjunctive-use programs. To select the local areas within those regions most suitable for project development, the Department is compiling information about (1) area water quality, (2) existing locations and distribution of surface and ground water use, (3) facility operations, and (4) other characteristics needed for project evaluation.

### Local Agency Concerns

The Department is working with local agencies to effectively address the concerns arising from additional use of ground water and water transfers. Many local agencies are in the process of developing ground water management programs pursuant to recently adopted authorizing legislation.

## Water Transfers

Prior to 1991, most water transfers in California were negotiated by the Department on a limited basis. State Water Project facilities were used to transfer water (1) for SWP long-term contractors and (2) to other agencies in California—most notably to CVP contractors. During the last few years, however, as the drought continued, California implemented a statewide policy of transferring water.

In 1991 California began its first large-scale water transfer program when Governor Pete Wilson established the 1991 Drought Water Bank. Based on the successful 1991 bank and the continuing drought, he established a 1992 water bank in March 1992. Both programs were administered by the Department; SWP facilities were used, when necessary, to transfer the water.

A final environmental impact report (EIR) for future state drought water banks is expected to be issued in the summer of 1993. The EIR provides the framework for future water bank operations and water transfers under specified drought conditions.

### Drought Water Banks

The 1991 and 1992 Drought Water Banks were successful in arranging water transfers to meet agricultural, urban, and fish and wildlife critical needs on a short-term basis. This section includes summary information about the 1991 and 1992 water banks.

Table 16-1 includes the water purchased and allocated by the 1991 and 1992 water banks.

## 1991 Drought Water Bank

As of June 30, 1993, three 1991 contracts to provide water to the bank remained in dispute. Final accounting of the 1991 water bank and adjustments to the 1991 melded water purchase rate will be computed pending resolution of the contracts.

## 1992 Drought Water Bank

A total of 158,768 acre-feet of 1992 bank water was allocated to meet critical water needs throughout the state. Those allocations included 49,720 acre-feet for SWP long-term contractors (Kern County Water Agency, Tulare Lake Basin Water Storage District, and Metropolitan Water District of Southern California). Table 16-2 provides information about purchases from the 1992 water bank.

A fiscal report on the 1992 water bank is being prepared for transmittal to all purchasers of bank water.

# Short-Term Water Purchases

Because of the success of the 1991 and 1992 Drought Water Banks, increasing interest is being expressed in water transfers as a water management tool for alleviating short-term shortages as well as for augmenting long-term supplies. The Department continues to explore possibilities of purchasing water via short-term transfers. In June 1993 the Department began drafting a work plan and time line to complete the environmental documentation required for SWP short-term water purchases outside the scope of a drought water bank program.

# State Water Project Transfers

The Department, through the State Water Project Analysis Office, negotiates tempo-

TABLE 16-1

**Water Purchases and Allocations under the 1991 and 1992 Drought Water Banks**

(Acre-feet)

| *Feature* | *1991* (a | *1992* |
|---|---|---|
| Purchases | | |
| Fallowing | 414,743 | 0 |
| Ground water | 258,590 | 161,541 |
| Reservoirs | 147,332 | 31,705 |
| *Subtotal* | 820,665 | 193,246 |
| Delta water quality requirements, conveyance losses, and technical corrections | (165,137) | (34,479) |
| **Net supply available** | 655,528 | 158,768 |
| Allocations | | |
| Urban | 307,373 | 39,000 |
| Agricultural | 82,597 | 95,250 |
| Wildlife Refuges | 0 | 24,518 |
| State Water Project (for carryover storage) | 265,558 | 0 |
| **Total allocations** | 655,528 | 158,768 |

a) Excludes bank-associated purchases of 41,375 acre-feet for the Department of Fish and Game.

TABLE 16-2

**Total Amount of Water Purchased from the 1992 Drought Water Bank**

(Acre-feet)

| *Agency* | *Water Purchases* |
|---|---|
| Broadview Water District | 255 |
| City and County of San Francisco | 19,000 |
| Contra Costa Water District | 10,000 |
| Del Puerto Water District | 300 |
| Department of Fish and Game | 24,518 |
| Foothill Water District | 900 |
| Hospital Water District | 200 |
| Kern County Water Agency | 8,170 |
| Metropolitan Water District of Southern California | 10,000 |
| Orestimba Water District | 75 |
| Panoche Water and Drainage District | 2,000 |
| Quinto Water District | 100 |
| Solado Water District | 300 |
| Sunflower Water District | 400 |
| Tulare Lake Basin Water Storage District | 31,550 |
| Westlands Water District | 51,000 |
| **Total** | **158,768** |

rary transfers of water for SWP long-term contractors as well as for other agencies. Those transfers are usually in the form of (1) water loans or entitlement water transfers between long-term SWP contractors, and (2) transfers of nonproject water between non-SWP and SWP agencies. All temporary water transfers have to be approved by the State Water Resources Control Board in accordance with sections 1725 through 1728 of the California *Water Code*.

Chapters 5 and 6 contain information on water transfers during 1992 and contracts on water transfers written between July 1, 1992, and June 30, 1993.

## Weather Modification

To increase the inflow to Lake Oroville from the Feather River basin, the primary source of SWP water, the Department is evaluating the effectiveness of cloud seeding.

Encouraged by the successful completion of a 1985 contract to study the feasibility of cloud seeding, the Department funded a prototype project carried out in a remote area of the Middle Fork Feather River near Johnsville. The project, which began in 1988, consists of 10 liquid propane dispensers fitted with spray nozzles on 10-foot towers and is powered by solar energy. A solenoid controlling the release of liquid propane can be activated by Department personnel in Sacramento. As liquid propane evaporates it lowers temperatures in the selected cloud to 100 degrees below zero Fahrenheit. This operation immediately creates billions of tiny ice crystals. If cloud conditions are right these crystals will grow to snowflakes, thereby increasing the snowpack.

Historically, cloud-seeding programs have used silver iodide or dry ice dropped from airplanes to chill the air and condense moisture, which falls as snow. If the program using liquid propane is successful, the Department plans to design a larger cloud-seeding program to be conducted in the Feather River watershed. Information about the testing and operation of the program follows.

### Field Tests

A single dispenser was installed in March 1989 to evaluate the functional capabilities of the equipment's control system and provide information on the effectiveness of propane for increasing precipitation. Testing the equipment continued throughout the winter of 1989–90. During that time, work began on preparing the environmental documentation required by the U.S. Forest Service to allow the installation of the nine additional dispensers. The documents were completed September 12, 1990.

On October 29, 1990, the California Sportsfishing Alliance filed an appeal of the decision by the U.S. Forest Service to issue the land use permit for the installation of dispensers. Consequently, the Forest Service issued a limited permit that authorized the installation but not the operation of the 10 propane dispensers.

The 10 liquid dispensers were installed during winter 1990–91. Even though the dispensers could not be operated because of the appeal by the California Sportsfishing Alliance, the Department gained valuable information about the practicality of the design. During summer 1991, the entire dispenser was redesigned in preparation for the 1991–92 winter season.

Results of field tests indicated that the equipment would function as intended and could be reliably controlled from headquarters. Consequently, the Department decided in spring 1991 that the program could be fully implemented.

## Implementation

Randomized seeding of winter storms began in November 1991 after the U. S. Forest Service approved the Department's supplement to the environmental documentation. A total of 258 hours of seeding has been completed through June 1993.

It is estimated that 1,200 hours of seeding will be needed to reach statistical significance to properly evaluate the program. Evaluation will be based on the analysis of information received from 11 remotely operated rain-snow gauges installed in the target area and from detailed physical studies which attempt to directly document the effects of seeding.

Environmental monitoring of the watershed will be conducted during the implementation phase to evaluate the effects of cloud seeding.

# 17. Assisting Local Water Supply Projects

The Department of Water Resources participates in two programs to provide financial assistance to local agencies for constructing water supply projects.

Through the first program, the Davis-Grunsky Act, public agencies are awarded loans or grants at a fixed rate of interest and for a fixed repayment period. Through the second program, the State Water Project finances local water supply projects designed to augment SWP's water supply, either directly or indirectly.

## Davis-Grunsky Act

Public agencies have been awarded loans and grants through the Davis-Grunsky Act since 1959. The act, jointly administered by the Department and the California Water Commission, was designed as complementary legislation to the Burns-Porter Act, which was enacted to help finance construction of SWP.

Of the original $1.75 billion made available through the Burns-Porter Act, $130 million was reserved specifically for distribution through provisions of the Davis-Grunsky Act. Monies are paid from the California Water Resources Development Fund and the California Water Fund. Loans are repaid to the California Water Resources Development Fund.

### Basic Provisions

The broad objective of the Davis-Grunsky Act is to advance the development, control, and conservation of water resources in California. To meet that objective, the act is designed to:

- Provide loans to public agencies for preparing feasibility reports and constructing local water projects if those agencies are unable to obtain financing on reasonable terms from other sources
- Through grants, encourage development of the recreational aspects of local water projects as well as habitat for fish and wildlife
- Enable California to participate as a partner in the development, construction, or operation of certain water projects when participation is necessary for optimum development of the resource

Public agencies, including cities, counties, districts, or other political subdivisions of the state, may participate in the program. Types of assistance available include:

- Loans for constructing local water projects, acquiring sites for reservoirs for proposed water projects, and preparing feasibility reports on proposed

projects for which loans have been requested

- Grants for paying part of the construction cost of dams and reservoirs properly allocated to providing for recreation or enhancing fish and wildlife, and construction of initial water supply and sanitary facilities needed for public recreational use of reservoirs
- State participation as a partner in a project larger than one the local agency proposes to construct on its own

Before 1967 loans were made at the current market interest rate. In 1967, to be more equitable to low-income agencies the program was designed to assist, the legislature fixed the interest rate at 2.5 percent. The maximum loan repayment period was set at 50 years. At the Department's discretion, however, some agencies were given an initial 10-year deferment with the accumulated interest amortized over the repayment period.

Through 1992 approximately $127 million of the allocated $130 million had been disbursed or contracted for loans, grants, and administrative costs. The remaining $3 million has been allocated for a grant to Littlerock Creek Irrigation District and Palmdale Water District to rehabilitate Littlerock Dam.

## Current Activities

The following actions involve funds from the Davis-Grunsky Act. They are listed alphabetically according to the name of the agency to which the loan or grant was given.

### Home Gardens County Water District

Home Gardens County Water District, San Bernardino County, has received its entire loan entitlement. The district has received an extension to complete the final project component, which will fulfill water quality standards imposed by the county. The project audit should occur during last quarter 1994.

### Palmdale Water District and Littlerock Creek Irrigation District

Palmdale Water District and Littlerock Creek Irrigation District, Los Angeles County, have signed a contract with the Department for a $3 million grant to rehabilitate Littlerock Dam.

### Strathmore Public Utility District

Strathmore Public Utility District, Tulare County, has received 90 percent of its $1,860,000 loan to upgrade its drinking water system to meet safe drinking water standards. The district will receive the remaining $186,000 after the final site inspection and audit required by the Davis-Grunsky Act have been completed.

# State Water Project Funds

Local water supply projects designed to augment SWP water supply may be financed with SWP funds, if available, providing certain administrative guidelines are met. The project must be eligible to be included as part of SWP, and financing by SWP must not exceed the actual cost of construction.

Should construction costs of the local project exceed available SWP funds, local participation in financing the construction will be required. In addition, the local project will not become a unit of SWP until an agreement has been signed by all participants.

The three basic assumptions of projects financed by SWP are that:

1. Appropriate water supply contracts would be amended.
2. Yield developed by a local project as a unit of SWP would become part of SWP's yield, whether for the life of the project or for an interim period.
3. The local project would not adversely affect the costs of water deliveries to non-participating SWP contractors.

The Department conducts a feasibility study of local projects when information contained in conceptual and reconnaissance reports (1) supports the project, and (2) SWP water contractors agree that the project is advantageous. Projects must be structurally, economically, financially, and contractually feasible as well as environmentally acceptable before they can be added as SWP units.

At this time no local projects are being considered by the Department. The enlargement of the Lake Cachuma reservoir located in Santa Barbara County was recently under consideration, but is no longer.

The project was removed from consideration because of (1) the development of the Coastal Branch of the California Aqueduct for delivery of SWP water to southern Santa Barbara County, and (2) the uncertainties about the availability of water rights for an enlarged Lake Cachuma. The U.S. Bureau of Reclamation, the owner of Lake Cachuma and Bradbury Dam, is completing the Environmental Impact Statement and proceeding with a project designed only to ensure the safety of the dam.

# 18. Forecasting Power Requirements and Resources

Ensuring that the State Water Project has an adequate supply of electric power involves:

- Forecasting power requirements
- Obtaining power resources by constructing facilities and by transferring, exchanging, and purchasing power
- Arranging for power transmission services

This chapter includes information about forecasting power requirements. Information about obtaining power resources; transferring, exchanging, and purchasing power; and arranging for transmission services may be found in Chapter 19, "Securing Power Resources."

## Power Requirements

The Department of Water Resources forecast of electric power is based primarily on State Water Project pumping power requirements to deliver short-term and long-term water delivery requests from SWP water contractors. Requirements are based on the amount of energy to be used to deliver (1) entitlement water requested by water contractors, including losses in reservoirs and aqueducts; (2) recreation water; and (3) water to replace storage in reservoirs south of the Delta.

Each year after reviewing the water contractors' water delivery requests and the construction schedule for future facilities, the Department determines SWP short-term and long-term power requirements through 2035.

Short-term power requirements based on the actual water supply and reservoir storage levels are determined for the current and two ensuing years of operation. Long-term operational studies for the remaining years are based on median-year water supply conditions and optimal reservoir storage levels.

Actual SWP electrical power requirements may vary significantly from the amounts forecast due to the amount of water available and delivered in a given year. For example, dry conditions in Northern California could result in a reduction of the amount of water available for delivery. If full deliveries cannot be made, less power will be used than was originally forecast. Power requirements could also decrease during a wet year because of the availability of water in the San Joaquin Valley or Southern California.

Conversely, power requirements could exceed the amount originally forecast if actu-

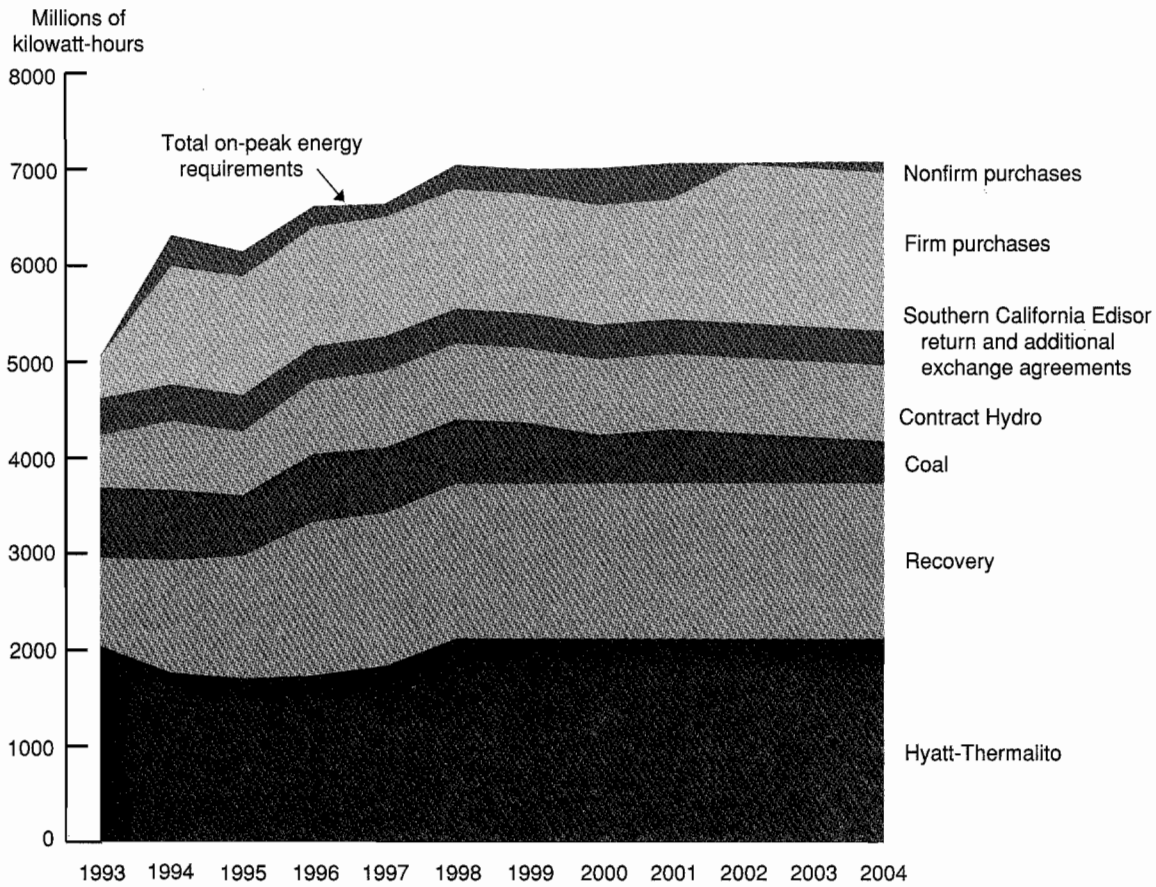


**Fig. 18-1. Estimated on-peak energy requirements and resources, 1993 through 2004**

al water deliveries are greater than the amounts estimated. For example, if deliveries of deferred entitlement water are made, or if additional pumping is needed to refill reservoirs south of the Delta after a dry year, more power will be used than was forecast.

Although the Department forecasts power requirements until 2035, it pays particular attention to forecasts through 2004, the year significant power contracts expire. Therefore, information on forecasts for 1993 through 2004 is included in this publication.

## Energy Requirements Forecast for 1993

The forecast for energy requirements in 1993 was based on water supply projections made by the Department for the year. When making the forecast, the Department assumed that 1993 water supplies would be sufficient to meet entitlement deliveries of 3.0 million acre-feet.

That amount of water represents approval of full deliveries of contractors' needs in 1993.

## Forecast for 1994 through 2004

For 1994 through 2004, the energy requirement forecast was based on hydrology sufficient to meet the water contractors' full entitlement of up to 4.2 million acre-feet.

Total SWP energy requirements for 1994 are projected to be about 14,522 million kilowatt-hours (kWh). The requirements in-

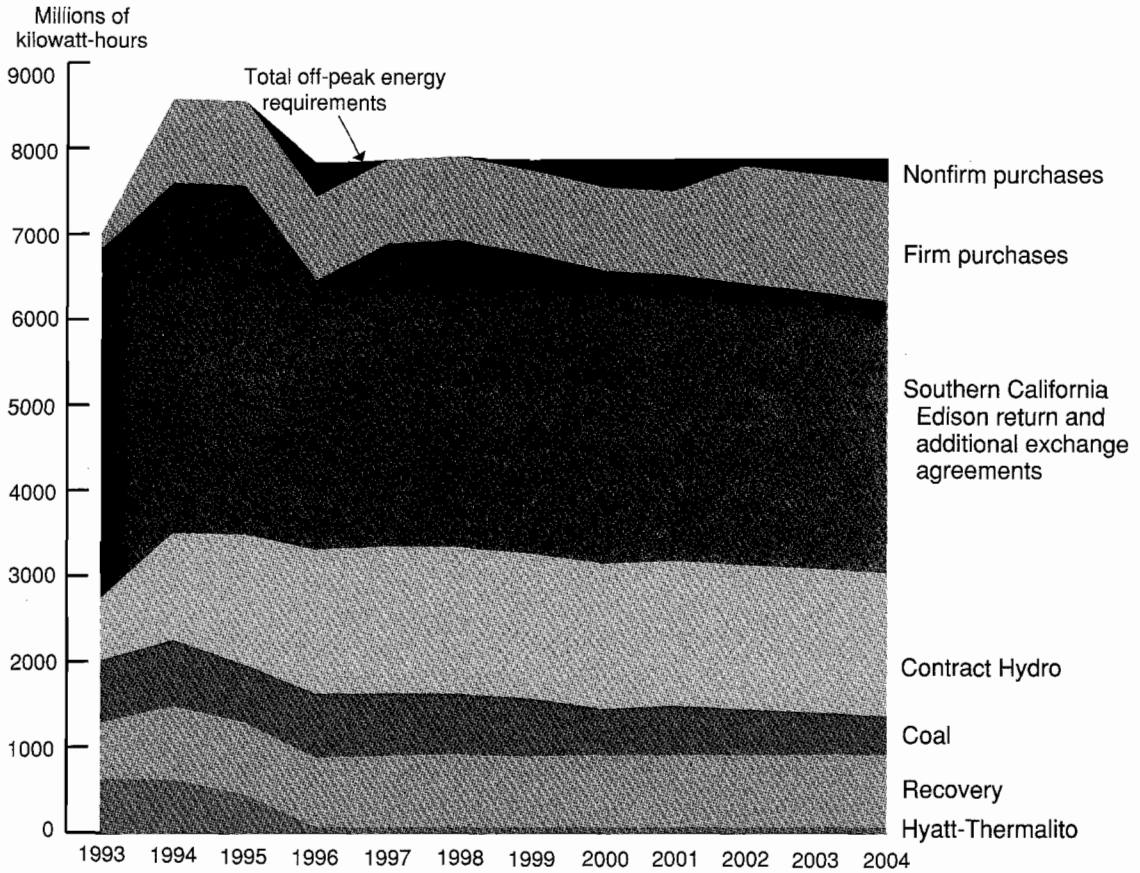


**Fig. 18-2. Estimated off-peak energy requirements and resources, 1993 through 2004**

crease to 14,830 million kWh in 1999 and further increase to about 14,936 million in 2004.

Transmission losses, included in the forecast, are about 594 million kWh in 1994; 622 million in 1999; and 627 million in 2004. See Table 18-1 at the end of this chapter. Table 18-1 also includes a forecast of energy to be delivered to Southern California Edison Company as well as the amount of firm energy to be sold to other utilities. See "Sales" in Chapter 20.

# Capacity Requirements

In addition to forecasting energy requirements, the Department also forecasts capacity requirements, which are the rates of delivery or demands for energy during a given period.

## Basis of Forecast

The SWP is operated to minimize pumping requirements during hours when power costs are highest. Thus, the highest power requirements or demands for SWP capacity occur during nights, weekends, and holidays (off-peak periods) when power costs are lowest.

## Forecast for 1994 and 1999

The Department forecast of the peak demands or the highest on-peak and off-peak

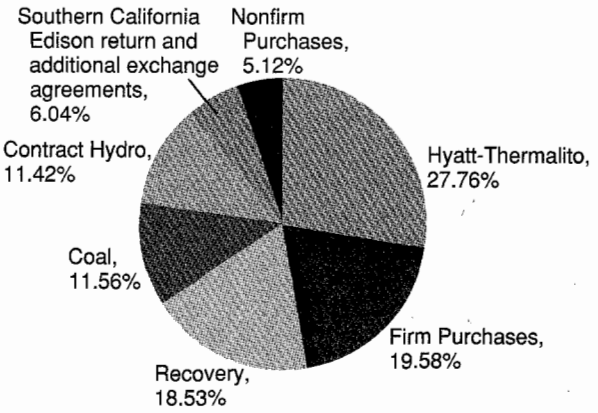


**Fig. 18-3. Estimated on-peak energy resource mix for 1994**

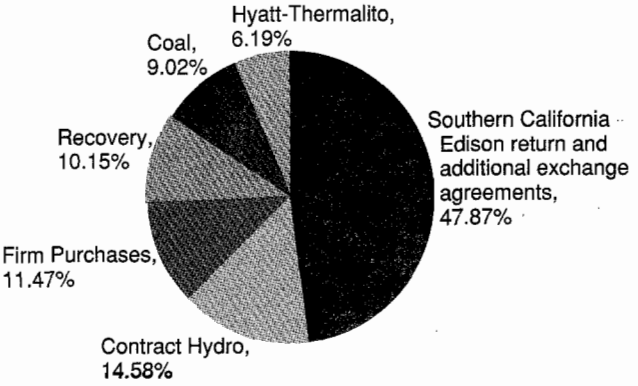


**Fig. 18-4. Estimated off-peak energy resource mix for 1994**

capacity requirements for 1994 and 1999 is included in Table 18-2 at the end of this chapter.

# Resources

The Department uses a variety of power resources to meet estimated SWP power requirements, including power generated at its own facilities as well as resources received through transfers, purchases, and exchanges. With the exception of the nonfirm purchases and a portion of the firm power purchases (post-1995), the Department either owns or has contracted for the majority of its long-term power resources.

The Department also uses a different combination of resources to meet its on-peak and off-peak energy requirements. Because the Department has the flexibility to regulate SWP pumping loads on an hourly basis, maximum SWP pumping is scheduled during the off-peak hours (10 p.m. to 8 a.m., Monday through Saturday and all day on Sunday and holidays).

By scheduling as much off-peak pumping as possible, the Department utilizes neighboring utilities' inexpensive surplus generation. Conversely, the Department maximizes hydroelectric generation during the on-peak hours.

In forecasting resources to meet pumping loads, the Department determines the amount of on-peak and off-peak energy expected from each resource from 1993 through 2004.

## Years 1993 through 2004

The amounts of on-peak and off-peak energy the Department expects from each resource type during 1993 through 2004 are illustrated in Figures 18-1 and 18-2.

The effect of maximizing hydroelectric generation during on-peak hours is also indicated by a comparison of the Hyatt-Thermalito and recovery generation components included in Figures 18-1 and 18-2.

Specific information about on-peak and off-peak requirements follows.

### On-Peak

The SWP annual on-peak energy requirement is expected to increase from 6,297 million kWh in 1994 to about 7,053 million kWh in 2004 (see Figure 18-1). As indicated in Figure 18-3, hydroelectric generation will pro-

vide the greatest amount of on-peak energy. The combined hydroelectric energy generated from Hyatt-Thermalito and the four aqueduct recovery plants will provide about 46 percent of energy requirements forecast during on-peak periods.

Increases in on-peak energy consumption will be met with firm and nonfirm purchases. Firm system purchases (energy guaranteed by the seller except in emergency situations) are expected to supply energy during the on-peak periods in the short-term (1994 and 1995). For the long-term, firm system purchases are expected to supply equal amounts during on-peak and off-peak periods.

### Off-Peak

During off-peak periods, the annual energy requirement remains fairly constant at about 7,900 million kWh with the exception of 1994 and 1995, years when the short-term planning model is used (see Figure 18-2). That constant level of energy consumption indicates that SWP is operating at full capacity during off-peak periods.

Diversity power exchanges with Southern California Edison Company provide a large portion of the off-peak resources. In 1994 those exchanges will provide about 4,100 million kWh or 48 percent of the total off-peak energy used by SWP; that amount will decrease to 3,200 million kWh in 2004. Power purchases along with generation from Hyatt-Thermalito, contract hydro, coal, and the recovery plants will provide the remaining off-peak resources. See Figure 18-4.

## Year 1999 On-Peak

In 1999 the annual SWP on-peak energy requirement is expected to be about 6,980 million kWh (see Figure 18-1). As indicated in Figure 18-5, hydroelectric generation is expected to supply the largest amount of energy during this period.

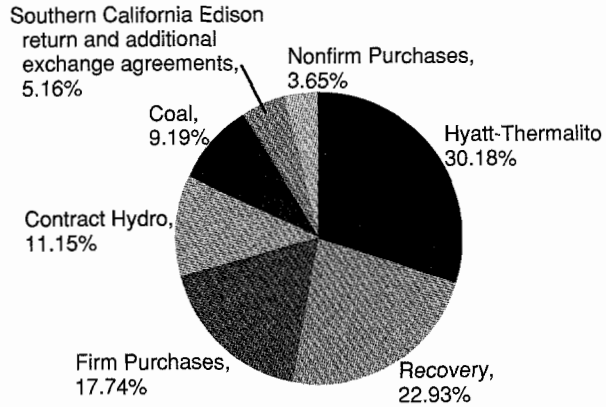


**Fig. 18-5. Estimated on-peak energy resource mix for 1999**

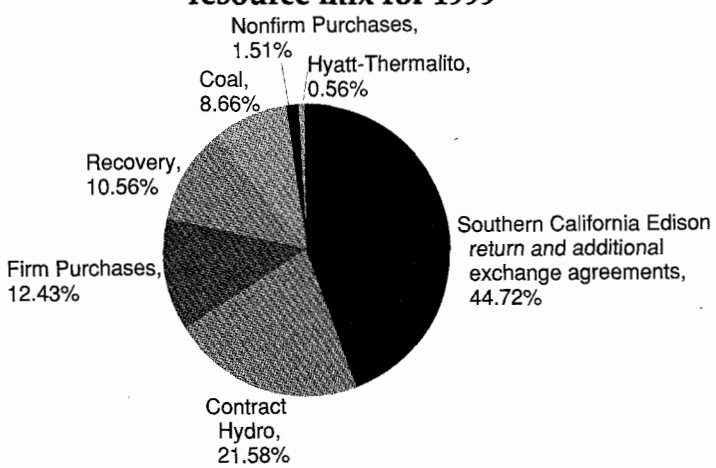


**Fig. 18-6. Estimated off-peak energy resource mix for 1999**

Hyatt-Thermalito will provide about 30 percent or 2,105 million kWh, and recovery generation will provide about 23 percent or 1,600 million kWh.

## Year 1999 Off-Peak

The annual off-peak energy requirement for 1999 is about 7,850 million kWh (see Figure 18-2). As indicated in Figure

18-6, power contracts with Southern California Edison Company provide about 45 percent of SWP off-peak energy. In 1999 those exchanges will provide about 3,509 million kWh.

Table 18-3 includes an itemized listing of the amount of energy each resource is expected to produce during 1999. The table may be found at the end of this chapter.

TABLE 18-1

## Total Energy Requirements for 1994, 1999, and 2004

(Millions of kilowatt-hours)

| *Type of Requirement* | *1994* | *1999* | *2004* |
|---|---|---|---|
| ***Pumping Plants*** | | | |
| **North Bay Aqueduct Plants** | | | |
| Barker Slough | 8.3 | 9.6 | 10.4 |
| Cordelia | 11.6 | 12.6 | 14.3 |
| **South Bay Aqueduct Plants** | | | |
| Del Valle | 0.0 | 1.6 | 1.6 |
| South Bay | 138.7 | 162.9 | 162.9 |
| **California Aqueduct Plants** | | | |
| Harvey O. Banks Delta | 1,148.3 | 1,214.9 | 1,223.6 |
| Buena Vista | 601.3 | 643.0 | 648.3 |
| Ira J. Chrisman Wind Gap | 1,494.9 | 1,562.1 | 1,576.0 |
| Dos Amigos | 509.7 | 528.2 | 530.2 |
| A. D. Edmonston | 5,294.9 | 5,526.1 | 5,575.8 |
| William R. Gianelli | 277.7 | 294.6 | 296.8 |
| John R. Teerink Wheeler Ridge | 701.3 | 734.9 | 741.4 |
| **East Branch Plants, California Aqueduct** | | | |
| Pearblossom | 715.9 | 797.9 | 793.0 |
| **West Branch Plants, California Aqueduct** | | | |
| Oso | 345.0 | 331.3 | 336.1 |
| **Coastal Branch Plants, California Aqueduct** | | | |
| Badger Hill | 19.6 | 40.9 | 39.4 |
| Casmalia | 0.0 | (a | (a |
| Bluestone | 0.0 | 50.4 | 50.4 |
| Devil's Den | 0.0 | 50.4 | 50.4 |
| Las Perillas | 7.9 | 16.0 | 15.5 |
| Polonio Pass | 0.0 | 50.4 | 50.4 |
| Subtotal (b | 11,275.1 | 12,027.8 | 12,116.5 |
| Transmission losses (c | 593.5 | 622.1 | 626.5 |
| Total | 11,868.6 | 12,649.9 | 12,743.0 |
| ***Other*** | | | |
| Energy obligations to Southern California Edison Company (d | 2,386.2 | 2,179.7 | 2,192.6 |
| Firm contracts sales | 266.8 | 0.0 | 0.0 |
| **Grand Total** | **14,521.6** | **14,829.6** | **14,935.6** |

a) Future facility; data are not available.
b) Energy requirements are based on energy used to deliver SWP contractors' requested entitlement water, recreation water, reservoir and aqueduct losses, and replacement of reservoir storage south of the Delta. Energy requirements for 1994 are based on delivering 100 percent of entitlement requests.
c) Transmission losses are determined by contractual arrangements with utilities.
d) Energy obligations are based on existing power contract and capacity exchange agreement with Southern California Edison Company.

TABLE 18-2

## Total Amounts of On-Peak and Off-Peak Electrical Capacity Requirements Projected for 1994 and 1999

(Thousands of kilowatts)

| Type of Requirement | 1994 On-Peak | 1994 Off-Peak | 1999 On-Peak | 1999 Off-Peak |
|---|---|---|---|---|
| ***Pumping Plants*** | | | | |
| **North Bay Aqueduct Plants** | | | | |
| Barker Slough | 2 | 2 | 1 | 1 |
| Cordelia | 2 | 2 | 2 | 2 |
| **South Bay Aqueduct Plants** | | | | |
| Del Valle | 0 | 0 | (a | (a |
| South Bay | 21 | 21 | 12 | 12 |
| **California Aqueduct Plants** | | | | |
| Harvey O. Banks Delta | 111 | 215 | 213 | 250 |
| Buena Vista | 64 | 89 | 63 | 94 |
| Ira J. Chrisman Wind Gap | 170 | 205 | 172 | 223 |
| Dos Amigos | 59 | 96 | 39 | 60 |
| A. D. Edmonston | 613 | 675 | 585 | 760 |
| William R. Gianelli | 1 | 1 | 51 | 203 |
| John R. Teerink Wheeler Ridge | 79 | 97 | 78 | 105 |
| **East Branch Plants, California Aqueduct** | | | | |
| Pearblossom | 82 | 82 | 76 | 150 |
| **West Branch Plants, California Aqueduct** | | | | |
| Oso | 42 | 42 | 41 | 41 |
| **Coastal Branch Plants, California Aqueduct** | | | | |
| Badger Hill | 3 | 3 | 3 | 3 |
| Bluestone | 0 | 0 | 6 | 6 |
| Casmalia | 0 | 0 | (b | (b |
| Devil's Den | 0 | 0 | 6 | 6 |
| Las Perillas | 1 | 1 | 1 | 1 |
| Polonio Pass | 0 | 0 | 6 | 6 |
| **Total Capacity Needed to Pump Entitlement Water** | **1,250** | **1,531** | **1,355** | **1,923** |
| ***Other*** | | | | |
| Firm contract sales | 75 | 40 | 0 | 0 |
| Transmission losses | 67 | 80 | 66 | 96 |
| Reserve margin (10 percent of pumping, firm sales, and losses) | 205 | 205 | 128 | 128 |
| Capacity to Southern California Edison Company | 700 | 475 | 710 | 485 |
| **Total Capacity Requirements** | **2,297** | **2,331** | **2,259** | **2,632** |

a) Amount is smaller than one thousand kilowatts.
b) Future facility; data are not available.

TABLE 18-3

## Estimates of Total Amounts of On-Peak and Off-Peak Energy Produced in 1999, by Type of Resource

(Millions of kilowatt-hours)

| *Type of Resource* | *On-Peak* | *Off-Peak* | *Annual* |
|---|---|---|---|
| **Hydro** | | | |
| Hyatt-Thermalito | 2,105.2 | 43.8 | 2,149.0 |
| **Recovery** | | | |
| Alamo | 50.8 | 63.3 | 114.1 |
| Devil Canyon | 885.6 | 330.0 | 1,215.5 |
| William R. Gianelli | 220.2 | 7.3 | 227.5 |
| Mojave Siphon | 42.3 | 61.2 | 103.6 |
| San Luis Obispo | 19.6 | 19.9 | 39.5 |
| Thermalito Diversion Dam | 11.5 | 11.5 | 23.0 |
| William E. Warne | 369.8 | 357.6 | 727.4 |
| *Subtotal* | 1,599.8 | 850.7 | 2,450.5 |
| **Coal** | | | |
| Reid Gardner | 641.2 | 679.4 | 1,320.6 |
| **Contract Hydro** | | | |
| Castaic | 568.0 | 568.0 | 1,136.0 |
| Metropolitan Water District of Southern California small hydro | 0.0 | 251.1 | 251.1 |
| Metropolitan Water District of Southern California Colorado River Aqueduct | 0.0 | 664.0 | 664.0 |
| Pine Flat | 210.0 | 210.0 | 420.0 |
| *Subtotal* | 778.0 | 1,693.1 | 2,471.1 |
| **Power Contract** | | | |
| Alamo additional | 0.0 | 36.4 | 36.4 |
| Alamo return | 0.0 | 114.1 | 114.1 |
| Devil Canyon additional | 0.0 | 434.1 | 434.1 |
| Devil Canyon return | 0.0 | 793.4 | 793.4 |
| Hyatt additional | 0.0 | 1,177.7 | 1,177.7 |
| Hyatt return | 0.0 | 859.6 | 859.6 |
| *Subtotal* | 0.0 | 3,415.3 | 3,415.3 |
| Capacity exchange agreement | 360.0 | 93.8 | 453.7 |
| Firm system purchase | 800.0 | 800.0 | 1,600.0 |
| Nonfirm purchases | 254.3 | 118.4 | 372.7 |
| PacifiCorp | 438.0 | 175.2 | 613.2 |
| TERA Power Corporation | 3.2 | 3.2 | 6.3 |
| *Subtotal* | 1,855.5 | 1,190.5 | 3,045.9 |
| **Total** | **6,979.7** | **7,872.8** | **14,852.5** |

# 19. Securing Power Resources

To ensure that the State Water Project has sufficient power to meet its contractual obligations for delivering water, the Department of Water Resources developed a comprehensive power resources program.

The goals of the program are to:

- Obtain reliable, environmentally benign, and competitively priced power supplies and transmission services sufficient for operating SWP
- Develop and manage power resources to minimize the cost of water deliveries to SWP contractors
- Minimize impacts on SWP when major contractual power arrangements expire in 2004
- Operate as an independent, interconnected utility and, therefore, meet responsibilities and criteria of the Western System Coordinating Council and conform with regulations of the California Energy Commission and the Federal Energy Regulatory Commission

To achieve those goals, the Department constructed its own power facilities and has contracted for long-term power resources from the following agencies:

Los Angeles Department of Water and Power (Castaic Powerplant)
Southern California Edison Company
Metropolitan Water District of Southern California
Kings River Conservation District (Pine Flat Powerplant)
TERA Power Corporation (Bethany Wind Park)
PacifiCorp

In addition, the Department has arranged for transmission service between SWP power resources and pumping loads and interconnected utilities. Information about obtaining power supplies and transmission services is included in this chapter.

## Facilities

The Department owns—jointly or solely—several power facilities, including hydroelectric, coal, and geothermal. For locations of the facilities, see Figure 9-1.

### Hydroelectric

Information about SWP hydroelectric facilities is organized into two sections, "Current Facilities" and "Proposed Facilities."

#### Current Facilities

Economical hydroelectric generation provides the largest share of SWP power re-

sources. The combined 900-megawatt (MW) Edward Hyatt Pumping-Generating Plant and Thermalito Pumping-Generating Plant (Hyatt-Thermalito) generate about 2.2 billion kilowatt hours (kWh) in a median water year, while the 3 MW Thermalito Diversion Dam Powerplant adds another 24 million kWh a year.

Generation at existing SWP aqueduct recovery plants, William R. Gianelli, Alamo, Devil Canyon, and William E. Warne, varies with the amount of water conveyed. The 593 MW of combined generation capacity at those four plants generates about one-sixth of the total energy used by SWP. (William R. Gianelli Pumping-Generating Plant is a joint SWP [222 MW] and U.S. Bureau of Reclamation [202 MW] facility.)

### Proposed Facilities

To meet future SWP power requirements, the Department also considers and evaluates new power resources. When considering or evaluating those resources, the Department reviews its on-peak and off-peak power requirements and analyzes the type of resource and its cost.

A new potential power resource may be included or deferred based on the following seven factors:

1. Capability for meeting anticipated power requirements for pumping
2. Availability of transmission access
3. Anticipated water deliveries to contractors
4. Cost of the resource
5. Availability and cost of financing
6. Environmental impacts and costs of mitigation
7. Operating characteristics

Potential power resources being considered by the Department include (1) a second unit at Alamo Powerplant, (2) a third unit at William E. Warne Powerplant, (3) additional capacity at Hyatt-Thermalito, and (4) off-stream pumped-storage power facilities associated with the proposed Los Banos Grandes Reservoir.

Currently, to accommodate future increases in water deliveries, one power plant, Devil Canyon, has been enlarged; another plant, Mojave Siphon, is being constructed; and a third plant, San Luis Obispo, is in the design stage.

#### Devil Canyon Powerplant

Devil Canyon Powerplant was enlarged to accommodate units 3 and 4, which increased the plant's nameplate rating by 160 MW. Commercial operation is scheduled to begin in late 1994 when construction of a second afterbay has been completed. Construction of the second afterbay began in 1992.

#### Mojave Siphon Powerplant

Mojave Siphon Powerplant is under construction on the East Branch of the California Aqueduct. This hydroelectric power plant, with a nameplate rating of 32.4 MW, will be located upstream of Silverwood Lake. The power plant is scheduled to begin commercial operation in 1995.

#### San Luis Obispo Powerplant

San Luis Obispo Powerplant, a 3.8 MW power recovery facility, will be constructed during the second phase of the Coastal Branch of the California Aqueduct. The power plant is scheduled to be operational in 1996.

## Coal

Reid Gardner, a coal-fired power plant near Las Vegas, Nevada, consists of four units. The Department owns 67.8 percent of Unit 4

(169.5 MW) while Nevada Power Company owns the remainder of Unit 4 as well as all of units 1, 2, and 3.

The Department has received energy from Unit 4 since July 1983. According to the Reid Gardner Unit 4 Participation Agreement, the Department receives up to 226 MW from Unit 4 subject to NPC's limited right to interrupt the Department's energy deliveries during on-peak hours. Whenever NPC interrupts the Department's generation, the Department receives payment based on NPC's combustion turbine costs.

The turbine at Reid Gardner was upgraded in June 1990 to use the excess boiler capacity of Unit 4. The upgrade increased the plant's generation capacity by approximately 15 MW. The Department and NPC shared the cost of the upgrade in proportion to their ownership.

The Department will allow NPC to use its share of the Unit 4 upgraded capacity and related energy through August 31, 1998. Starting September 1, 1998, the Department will have available for its use the entire amount of the upgraded capacity and related energy for the remaining term of the participation agreement. Also, beginning in 1998, NPC has the option each year to buy up to 6 percent of the Department's ownership. The utility is required to give the Department a 5-year notice to exercise each year's option (1993 notice for 1998 option).

## Geothermal

The Department developed two geothermal power plants, Bottle Rock and South Geysers. The Department constructed and operated Bottle Rock Powerplant until 1990 and began construction of South Geysers Powerplant in the early 1980s. In addition, the Department leases from the federal government the mineral rights to the Binkley Ranch Club located north of Bottle Rock.

### Bottle Rock Powerplant

Bottle Rock Powerplant, in the Geysers area of Lake County, is owned and was operated and maintained by the Department from February 1985 to December 1990. At that time, Bottle Rock was taken out of operation. Because lower-cost energy was available, the Department determined that drilling for new steam needed to keep the plant operational was uneconomical. The Department is exploring the possible lease or sale of this plant.

### South Geysers Powerplant

The Department planned another geothermal facility, South Geysers Powerplant, in Sonoma County. Three steam wells originally drilled on the property provided the basis for the Department's decision to construct the plant. However, subsequent drilling for steam wells resulted in an insufficient supply of steam to support a 55 MW power plant.

In 1985 the Department deferred the completion of South Geysers due to the reduced short-term need for additional power resources and the questionable steam supply. On May 4, 1990, Bechtel Power Corporation purchased the major components of the plant (steam turbine generator, condenser, and associated items) for $5.5 million. The Department is exploring the possibility of leasing or selling the steam field and site for alternative uses.

### Binkley Mineral Rights

The Department leases from the federal government the mineral rights to the Binkley Ranch Club located north of the Francisco leasehold and Bottle Rock Powerplant and has obtained the necessary permits to con-

struct a well pad on the leasehold. The lease is considered a supplemental source of steam for Bottle Rock if the economics of operating geothermal facilities improve.

# Joint Development, Exchanges, and Purchases

Through joint development, exchanges, and purchases the Department obtains a significant amount of capacity and energy for State Water Project operations from other utilities throughout California, the Pacific Northwest, and the Pacific Southwest.

Negotiations continue with various utilities in the Pacific Northwest to develop long-term arrangements for purchases, sales, and exchanges to take advantage of the Department's 300 MW transmission capacity on the extra-high voltage (EHV) Pacific Northwest Intertie. See Table 19-1 at the end of this chapter.

To reduce SWP power costs, the Department will continue to use the EHV intertie and to negotiate with utilities in California, the Pacific Northwest and the Pacific Southwest for purchases and sales of power. See "Transmission Services" in this chapter for additional information.

## Joint Development

In 1966 the Department entered into a contract with the Los Angeles Department of Water and Power to jointly develop Castaic Powerplant on the West Branch of the California Aqueduct. LADWP constructed and operates Castaic Powerplant.

The Department's weekly share of capacity and energy at the Sylmar Substation is based on weekly water schedules through the West Branch.

## Exchanges

A significant amount of energy used by SWP is provided according to exchange agreements arranged with various utilities, including the Metropolitan Water District of Southern California, Southern California Edison Company, and other utilities.

### Metropolitan Water District of Southern California

The Department contracts for the energy output of five hydroelectric plants owned and operated by the Metropolitan Water District of Southern California. The total capacity of those plants is 30 MW.

According to the terms of the 1979 Power Contract, SCE receives energy from Lake Mathews, Foothill Feeder, San Dimas, and Yorba Linda Powerplants. In return the Department receives off-peak energy from SCE averaging 107 percent of the total energy that is provided to SCE from those four plants.

According to a 1983 agreement with the Los Angeles Department of Water and Power, all the energy from the fifth plant (Greg Avenue) is provided to LADWP. The utility returns 98.8 percent of this energy to the Department during off-peak periods.

### Southern California Edison

The major portion of the energy used by SWP is provided according to the 1979 Power Contract and the 1981 Capacity Exchange Agreement (CEA) with SCE. Services began in April 1983 under the Power Contract and in April 1987 under the CEA.

According to terms of the Power Contract, the Department provides the following to SCE:

- Up to 350 MW of capacity and approximately 40 percent of the energy from Hyatt-Thermalito

- Up to 120 MW of capacity and all the energy generated by Devil Canyon Powerplant units 1 and 2
- Up to 15 MW of capacity and all the energy generated by Alamo Powerplant

In return, the Department receives off-peak energy from SCE equal to the total amount of energy SCE receives from Hyatt-Thermalito, Devil Canyon Powerplant, and Alamo Powerplant plus an additional amount of energy as payment for the capacity.

The amount of additional energy is determined annually based on the capacity-energy exchange formula defined in the 1979 Power Contract. That formula is used to determine the value of capacity in dollars and converts the dollar value to an equivalent amount of off-peak energy.

According to terms of the Capacity Exchange Agreement, the Department each year must provide 412.5 million kWh of energy to SCE during on-peak periods at a maximum delivery rate of 225 MW. Southern California Edison returns, during mid-peak and off-peak periods, approximately 110 percent of the energy provided by the Department.

In addition, SCE waives 75 percent of its charges to the Department for specified firm transmission service provided to SWP pumping and generating facilities. Southern California Edison also makes an annual payment of $900,000 to the Department. In 1992 the saving to the Department from SCE waiving 75 percent of its firm transmission charges was $7,372,299.

### Other Utilities

Through interchange agreements the Department exchanges economy energy with utilities throughout the western United States. Under those agreements, the Department can sell, buy, or exchange economy energy on a short-term basis. Some agreements also provide for the Department to sell, buy, and/or exchange short-term firm capacity and/or firm energy on an hourly, daily, weekly, or monthly basis.

Those agreements permit more efficient use of the Department's generating resources and more efficient scheduling of energy deliveries. The term of those interchange agreements generally is between 20 and 30 years.

## Purchases

The Department obtains a significant amount of energy through long-term and short-term purchase agreements with utilities in California, the Northwest, and the Southwest.

### Long-Term Purchases

The Department purchases energy from hydroelectric generation developed by others. The output of the 165 MW Pine Flat Powerplant, owned and operated by the Kings River Conservation District, provides the State Water Project about 400 million kWh of energy in median water years.

The Department also purchases wind-generated energy from TERA Power Corporation. The energy is delivered from the Bethany Wind Park to the South Bay Pumping Plant near Tracy. Originally TERA installed 168 wind machines with a capacity of 9.45 MW. However, because of mechanical failures and subsequent litigation involving the developer, investors, and manufacturers, many machines are out of service. As of June 1993, approximately 60 units generate about 3.35 MW.

The Department also signed an agreement with PacifiCorp of Portland, Oregon, for the purchase of 100 MW of firm capacity

and associated energy. That agreement, effective June 1, 1991, will continue through 2004.

### Short-Term Purchases

The Department has contracted with Pacific Gas and Electric Company, Southern California Edison Company, and Bonneville Power Administration (a federal agency designed to market energy) to purchase power when needed. Additionally, according to terms of the 1983 Coordination Agreement between the Department and the Metropolitan Water District of Southern California, the Department may purchase surplus energy from the MWD's Colorado River Aqueduct power resources.

The Coordination Agreement provides for coordinated operation between SWP and MWD's Colorado River Aqueduct system. It also provides for:

- Sales of surplus firm energy to MWD monthly
- Sales of economy energy to MWD
- Purchases of surplus energy from the Colorado River Aqueduct system
- Exchanges of energy between the Department and MWD

The Department also has 25 other agreements for purchasing interruptible economy energy to satisfy unexpected, short-term energy shortages. Table 19-1 includes information about contracts for economy energy sales, purchases, transmission services, and long-term power agreements.

## Transmission Services

The Department must arrange adequate transmission service between SWP power resources and pumping loads and interconnected utilities for purchases, sales, and exchanges of power.

Although able to independently acquire strategic generation resources, the Department is primarily dependent on PG&E and SCE transmission systems for transmittal of certain resources to SWP loads.

Under the Comprehensive Agreement between the Department and PG&E, the Department receives 1,355 MW of firm transmission service over the PG&E transmission system between SWP pump loads and power resources in northern and central California. The agreement also allows the Department to request and receive additional firm and interruptible transmission service as its SWP needs dictate.

To interconnect the SWP loads and resources in southern California the Department receives transmission service from SCE over the SCE transmission system pursuant to the SCE-DWR Power Contract and Firm Transmission Service Agreement.

The Department has also arranged for long term transmission service through its 1967 EHV Contract with PG&E, SCE, and the San Diego Gas and Electric Company, which provides 300 MW of entitlement on the Pacific AC Intertie.

Other SWP transmission needs are currently met by contractual arrangements with California utilities (see Table 19-1).

However, the Department's long-term objectives include (1) acquiring its own transmission facilities between resources and loads where feasible and (2) providing additional interconnections to other potential power sources. To improve and expand its transmission services, the Department is developing various alternatives, including:

- Additional transmission capability from the California-Oregon border to the Tracy Substation
- Alternate transmission paths between Department resources and loads to

achieve a greater degree of operating flexibility
- Additional transmission capability to the Pacific Southwest

In 1992 PG&E upgraded the transmission service for South Bay Pumping Plant, consequently increasing the plant's reliability. Because of the improved reliability, the Department determined that it will no longer be economical or necessary to build a planned transmission line between Harvey O. Banks Delta Pumping Plant and South Bay Pumping Plant.

In addition, the Department continues to work with various public and private utilities in California to add reinforcements and purchase transmission capacity.

## Reinforcements

As part of a comprehensive agreement with PG&E, the Department requested that the utility add reinforcements between Los Banos and Midway Substations to reduce the curtailment of firm transmission service between Department resources and loads.

PG&E indicated that reinforcements could be delayed and possibly avoided if the Department would be willing to drop portions of SWP pump load and generation during PG&E transmission system emergencies.

In response the Department worked with PG&E to develop a remedial action system to ensure that dropping portions of pump load and generation would increase service reliability without adversely affecting SWP operation. The remedial action system was constructed and declared operational on July 22, 1993, at a cost to the Department of about $5 million. As of that date, the Department began receiving more reliable transmission service.

## Capacity

The Department signed two agreements designed to provide transmission capacity. One agreement involves the original two 500-kilovolt (kV) transmission lines of the Pacific Northwest Intertie; the other involves a new 500 kV transmission line, known as the California Oregon Transmission Project, which was added to the Pacific Northwest Intertie.

### Pacific Northwest Intertie

In August 1967 the Department contracted for 300 MW of transmission capacity through 2004 on the EHV Pacific Northwest Intertie from the California-Oregon border to the Table Mountain, Tesla, Los Banos, and Midway Substations.

The Department retains its entire 300 MW share of EHV capacity for access to the Pacific Northwest although 100 MW of this capacity is committed to delivering the long-term purchase of 100 MW from PacifiCorp.

### California Oregon Transmission Project

In December 1984 the Department signed a memorandum of understanding with many public and private California utilities. As part of that agreement, the Department has an option (which can be exercised during the 5-year period beginning in January 2005) to purchase 97 MW of transmission capacity on the third 500 kV transmission line that connects California with the Pacific Northwest. The transmission line began operation on March 17, 1993.

TABLE 19-1

## Power Contracts, by Title and Date Signed

| *Contract Title and Date Signed* | *Name of Contractor* | *Purpose* | *Effective Through* |
|---|---|---|---|
| 1. West Branch Cooperative Development (9/2/66) | Los Angeles Department of Water and Power | Provides for joint development of Castaic Power Project on California Aqueduct, West Branch | Dec. 31, 2014 |
| 2. Extra High Voltage (EHV) Intertie (8/1/67) | Pacific Gas & Electric Company, Southern California Edison Company San Diego Gas and Electric Company | Provides transmission of 300 MW of EHV from Oregon border to specific points in California by SWP and purchase of off-peak energy to extent of purchased transmission capacity | Dec. 31, 2004 |
| 3. Fourth Supplemental Resolution, Oroville (9/28/77) | Department of Water Resources (DWR) Resolution | Replaces power sale contract; effective 4/1/83 | Repayment of last bonds or Nov. 29, 2017, whichever later |
| 4. District-State Hydroelectric Power Sale Contract (1/9/78) | Metropolitan Water District of Southern California | Provides for purchase of output from five small hydro developments totaling 29.5 MW of capacity; effective 4/1/83 | At least to Mar. 31, 2008 |
| 5. San Diego Gas and Electric Company EHV Settlement (5/25/78) | San Diego Gas and Electric Company | Establishes extent of SDG&E obligation to supply off-peak energy during the remaining term of EHV contract and resolves disputes concerning Department of Water Resources use of its EHV transmission entitlement | Dec. 31, 2004 |
| 6. Reid Gardner Unit 4 Participation (7/11/79) | Nevada Power Company | Establishes joint ownership of an additional unit at an existing coal-fired plant near Las Vegas | July 25, 2013 |
| 7. Southern California Edison-Department of Water Resources 1979 (10/11/79) | Southern California Edison Company | Establishes rate of SCE off-peak energy under EHV contract; effective 1/1/83 | Dec. 31, 2004 |
| 8. Firm Transmission Service Agreement (10/11/79) | Southern California Edison Company | Provides transmission service between El Dorado and Vincent substations for Reid Gardner | July 25, 2013 |
| 9. Power Contract (10/11/79) | Southern California Edison Company | Beginning 4/1/83, provides:<br>a. Transmission service in SCE service area<br>b. Rights to purchase up to 300 MW firm capacity and/or spinning reserves<br>c. Rights to purchase off-peak energy<br>d. Exchanges of off-peak energy for 485 MW of DWR on-peak capacity | Dec. 31, 2004 |
| 10. Pine Flat (11/6/79) | Kings River Conservation District | Purchases hydroelectric output from Pine Flat Power Plant | Mar. 31, 2034 |
| 11. Emergency Service Agreement (7/21/80) | Southern California Edison Company | Establishes emergency service between parties | Dec. 31, 2004 |
| 12. Capacity Exchange Agreement (9/17/81) | Southern California Edison Company | Effective 4/2/87, exchanges 225 MW of on-peak capacity from Hyatt-Thermalito for:<br>a. Up to 600 MW of SCE capacity during off-peak periods<br>b. Up to 225 MW of SCE capacity during partial-peak periods<br>c. A 75 percent reduction in transmission service charges for transmission under power contract and firm transmission service agreement<br>d. An annual payment of $900,000 to DWR | Dec. 31, 2004 |
| 13. Agreement for Sale of Nonfirm Thermal Energy (3/8/82) | Pacific Power and Light Company | Provides for sale of nonfirm thermal energy to DWR | Dec. 31, 1991 or upon one month notice by either party |
| 14. Power Sale Agreement (5/14/82) | TERA Power Corporation | Provides for sale of energy to Department from wind-powered generation facilities constructed by TERA | May 2, 2002 |
| 15. Generation Replacement Agreement (6/14/82) | Southern California Edison Company | Provides energy from DWR resources to replace lost generation of two SCE plants on San Bernardino Valley Municipal Water District System | May 31, 2012 |

TABLE 19-1

## Power Contracts, by Title and Date Signed (Continued)

| *Contract Title and Date Signed* | *Name of Contractor* | *Purpose* | *Effective Through* |
|---|---|---|---|
| 16. Southern California Edison EHV Settlement Agreement Pacific Gas and Electric EHV Settlement Agreement (12/31/82) | Southern California Edison Company/ Pacific Gas and Electric Company | Establishes extent of DWR's ability to exercise its rights to 300 MW of EVH transmission from Pacific Northwest. PG&E agreement also defines rate for EHV off-peak energy purchases | Dec. 31, 2004/ Jan. 1, 2005 |
| 17. Interchange Agreement (6/29/83) | San Diego Gas and Electric Company | Exchanges energy between SDG&E and DWR | July 31, 2010 |
| 18. Greg Avenue Powerplant Energy Exchange Agreement (8/29/83) | Los Angeles Department of Water and Power | Exchanges DWR entitlement to Greg Avenue Powerplant energy for credit and off-peak energy | Until terminated by either party upon two-year advance written notice |
| 19. Economy Energy Agreement (9/22/83) | Los Angeles Department of Water and Power | Permits sale of economy energy bilaterally | Until terminated by either party |
| 20. Coordination Agreement between Southern California Edison and Department of Water Resources (10/8/83) | Southern California Edison Company | Sells nonfirm energy to SCE; allows short-term exchanges; allows SCE to bank energy at San Luis Reservoir; allows for seasonal capacity and energy exchange | Dec. 31, 2005 |
| 21. Energy Interchange Agreement (6/6/84) | Tucson Electric Power Company | Permits sale of economy energy bilaterally | Dec. 31, 2008 |
| 22. Energy Interchange Agreement (7/27/84) | City of Glendale | Permits sale of economy energy bilaterally | Dec. 31, 2012 |
| 23. Energy Interchange Agreement (7/27/84) | City of Pasadena | Permits sale of economy energy bilaterally | Dec. 31, 2011 |
| 24. Energy Interchange Agreement (7/27/84) | City of Riverside | Permits sale of economy energy bilaterally | Dec. 31, 2013 |
| 25. Energy Interchange Agreement (7/31/84) | City of Burbank | Permits sale of economy energy bilaterally | Dec. 31, 2013 |
| 26. Interconnection Agreement (7/31/84) | Nevada Power Company | Permits sale of economy energy bilaterally | Dec. 31, 2006 |
| 27. Energy Interchange Agreement (9/17/84) | City of Anaheim | Permits sale of economy energy bilaterally | Dec. 31, 2013 |
| 28. Service Agreement (11/1/84) | Montana Power Company | Permits sale of economy energy bilaterally | Until terminated by either party |
| 29. Economy Energy Agreement (11/6/84) | Salt River Project | Permits sale of economy energy bilaterally | Dec. 31, 2013 |
| 30. Energy Interchange Agreement (12/1/84) | Northern California Power Agency | Permits sale of economy energy bilaterally | Dec. 31, 2009 |
| 31. Southern California Edison-Department of Water Resources Interruptible Transmission Service Agreement (12/19/84) | Southern California Edison Company | Provides interruptible transmission service between Palo Verde Generating Station and Vincent Substation, between El Dorado and Mead substations, and so forth | Dec. 31, 2004 |
| 32. Service Agreement (1/7/85) | Idaho Power Company | Sells nonfirm energy to DWR | Until terminated by either party |
| 33. Energy Interchange Agreement (4/18/85) | El Paso Electric Company | Permits sale of economy energy bilaterally | Dec. 31, 2010 |
| 34. Interconnection Agreement (4/18/85) | Portland General Electric Company | Permits sale of economy energy bilaterally | Dec. 31, 2010 |
| 35. Energy Interchange Agreement (4/30/85) | Seattle City Light | Permits sale of economy energy bilaterally | Dec. 31, 2015 |
| 36. Interconnection Agreement (4/30/85) | Pacific Power and Light Company | Permits sale of economy energy bilaterally | Dec. 31, 2009 |
| 37. Power and Energy Interchange Agreement (6/3/85) | Arizona Public Service Company | Permits sale of economy energy bilaterally | Dec. 31, 2010 |
| 38. Service Agreement (8/13/85) | Washington Water Power Company | Sells nonfirm energy to DWR | Until terminated by either party |
| 39. Energy Interchange Agreement | City of Santa Clara | Permits sale of economy energy bilaterally | Dec. 31, 2008 |

TABLE 19-1

## Power Contracts, by Title and Date Signed (Continued)

| *Contract Title and Date Signed* | *Name of Contractor* | *Purpose* | *Effective Through* |
|---|---|---|---|
| 40. Service Agreement (9/1/85) | Western Area Power Administration (Sacramento Area Office) | Sells nonfirm energy to Western Area Power Administration | Dec. 31, 2004 |
| 41. Bonneville Power Administration (9/5/87) | Bonneville Power Administration | Provides for purchase of surplus BPA energy at Oregon-California border | Dec. 4, 2017 |
| 42. Department of Water Resources-Metropolitan Water District Coordination Agreement (2/26/88) | Metropolitan Water District of Southern California | Provides for bilateral energy transactions and exchanges; SWP and MWD Colorado River Aqueduct operations coordination | Sep. 30, 2017 |
| 43. Energy Interchange Agreement (4/7/88) | City of Vernon | Permits sale of economy energy bilaterally | Dec. 31, 2013 |
| 44. Energy Interchange Agreement (4/12/88) | Eugene Water and Electric Board | Permits sale of economy energy bilaterally | Dec. 31, 2013 |
| 45. Capacity/Energy Interchange (9/13/88) | Modesto Irrigation District | Sells capacity and associated energy to MID as available; bilateral sale of economy energy | Dec. 31, 2017 |
| 46. Power Sale Agreement (1/17/89) | Turlock Irrigation District | Provides for 1991-1992 sale of firm capacity and associated energy; varying monthly amounts of capacity (8 MW to 44 MW) | Dec. 31, 1994 |
| 47. Agreement of Cotenancy in the Castle Rock Junction-Lakeville 230-kV Transmission Line (5/10/89) | Pacific Gas and Electric Company, Northern California Power Agency, and City of Santa Clara | Establishes transmission ownership of Castle Rock Junction-Lakeville 230-kV transmission line | Dec. 31, 2014 |
| 49. Castle Rock Junction-Lakeville Transmission Service Agreement (5/10/89) | Northern California Power Agency and City of Santa Clara | Provides transmission service to NCPA and City of Santa Clara | Dec. 31, 2014 |
| 49. Interchange Agreement (8/15/89) | Turlock Irrigation District | Permits sale of economy energy bilaterally | Dec. 31, 2013 |
| 50. Agreement for Sale of Interruptible Energy (10/1/89) | British Columbia Power Export Corporation | Sells B. C. Hydro surplus interruptible energy to DWR | Dec. 31, 2010 or on one-month notice by either party |
| 51. Power Sale Agreement (11/18/92) | City of Vernon | Sells firm capacity and associated energy, 1993-1994 | Dec. 31, 1993 |
| 52. Power Sale Agreement (3/31/90) | Modesto Irrigation District | Sells firm capacity and associated energy, 1991-1992 | Dec. 31, 1994 |
| 53. Capacity/Energy Interchange (11/13/90) | Sacramento Municipal Utility District | Permits bilateral sale of capacity and associated energy, and economy energy | Dec. 31, 2015 |
| 54. Power Sale Agreement (12/13/90) | Turlock Irrigation District | Allows 1993-94 sale of firm capacity and associated energy | Dec. 31, 1994 |
| 55. Power Purchase Agreement (4/28/91) | Pacific Power and Light Company | System purchase of firm capacity and associated energy (100 MW) | Dec. 31, 2004 |
| 56. Power Sale Agreement (12/23/92) | Modesto Irrigation District | Sells capacity and associated energy, 1993-1997 associated energy | Dec. 31, 1997 |
| 57. Energy Purchase Agreement (6/14/82) | San Bernardino Valley Municipal Water District | Provides for SBVMWD to pay for energy supplied to SCE under the Generation Replacement Agreement, and gives DWR the option to develop four small hydro plants on the SBVMWD system | May 31, 2012 |
| 58. Comprehensive Agreement (4/22/82) | Pacific Gas and Electric Company | Provides 1,355 MW of firm energy transmission service in PG&E service areas effective 4/1/83 | Dec. 31, 2004 with option for 10-year extension |
| 59. Power Sale Agreement (4/27/92) | City of Riverside | Permits sale of capacity and associated energy (20 MW, May to October) | Until terminated by either party |

# 20. Forecasting Power Costs and Sales

Currently, the Department of Water Resources is able to economically meet State Water Project power requirements through a resource mix of SWP's own power resources and energy obtained through contracts and exchanges. (See Table 19-1.

To meet SWP power needs with the most economical power sources available, the Department annually estimates the:

- Amount of energy to be generated by its own resources
- Amount of energy to be purchased
- Cost of producing and purchasing energy listed above, and the costs of pumping, average unit costs, composite resource costs, and net costs

In forecasting the cost of meeting SWP power needs, the Department also includes energy sales. When producing power through its own resources, SWP may have power in excess of its needs and commitments. Consequently, the Department may sell surplus power to other utilities. Payments to the Department may be made in cash or with energy from power exchanges.

This chapter includes information about the costs of energy resources to meet SWP power needs and the sale of surplus power to reduce those costs.

## Costs of Energy Resources

Costs for energy resources are based on the actual SWP cost of generation and any costs for power purchases. Power purchase costs occur when energy requirements exceed available SWP resources. To ensure that SWP power needs are met most economically, the Department maximizes its resources by doing most of its pumping in the off-peak period when energy is least expensive and generating energy during the on-peak hours when the value of energy is the highest.

Forecasts of the resources mix and unit rate costs to meet SWP requirements for 1994, 1999, and 2004 are shown in Table 20-1 and 20-2. Energy requirements range from 13.38 billion kilowatt-hours (kWh) in 1994 to 12.74 billion in 2004. The corresponding unit rates range from 29.77 mills per kWh in 1994 to 42.46 mills per kWh in 2004. The increase in the unit rates results from the increased costs of energy resources, which result from an increase in power purchases. In the energy projection the Department assumes that all

nonfirm and firm system purchases will be met through unspecified sources and that any surplus energy will be sold as nonfirm energy.

## Costs of Pumping

The pumping cost of SWP is based on the energy requirements for pumping and the associated transmission losses for (1) delivering entitlement water, recreation water, and water lost in reservoirs and aqueducts and (2) replenishing reservoir storage south of the Delta. Firm capacity and surplus energy in excess of expected SWP requirements are available for sale. The sale of firm capacity and surplus energy helps reduce the cost of pumping.

Table 20-1 is a forecast of energy resources to meet projected requirements.

## Average Unit Costs

The current projections in mills per kilowatt-hour of the average unit costs of energy from the various resources may be found in Table 20-2 at the end of the chapter. Those projections include allowances for future escalation of operation and maintenance costs and appropriate allowances for escalation of fuel costs (generally 5 percent per year).

## Composite Resource Costs

The composite resource costs listed in Table 20-2 represent the weighted average unit cost of all SWP energy resources including power purchases.

The unit values of potential sales of surplus energy were estimated by escalating the projected 1993 value of 29.6 mills per kWh for on-peak energy sales and 22.2 mills per kWh for off-peak energy sales at rates published in the Wharton Econometric Forecasting Associates long-term forecast of the fourth quarter 1992.

## Net Costs

The net cost of SWP energy is the unit cost of the energy actually used for SWP purposes. The net cost of energy is calculated by adding all the energy resource costs and subtracting any power sales revenues. The amounts of unit transmission costs included in Table 20-2 were determined by dividing the total annual expenditures SWP made for power transmission services by the total SWP annual energy requirements. This calculation reflects the 75 percent of the firm transmission service costs waived by Southern California Edison according to the provisions of the 1981 Capacity Exchange Agreement with the Department, which became effective in 1987.

The amounts of effective unit costs included in Table 20-2 represent the average costs for energy used to operate SWP, exclusive of any surplus or unscheduled water service. However, because of allocation adjustments for costs of off-aqueduct power facilities and credits for generation at SWP recovery plants, the amounts of unit costs included in Table 20-2 do not represent actual energy costs reflected in the annual statements of charges distributed to the water contractors.

# Sales

Occasionally SWP may have surplus power as a result of reduced water delivery demands or an abundance of SWP hydroelectric generation. The Department has entered into various agreements with several utilities for sale of those surpluses.

Surpluses are generally marketed for periods ranging from a day to a year. Yearly sales usually involve selling firm power. Information about sales of firm power and sales on a short-term basis—day-to-day or hour-to-hour, for example—follows.

## Firm Sales

In 1992 the Department sold energy to the following two cities and seven utilities:

City of Riverside
City of Vernon
Modesto Irrigation District
Nevada Power Company
Northern California Power Agency
Portland General Electric Company
Sacramento Municipal Utility District
Salt River Project
Turlock Irrigation District

The Department extended some contracts to sell surplus firm power to Modesto Irrigation District through 1997, Turlock Irrigation District through 1994, the City of Vernon through 1993, and the City of Riverside indefinitely.

According to the terms of those contracts, the Department will provide the utilities with varying amounts of firm power. Amounts vary monthly and are lower in the winter months than in the summer months, with maximum power to be provided in August.

## Short-Term Sales

In addition to selling firm power, the Department may sell power on a day-to-day or hour-to-hour basis according to terms of its interchange agreements and of the Western System Power Pool agreement. These agreements provide the basis for making economy energy transactions, short term capacity energy sales or exchanges, unit commitments, and transmission service purchases.

TABLE 20-1

## Estimated Amounts of Energy Resources for 1994, 1999, and 2004

(Millions of kilowatt-hours)

| *Energy Resources, Requirements, and Sales* | *1994* | *1999* | *2004* |
|---|---|---|---|
| **SWP Energy Resources** | | | |
| Alamo Powerplant | 47 | 114 | 112 |
| Bottle Rock Powerplant | 0 | 0 | 0 |
| Castaic Powerplant | 1,168 | 1,136 | 1,152 |
| Devil Canyon Powerplant | 1,074 | 1,206 | 1,220 |
| William R. Gianelli Pumping-Generating Plant | 199 | 222 | 227 |
| Hyatt-Thermalito Powerplants | 2,339 | 2,149 | 2,149 |
| Mojave Siphon Powerplant | 0 | 102 | 102 |
| San Luis Obispo Powerplant | 0 | 39 | 39 |
| Thermalito Diversion Dam Powerplant | 26 | 23 | 23 |
| William E. Warne Powerplant | 689 | 722 | 730 |
| **Energy Resources from Agreements** | | | |
| Colorado River Aqueduct energy purchase | 345 | 664 | 664 |
| Energy purchase | 1,229 | 373 | 394 |
| Firm system purchases | 1,600 | 1,600 | 2,400 |
| Metropolitan Water District of Southern California hydroelectric plants | 164 | 251 | 226 |
| PacifiCorp | 613 | 613 | 613 |
| Pine Flat Powerplant | 289 | 420 | 420 |
| Reid Gardner Powerplant | 1,500 | 1,321 | 901 |
| Southern California Edison exchange (a | 2,088 | 1,689 | 1,368 |
| TERA Power Corporation | 5 | 6 | 0 |
| **Total Resources** | **13,375** | **12,650** | **12,740** |
| **SWP Energy Requirements and Sales** | | | |
| SWP energy requirements (b | 12,011 | 12,650 | 12,740 |
| Firm energy sales | 1,240 | 0 | 0 |
| Surplus economy energy sales | 124 | 0 | 0 |

a) Amounts show net energy gained from Southern California Edison Company under the 1979 Power Contract and 1981 Capacity Exchange Agreement. For additional information about these agreements, see "Exchanges" in Chapter 19.

b) Requirements are based upon energy needed to deliver SWP contractors' requested entitlement water, recreation water, reservoir and aqueduct losses, and replacement of reservoir storage south of the Delta. The amounts shown include transmission losses but do not include energy deliveries to SCE pursuant to the 1979 Power Contract and 1981 Capacity Exchange Agreement.

TABLE 20-2

## Estimated Amounts of Unit Costs of Power Resources for 1994, 1999, and 2004

(Mills per kilowatt-hour)

| *Power Resources* | *1994* | *1999* | *2004* |
|---|---|---|---|
| **SWP Power Resources** | | | |
| Alamo Powerplant | 39.00 | 39.00 | 39.00 |
| Bottle Rock Powerplant. | 0.00 | 0.00 | 0.00 |
| Castaic Powerplant | 25.00 | 25.00 | 25.00 |
| Devil Canyon Powerplant | 25.00 | 25.00 | 25.00 |
| William R. Gianelli Pumping-Generating Plant | 25.00 | 25.00 | 25.00 |
| Hyatt-Thermalito Powerplants | 9.91 | 10.92 | 10.92 |
| Mojave Siphon Powerplant | 0.00 | 86.00 | 86.00 |
| San Luis Obispo Powerplant | — | 25.00 | 25.00 |
| Thermalito Diversion Dam Powerplant | 26.96 | 31.02 | 31.26 |
| William E. Warne Powerplant | 25.00 | 25.00 | 25.00 |
| **Power Resources from Agreements** | | | |
| Colorado River Aqueduct energy purchase | 23.40 | 30.80 | 40.40 |
| Metropolitan Water District of Southern California hydroelectric plants | 46.37 | 53.76 | 62.32 |
| Pine Flat Powerplant | 37.30 | 31.59 | 35.26 |
| Reid Gardner Powerplant | 64.14 | 75.13 | 89.91 |
| Southern California Edison exchange | — | — | — |
| TERA Power Corporation | 70.00 | 70.00 | 70.00 |
| Firm system purchases | 42.16 | 53.06 | 66.74 |
| Energy purchase on-peak | 31.20 | 41.00 | 53.80 |
| Energy purchase off-peak | 23.40 | 30.80 | 40.40 |
| Capacity purchases (a | 7.00 | 7.73 | 8.53 |
| **Composite Cost of Resources** | 27.90 | 35.50 | 40.51 |
| Firm energy sales | 53.38 | — | — |
| Value of potential on-peak energy sales | 31.20 | — | — |
| Value of potential off-peak energy sales | 23.40 | — | — |
| Value of potential capacity sales (a | 7.00 | 7.73 | 8.53 |
| **Net Cost of SWP Power** | **27.57** | **35.50** | **40.51** |
| Transmission cost | 2.20 | 2.04 | 1.95 |
| **Effective Unit Cost (b** | **29.77** | **37.54** | **42.46** |

a) The unit rate is dollars per kilowatt-month.
b) Costs include an allowance for future cost escalation.

# Part V. Financing the State Water Project


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# 21. Analyzing State Water Project Finances

This chapter includes information about the results of the current financial analysis of the State Water Project for the period 1993 through 2005. The purpose of the financial analysis is to ensure that the SWP financing program will have sufficient funds to meet construction obligations; project operation, maintenance, power, and replacement costs; bond debt service payments; and repayment of California Water Fund monies expended for construction.

The results of the current financial analysis dated June 30, 1993, may be found in Tables 21-1 and 21-2 at the end of this chapter.

Specific substantiated information about each line item included in Table 21-1 is included in Chapter 22, "Analyzing Capital Requirements and Financing." Specific information about each line item contained in Table 21-2 may be found in Chapter 23, "Forecasting Revenues, Expenses, and Future Costs of Water Service."

## Capital Requirements and Financing

In conducting the current analysis, the Department projected that future construction and Davis-Grunsky Act Program costs through the year 2005 will total $869 million. Special capital requirements for revenue bond financing of these construction costs are projected at $97 million for a total capital requirement of $966 million. Construction and financing costs for the following significant SWP facilities planned for completion by 2005 are included in this projection:

- Mojave Siphon power generation facilities
- Coastal Branch of the California Aqueduct, Phase II
- Suisun Marsh salinity control facilities
- East Branch Enlargement of the California Aqueduct
- North and south Delta facilities

Most of the financing for these capital requirements will be derived from the projected sale of $739 million of revenue bonds. The remaining $227 million would be financed from current bond proceeds, capital resources revenues, and the transfer of excess revenues not needed for operation costs, debt service or repayment of the California Water Fund.

The financial analysis presented in Table 21-1 does not include amounts for the costs and financing of all facilities needed to develop the remaining yield necessary to meet the total 4.2 million acre-feet contractual commitment to long-term SWP water contractors.

In addition, Table 21-1 does not include amounts for costs of associated works that are essential for realizing full benefits from SWP but financed and constructed by local interests or state agencies other than the Department of Water Resources. Those facilities include on-shore recreational developments at SWP facilities and local distribution facilities.

## Annual Revenues and Expenditures

In conducting the financial analysis of SWP operations, the Department concluded that projected payments by contractors and other revenues will be adequate to pay annual operations, maintenance, power, and replacement costs and to meet all repayment obligations on funds used to finance SWP construction and other authorized costs during the period of 1993 through 2005.

## Future Conditions

Future conditions may necessitate changes in the financial analysis. For that reason, the Department reviews basic assumptions and updates the financial analysis annually. Contingencies that could result in a change in the financial analysis include:

1. Alterations in schedules of currently planned construction for future facilities
2. Changes in economic conditions, including changes in interest rates and in SWP contractors' entitlements due to changes in amounts of water needed, conserved, or reclaimed
3. Completion of Delta transfer facilities
4. Development of additional sources of water not foreseen at this time
5. Deviations from the assumptions regarding actual rates of price escalations for future construction from those currently assumed for cost estimates
6. Enlargement of the San Luis Canal
7. Increases in capital costs related to the Kern Water Bank and other additional conservation facilities
8. Outcomes of certain lawsuits now pending before the courts

TABLE 21-1

## Capital Requirements and Financing as of June 30, 1993

(Thousands of dollars)

| Line Number | Line Item | Actual 1952-1992 | Projected 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | Projected 2001 | 2002 | 2003 | 2004 | 2005 | Total 1993-2005 | Total 1952-2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Capital Requirements** | | | | | | | | | | | | | | | | |
| 1. | Initial project facilities | 2,202,316 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,202,316 |
| 2. | North Bay Aqueduct, Phase II | 89,363 | 211 | 1,110 | 573 | 6 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,908 | 91,271 |
| 3. | Delta and Suisun Marsh facilities | 183,729 | 10,000 | 58,939 | 36,262 | 14,081 | 10,120 | 4,537 | 4,742 | 1,617 | 0 | 0 | 0 | 0 | 0 | 140,298 | 324,027 |
| 4. | Final four units at Banks Delta Pumping Plant | 47,290 | 1,162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,162 | 48,452 |
| 5. | Coastal Branch Aqueduct, Phase II | 13,907 | 36,473 | 155,992 | 158,353 | 47,474 | 1,376 | 1,176 | 1,219 | 1,266 | 0 | 0 | 0 | 0 | 0 | 403,329 | 417,236 |
| 6. | West Branch Aqueduct | 91,596 | 3,188 | 8,508 | 45 | 32 | 29 | 17 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 11,822 | 103,418 |
| 7. | East Branch Enlargement | 311,097 | 43,027 | 75,221 | 3,731 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 121,979 | 433,076 |
| 8. | East Branch improvements | 90,409 | 9,410 | 3,574 | 11,169 | 14,305 | 4,903 | 26 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 43,393 | 133,802 |
| 9. | Power generation and transmission facilities | 648,881 | 14,251 | 4,151 | 678 | 7 | 7 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 19,105 | 667,986 |
| 10. | Additional conservation facilities | 128,701 | 11,981 | 7,500 | 6,581 | 5,007 | 5,207 | 5,415 | 5,632 | 5,857 | 4,645 | 4,645 | 4,645 | 4,645 | 4,645 | 76,405 | 205,106 |
| 11. | San Joaquin drainage facilities | 43,616 | 2,149 | 1,997 | 2,087 | 2,170 | 2,257 | 2,348 | 2,441 | 2,539 | 0 | 0 | 0 | 0 | 0 | 17,988 | 61,604 |
| 12. | Other costs | 178,775 | 3,097 | 7,757 | 5,609 | 5,296 | 1,694 | 1,688 | 1,393 | 1,379 | 0 | 0 | 0 | 0 | 0 | 27,913 | 206,688 |
| **13.** | **Total Project Construction Expenditures** | **4,029,680** | **134,949** | **324,749** | **225,088** | **88,378** | **25,599** | **15,217** | **15,439** | **12,658** | **4,645** | **4,645** | **4,645** | **4,645** | **4,645** | **865,302** | **4,894,982** |
| 14. | Davis-Grunsky Act Program costs | 126,542 | 3,458 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,458 | 130,000 |
| 15. | Special capital requirements under revenue bond financing | 392,640 | 24,003 | 21,089 | 33,624 | 12,822 | 3,401 | 1,883 | 636 | 0 | 0 | 0 | 0 | 0 | 0 | 97,458 | 490,098 |
| **16.** | **Total Capital Requirements** | **4,548,862** | **162,410** | **345,838** | **258,712** | **101,200** | **29,000** | **17,100** | **16,075** | **12,658** | **4,645** | **4,645** | **4,645** | **4,645** | **4,645** | **966,218** | **5,515,080** |
| 17. | Less power facilities capital requirements | 1,132,112 | 47,251 | 48,922 | 1,495 | 7 | 7 | 8 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 97,693 | 1,229,805 |
| **18.** | **Water facilities capital requirements** | **3,416,750** | **115,159** | **296,916** | **257,217** | **101,193** | **28,993** | **17,092** | **16,072** | **12,658** | **4,645** | **4,645** | **4,645** | **4,645** | **4,645** | **868,525** | **4,285,275** |
| | **Financing of Capital Requirements** | | | | | | | | | | | | | | | | |
| | ***Power revenue bond proceeds*** | | | | | | | | | | | | | | | | |
| 19. | Power bonds through Series H | 1,161,855 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,161,855 |
| 20. | Future power revenue bonds | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 21. | *Subtotal, power revenue bonds* | 1,161,855 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,161,855 |
| | ***Water Revenue Bond Proceeds*** | | | | | | | | | | | | | | | | |
| 22. | East Branch Enlargement, current bonds | 323,676 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 323,676 |
| 23. | East Branch Enlargement, future bonds | 0 | 18,300 | 107,700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 125,600 | 125,600 |
| 24. | Water system facilities, current bonds | 451,677 | 44,022 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 44,022 | 495,699 |
| 25. | Water system facilities, future bonds | 0 | 41,430 | 179,170 | 251,700 | 96,600 | 25,300 | 13,400 | 5,400 | 0 | 0 | 0 | 0 | 0 | 0 | 613,000 | 613,000 |
| 26. | *Subtotal, water revenue bonds* | 775,353 | 103,752 | 286,870 | 251,700 | 96,600 | 25,300 | 13,400 | 5,400 | 0 | 0 | 0 | 0 | 0 | 0 | 783,022 | 1,558,375 |
| | ***Other Capital Financing*** | | | | | | | | | | | | | | | | |
| 27. | Initial project facilities bond proceeds | 1,452,446 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,452,446 |
| 28. | Davis-Grunsky Act Program bond proceeds | 126,542 | 3,458 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,458 | 130,000 |
| 29. | Application of California Water Fund monies (tideland oil revenues) | 506,149 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 506,149 |
| 30. | Application of capital resources revenues to construction | 486,217 | 51,250 | 54,719 | 1,999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 107,968 | 594,185 |
| 31. | Revenue transfers applied | 40,300 | 3,950 | 4,249 | 5,013 | 4,600 | 3,700 | 3,700 | 10,675 | 12,658 | 4,645 | 4,645 | 4,645 | 4,645 | 4,645 | 71,770 | 112,070 |
| 32. | *Subtotal, other capital financing* | 2,611,654 | 58,658 | 58,968 | 7,012 | 4,600 | 3,700 | 3,700 | 10,675 | 12,658 | 4,645 | 4,645 | 4,645 | 4,645 | 4,645 | 183,196 | 2,794,850 |
| **33.** | **Total Financing of Capital Requirements** | **4,548,862** | **162,410** | **345,838** | **258,712** | **101,200** | **29,000** | **17,100** | **16,075** | **12,658** | **4,645** | **4,645** | **4,645** | **4,645** | **4,645** | **966,218** | **5,515,080** |

TABLE 21-2

## Revenue and Expenses as of June 30, 1993

(Thousands of dollars)

| Line Number | Line Item | Actual 1952-1992 | Projected 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | Projected 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | Total 1993-2005 | Total 1952-2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Project Revenues** | | | | | | | | | | | | | | | | |
| 1. | Capital resources revenues | 762,553 | 869 | 1,552 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,421 | 764,974 |
| | **Water Contractor Payments** | | | | | | | | | | | | | | | | |
| 2. | Transportation capital | 1,886,749 | 98,632 | 101,711 | 111,754 | 122,550 | 125,948 | 126,270 | 126,329 | 126,385 | 126,440 | 126,439 | 126,438 | 126,437 | 126,436 | 1,571,769 | 3,458,518 |
| 3. | Transportation minimum | 2,008,213 | 220,513 | 239,662 | 238,565 | 249,338 | 248,139 | 246,829 | 240,666 | 225,975 | 226,547 | 221,485 | 216,368 | 210,228 | 201,045 | 2,985,360 | 4,993,573 |
| 4. | Transportation variable | 880,771 | 66,563 | 174,394 | 210,776 | 210,317 | 197,832 | 202,446 | 202,850 | 214,832 | 215,889 | 223,406 | 227,344 | 231,627 | 251,432 | 2,629,708 | 3,510,479 |
| 5. | Delta water charge | 802,343 | 84,237 | 82,756 | 82,932 | 83,057 | 83,119 | 83,142 | 83,165 | 83,189 | 83,736 | 83,756 | 83,779 | 83,801 | 83,815 | 1,084,484 | 1,886,827 |
| 6. | East Branch Enlargement payments | 85,878 | 20,413 | 30,665 | 43,453 | 42,587 | 43,456 | 43,395 | 43,377 | 44,345 | 44,373 | 44,148 | 44,169 | 42,786 | 42,802 | 529,969 | 615,847 |
| 7. | Water revenue bond surcharge | 66,083 | 24,550 | 23,906 | 33,333 | 47,784 | 52,090 | 54,075 | 54,061 | 53,405 | 53,400 | 53,227 | 53,262 | 54,383 | 54,389 | 611,865 | 677,948 |
| 8. | *Subtotal water contractor payments under long-term water supply contracts* | 5,730,037 | 514,908 | 653,094 | 720,813 | 755,633 | 750,584 | 756,157 | 750,448 | 748,131 | 750,385 | 752,461 | 751,360 | 749,262 | 759,919 | 9,413,155 | 15,143,192 |
| 9. | Revenue bond cover adjustments | 0 | (22,468) | (25,944) | (28,103) | (34,828) | (39,620) | (41,776) | (42,569) | (42,451) | (42,591) | (42,557) | (42,517) | (42,763) | (42,484) | (490,671) | (490,671) |
| | **Other Revenues** | | | | | | | | | | | | | | | | |
| 10. | Federal payments for project operating costs | 97,005 | 8,598 | 8,720 | 8,572 | 8,419 | 8,433 | 8,434 | 8,434 | 8,434 | 8,436 | 8,436 | 8,436 | 8,436 | 8,436 | 110,224 | 207,229 |
| 11. | Appropriations for operating costs allocated to recreation | 16,657 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16,657 |
| 12. | Local agency payments under Davis-Grunsky Loan repayment contracts | 26,770 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 2,000 | 26,000 | 52,770 |
| 13. | Revenue bond proceeds | 322,413 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 322,413 |
| 14. | Interest earnings on operating revenues | 452,386 | 7,625 | 7,439 | 6,810 | 6,920 | 7,035 | 7,155 | 7,285 | 7,420 | 7,565 | 7,720 | 7,885 | 8,055 | 8,240 | 97,154 | 549,540 |
| 15. | Payments under Oroville-Thermalito power sale contract | 249,279 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 249,279 |
| 16. | Miscellaneous revenues | 45,101 | 52,396 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 52,396 | 97,497 |
| 17. | *Subtotal other revenues* | 1,209,611 | 70,619 | 18,159 | 17,382 | 17,339 | 17,468 | 17,589 | 17,719 | 17,854 | 18,001 | 18,156 | 18,321 | 18,491 | 18,676 | 285,774 | 1,495,385 |
| 18. | ***Total Operating Revenues*** | 6,939,648 | 563,059 | 645,309 | 710,092 | 738,144 | 728,432 | 731,970 | 725,598 | 723,534 | 725,795 | 728,060 | 727,164 | 724,990 | 736,111 | 9,208,258 | 16,147,906 |
| 19. | **Total Operating Revenues and Capital Resources Revenues** | **7,702,201** | **563,928** | **646,861** | **710,092** | **738,144** | **728,432** | **731,970** | **725,598** | **723,534** | **725,795** | **728,060** | **727,164** | **724,990** | **736,111** | **9,210,679** | **16,912,880** |
| | **Project Expenses** | | | | | | | | | | | | | | | | |
| 20. | Project Operation, Maintenance, and Power costs | 2,823,715 | 286,109 | 392,257 | 415,451 | 422,421 | 408,178 | 412,814 | 407,008 | 404,927 | 401,579 | 404,437 | 403,520 | 401,815 | 415,637 | 5,176,153 | 7,999,868 |
| 21. | Deposits to Replacement Reserves | 161,716 | 14,490 | 8,540 | 8,945 | 8,946 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 121,426 | 283,142 |
| 22. | Deposits to special reserves under revenue bond financing | 512,461 | (50,452) | (44,135) | 4,461 | 5,041 | 9,712 | 9,428 | 9,384 | 9,218 | 34,596 | 39,852 | 39,861 | 39,326 | 38,192 | 144,484 | 656,945 |
| | **Payments of Debt Service** | | | | | | | | | | | | | | | | |
| 23. | Principal repayments on bonds sold through June 30, 1993 | 658,579 | 71,846 | 68,334 | 71,379 | 74,731 | 76,695 | 78,904 | 82,321 | 85,710 | 87,363 | 87,784 | 92,495 | 97,770 | 101,645 | 1,410,436 | 2,545,668 |
| 24. | Interest on bonds sold through June 30, 1993 | 2,840,840 | 155,966 | 157,645 | 154,148 | 150,431 | 146,608 | 142,761 | 138,829 | 134,871 | 130,664 | 125,749 | 121,134 | 115,998 | 110,515 | 1,076,977 | 1,735,556 |
| 25. | Future East Branch Enlargement bond *principal repayments* | 0 | 0 | 0 | 810 | 870 | 935 | 1,005 | 1,080 | 1,165 | 1,250 | 1,345 | 1,445 | 1,555 | 1,670 | 1,785,319 | 4,626,159 |
| 26. | Future East Branch Enlargement bond interest payments | 0 | 0 | 0 | 9,375 | 9,314 | 9,249 | 9,179 | 9,103 | 9,023 | 8,935 | 8,841 | 8,741 | 8,632 | 8,515 | 13,130 | 13,130 |
| 27. | Future Water Bond principal repayments | 0 | 0 | 0 | 2,176 | 3,949 | 4,847 | 5,435 | 5,806 | 6,192 | 6,616 | 7,070 | 7,544 | 8,061 | 8,617 | 98,907 | 98,907 |
| 28. | Future Water Bond interest payments | 0 | 0 | 0 | 12,847 | 31,641 | 38,675 | 41,291 | 40,862 | 40,403 | 39,914 | 39,392 | 38,834 | 38,243 | 37,730 | 66,613 | 66,613 |
| 29. | **Total Principal** | 658,579 | 71,846 | 68,334 | 74,365 | 79,550 | 82,477 | 85,344 | 89,207 | 93,067 | 95,229 | 96,199 | 101,484 | 107,386 | 111,932 | 399,832 | 399,832 |
| 30. | **Total Interest** | 2,840,840 | 155,966 | 157,645 | 176,370 | 191,386 | 194,532 | 193,231 | 188,794 | 184,297 | 179,513 | 173,982 | 168,709 | 162,873 | 156,760 | 1,156,420 | 1,814,999 |
| 31. | *Subtotal Debt Service* | 3,499,419 | 227,812 | 225,979 | 250,735 | 270,936 | 277,009 | 278,575 | 278,001 | 277,364 | 274,742 | 270,181 | 270,193 | 270,259 | 268,692 | 2,284,058 | 5,124,898 |
| 32. | California Water Fund repayment | 161,374 | 15,083 | 26,243 | 25,353 | 26,550 | 25,550 | 14,200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,440,478 | 6,939,897 |
| 33. | **Total Operating Expenses and Debt Service** | 7,158,685 | 493,042 | 608,884 | 704,945 | 733,894 | 729,394 | 723,962 | 703,338 | 700,454 | 719,862 | 723,415 | 722,519 | 720,345 | 731,466 | 132,979 | 294,353 |
| 34. | Current operating funds | 17,000 | 13,067 | (22,792) | 134 | (350) | (4,662) | 4,308 | 11,585 | 10,422 | 1,288 | 0 | 0 | 0 | 0 | 9,015,520 | 16,174,205 |
| 35. | Revenues required for current construction | 40,300 | 3,950 | 4,249 | 5,013 | 4,600 | 3,700 | 3,700 | 10,675 | 12,658 | 4,645 | 4,645 | 4,645 | 4,645 | 4,645 | 13,000 | 30,000 |
| 36. | Revenues available for future construction | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71,770 | 112,070 |
| 37. | Capital resources revenues used for construction | 486,216 | 53,869 | 56,520 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 38. | **Total Project Expenses** | **7,702,201** | **563,928** | **646,861** | **710,092** | **738,144** | **728,432** | **731,970** | **725,598** | **723,534** | **725,795** | **728,060** | **727,164** | **724,990** | **736,111** | 110,389 | 596,605 |
| | | | | | | | | | | | | | | | | **9,210,679** | **16,912,880** |

# 22. Analyzing Capital Requirements and Financing

This chapter includes information about State Water Project capital requirements and financing. The information is arranged according to line numbers contained in Table 21-1.

This chapter also includes documentary data for information contained in Table 21-1. Those data have been organized into the following two tables:

1. Allocation of capital expenditures, including actual and projected SWP construction expenditures along with a preliminary allocation of such expenditures among various SWP purposes. See Table 22-1.
2. Application of proceeds from revenue bonds; see Table 22-2.

Those tables may be found at the end of this chapter.

## Capital Requirements

Lines 1 through 18 in Table 21-1 include amounts of actual and projected SWP capital requirements through the year 2005. Estimates of future capital expenditures include allowances for escalation of costs at 4 percent per year for 1993 and 5 percent per year from 1994 through 2005. Capital expenditures for SWP also include requirements other than those for construction, such as disbursements made as part of the Davis-Grunsky Act Program (Line 14) and special capital requirements under revenue bond financing (Line 15).

The following sections, organized according to line numbers in Table 21-1, contain information about the Department's current assumptions concerning the costs of each facility to be constructed through 2005.

Decisions to begin constructing facilities will be made only after alternatives are examined and final environmental documentation as well as other review processes are completed.

### Initial Project Facilities

*Initial Project Facilities, Line 1.* Facilities included in the initial construction program are those completed before 1974 (see Bulletin 132-74, *Management of the California State Water Project,* Chapter 2). Additional costs after 1973 and estimated costs of remaining work on the initial SWP facilities are not included.

### North Bay Aqueduct Phase II

*North Bay Aqueduct, Phase II, Line 2.* Phase II of the North Bay Aqueduct, which

connects with existing facilities, consists of pipelines, pumping plants, and a small reservoir necessary to divert water from the western Delta to Napa and Solano counties for urban use. Phase II became operational in May 1988.

## Delta and Suisun Marsh Facilities

*Delta and Suisun Marsh Facilities, Line 3.* The historical amount in Column 1 includes planning costs for general Delta facilities and historical costs associated with the previously planned Peripheral Canal and overland water delivery facilities for the western Delta.

Also included are historical planning costs for Suisun Marsh as well as construction costs for the Suisun Marsh Salinity Control Gates and an access road.

The projected amounts include projected planning costs plus projected costs for constructing the following Delta facilities: three permanent barriers and an additional intake at Clifton Court Forebay. For additional information about planned Delta facilities, see Chapter 13.

The projected amounts also include projected costs for constructing the following Suisun Marsh facilities: Cordelia-Goodyear Ditch, Goodyear Slough culverts, and the Frank Horan Water Delivery System.

## Harvey O. Banks Delta Pumping Plant

*Final Four Units at Banks Delta Pumping Plant, Line 4.* This line includes costs of the final four 1,067 cfs units, which became operational in spring 1992. The future amounts include the projected costs for additional transmission and switchyard facilities for Banks Pumping Plant.

## Coastal Branch of California Aqueduct

*Coastal Branch Aqueduct, Phase II, Line 5.* This line includes the planning costs for phase II of the Coastal Branch of the California Aqueduct. Future expenditures also include a projection of construction costs for this project.

## West Branch Aqueduct

*West Branch Aqueduct, Line 6.* The amounts in Line 6 represent costs for all facilities on the West Branch except William E. Warne Powerplant. William E. Warne Powerplant costs are included in Line 9. Projected costs include approximately $10 million for Gorman Creek channel modifications.

## East Branch Enlargement

*East Branch Enlargement, Line 7.* Line 7 includes amounts of expenditures for first-stage construction of the East Branch Enlargement, including the enlargement share of power plant costs at Mojave Siphon and Devil Canyon. (The remaining power plant costs are included in Line 9.) Estimated East Branch Enlargement costs by facility may be found in Table 22-3. Costs for Alamo Powerplant consist of expenditures for Unit 1 facilities allocated to enlargement. Construction of Unit 2 has been deferred.

All costs in Line 7 are allocated to and repaid by the seven Southern California contractors participating in the East Branch Enlargement.

## East Branch Improvements

*East Branch Improvements, Line 8.* The amounts in Line 8 represent all aqueduct

costs on the East Branch not allocated to the enlargement project. Those costs include improvements constructed concurrently with the enlargement work. Costs for power plant construction at either Mojave Siphon or Devil Canyon are not included in this line.

## Power Generation and Transmission Facilities

*Power Generation and Transmission Facilities, Line 9.* Estimated capital costs for facilities included in Line 9 may be found in Table 22-4.

For Devil Canyon and Mojave Siphon, amounts do not include East Branch Enlargement share of costs in Line 7 of Table 21-1.

## Additional Conservation Facilities

*Additional Conservation Facilities, Line 10.* The projected amounts in Line 10 represent costs for planning additional conservation facilities. Costs for constructing additional conservation facilities are not included in the financial analysis.

## San Joaquin Drainage Facilities

*San Joaquin Drainage Facilities, Line 11.* Included in Line 11 are amounts of the projected costs of the San Joaquin Valley Drainage Monitoring Program. The four activities in this program are:

1. Monitoring and evaluating drainage
2. Reducing drainage
3. Treating drainage
4. Investigating evaporation ponds

See Chapter 14, "Monitoring Water Quality," for additional information about the drainage program.

TABLE 22-3
**Estimated Costs for East Branch Enlargement**

| *Facility* | *Dollar Amounts (in millions)* |
|---|---|
| Aqueduct and siphons | $132.0 |
| Pearblossom Pumping Plant | 63.2 |
| Alamo Powerplant | 5.0 |
| Mojave Siphon Powerplant | 46.4 |
| Devil Canyon Powerplant and Second Afterbay | 186.5 |
| **Total** | **$433.1** |

TABLE 22-4
**Estimated Capital Costs for Power Generation and Transmission Facilities**

| *Power Plants and Transmission Lines* | *Dollar Amounts (in millions)* |
|---|---|
| **Power Plants** | |
| Reid Gardner, Unit 4 | $263.6 |
| Bottle Rock | 120.9 |
| South Geysers | 49.8 |
| Devil Canyon | 36.8 |
| William E. Warne | 84.5 |
| Alamo | 44.3 |
| Mojave Siphon | 37.8 |
| Thermalito Diversion Dam | 13.7 |
| *Subtotal* | $650.4 |
| **Transmission Lines** | |
| Midway-Wheeler Ridge | $10.7 |
| Geysers-Lakeville | 6.9 |
| **Total** | **$668.0** |

The Department assumes that the costs of the drainage program will continue to be financed by appropriations from the California Water Fund. No costs included in Line 11 are charged to SWP water contractors.

## Other Costs

*Other Costs, Line 12.* Amounts for other costs include items such as general design and construction costs, costs of completing operation and maintenance facilities, and costs of other completion activities for the initial facilities of the California Aqueduct. Portions of those costs ultimately will be allocated to aqueduct units described in the preceding paragraphs.

Other items included in the projected costs in Line 12 are costs for (1) completing

monitoring and control systems and (2) implementing flood protection at Arroyo Pasajero in the San Luis reach of the California Aqueduct.

### Total Project Construction Expenditures

*Total Project Construction Expenditures, Line 13.* The amount in this line is the total of lines 1 through 12.

### Davis-Grunsky Act Program Costs

*Davis-Grunsky Act Program Costs, Line 14.* The Davis-Grunsky Act Program is a financial assistance program designed to provide grants and loans to public agencies for constructing local water projects. Additional information about the program may be found in Chapter 17, "Assisting Local Water Supply Projects."

As of December 31, 1992, the Department had disbursed $125 million (including $9 million for administration) in grants and loans for 114 local agencies throughout the state. Funds for Department projects currently authorized will be disbursed prior to 1994.

### Special Capital Requirements

*Special Capital Requirements Under Revenue Bond Financing, Line 15.* This line includes the amount of special capital requirements at the time revenue bonds are sold. The financial analysis is based on the assumption that proceeds from any future revenue bonds will be used to pay for bond discounts, bond issuance costs, and debt service reserve requirements.

Information about the application of proceeds to these special requirements for actual and assumed revenue bond sales is included in Table 22-2.

### Total Capital Requirements

*Total Capital Requirements, Line 16.* The amount included in this line is the total of lines 13, 14, and 15.

#### Power Facilities

*Power Facilities Capital Requirements, Line 17.* The amount in this line represents the total capital requirements for power facilities contained in lines 1 through 12 and that part of Line 15 associated with revenue bonds sold for power facilities.

#### Water Facilities

*Water Facilities Capital Requirements, Line 18.* The amount in this line is the total of capital requirements for water facilities contained in lines 1 through 12 and that part of Line 15 associated with revenue bonds sold for water facilities.

## Capital Financing

The State Water Project has been constructed with three general types of financing, Burns-Porter, revenue bonds, and capital resources. A general description of those funding sources may be found in this section along with specific information about those sources, arranged according to lines 19 through 33 of Table 21-1.

### Burns-Porter Act

Burns-Porter financing is derived from the sale of California Water Resources Development Bonds (general obligation bonds) and the state's Tideland Oil Revenues deposited in the California Water Fund as authorized by the Burns-Porter Act (*Water Code* sections 12930-12944), which was approved by the voters in November 1960.

The Burns-Porter Act authorized an issue of $1.75 billion of general obligation bonds of the state, which are repaid by revenues received according to the water supply contracts. Of that authorization, $130 million has been reserved 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. Approximately 40 percent of the expenditures through 1992 for construction and the Davis-Grunsky Act Program were financed with general obligation bonds.

Monies deposited in the California Water Fund are appropriated for purposes outlined in the Burns-Porter Act. Such deposits are derived from a portion of the state's Tideland Oil Revenues according to a continuing authorization. In 1989 legislation was enacted to provide for a schedule to repay the California Water Fund as required by the Burns-Porter Act.

## Revenue Bonds

Revenue bond financing is 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).

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 each bond sale. Those purposes, in addition to paying construction, planning, and right-of-way costs, may include:

1. Funding the Debt Service Reserve Account
2. Paying interest on bonds
3. Paying water system operating expenses during a specified period

As of June 30, 1993, the Department had sold $3.7 billion of revenue bonds. That amount includes $537.83 million of Water System Revenue Bonds, Series L, sold May 19, 1993. Additional issues of revenue bonds are planned to fund future SWP construction.

## Capital Resources

Capital resources financing is derived from payments and appropriations (including a portion of Tideland Oil Revenues) authorized by a variety of special contracts, cost-sharing agreements, and legislative actions concerning the SWP, plus accrued interest on these funds.

Capital resources revenues are deposited in the Central Valley Water Project Construction Fund and may be expended for paying:

1. Interest on general obligation bonds
2. Costs of constructing SWP facilities

According to the Department financial management policy, the capital resources revenues are used first to cover any general obligation bond debt service that exceeds available revenues.

## Capital Financing Sources

Capital financing sources include power bonds, power revenue bonds, East Branch Enlargement bonds, water system facilities bonds, water revenue bonds, initial project facilities bonds, proceeds from Davis-Grunsky Act, California Water Fund monies, and

capital resources revenues. Specific information about those sources follows.

### Power Bonds Through Series H

*Power Bonds Through Series H, Line 19.* This line includes the amounts of proceeds applied from power revenue bonds for the Oroville, Devil Canyon, Castaic, Pyramid, Reid Gardner, Bottle Rock, Alamo, South Geysers, and small hydro projects.

### Future Power Revenue Bonds

*Future Power Revenue Bonds, Line 20.* No future power revenue bond sales are projected in the financial analysis.

### Power Revenue Bonds

*Subtotal, Power Revenue Bonds, Line 21.* The amount in this line reflects the total of lines 19 and 20.

### East Branch Enlargement Current Bonds

*East Branch Enlargement, Current Bonds, Line 22.* As of June 30, 1993, the Department had sold $2,178 million of Water System Revenue Bonds, Series A through Series L. The amount of proceeds allocated to the East Branch Enlargement was $293 million for construction expenditures and $48 million for bond discounts, interest costs, and debt service reserves.

### East Branch Enlargement Future Bonds

*East Branch Enlargement, Future, Line 23.* The Department estimates that $126 million in additional bonds will be required to complete construction of the East Branch Enlargement, first stage, and to pay for bond discounts, capitalized interest, and debt service reserve requirements.

### Water System Facilities Current Bonds

*Water System Facilities, Current Bonds, Line 24.* The amount of proceeds from Water System Revenue Bonds, Series A through Series L allocated to SWP projects other than the East Branch Enlargement was $1,837 million. Of that amount approximately $1,269 million was used to refund portions of previously issued Power Facilities Revenue Bonds and Water System Revenue Bonds. Of the remaining $568 million, $431 million was used to pay for construction expenditures and $137 million to pay for bond discounts, capitalized interest, and debt service reserve requirements.

### Water System Facilities Future Bonds

*Water System Facilities, Future, Line 25.* Future water revenue bonds are needed to provide $532 million for construction of SWP water system facilities and $81 million for bond discounts, interest costs, and debt service reserve requirements.

### Water Revenue Bonds

*Subtotal, Water Revenue Bonds, Line 26.* The amount in this line is the total of lines 20 through 25.

### Initial Project Facilities Bond Proceeds

*Initial Project Facilities Bond Proceeds, Line 27.* This line includes amounts of initial financing costs for SWP facilities and for costs of planning certain additional conservation facilities.

Financing initial facilities from general obligation bonds was completed in mid-1972 and totaled $1,444 million—$1,750 million Burns-Porter Act authorization less $130 million reserved for the Davis-Grunsky Act 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 reservation of offset bonds was effectively limited to $176 million—the total amount of California Water Fund monies expended up to that time. By mid-1972 all general obligation bonds authorized by the Burns-Porter Act had been offset, reserved for the Davis-Grunsky Act Program, or used for SWP construction.

Approximately $8.5 million of the offset bonds was used to finance planning studies of the Middle Fork Eel River Development (see Line 10 of Table 21-1). This financial analysis is not based on the use of any offset bond proceeds to meet capital requirements. If at some time the state constructs an additional conservation facility as specified in *Water Code* Section 12938, the remaining offset bonds could be sold.

## Davis-Grunsky Act Proceeds

*Davis-Grunsky Act Program Bond Proceeds, Line 28.* For simplification the entire $130 million of capital expenditures authorized for the Davis-Grunsky Act Program according to the Burns-Porter Act is indicated as being funded by proceeds from the sale of general obligation bonds. In fact, $28 million from the California Water Fund was used for the program in lieu of bond proceeds prior to 1969.

In making the financial analysis, the Department assumes that all authorized Davis-Grunsky bonds will be sold prior to 1994.

## California Water Fund Monies

*Application of California Water Fund Monies (Tideland Oil Revenues), Line 29.* The Burns-Porter Act provides that any available money in the California Water Fund must be used for construction in lieu of proceeds from the sale of general obligation bonds.

When the Burns-Porter Act became effective in late 1960, approximately $97 million had been accumulated in the fund. That balance plus subsequent appropriations, interest earnings, and other miscellaneous income to the fund through December 31, 1992, was used to finance a total of $506 million of SWP costs.

## Capital Resources Revenues

*Application of Capital Resources Revenues to Construction, Line 30.* This line includes the amount of the application of Capital Resources Revenues for capital expenditures (see description for Line 1, "Capital Resource Revenues," on the first page of the next chapter).

## Revenue Transfers

*Revenue Transfers Applied, Line 31.* This line includes amounts of monies that are assumed to be transferred to the California Water Fund according to provisions of the Burns-Porter Act and subsequently reappropriated to construction (see lines 35 and 36 in Table 21-2). Projected amounts for 1993 through 2005 include funds to finance expenditures for San Joaquin drainage facilities as indicated in Line 11 of Table 21-1.

## Other Capital Financing

*Subtotal, Other Capital Financing, Line 32.* The amount in this line is the total of lines 27 through 31.

## Total Financing

*Total Financing of Capital Requirements, Line 33.* The amount in this line is the total of lines 21, 26, and 32.

TABLE 22-1

# Allocation of Capital Expenditures

(Thousands of dollars)

| Facilities and Construction Divisions | Expenditures Incurred Through 1992 | 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 River Division* | 17,712 | 0 | 17,712 | 1,183 | 0 | 16,529 | 0 |
| Oroville Division | 563,806 | 502 | 564,308 | 475,040 | 70,661 | 18,607 | 0 |
| North Bay Aqueduct | 93,330 | 1,908 | 95,238 | 95,238 | 0 | 0 | 0 |
| Delta Facilities (c | 267,774 | 148,197 | 415,971 | 364,712 | 0 | 51,259 | 0 |
| South Bay Aqueduct | 76,390 | 209 | 76,599 | 54,963 | 7,531 | 14,105 | 0 |
| *California Aqueduct* | | | | | | | |
| North San Joaquin Division | 245,305 | 17,504 | 262,809 | 253,873 | 0 | 8,936 | 0 |
| San Luis Division | 229,944 | 643 | 230,587 | 218,998 | 0 | 11,589 | 0 |
| South San Joaquin Division | 290,849 | 490 | 291,339 | 274,733 | 0 | 16,606 | 0 |
| Tehachapi Division | 316,385 | 159 | 316,544 | 298,501 | 0 | 18,043 | 0 |
| Mojave Division | 293,577 | 10,858 | 304,435 | 287,082 | 0 | 17,353 | 0 |
| Santa Ana Division | 204,320 | 32,536 | 236,856 | 223,355 | 0 | 13,501 | 0 |
| West Branch | 522,267 | 11,820 | 534,087 | 503,644 | 0 | 30,443 | 0 |
| Coastal Branch | 28,273 | 403,329 | 431,602 | 431,602 | 0 | 0 | 0 |
| *Subtotal, California Aqueduct* | 2,130,920 | 477,339 | 2,608,259 | 2,491,788 | 0 | 116,471 | 0 |
| Small hydroelectric power generating facilities | 69,223 | 19,105 | 88,328 | 88,328 | 0 | 0 | 0 |
| Off-aqueduct power generating facilities | 441,130 | 0 | 441,130 | 441,130 | 0 | 0 | 0 |
| East Branch Enlargement | 311,097 | 121,979 | 433,076 | 433,076 | 0 | 0 | 0 |
| San Joaquin drainage facilities | 43,616 | 17,989 | 61,605 | 0 | 0 | 0 | 61,605 |
| Planning and preoperations (c | 8,664 | 76,403 | 85,067 | 85,067 | 0 | 0 | 0 |
| Unassigned | 6,017 | 1,672 | 7,689 | 7,689 | 0 | 0 | 0 |
| *Subtotal, Project Construction Expenditures* | 4,029,679 | 865,303 | 4,894,982 | 4,538,214 | 78,192 | 216,971 | 61,605 |
| **Other Capital Requirements** | | | | | | | |
| Davis-Grunsky Act Program | 126,542 | 3,458 | 130,000 | 0 | 0 | 0 | 130,000 |
| **Total** | **4,156,221** | **868,761** | **5,024,982** | **4,538,214** | **78,192** | **216,971** | **191,605** |

a) Reflects the Department's allocation to flood control, regardless of federal payments.
b) Includes costs currently unassigned to other purposes; for example, planning costs of deleted features of project facilities; initial costs of inventoried items; joint costs assigned to federal government; and costs assigned to Davis-Grunsky Act Program.
c) Future expenditures include cost estimates for planning, designing, acquiring land, and constructing north Delta and south Delta facilities.

TABLE 22-2

# Application of Revenue Bond Proceeds

(Millions of dollars)

| | Application of Revenue Bond Proceeds | | | | | | |
|---|---|---|---|---|---|---|---|
| | | Other Capital Requirements | | | | | |
| *Bond Series (a* | *Construction Expenditures* | *Reimbursement of General Fund* | *Capitalized Interest* | *Capitalized Operating Costs* | *Bond Discount and Financing Costs (b* | *Subtotal* | *Total Principal Amount of Bonds* |
| Oroville | 218.0 | 2.6 | 19.9 | 1.5 | 3.0 | 27.0 | 245.0 |
| Devil Canyon-Castaic | 126.4 | 0.0 | 10.0 | 0.7 | 2.1 | 12.8 | 139.2 |
| Pyramid Series A | 74.0 | 0.0 | 19.2 | 1.0 | 1.6 | 21.8 | 95.8 |
| Reid Gardner Series B | 146.1 | 0.0 | 41.9 | 0.0 | 12.0 | 53.9 | 200.0 |
| Reid Gardner Series C | 91.1 | 0.0 | 17.9 | 7.9 | 8.1 | 33.9 | 125.0 |
| Small Hydro-South Geysers Series D | 49.6 | 0.0 | 19.9 | 0.0 | 5.5 | 25.4 | 75.0 |
| Bottle Rock Series E | 96.9 | 0.0 | 22.0 | 3.7 | 2.4 | 28.1 | 125.0 |
| Alamo-South Geysers Series F | 59.1 | 0.0 | 14.2 | 0.0 | 1.7 | 15.9 | 75.0 |
| Reid Gardner Series G | 1.6 | 0.0 | 0.0 | 0.0 | 237.9 (c | 237.9 | 239.5 |
| Power facilities Series H | 22.2 | 0.0 | 0.0 | 0.0 | 184.5 (d | 184.5 | 206.7 |
| East Branch Enlargement Series A | 108.3 | 0.0 | 12.6 | 0.0 | 11.1 | 23.7 | 132.0 |
| Water system facilities Series B | 97.4 | 0.0 | 0.0 | 0.0 | 2.6 | 2.6 | 100.0 |
| Water system facilities Series C | 0.6 | 0.0 | 0.0 | 0.0 | 8.4 (e | 8.4 | 9.0 |
| Water system facilities Series D | 95.9 | 0.0 | 2.9 | 0.0 | 1.2 | 4.1 | 100.0 |
| Water system facilities Series E | 0.4 | 0.0 | 0.0 | 0.0 | 8.6 (f | 8.6 | 9.0 |
| Water system facilities Series F | 0.0 | 0.0 | 0.0 | 0.0 | 160.0 (g | 160.0 | 160.0 |
| Water system facilities Series G | 86.8 | 0.0 | 4.6 | 0.0 | 8.6 | 13.2 | 100.0 |
| Water system facilities Series H | 85.5 | 0.0 | 5.7 | 0.0 | 8.8 | 14.5 | 100.0 |
| Water system facilities Series I | 158.9 | 0.0 | 5.8 | 0.0 | 15.3 | 21.1 | 180.0 |
| Water system facilities Series J | 0.0 | 0.0 | 0.0 | 0.0 | 649.8 (h | 649.8 | 649.8 |
| Water system facilities Series K | 88.6 | 0.0 | 3.1 | 0.0 | 8.3 | 11.4 | 100.0 |
| Water system facilities series L | 0.0 | 0.0 | 0.0 | 0.0 | 537.8 (i | 537.8 | 537.8 |
| *Subtotal* | 1,607.4 | 2.6 | 199.7 | 14.8 | 1,879.3 | 2,096.4 | 3,703.8 |
| Future water system facilities bonds | 532.0 | 0.0 | 25.5 | 0.0 | 55.5 | 81.0 | 613.0 |
| Future East Branch Enlargement bonds | 108.0 | 0.0 | 5.0 | 0.0 | 13.0 | 18.0 | 126.0 |
| **Total** | **2,247.4** | **2.6** | **230.2** | **14.8** | **1,947.8** | **2,195.4** | **4,442.8** |

a) Reflects actual bond issues for all except future water system facilities and future East Branch Enlargement bonds.
b) Bond discount and financing costs include debt service reserves for East Branch Enlargement and water system facilities bonds.
c) Total discount was $2.8 million; remaining amount was used to refund Reid Gardner Series B bonds.
d) Total discount was $2.7 million; remaining amount was used to refund portions of Reid Gardner Series C and Small Hydro-South Geysers Series D bonds.
e) Includes funds applied to water system facilities Series B and C debt service reserves.
f) Includes funds applied to water system facilities Series D and E debt service reserves.
g) Includes $11.0 million for debt service reserves and $9.0 million for discounts; remaining amount was used to refund a portion of Reid Gardner Series G bonds.
h) Includes $26.3 million for debt service reserves and $20.5 million for discounts; remaining amount was used to refund portions of prior issues of Power Facilities Revenue bonds and Water System Revenue bonds.
i) Includes $11.1 million for discounts; remaining amount was used to refund portions of prior issues of Power Facilities Revenue bonds and Water System Revenue bonds.

# 23. Forecasting Revenues, Expenses, and Future Costs of Water Service

Information pertaining to State Water Project revenues and expenses and future costs of water service is included in this chapter. The information is arranged according to line numbers of Table 21-2.

## Project Revenues

State Water Project revenues consist primarily of SWP contractor payments. Those revenues are deposited in two funds, the Central Valley Water Project Revenue Fund, in which all revenues pledged to revenue bonds are placed, and the California Water Resources Development Bond Fund-Systems Revenue Account, in which all other SWP operating revenues are placed. Use of those funds is limited to paying operating costs and debt service, except that revenues in excess of those costs may be transferred to the California Water Fund.

### Capital Resource Revenues

*Capital Resources Revenues, Line 1.* Seven sources of those revenues include:

1. Federal payments for SWP capital expenditures
2. Appropriations for capital cost allocated to recreation
3. Appropriations for SWP capital expenditures prior to passage of the Burns-Porter Act and according to Senate Bill 261 (1968)
4. Payments from Los Angeles Department of Water and Power for Castaic power development
5. Advances from water contractors for construction of requested works
6. Investment earnings on the Capital Resources Account
7. Investment earnings on unexpended revenue bond proceeds

Historically, appropriations for capital costs allocated to recreation and fish and wildlife enhancement have amounted to $5 million per year, which has been appropriated by the California Legislature from Tideland Oil Revenues. According to legislation enacted in 1989, the amount owed to SWP by the state for costs allocated to recreation is offset against the amount SWP owes to the California Water Fund.

### Water Contractors' Payments

*Water Contractors' Payments, Lines 2 Through 7.* Amounts in those lines reflect amounts of the separate elements of water contractors' payments.

Figures in Line 4 also include revenues sufficient to cover costs associated with sales of excess power. A detailed explanation of payments identified in lines 2 through 7 may be found in Appendix B. A brief description of the payments follows.

Operations, maintenance, power, and replacement costs are repaid as they are incurred as part of the Transportation Charge; therefore, no interest charges are included. Construction costs included in the Transportation Charge and all construction and annual OMP&R costs included in the Delta Water Charge are to be repaid with interest at the Project Interest Rate.

The Project Interest Rate, as defined in Article 1(r) of the standard provisions for water supply contracts, is the weighted average of the rates paid on securities issued and loans obtained to finance SWP facilities, excluding Oroville Revenue Bonds.

According to the original contract provisions, the basis for determining the Project Interest Rate was the weighted average of rates paid on general obligation bond sales only. In 1969 after Oroville Revenue Bonds were issued, the contract was amended to expand the basis to include rates on all other securities sold and loans obtained thereafter for financing SWP facilities, including revenue bonds (see Bulletin 132-70, *Management of the California State Water Project*, page 28).

However, not all proceeds from the sale of revenue bonds are melded into 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 (see Table 23-1 at the end of this chapter).

Calculations for determining the Project Interest Rate do not include proceeds from the sale of Power Revenue Bonds for off-aqueduct power facilities, revenue bonds for the East Branch enlargement, or Water Revenue Bonds included as part of the Water Revenue Bond Amendment. Table 23-2 includes basic information about the calculation of the Project Interest Rate. The table may be found at the end of this chapter.

Information about contractors' water charges in Appendix B is based on known conditions and substantiates the Department's determination of 1994 water charges to be billed July 1, 1993. However, information about significant differences between the sum of future charges included in lines 2 through 7 and the substantiation of 1994 charges included in Appendix B follows.

1. Future capital costs in Appendix B are based on the prevailing prices as of December 31, 1992. Those costs presented in the financial analysis include allowances for price escalation.
2. Pre-1993 charges in Appendix B represent charges as they should have been according to currently known conditions. Pre-1993 charges included in Table 21-2 are those actually paid as part of previously determined bills.
3. Charges in Appendix B are unadjusted for past overpayments or underpayments. Charges included in Table 21-2 for 1993 and thereafter have been adjusted for any apparent overpayments or underpayments of pre-1993 charges.
4. Charges in Appendix B for East Branch Enlargement costs include the amounts for debt service and 25 percent cover for the East Branch En-

largement share of the Series A through Series L bonds. Charges in Table 21-2 also include amounts of the debt service and cover for assumed future bonds.

5. The water bond revenue surcharge in Appendix B applies only to the Series B through Series L bonds. Surcharge values included in Table 21-2 apply to Series B through Series L bonds and to assumed future issues required to finance any SWP construction.

## Total Water Contractors' Payments

*Subtotal, Water Contractors' Payments, Line 8.* The amount in this line is the total of lines 2 through 7.

## Revenue Bond Cover Adjustments

*Revenue Bond Cover Adjustments, Line 9.* The amount in this line represents the credit to contractors resulting from the cover of 25 percent of 1 year's debt service for Off-Aqueduct Power Facility Bonds and Water System Revenue Bonds. Cover is collected as required by the bond resolutions to provide security to the bondholders.

For off-aqueduct facilities, that amount is charged annually to contractors and collected through the minimum OMP&R component of the Transportation Charge. For the East Branch Enlargement facilities, the cover is collected through the capital component of the East Branch Enlargement Transportation Charge. For water system facilities, that amount is collected through the water bond surcharge.

If not needed to meet annual bond service, the cover is credited to the contractors in the following year.

## Federal Payments

*Federal Payments for Project Operating Costs, Line 10.* According to the December 31, 1961, agreement between California and the United States, the Department operates and maintains the San Luis Joint-Use Facilities.

According to the January 12, 1972, supplement to the agreement, the U.S. Bureau of Reclamation paid 45 percent of OM&R costs for those activities. (The percentage does not apply to power costs; USBR and the Department provide their own power to pump their water through the joint facilities.)

The percentage paid by USBR is reviewed every 5 years by USBR and the Department. For calendar years 1981 through 1986, the federal share of operations and maintenance costs was 44.47 percent. The most recent review of the percentage paid by USBR was completed in 1987 and resulted in a federal share of 44.09 percent for calendar years 1987 through 1992. The amounts in Line 10 are based on the assumption that the federal share will continue at 44.09 percent for calendar years 1993 through 2005.

## Appropriations for Operating Costs to Recreation

*Appropriations for Operating Costs Allocated to Recreation, Line 11.* In passing the Davis-Dolwig Act, the California Legislature declared its intent that except for funds provided according to Assembly Bill 12 (1966) the Department budget will include appropriations of monies from the General Fund necessary for enhancement of fish and wildlife and recreation in connection with state water projects.

Annual OMP&R costs allocated to recreation and fish and wildlife enhancement are paid by annual appropriations from the Gen-

eral Fund. For fiscal years 1983-84 through 1991-92, no funds were appropriated for enhancement of fish and wildlife and recreational purposes. No appropriations are indicated for 1993 through 2005.

According to legislation enacted in 1989, the amount owed to SWP by the state for costs allocated to fish and wildlife and recreational enhancement is offset against the amount SWP owes to the California Water Fund.

## Local Agency Payments

*Local Agency Payments According to Davis-Grunsky Loan Repayment Contracts, Line 12.* More than $51 million has been disbursed as of December 31, 1992. Loan repayments received through December 31, 1992, are indicated in the 1952-1992 entry.

The amounts for future years listed on Line 12 are based on loans currently outstanding. Repayment on any future loans was assumed to be beyond the period covered by the financial analysis.

## Revenue Bond Proceeds

*Revenue Bond Proceeds, Line 13.* The amount in this line includes bond proceeds classified as special reserves according to the description of revenue bond financing in Line 15 of Table 21-1.

Those proceeds, used for capitalized OMP&R costs, revenue bond service, and debt service reserves, are not classified as revenues but are included in this line to simplify the financial presentation.

## Interest Earnings

*Interest Earnings, Line 14.* The amount in this line includes interest earnings on unexpended proceeds from the sale of general obligation bonds, interest on operating reserves, and other short-term investment earnings on SWP revenues.

## Oroville-Thermalito Power Sale Contract

*Payments According to Oroville-Thermalito Power Sale Contract, Line 15.* Before April 1, 1983, all power generation from Edward Hyatt Powerplant and Thermalito Powerplant was sold to three electric utilities, Pacific Gas and Electric Company, Southern California Edison Company, and San Diego Gas and Electric Company, according to a power sale contract dated November 29, 1967. The 1952-1992 entry includes amounts of final settlement of payments made according to the contract.

## Miscellaneous Revenues

*Miscellaneous Revenues, Line 16.* The amount in this line represents all other operating revenues not included in lines 2 through 15.

## Other Revenues

*Subtotal, Other Revenues, Line 17.* The amount in this line is the total of lines 10 through 16.

## Total Operating Revenues

*Total Operating Revenues, Line 18.* The amount in this line is the total of lines 8, 9, and 17.

## Total Operating Revenues and Capital Resources Revenues

*Total Operating Revenues and Capital Resources Revenues, Line 19.* The amount in this line is the total of lines 1 and 18.

## Project Expenses

Project expenses include the following:

1. Operations, maintenance, and power costs
2. Deposits to replacement reserves
3. Deposits to special reserves (see description of Line 22)
4. Debt service
5. Deposits to operating reserves
6. Repayment of the California Water Fund
7. Application of Capital Resources Revenues to construction (see Line 30 in Table 21-1)

Revenue bond proceeds earmarked for debt service during construction and the first year's operating expenses are deposited in the Central Valley Water Project Construction Fund and disbursed according to resolutions authorizing the issuance of such bonds.

Water contractor revenues associated with power facility operating costs and debt service are deposited in the Central Valley Water Project Revenue Fund for appropriate disbursement. All other operating revenues, deposited in the California Water Revenue Fund-Systems Revenue Account, are disbursed according to the following four priorities of use as specified in the Burns-Porter Act:

1. State Water Project operations, maintenance, power, and replacement costs
2. General obligation bond debt service
3. Repayment of expenditures from the California Water Fund
4. Deposits to a reserve for future SWP construction

Specific information about project expenses, arranged according to lines 20 through 37 in Table 21-2, follows.

## Operations, Maintenance, and Power Costs

*Project Operations, Maintenance, and Power Costs, Line 20.* Historical and projected OM&P costs are included in Table 23-3 at the end of the chapter. Line 20 represents the OM&P portion of the costs included in Table 23-3.

Table 23-3 and Line 20 of Table 21-2 also include amounts of the operations and maintenance costs for the federal share of joint facilities and those OM&P costs allocated to recreation, which are intended to be offset by revenues indicated in lines 10 and 11.

Allowances for cost escalations are included in OM&P costs through 1995. Allowances for additional long-term price escalations in the future are not included in these estimates because changes in OM&P costs do not substantially affect the overall results of the financial analysis. (For the most part, changes in OM&P costs cause direct offsetting changes in operating revenues.)

Power costs make up the major item of annual operating expense for SWP. Descriptions of assumptions regarding future power sources and costs may be found in Chapter 19, "Forecasting Power Requirements and Resources," and Chapter 20, "Forecasting Power Costs and Sales." Line 20 also includes amounts of costs associated with power transactions that result in the sale of power not required for the delivery of water.

## Deposits to Replacement Reserves

*Deposits to Replacement Reserves, Line 21.* This line includes amounts of funds set aside

TABLE 23-5
**Retirement Schedule of Oroville Revenue Bonds 1978 through 1992**

| *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 |
| 1983 | 18,865,000 | 16,776,000 |
| 1984 | 7,640,000 | 6,807,020 |
| 1985 | 10,215,000 | 9,044,000 |
| 1986 | 7,175,000 | 6,598,000 |
| 1987 | 8,980,000 | 8,808,104 |
| 1988 | 3,815,000 | 3,676,482 |
| 1989 | 30,690,000 | 30,390,215 |
| 1990 | 7,210,000 | 7,164,817 |
| 1991 | 8,720,000 | 8,708,098 |
| 1992 | 10,625,000 | 10,625,000 |

as required by contract for replacing existing SWP facilities. As of December 31, 1992, $55.6 million had been spent for replacement costs; the balance of the replacement reserve as of that date was $106.1 million. Replacement reserve amounts are also included in Table 23-3.

## Deposits to Special Reserves

*Deposits to Special Reserves Under Revenue Bond Financing, Line 22.* Line 22 includes amounts for two significant components: special reserves deposits and capital resources revenue carryover from prior years used for construction in the current year. Special reserves deposits are the net of several income and expenditure items. Income items are deposits related to revenue bonds as follows:

- Proceeds set aside to pay bond interest during construction (capitalized interest)
- Proceeds set aside for first year operating costs (capitalized operations and maintenance)
- Water contractors' payments or bond proceeds set aside for debt service reserves
- Water contractors' payments for revenue bond cover requirements

The 1952-1992 entry for Line 22 of Table 21-2 includes amounts of deposits to special reserves for all past bond sales indicated in Tables 21-1 and 21-2. For future revenue bonds, deposits to special reserves are included in the year of assumed sale.

The amount in the 1952-1992 column also includes amounts of advances to the Department's revolving fund for working funds to purchase mobile equipment and to meet day-to-day operating expenses.

The expenditure items are:

- Debt service cover payments returned to water contractors
- Debt service reserve payments returned to water contractors
- Surplus account funds returned to water contractors or applied to meet expenses
- Total capitalized interest paid out
- Total capitalized operations and maintenance paid out

Special reserves, reduced over time as reserved amounts, are used for their respective purposes. The amount indicated each year in Line 22 indicates the change from the previous year. A negative number indicates a withdrawal of special reserves to meet expenses, while a positive number indicates a deposit.

## Payments of Debt Service

*Payment of Debt Service on Bonds Sold Through June 30, 1993, Lines 23 and 24.* The

amounts in these two lines represent the total amount of principal and interest payments on bonds sold to date. Table 23-4 represents a summary of payments on general obligation bonds (Series A through W water bonds), power revenue bonds by project, and water system revenue bonds. This table may be found at the end of the chapter.

The last bonds, sold on May 19, 1993, were the Series L Water System Revenue Bonds. Proceeds from the Series L bonds were used to provide funds for construction, fund the debt service reserve account, and pay bond discount and interest costs.

Since 1978, the bond trustee has been retiring Oroville Revenue Bonds prior to the fixed maturity date as indicated in Table 23-5. The schedule for service of Oroville Revenue Bonds indicated in Table 23-4 is based on a revised bond maturity schedule that reflects those early bond retirements.

Line 24 also includes over $0.3 million in interest payments to the General Fund for the temporary loan of $46.8 million in 1970. That loan was repaid by proceeds from the sale of Series N Water Bond Anticipation Notes.

## Payments on Projected East Branch Enlargement Bonds

*Payments on Projected East Branch Enlargement Bonds, Lines 25 and 26.* These lines include amounts of the projected annual service amounts for future water revenue bonds included on Line 23 of Table 21-1 for the East Branch Enlargement. Assumptions concerning the service on these future bonds are as follows:

- Interest costs for the water revenue bonds are estimated to average 7.5 percent.
- Bonds are to be repaid within 35 years of sale with maturities commencing in the year following the date of sale and with equal annual bond service for the principal repayment period.

## Payments on Projected Revenue Bonds

*Payments on Projected Future Water System Revenue Bonds, Lines 27 and 28.* These lines include the amounts of the projected annual service for future water revenue bonds included on Line 25 of Table 21-1 for water system facilities. Assumptions concerning the service on these future bonds are the same as those indicated for lines 25 and 26.

## Total Payments

*Total Payments of Bond Service, Lines 29 and 30.* The amounts included in these lines represent the total of interest payments indicated on lines 24, 26, and 28 and the total of principal payments indicated on lines 23, 25, and 27.

## Debt Service

*Subtotal, Debt Service, Line 31.* The amount on this line is the total of lines 29 and 30.

## Water Fund Repayment

*California Water Fund Repayment, Line 32.* The Burns-Porter Act requires that, after operation, maintenance, replacement, and bond service requirements have been satisfied, SWP revenues be transferred to the California Water Fund to reimburse the fund for monies expended for construction of the State Water Resources Development System.

In 1982 and 1983, the Department transferred a total of $70 million toward the repayment of the California Water Fund. The legislature subsequently appropriated all these funds to the state's General Fund. Leg-

islation enacted in 1989 provided for the orderly, scheduled reimbursement of the remaining balance owed to the California Water Fund over a period of 10 years. A portion of this reimbursement is to be offset by the amounts owed to SWP by the state for costs allocated to recreation and fish and wildlife enhancement.

As of December 31, 1992, reimbursements to the California Water Fund totaled $343 million. Of this total approximately $161 million was direct repayments and $182 million was offsets for recreation and fish and wildlife enhancement expenditures to date.

Repayment of the California Water Fund is expected to be completed in 1998. The projected direct payment schedule is shown in line 32.

## Total Operating Expenses and Debt Service

*Total Operating Expenses and Debt Service, Line 33.* The amount in this line is the total of lines 20, 21, 22, 31, and 32.

## Current Operating Funds

*Current Operating Funds, Line 34.* The amounts indicated in this line represent the funds available for future payment of operation and maintenance costs and debt service and funds provided for drought contingencies.

The amount in Column 1 represents the December 31, 1992, cash balance for these funds in the Systems Revenue Account of the California Water Resources Development Bond Fund.

Amounts in excess of those needed for operating costs and debt service are used for repaying the California Water Fund as indicated in Line 32 or for financing SWP construction expenditures as indicated in lines 35 and 36.

## Revenues Required for Current Construction

*Revenues Required for Current Construction, Line 35.* Revenues not needed for operating costs, debt service, or repayment of the California Water Fund are available for financing SWP capital expenditures.

Line 35 includes the amounts required annually for financing scheduled capital expenditures.

## Revenues Available for Future Construction

*Revenues Available for Future Construction, Line 36.* As indicated in Line 36, some revenues in excess of expenses and repayment of the California Water Fund are available beyond present construction requirements.

Those funds would be available to fund a portion of future SWP facilities. The amount indicated could be transferred to Line 35 if additional facilities scheduled for construction need to be funded.

## Capital Resource Revenues Used for Construction

*Capital Resources Revenues Used for Construction, Line 37.* The amount in this line is the same as the amount in Line 30 of Table 21-1.

## Total Expenses

*Total Project Expenses.* The amount in this line is equal to the sum of lines 33 through 37.

# Future Costs of Water Service

Estimates of future water costs are useful to SWP contractors in short-range and

long-range planning of water needs, operations, and budgets.

Unit water charges included in Table 23-6 represent both unescalated and escalated costs of water according to service areas for years 1994 and 2000. The unit rates in Table 23-6 include costs of existing and future SWP facilities accounted for in Tables 21-1 and Table 21-2.

The unit charges are based on the assumption that in 1994 and 2000, SWP will be able to deliver entire amounts of water requested by contractors. The unit water charges included in Table 23-6 are listed both as unescalated 1992 dollars and as escalated rates reflecting assumed future inflation.

The Department's estimates of future capital expenditures include allowances for escalation of construction costs at 4 percent per year for 1992 and 1993 and at 5 percent per year for 1994 through 2005. The escalation rates for future power sources vary, depending on the source of energy.

TABLE 23-1

## Effect of Revenue Bond Proceeds on Project Interest Rate

(Millions of dollars)

| Project | Revenue Bond Proceeds: Applied to Construction Costs | Less Portion of Proceeds Derived from Interest Earnings Prior to Delivery of Bonds | Plus Bond Discount and Financing Costs | Subtotal, Proceeds Included in Calculating Project Interest Rate | Principal Amount of Bonds | Percentage of Total Amount Included in Calculating Project Interest Rate |
|---|---|---|---|---|---|---|
| Devil Canyon-Castaic Project Revenue Bonds | 125.3 | 1.5 | 1.4 | 125.2 | 139.2 | 90.0 |
| Pyramid Project Revenue Bonds (Series A) | 71.2 | 0.5 | 1.1 | 71.8 | 95.8 | 75.0 |
| Alamo Project Bond Anticipation Note | 16.8 | 0.1 | 0.3 | 17.0 | 24.4 | 70.0 |
| Small Hydro Project I Revenue Bonds (Series D) | 25.4 | 0.2 | 1.5 | 26.7 | 37.5 | 71.0 |
| Alamo Project Revenue Bonds (Series F) | 38.9 | 0.3 | 0.7 | 39.3 | 50.0 | 79.0 |
| **Power Facilities** | | | | | | |
| Revenue Bonds (Series H) | | | | | | |
| *Facility* | | | | | | |
| Pyramid Project | 5.0 | 0.0 | 0.1 | 5.1 | 5.1 | 100.0 |
| Alamo Project | 1.7 | 0.0 | 0.0 | 1.7 | 1.7 | 100.0 |
| Small Hydro Project I | 25.2 (a | 0.2 | 0.4 | 25.4 | 35.6 | 71.0 |
| Water System Revenue Bonds (Series J) | | | | | | |
| *Facility* | | | | | | |
| Pyramid Project | — | — | 75.9 | 75.9 | 94.5 (b | 76.0 |
| Alamo Project | — | — | 45.6 | 45.6 | 57.1 (b | 80.0 |
| Small Hydro Project | — | — | 27.5 | 27.5 | 38.8 (b | 71.0 |
| Water System Revenue Bonds (Series L) | | | | | | |
| *Facility* | | | | | | |
| Small Hydro Project | — | — | 1.5 | 1.5 | 2.1 (b | 71.0 |

a) Amount consists of 71 percent of proceeds deposited in escrow account to refund portion of Series D bonds ($35.1 million) plus deposits to construction account ($0.3 million).

b) Represents amount of principal used to refund portions of prior bond issues.

TABLE 23-2

# Bond Sales and Project Interest Rates, by Date of Sale

| *Bond Sales* | *Date of Sale* | *Dollar-Years (a (Thousands)* | *Interest Cost (Thousands)* | *Interest Cost (b (Percent)* | *Project Interest Rate (c (Percent)* |
|---|---|---|---|---|---|
| $ 50,000,000 Bond Anticipation Notes | 11/21/63 | $26,944 | $531 | 1.971 | 1.971 |
| $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 | 5/05/64 | 1,726,000 | 60,986 | 3.533 | 3.516 |
| $100,000,000 Series C Water Bonds | 10/07/64 | 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 | 6/08/66 | 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 | 4/03/68 | 5,228,700 | 270,289 | 5.169 | |
| $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 | 4/01/69 | 3,423,460 | 195,902 | 5.722 | |
| $ 46,761,000 Cumulative 1970 General Fund Borrowing, repaid 7/10/70 | — | 4,938 | 346 | 7.007 | |
| $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 | 2/02/71 | 3,447,900 | 190,292 | 5.519 | 4.148 |
| $100,000,000 Series Q Bond Anticipation Notes | 3/10/71 | 100,000 | 2,349 | 2.349 | 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 | 11/09/71 | 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 | 8/08/72 | 4,776,204 | 258,839 | 5.419 | 4.457 |
| $ 10,000,000 Series T Water Bonds | 3/20/73 | 185,265 | 9,491 | 5.123 | 4.459 |
| $ 10,000,000 Series U Water Bonds | 1/13/76 | 158,750 | 8,731 | 5.500 | 4.462 |
| $ 10,000,000 Series V Water Bonds | 11/15/77 | 158,750 | 7,573 | 4.770 | 4.462 |
| $ 95,800,000 Pyramid Hydroelectric Revenue Bonds (d | 10/23/79 | 2,260,072 | 172,495 | 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 Project, Bond Anticipation Notes | 12/1/81 | 264,600 | 25,137 | 9.500 | |
| $ 24,400,000 Alamo Project, Bond Anticipation Notes (d | 12/1/81 | 24,266 | 2,305 | 9.500 | 4.589 |
| $200,000,000 Reid Gardner Project, Series B Revenue Bonds | 7/07/82 | 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 (d | 11/16/82 | 837,769 | 84,587 | 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 | 225,102 | 8.576 | |
| $ 50,000,000 Alamo Project, Series F Revenue Bonds (d | 4/27/83 | 1,190,763 | 100,836 | 8.468 | 4.727 |
| $ 25,000,000 South Geysers Project, Series F Revenue Bonds | 4/27/83 | 608,550 | 52,578 | 8.640 | |
| $239,505,000 Reid Gardner Project, Series G Revenue Bonds | 3/15/85 | 4,524,136 | 425,840 | 9.413 | |
| $206,690,000 Power Facilities, Series H Revenue Bonds (d | 6/20/86 | 4,430,520 | 347,745 | 7.849 | 4.713 |
| $132,000,000 East Branch Enlargement, Series A Water System Revenue Bonds | 7/15/86 | 3,427,165 | 254,915 | 7.438 | |
| $100,000,000 Series B Water System Revenue Bonds | 5/05/87 | 2,564,012 | 194,817 | 7.598 | |
| $ 9,000,000 Series C Water System Revenue Bonds | 12/01/87 | 324,000 | 31,995 | 9.875 | |
| $100,000,000 Series D Water System Revenue Bonds | 6/14/88 | 2,640,510 | 201,253 | 7.622 | |
| $ 9,000,000 Series E Water System Revenue Bonds | 11/29/88 | 324,000 | 31,995 | 9.875 | |
| $160,030,000 Series F Water System Revenue Bonds | 3/15/89 | 2,779,838 | 189,261 | 6.808 | |
| $100,000,000 Series G Water System Revenue Bonds | 3/06/90 | 2,434,175 | 172,277 | 7.077 | |
| $100,000,000 Series H Water System Revenue Bonds | 1/10/91 | 2,459,172 | 168,857 | 6.866 | |
| $180,000,000 Series I Water System Revenue Bonds | 5/14/91 | 4,366,680 | 294,090 | 6.735 | |
| $649,835,000 Series J Water System Revenue Bonds | 1/16/92 | 12,422,222 | 745,198 | 5.999 | |
| $100,000,000 Series K Water System Revenue Bonds | 5/12/92 | 2,366,783 | 147,064 | 6.214 | |
| $ 9,000,000 Series W Water Bonds | 8/19/92 | 95,250 | 6,172 | 6.480 | |
| $537,830,000 Series L Water System Revenue Bonds | 5/01/93 | 11,414,859 | 640,518 | 5.611 | 4.620 |
| **Total** | | **$140,746,481** | **$8,547,123** | | |
| **Portion Allocated to Project Interest Rate** | | **$63,789,878** | **$2,947,404** | **4.620** | **4.620** |

a) Amount represents a unit equivalent to one dollar of principal amount outstanding for one year.
b) Amount represents the total interest cost (without regard to premiums received) divided by the total dollar-years, expressed as a percentage.
c) Amount is determined by dividing cumulative interest costs by cumulative dollar-years and expressed as a percentage. Oroville Field Division Power Revenue Bonds for Off-Aqueduct Facilities and Water System Revenue Bonds, which do not affect the Project Interest Rate, are excluded.
d) These revenue bonds and revenue bond anticipation notes were sold at the following net interests costs. The following amounts (representing the sum of proceeds used for construction and the bond discount) were used in the calculations of the Project Interest Rate:

| | | |
|---|---|---|
| Devil Canyon-Castaic Revenue Bonds: | 5.446 percent | $126,893,000 |
| Pyramid Hydroelectric Revenue Bonds: | 7.680 percent | $ 75,586,000 |
| Alamo Bond Anticipation Notes: | 10.036 percent | $ 18,034,000 |
| Small Hydro Project I, Series D Revenue Bonds: | 10.275 percent | $ 28,012,000 |
| Alamo Project, Series F Revenue Bonds: | 8.525 percent | $ 40,114,000 |
| Power Facilities, Series H Revenue Bonds: | 7.926 percent | $ 42,340,000 |

TABLE 23-3

## Operations, Maintenance, Power, and Replacement Costs, by Facility, Composition, and Purpose

(Thousands of dollars)

| Feature | Calendar year 1962-1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | Calendar year 2001 | 2002 | 2003 | 2004 | 2005 | 2006-2035 | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Project Facility** | | | | | | | | | | | | | | | | |
| Feather River facilities | 117,745 | (3,853) | (2,932) | (2,674) | (2,584) | (2,435) | (2,412) | (2,413) | (2,407) | (2,457) | (2,453) | (2,452) | (2,451) | (2,445) | (91,559) | (7,782) |
| North Bay Aqueduct | 9,636 | 1,860 | 2,020 | 2,281 | 2,213 | 2,215 | 2,234 | 2,254 | 2,290 | 2,306 | 2,332 | 2,351 | 2,373 | 2,437 | 80,229 | 119,031 |
| Delta facilities | 0 | 96 | 70 | 57 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 255 |
| Suisun Marsh | 4,752 | 1,004 | 1,041 | 987 | 769 | 771 | 772 | 772 | 772 | 1,100 | 1,100 | 1,100 | 1,100 | 1,100 | 32,989 | 50,129 |
| South Bay Aqueduct | 95,808 | 11,037 | 10,977 | 9,346 | 9,843 | 9,660 | 9,700 | 9,734 | 9,870 | 9,897 | 10,003 | 10,061 | 10,122 | 10,322 | 321,616 | 547,996 |
| California Aqueduct | | | | | | | | | | | | | | | | |
| Delta to Edmonston | 1,212,791 | 127,035 | 170,608 | 183,882 | 187,762 | 182,765 | 186,152 | 184,202 | 189,853 | 190,041 | 193,259 | 195,019 | 196,728 | 205,300 | 6,585,176 | 10,190,573 |
| Edmonston to Perris | 893,300 | 102,553 | 157,557 | 169,686 | 164,240 | 153,514 | 158,546 | 162,827 | 165,748 | 168,257 | 172,448 | 174,611 | 177,106 | 188,256 | 6,184,504 | 9,193,153 |
| West Branch | 4,972 | (10,897) | (23,641) | (20,881) | (21,648) | (19,944) | (21,474) | (23,850) | (23,016) | (23,109) | (22,805) | (22,663) | (22,506) | (22,206) | (634,826) | (908,494) |
| Coastal Branch | 39,559 | 4,683 | 4,701 | 4,386 | 8,216 | 8,569 | 9,619 | 9,666 | 9,785 | 9,817 | 9,951 | 10,021 | 10,098 | 10,292 | 323,895 | 473,258 |
| Off-aqueduct power generating facilities | 486,231 | 53,595 | 62,653 | 62,568 | 69,477 | 68,477 | 65,557 | 59,556 | 48,179 | 46,805 | 41,541 | 36,272 | 29,906 | 21,431 | 8,516 | 1,160,764 |
| Recreation, planning, and CVP negotiations | 0 | 493 | 494 | 536 | 547 | 547 | 547 | 547 | 547 | 1,093 | 1,093 | 1,093 | 1,093 | 1,093 | 32,794 | 42,517 |
| Water quality monitoring | 110,370 | 16,192 | 20,309 | 17,133 | 15,312 | 15,701 | 15,097 | 15,098 | 14,552 | 8,936 | 8,936 | 8,936 | 8,936 | 8,936 | 250,350 | 534,794 |
| Davis-Grunsky Act program | 2,230 | 292 | 292 | 303 | 262 | 218 | 218 | 218 | 218 | 218 | 218 | 218 | 218 | 218 | 6,555 | 11,896 |
| *Subtotal* | 2,977,394 | 304,090 | 404,149 | 427,609 | 434,441 | 420,058 | 424,556 | 418,611 | 416,391 | 412,904 | 415,623 | 414,567 | 412,723 | 424,734 | 13,100,240 | 21,408,090 |
| Payments to/credits from PG&E under Comprehensive Agreement | 8,037 | (3,491) | (3,352) | (3,213) | (3,074) | (2,935) | (2,797) | (2,658) | (2,519) | (2,380) | (2,241) | (2,102) | (1,963) | (152) | 0 | (24,840) |
| **Total OMP&R Costs** | **2,985,431** | **300,599** | **400,797** | **424,396** | **431,367** | **417,123** | **421,759** | **415,953** | **413,872** | **410,524** | **413,382** | **412,465** | **410,760** | **424,582** | **13,100,240** | **21,383,250** |
| **Composition** | | | | | | | | | | | | | | | | |
| Salaries and expenses of headquarters personnel | 487,790 | 59,260 | 60,615 | 61,660 | 61,160 | 61,358 | 61,317 | 61,317 | 61,317 | 56,135 | 56,135 | 56,135 | 56,135 | 56,135 | 1,654,368 | 2,910,837 |
| Salaries and expenses of field personnel | 1,008,876 | 98,560 | 99,489 | 92,851 | 90,903 | 91,123 | 90,578 | 90,577 | 90,030 | 90,626 | 90,630 | 90,629 | 90,628 | 90,628 | 2,707,818 | 4,913,946 |
| Pumping power | | | | | | | | | | | | | | | | |
| Used by pumping plants | 1,468,807 | 161,914 | 277,220 | 305,270 | 320,240 | 308,602 | 317,953 | 316,698 | 326,968 | 329,797 | 337,802 | 342,044 | 346,647 | 368,691 | 12,111,558 | 17,640,211 |
| Produced by generation plants | (523,191) | (83,054) | (102,963) | (102,715) | (117,079) | (119,241) | (120,588) | (119,276) | (119,842) | (120,198) | (120,224) | (120,252) | (120,332) | (121,890) | (3,674,188) | (5,685,033) |
| Payments to/credits from PG&E under Comprehensive Agreement | 8,037 | (3,491) | (3,352) | (3,213) | (3,074) | (2,935) | (2,797) | (2,658) | (2,519) | (2,380) | (2,241) | (2,102) | (1,963) | (152) | 0 | (24,840) |
| Off-aqueduct power generating facilities requirement | 486,231 | 53,595 | 62,653 | 62,568 | 69,477 | 68,477 | 65,557 | 59,556 | 48,179 | 46,805 | 41,541 | 36,272 | 29,906 | 21,431 | 8,516 | 1,160,764 |
| Oroville-Thermalito insurance premiums | 8,198 | 803 | 763 | 784 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 794 | 23,820 | 42,308 |
| Less portion of costs incurred during construction | (121,033) | (1,478) | (2,168) | (1,754) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (126,433) |
| *Subtotal* | 2,823,715 | 286,109 | 392,257 | 415,451 | 422,421 | 408,178 | 412,814 | 407,008 | 404,927 | 401,579 | 404,437 | 403,520 | 401,815 | 415,637 | 12,831,892 | 20,831,760 |
| Deposits to replacement reserves | 161,716 | 14,490 | 8,540 | 8,945 | 8,946 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 8,945 | 268,348 | 551,490 |
| **Total OMP&R Costs** | **2,985,431** | **300,599** | **400,797** | **424,396** | **431,367** | **417,123** | **421,759** | **415,953** | **413,872** | **410,524** | **413,382** | **412,465** | **410,760** | **424,582** | **13,100,240** | **21,383,250** |
| **Project Purpose** | | | | | | | | | | | | | | | | |
| Water supply and power generation | 2,826,946 | 286,920 | 386,412 | 410,604 | 417,840 | 403,487 | 407,955 | 402,020 | 399,920 | 397,120 | 399,803 | 398,727 | 396,863 | 408,829 | 12,622,278 | 20,565,724 |
| Payments to/credits from PG&E under Comprehensive Agreement | 8,037 | (3,491) | (3,352) | (3,213) | (3,074) | (2,935) | (2,797) | (2,658) | (2,519) | (2,380) | (2,241) | (2,102) | (1,963) | (152) | 0 | (24,840) |
| Recreation and fish and wildlife enhancement | 53,464 | 7,361 | 7,899 | 7,619 | 7,482 | 7,483 | 7,512 | 7,502 | 7,381 | 6,692 | 6,727 | 6,747 | 6,766 | 6,811 | 205,028 | 352,474 |
| Flood control | 2,004 | 214 | 206 | 210 | 233 | 232 | 232 | 232 | 233 | 233 | 234 | 234 | 235 | 235 | 7,164 | 12,131 |
| Miscellaneous purposes | | | | | | | | | | | | | | | | |
| Federal share, San Luis and Delta facilities | 91,346 | 9,128 | 9,030 | 8,572 | 8,419 | 8,433 | 8,434 | 8,434 | 8,434 | 8,436 | 8,436 | 8,436 | 8,436 | 8,436 | 253,067 | 455,477 |
| Other (Davis-Grunsky, drainage, City of Los Angeles) | 3,634 | 467 | 602 | 604 | 467 | 423 | 423 | 423 | 423 | 423 | 423 | 423 | 423 | 423 | 12,703 | 22,284 |
| **Total OMP&R Costs** | **2,985,431** | **300,599** | **400,797** | **424,396** | **431,367** | **417,123** | **421,759** | **415,953** | **413,872** | **410,524** | **413,382** | **412,465** | **410,760** | **424,582** | **13,100,240** | **21,383,250** |

TABLE 23-4

# Annual Debt Service on Bonds Sold through June 30, 1993

(Thousands of dollars)

| Calendar | Series A through W Water Bonds | | Oroville Revenue Bonds (a | | Devil Canyon-Castaic Project Revenue Bonds | | Pyramid Project Power Facilities Revenue Bonds, Series A and H; Water System Revenue Bonds, Series J | | Reid Gardner Project Power Facilities Revenue Bonds, Series B, C, G, and H; Water System Revenue Bonds, Series F and J | | South Geysers Project Power Facilities Revenue Bonds, Series D, F, and H; Water System Revenue Bonds, Series D, E, J, and L | | Small Hydro Project Power Facilities Revenue Bonds, Series D and H; Water Systems Revenue Bonds, Series J and L | | Bottle Rock Project Power Facilities Revenue Bonds, Series E; Water System Revenue Bonds, Series D, E, and J | | Alamo Project Power Facilities Revenue Bonds, Series F and H; Water System Revenue Bonds, Series J | | East Branch Enlargement Water System Revenue Bonds Series A, D, E, H, I, J, K, and L | | Water System Facilities Water System Revenue Bonds Series B, C, D, E, G, H, I, J, K, and L | | Grand Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest | Principal | Interest |
| 1964 | 0 | 3,333 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,333 |
| 1965 | 0 | 11,114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,114 |
| 1966 | 0 | 16,742 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16,742 |
| 1967 | 0 | 26,912 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26,912 |
| 1968 | 0 | 37,760 | 0 | 3,876 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41,636 |
| 1969 | 0 | 47,461 | 0 | 10,448 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 57,909 |
| 1970 | 0 | 53,291 | 0 | 13,145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66,436 |
| 1971 | 0 | 63,035 | 0 | 13,145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 76,180 |
| 1972 | 0 | 69,148 | 1,260 | 13,112 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,260 | 82,260 |
| 1973 | 1,200 | 69,348 | 1,330 | 13,042 | 0 | 7,708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,530 | 90,098 |
| 1974 | 3,000 | 69,533 | 1,400 | 12,969 | 0 | 7,708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,400 | 90,210 |
| 1975 | 5,000 | 69,366 | 1,475 | 12,893 | 0 | 7,708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,475 | 89,967 |
| 1976 | 7,000 | 69,408 | 1,555 | 12,811 | 0 | 7,708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,555 | 89,927 |
| 1977 | 10,200 | 69,323 | 1,635 | 12,727 | 0 | 7,708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,835 | 89,758 |
| 1978 | 12,700 | 69,312 | 5,775 | 12,537 | 0 | 7,708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,475 | 89,557 |
| 1979 | 13,650 | 68,690 | 11,585 | 12,275 | 0 | 7,708 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25,235 | 88,673 |
| 1980 | 16,050 | 67,968 | 3,265 | 11,739 | 0 | 7,708 | 0 | 7,900 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19,315 | 95,315 |
| 1981 | 18,050 | 67,109 | 4,885 | 11,444 | 0 | 7,708 | 0 | 7,292 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22,935 | 93,553 |
| 1982 | 19,250 | 66,162 | 17,920 | 10,968 | 0 | 7,708 | 0 | 7,292 | 0 | 7,972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37,170 | 100,102 |
| 1983 | 20,520 | 65,148 | 21,110 | 10,147 | 900 | 7,708 | 0 | 7,292 | 0 | 35,719 | 0 | 4,777 | 0 | 3,727 | 0 | 6,017 | 0 | 2,449 | 0 | 0 | 0 | 0 | 42,530 | 142,984 |
| 1984 | 21,785 | 64,068 | 10,005 | 9,013 | 955 | 7,647 | 640 | 7,292 | 0 | 35,719 | 0 | 5,647 | 0 | 3,727 | 0 | 10,315 | 0 | 4,198 | 0 | 0 | 0 | 0 | 33,385 | 147,626 |
| 1985 | 22,555 | 63,932 | 12,700 | 8,628 | 1,010 | 7,583 | 675 | 7,238 | 9,425 | 27,209 | 0 | 5,647 | 0 | 3,727 | 0 | 10,315 | 0 | 4,198 | 0 | 0 | 0 | 0 | 46,365 | 138,477 |
| 1986 | 23,830 | 61,742 | 11,435 | 7,859 | 1,070 | 7,515 | 715 | 7,377 | 3,805 | 32,882 | 0 | 5,516 | 0 | 3,537 | 1,240 | 10,315 | 0 | 4,263 | 0 | 4,021 | 0 | 0 | 42,095 | 145,027 |
| 1987 | 25,495 | 60,492 | 11,715 | 7,188 | 1,135 | 7,442 | 790 | 7,513 | 4,860 | 32,605 | 0 | 5,386 | 0 | 3,348 | 1,305 | 10,253 | 265 | 4,329 | 0 | 9,651 | 0 | 4,952 | 45,565 | 153,159 |
| 1988 | 26,770 | 59,165 | 6,685 | 6,664 | 1,205 | 7,366 | 830 | 7,447 | 5,065 | 32,295 | 580 | 5,521 | 345 | 3,348 | 1,390 | 10,849 | 280 | 4,314 | 995 | 9,875 | 710 | 11,037 | 44,855 | 157,881 |
| 1989 | 28,145 | 57,825 | 33,705 | 5,513 | 1,275 | 7,284 | 875 | 7,378 | 7,820 | 27,557 | 709 | 5,646 | 365 | 3,328 | 1,565 | 11,592 | 295 | 4,298 | 1,077 | 10,104 | 1,148 | 14,368 | 76,979 | 154,893 |
| 1990 | 29,385 | 56,473 | 10,385 | 4,301 | 1,355 | 7,198 | 930 | 7,305 | 6,675 | 29,781 | 761 | 5,596 | 405 | 3,304 | 1,677 | 11,491 | 320 | 4,279 | 1,134 | 10,048 | 1,227 | 19,554 | 54,254 | 159,330 |
| 1991 | 30,365 | 55,070 | 12,055 | 3,922 | 1,435 | 7,107 | 980 | 7,227 | 7,170 | 29,302 | 817 | 5,540 | 430 | 3,276 | 1,791 | 11,376 | 335 | 4,257 | 1,197 | 16,856 | 2,129 | 27,568 | 58,704 | 171,501 |
| 1992 | 31,745 | 54,233 | 14,135 | 2,985 | 1,520 | 7,010 | 2,395 | 5,307 | 8,950 | 27,188 | 1,934 | 4,136 | 960 | 2,553 | 4,575 | 7,942 | 1,260 | 3,086 | 2,583 | 22,241 | 5,107 | 28,410 | 75,164 | 165,091 |
| 1993 | 33,390 | 52,707 | 13,755 | 1,850 | 1,610 | 6,907 | 1,525 | 5,687 | 8,820 | 26,953 | 901 | 4,079 | 660 | 2,759 | 3,264 | 8,386 | 755 | 3,300 | 3,039 | 22,836 | 4,577 | 30,570 | 72,296 | 166,034 |
| 1994 | 34,975 | 51,161 | 3,885 | 1,026 | 1,705 | 6,799 | 1,575 | 5,633 | 9,490 | 26,273 | 1,588 | 4,072 | 930 | 2,735 | 3,374 | 8,270 | 780 | 3,274 | 4,587 | 19,775 | 5,915 | 29,126 | 68,804 | 158,144 |
| 1995 | 36,110 | 49,551 | 4,085 | 888 | 1,810 | 6,684 | 1,630 | 5,569 | 10,175 | 25,575 | 1,695 | 4,005 | 1000 | 2,681 | 3,521 | 8,133 | 805 | 3,242 | 4,780 | 19,519 | 6,218 | 28,780 | 71,829 | 154,627 |
| 1996 | 37,350 | 47,891 | 4,300 | 746 | 1,920 | 6,561 | 1,685 | 5,496 | 10,940 | 24,805 | 1,808 | 3,930 | 1085 | 2,620 | 3,682 | 7,974 | 845 | 3,207 | 4,330 | 19,246 | 7,235 | 28,410 | 75,180 | 150,886 |
| 1997 | 37,045 | 46,248 | 4,525 | 599 | 2,035 | 6,432 | 1,760 | 5,417 | 11,775 | 23,959 | 1,945 | 3,848 | 1145 | 2,552 | 3,861 | 7,802 | 895 | 3,168 | 5,248 | 19,024 | 6,912 | 27,987 | 77,146 | 147,036 |
| 1998 | 37,125 | 44,631 | 4,760 | 446 | 2,155 | 6,295 | 1,835 | 5,332 | 12,570 | 23,143 | 2,065 | 3,759 | 1230 | 2,480 | 4,030 | 7,613 | 930 | 3,124 | 5,470 | 18,754 | 7,185 | 27,590 | 79,355 | 143,167 |
| 1999 | 38,050 | 43,034 | 5,005 | 271 | 2,285 | 6,160 | 1,915 | 5,238 | 13,455 | 22,263 | 2,216 | 3,658 | 1335 | 2,401 | 4,240 | 7,412 | 985 | 3,077 | 5,730 | 18,481 | 7,555 | 27,214 | 82,771 | 139,209 |
| 2000 | 39,340 | 41,386 | 5,280 | 286 | 2,420 | 6,040 | 2,000 | 5,137 | 14,380 | 21,309 | 2,095 | 3,547 | 910 | 2,312 | 4,470 | 7,191 | 1,035 | 3,025 | 6,768 | 18,187 | 7,442 | 26,804 | 86,140 | 135,224 |
| 2001 | 40,430 | 39,677 | 3,385 | 191 | 2,565 | 5,912 | 2,100 | 5,027 | 15,385 | 20,279 | 2,205 | 3,432 | 970 | 2,257 | 4,720 | 6,950 | 1,090 | 2,969 | 7,141 | 17,863 | 7,849 | 26,434 | 87,840 | 130,991 |
| 2002 | 41,570 | 37,919 | 0 | 0 | 2,720 | 5,773 | 2,200 | 4,910 | 16,480 | 19,166 | 2,325 | 3,307 | 1005 | 2,197 | 4,990 | 6,691 | 1,155 | 2,908 | 7,516 | 17,306 | 8,274 | 25,872 | 88,235 | 126,049 |
| 2003 | 43,420 | 36,107 | 0 | 0 | 2,885 | 5,626 | 2,310 | 4,786 | 17,720 | 17,962 | 2,475 | 3,173 | 980 | 2,134 | 5,285 | 6,411 | 1,220 | 2,843 | 7,913 | 16,925 | 8,737 | 25,439 | 92,945 | 121,406 |
| 2004 | 45,610 | 34,201 | 0 | 0 | 3,055 | 5,470 | 2,430 | 4,652 | 19,205 | 16,443 | 2,620 | 3,029 | 1080 | 2,073 | 5,610 | 6,110 | 1,295 | 2,773 | 7,213 | 16,517 | 10,102 | 24,974 | 98,220 | 116,242 |
| 2005 | 46,900 | 32,211 | 0 | 0 | 3,240 | 5,305 | 2,540 | 4,509 | 19,930 | 14,796 | 2,750 | 2,873 | 1135 | 2,005 | 5,950 | 5,784 | 1,375 | 2,697 | 7,611 | 16,136 | 10,664 | 24,415 | 102,095 | 110,731 |
| 2006 | 48,190 | 30,158 | 0 | 0 | 3,435 | 5,130 | 2,675 | 4,359 | 21,545 | 13,190 | 2,920 | 2,711 | 1,180 | 1,938 | 6,325 | 5,433 | 1,450 | 2,616 | 8,051 | 15,731 | 11,294 | 23,820 | 107,065 | 105,086 |
| 2007 | 49,680 | 28,041 | 0 | 0 | 3,640 | 4,945 | 2,825 | 4,199 | 23,255 | 11,442 | 3,100 | 2,536 | 1,250 | 1,867 | 6,730 | 5,054 | 1,540 | 2,529 | 8,522 | 15,304 | 11,968 | 23,187 | 112,510 | 99,104 |
| 2008 | 51,670 | 25,857 | 0 | 0 | 3,860 | 4,749 | 2,980 | 4,029 | 25,100 | 9,549 | 3,300 | 2,350 | 1,265 | 1,792 | 7,160 | 4,650 | 1,640 | 2,437 | 9,020 | 14,853 | 12,660 | 22,515 | 118,655 | 92,781 |
| 2009 | 54,010 | 23,579 | 0 | 0 | 4,090 | 4,540 | 3,150 | 3,847 | 26,785 | 7,802 | 3,490 | 2,147 | 1,280 | 1,714 | 7,635 | 4,212 | 1,745 | 2,336 | 9,558 | 14,350 | 13,422 | 21,778 | 125,165 | 86,305 |
| 2010 | 55,700 | 21,208 | 0 | 0 | 4,335 | 4,319 | 3,325 | 3,654 | 28,575 | 5,962 | 3,720 | 1,934 | 1,270 | 1,636 | 8,135 | 3,746 | 1,865 | 2,229 | 10,141 | 13,818 | 14,239 | 20,996 | 131,305 | 79,502 |
| 2011 | 57,190 | 18,762 | 0 | 0 | 4,595 | 4,085 | 3,505 | 3,450 | 30,495 | 4,000 | 3,960 | 1,706 | 1,270 | 1,558 | 8,675 | 3,246 | 1,980 | 2,115 | 10,755 | 13,243 | 15,085 | 20,159 | 137,510 | 72,324 |
| 2012 | 58,530 | 16,216 | 0 | 0 | 4,875 | 3,837 | 3,720 | 3,205 | 32,615 | 2,068 | 4,235 | 1,429 | 1,285 | 1,469 | 9,335 | 2,638 | 2,135 | 1,977 | 11,412 | 12,627 | 16,043 | 19,221 | 144,185 | 64,687 |
| 2013 | 60,370 | 13,676 | 0 | 0 | 5,165 | 3,574 | 3,950 | 2,944 | 0 | 0 | 4,550 | 1,132 | 1,850 | 1,379 | 10,040 | 1,985 | 2,295 | 1,827 | 12,099 | 11,977 | 17,051 | 18,223 | 117,370 | 56,717 |
| 2014 | 57,900 | 11,244 | 0 | 0 | 5,475 | 3,303 | 4,160 | 2,703 | 0 | 0 | 4,830 | 854 | 1,920 | 1,266 | 10,720 | 1,370 | 2,450 | 1,687 | 12,837 | 11,278 | 18,088 | 17,213 | 118,380 | 50,918 |
| 2015 | 53,690 | 8,838 | 0 | 0 | 5,805 | 3,015 | 4,375 | 2,453 | 0 | 0 | 5,075 | 564 | 1,990 | 1,151 | 740 | 727 | 2,605 | 1,540 | 13,616 | 10,536 | 19,164 | 16,149 | 107,060 | 44,973 |
| 2016 | 46,130 | 6,626 | 0 | 0 | 6,150 | 2,710 | 4,600 | 2,190 | 0 | 0 | 2,180 | 259 | 2,165 | 1,031 | 790 | 682 | 2,775 | 1,383 | 14,440 | 9,756 | 20,310 | 15,030 | 99,540 | 39,667 |
| 2017 | 38,060 | 4,614 | 0 | 0 | 6,520 | 2,388 | 4,835 | 1,914 | 0 | 0 | 170 | 128 | 2,275 | 902 | 840 | 635 | 2,955 | 1,217 | 15,319 | 8,927 | 21,526 | 13,842 | 92,500 | 34,567 |
| 2018 | 25,350 | 2,980 | 0 | 0 | 6,910 | 2,045 | 5,080 | 1,624 | 0 | 0 | 180 | 118 | 2,395 | 765 | 890 | 585 | 3,155 | 1,039 | 16,262 | 8,043 | 22,793 | 12,577 | 83,015 | 29,776 |
| 2019 | 16,890 | 1,778 | 0 | 0 | 7,325 | 1,682 | 5,335 | 1,319 | 0 | 0 | 190 | 107 | 2,505 | 621 | 950 | 531 | 3,360 | 850 | 17,256 | 7,103 | 24,169 | 11,237 | 77,980 | 25,228 |
| 2020 | 17,320 | 934 | 0 | 0 | 7,765 | 1,298 | 5,610 | 999 | 0 | 0 | 205 | 96 | 2,630 | 471 | 1,010 | 474 | 3,585 | 649 | 18,319 | 6,106 | 25,601 | 9,819 | 82,045 | 20,846 |
| 2021 | 8,510 | 301 | 0 | 0 | 8,230 | 890 | 5,890 | 663 | 0 | 0 | 215 | 84 | 2,750 | 313 | 1,070 | 414 | 3,825 | 433 | 19,421 | 5,089 | 27,114 | 8,347 | 77,025 | 16,534 |
| 2022 | 1,800 | 48 | 0 | 0 | 8,725 | 458 | 6,160 | 339 | 0 | 0 | 230 | 72 | 2,945 | 162 | 1,130 | 355 | 4,055 | 223 | 20,595 | 4,011 | 28,670 | 6,840 | 74,310 | 12,508 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 240 | 59 | 0 | 0 | 1,200 | 293 | 0 | 0 | 15,821 | 2,862 | 34,544 | 5,232 | 51,805 | 8,446 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 576 | 46 | 0 | 0 | 2,855 | 227 | 0 | 0 | 17,341 | 1,973 | 26,967 | 2,904 | 47,739 | 5,150 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,891 | 923 | 12,664 | 1056 | 25,555 | 1,979 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,412 | 154 | 4,523 | 290 | 6,935 | 444 |
| Total | 1,579,000 | 2,384,747 | 244,995 | 249,654 | 139,165 | 283,872 | 106,510 | 205,144 | 422,465 | 655,168 | 74,855 | 118,456 | 48,195 | 85,116 | 156,770 | 232,449 | 59,335 | 106,365 | 360,420 | 512,029 | 506,881 | 749,939 | 3,698,591 | 5,582,938 |

a) Principal and interest schedule has been adjusted to reflect early redemption of bonds.

TABLE 23-6

## Estimated Unit Water Charges for 1994 and 2000, by Service Area

| Service Area and Charge | 1994 Unescalated | 1994 Escalated | 2000 Unescalated | 2000 Escalated |
|---|---|---|---|---|
| **Feather River Area** | | | | |
| Capital; Operations, Maintenance, and Replacement (OM&R) | $58 | $58 | $36 | $40 |
| **North Bay Area** | | | | |
| Capital; OM&R | 196 | 196 | 149 | 160 |
| Power | 16 | 16 | 16 | 18 |
| **Total** | **$212** | **$212** | **$165** | **$178** |
| **South Bay Area** | | | | |
| Capital; OM&R | $76 | $76 | $65 | $75 |
| Power | 33 | 33 | 41 | 47 |
| **Total** | **$109** | **$109** | **$106** | **$122** |
| **Coastal Area** | | | | |
| Capital; OM&R | N/A | N/A | $443 | $474 |
| Power | N/A | N/A | 89 | 100 |
| **Total** | **N/A** | **N/A** | **$532** | **$574** |
| **San Joaquin Area** | | | | |
| Capital; OM&R | $42 | $42 | $41 | $46 |
| Power | 15 | 15 | 19 | 21 |
| **Total** | **$57** | **$57** | **$60** | **$67** |
| **Southern California Area** | | | | |
| Capital; OM&R | $107 | $107 | $103 | $115 |
| Power | 99 | 99 | 117 | 132 |
| **Total** | **$206** | **$206** | **$220** | **$247** |

# Legislation and Litigation

## State Legislation

No federal legislation enacted during this bulletin reporting period directly requires or prohibits activity by the State Water Project. However, several state laws that affect SWP activities were passed in the 1992–93 fiscal year.

### Agricultural Land Retirement Program

Senate Bill 1669 (Chapter 959, Statutes of 1992) establishes the San Joaquin Valley Drainage Relief Program in the Department of Water Resources. This law, which became operative July 1, 1993, authorizes the Department to enter into agreements for purchase and management of retirement land and water. It sets aside up to one-third of the conserved water for environmental purposes and replenishment of ground water resources. The law requires the Department to consider effects of purchases on local economies and coordinate with the Central Valley Project on distribution of water made available under this legislation. The law authorizes retirement land to be returned to irrigated agricultural use if affordable technological solutions to drainage and environmental problems are identified and implemented, and it requires the Department to submit a progress report and program evaluation to the Legislature by June 30, 1998, and every 5 years thereafter.

### Sacramento-San Joaquin Delta Studies and Plans

Senate Bill 443 (Chapter 953, Statutes of 1992) requires the Department to submit a report to the legislature, by January 1994, on land use patterns within the Delta and immediately adjacent lands. This legislation requires the Department to conduct at least one hearing on the California Water Plan update within the boundaries of the Delta, and it requires the updated California Water Plan to include discussion of alternatives for protecting current uses and configuration of the Delta. The law requires implementation of these mandates only to the extent funds are appropriated for these purposes in the annual budget act.

Senate Bill 1866 (Chapter 898, Statutes of 1992) creates a 19-member Delta Protection Commission made up of Department and other state and local government officials. It requires the commission to adopt, by July 1, 1994, a comprehensive long-term resource management plan for the Delta, and it re-

quires all local agency general plans to be consistent with the commission's long-range plan and be subject to commission approval. The law declares that *Water Code* provisions will prevail over this law in any cases of conflict, and it exempts a variety of state and local agency water supply activities and associated mitigation or enhancement activities from the jurisdiction of the commission. To fund the commission, this law imposes a 10 percent surcharge on fines for violations within the Delta of specified *Fish and Game Code* and *Harbors and Navigation Code* sections and deposits those surcharges, up to $250,000 annually, in the Sacramento-San Joaquin Delta Protection Fund, which the law creates. To cover immediate costs, the legislation appropriates $250,000 from the Environmental License Plate Fund to the commission as a loan to be repaid by December 31, 1998. The law requires the commission to submit a progress report to the legislature and governor by January 1, 1995, and every 5 years thereafter.

### Water Transfers

Assembly Bill 2897 (Chapter 481, Statutes of 1992) authorizes water suppliers to contract with customers for a time-limited reduction or elimination of water use and also to contract with a state drought water bank or with another water supplier or user for transfer of that water. The law limits such transfers to water made available through conservation or through a contract for reduction or elimination of use, and it declares that transfers under this bill will not impair water rights.

## Litigation

During the reporting period covered in this document, the Department was involved in several court cases related to the management of the State Water Project.

### *Golden Gate Audubon Society* v. *State Water Resources Control Board*

On May 31, 1991, several environmental groups filed a suit, *Golden Gate Audubon Society* v. *State Water Resources Control Board*, to set aside the Water Quality Control Plan for the Bay-Delta Estuary adopted earlier that month by the Board. The plan was adopted at the end of the second phase of the Bay-Delta hearings.

In the suit, the groups allege that the plan is defective because it does not include flow objectives and that the California Environmental Quality Act was violated because the Board failed to consider flow alternatives. The Department intervened in support of the Board, and the matter is currently pending in Sacramento County Superior Court.

### *Kern Property Corporation* v. *State of California*

This suit, filed on December 29, 1982, by Kern Property Corporation against the Department and eight other named defendants, involved rights to the use of Kern River water and the operation of the Kern River Intertie.

The Kern Property Corporation alleged that the Department violated the Watershed of Origin statute, *Water Code* Section 11460, by accepting water into the intertie before the needs of the corporation were met.

The intertie is operated according to contracts with federal and state governments and several local agencies and districts. At the time the intertie was built, some districts agreed to indemnify the state against litiga-

tion regarding operation. A related case, *River West, Inc. v. State of California*, was dismissed in 1988. A settlement was reached, and the Department was dismissed without liability; the settlement was approved by the court.

## *Nevada Power Company and Department of Water Resources* v. *Fluor Power Services Inc., et al.*

In this suit, filed in fall 1986 in Nevada's Clark County District Court, the Department and Nevada Power Company sued the general contractor of the Reid Gardner Unit 4 Powerplant (Fluor Power Services), the contractor of the cooling tower (Boecon), and the materials supplier (Las Vegas Building Materials), alleging that they failed to ensure an adequate specification for the concrete mix and to properly supervise the placement of concrete and misrepresented the quality of the aggregate.

After Nevada Power Company demolished the three remaining cells of the old tower, the court granted the defendants' motion to dismiss the case on the ground that Nevada Power Company and the Department had disobeyed the court's previous order regarding demolition. The court also awarded attorney fees to the defendants as an additional sanction.

On appeal by Nevada Power and the Department, the Nevada Supreme Court in 1992 reversed the trial court's dismissal and the attorney fees award. The Court remanded the case to the trial court for an evidentiary hearing on whether the trial court's orders were disobeyed, whether any disobedience was willful, and whether the defendants were prejudiced by demolition.

In 1993 the parties participated in a mediation that resulted in settlement. Defendants paid a total of $3.2 million, with the Department receiving just over $2 million, in exchange for dismissal of the suit. The case is now closed.

## *South Delta Water Agency* v. *United States, et al.*

This case was filed July 9, 1982, in Federal District Court for the Eastern District of California by the South Delta Water Agency against the United States, the Department of the Interior, the U.S. Bureau of Reclamation, and the Department.

This case involves the effects of operations by the Central Valley Project, which is operated by USBR, and the State Water Project on the SDWA's service area and the Department of Interior's designation of the New Melones Reservoir service area.

In its suit the South Delta Water Agency asked for declaratory and injunctive relief, which, if granted, would have restricted certain Delta operations. The United States and the South Delta Water Agency settled the agency's motion for preliminary injunction to prevent the United States from signing contracts for New Melones water. The motion was settled by parties agreeing to a stipulation that any contracts entered into by the United States are subject to any superior rights in the southern Delta that are determined in this litigation.

In October 1986 USBR, the Department, and SDWA signed a framework agreement to settle the lawsuit. The parties agreed to work together to develop mutually acceptable, long-

term solutions and to stay all actions in the litigation while negotiating a settlement.

In August 1990 a draft contract for settlement of the lawsuit was completed. The proposed settlement contract includes provisions for constructing, operating, and maintaining temporary (and later permanent) rock barriers in south Delta channels to improve water levels and circulation. In addition, according to the contract, USBR will take interim actions to improve the quality and quantity of water that flows into the south Delta from the San Joaquin River.

The SDWA held an election in September 1991 at which the voters approved the signing of the contract.

The Department has proceeded with designing, constructing, and operating the temporary barrier facilities as part of the 5-year testing program included in the proposed contract. The USBR and the Department will share equally the costs associated with the barrier facilities. According to the contract, those costs are limited to $40 million.

## *United States* v. *Nevada Power Company*

This suit was filed December 1, 1987, in the U.S. District Court, District of Nevada, by the U.S. Environmental Protection Agency against the Nevada Power Company over its operation of Reid Gardner Powerplant's generating station units 3 and 4. The Department was not named as a defendant; however, the Department jointly owns Unit 4 with Nevada Power Company.

In the suit, EPA alleged several violations of the Clean Air Act, including failure to meet particulate matter standards and maintain certain files and failure to report information about required emissions.

The case was settled by a consent decree. Nevada Power Company agreed to meet specified emissions and reporting requirements for 1 year and paid a $400,000 fine. The Department will pay for approximately half the fine.

## *Department of Water Resources* v. *Lake County*

In the suit, *Department of Water Resources* v. *Lake County*, filed in October 1987, the Department challenged the validity of Lake County's electricity generating tax ordinance as it applied to the Department's Bottle Rock Powerplant and sought a refund of the $1.7 million, plus interest, paid to Lake County.

In the suit, the Department charged the tax was, in effect, an ad valorem tax on state property and as such was prohibited by California's constitution. Payment of the tax is a prerequisite to challenging the legality of the ordinance in court.

In 1991 a similar ordinance passed by Sonoma County was held by the District Court of Appeal to be plainly designed to substitute for the property tax that could not be imposed on public entities and therefore to conflict with California's constitution on exempting state property from property taxes. The Department filed a friend-of-the-court brief in that case.

In April 1992 the Department and Lake County entered into a stipulated judgment whereby the county reimbursed the $1.7 million plus interest at the statutory rate of nine percent.

## *Valley View Farms* v. *State of California*

This suit was filed on April 20, 1993, in Kings County Superior Court. The Valley View Farms property borders a portion of the San Luis Canal, a joint-use section of the California Aqueduct. Valley View Farms alleges that the state caused flooding on its property as a consequence of the backup of flood water due to an inadequate drain into the San Luis Canal. The USBR constructed the drain as part of the San Luis Canal. The Department operates and maintains the canal pursuant to the Joint-Use Facilities Operating Agreement with USBR. Valley View Farms is seeking damages for the destruction of trees in its orchard.

# Appendix B

## Data and Computations Used in DeterminingWater Charges for 1994

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# Appendix B

The Department of Water Resources annually furnishes Statements of Charges to the 29 long-term State Water Project water supply contractors. Article 29(e) of the *Standard Provisions for Water Supply Contracts*, approved August 3, 1962, describes those statements.

> *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 annually performs a comprehensive review and redetermination of all water supply and financial aspects of the SWP for the entire project repayment period. This annual redetermination is performed in accordance with Article 22(f) and Article 28 of the water contracts, which concern the Delta Water Rate and annual Transportation Charges, respectively.

Appendix B includes data used to document the redetermination of water charges to be paid by contractors during calendar year 1994. The information is based on established data about SWP, both known and projected, as of June 30, 1993.

The computational procedures and interrelationships between tabulations in this appendix are outlined in Figure 1 and Figure 2. All tables referenced in Figures 1 and 2 are included in this appendix. Tables listed with a "text" designation may be found in this introductory section of the appendix. Tables listed without the text designation may be found in the section entitled "Tables for Determining 1994 Water Charges," which follows this text.

Appendix B also includes information about payments made by contractors according to provisions contained in Article 21, amended, of the standard provisions for surplus water deliveries from SWP.

## Types of Water Charges

Charges to SWP water supply contractors include the costs of facilities for the conservation and development of a water supply and the conveyance of such supply to SWP service areas. These facilities are classified as "Project Conservation Facilities" and "Project Transportation Facilities" in the Standard Provisions for Water Supply Contract. The names of the main facilities in each classification follow.

*Project Conservation Facilities*

- Antelope Dam and Lake
- Oroville Dam and Lake Oroville
- Oroville power facilities
- Delta facilities
- A portion of the Governor Edmund G. Brown California Aqueduct from the Delta to Dos Amigos Pumping Plant

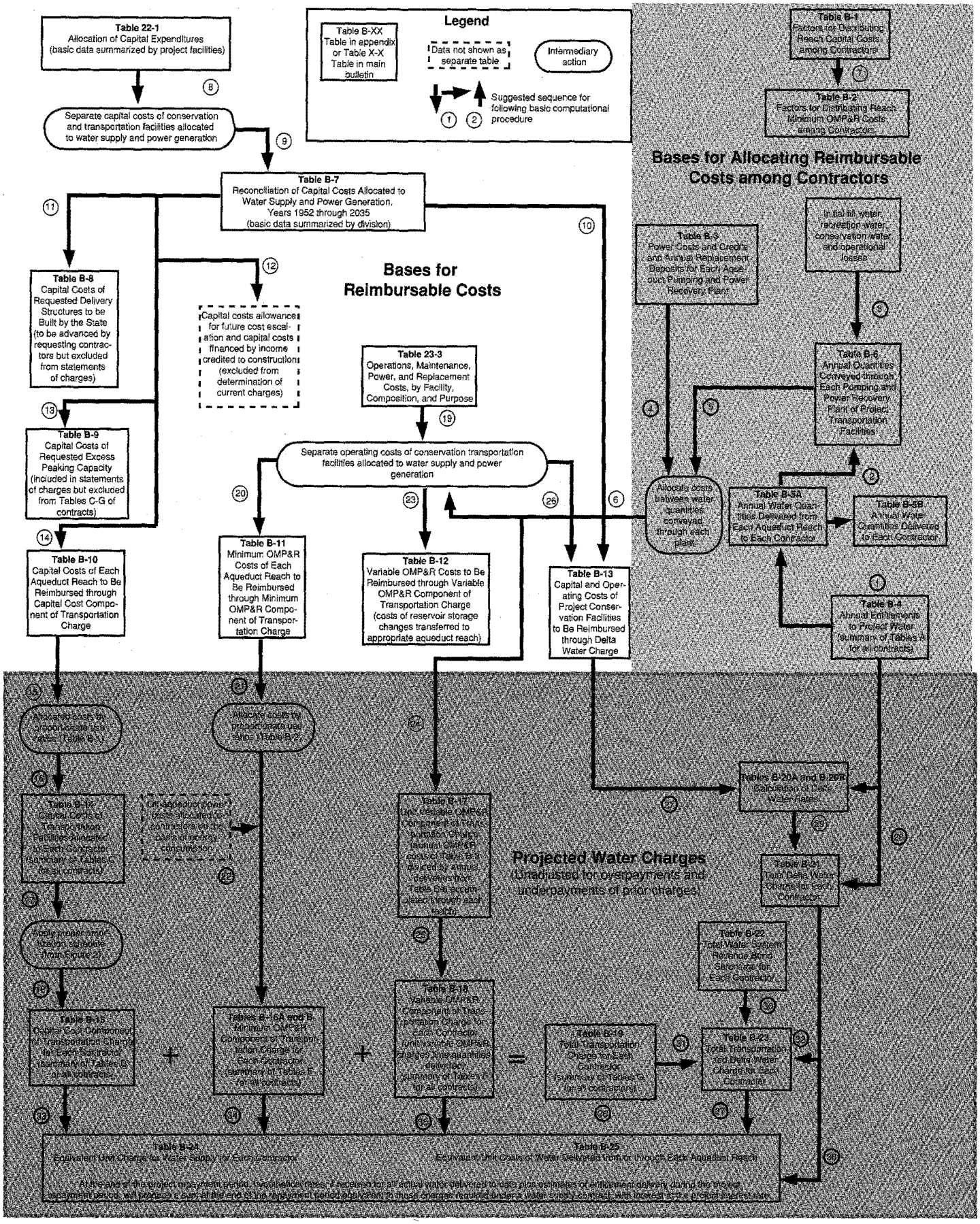



**Fig. 1. Relationships of data used to substantiate Statements of Charges**

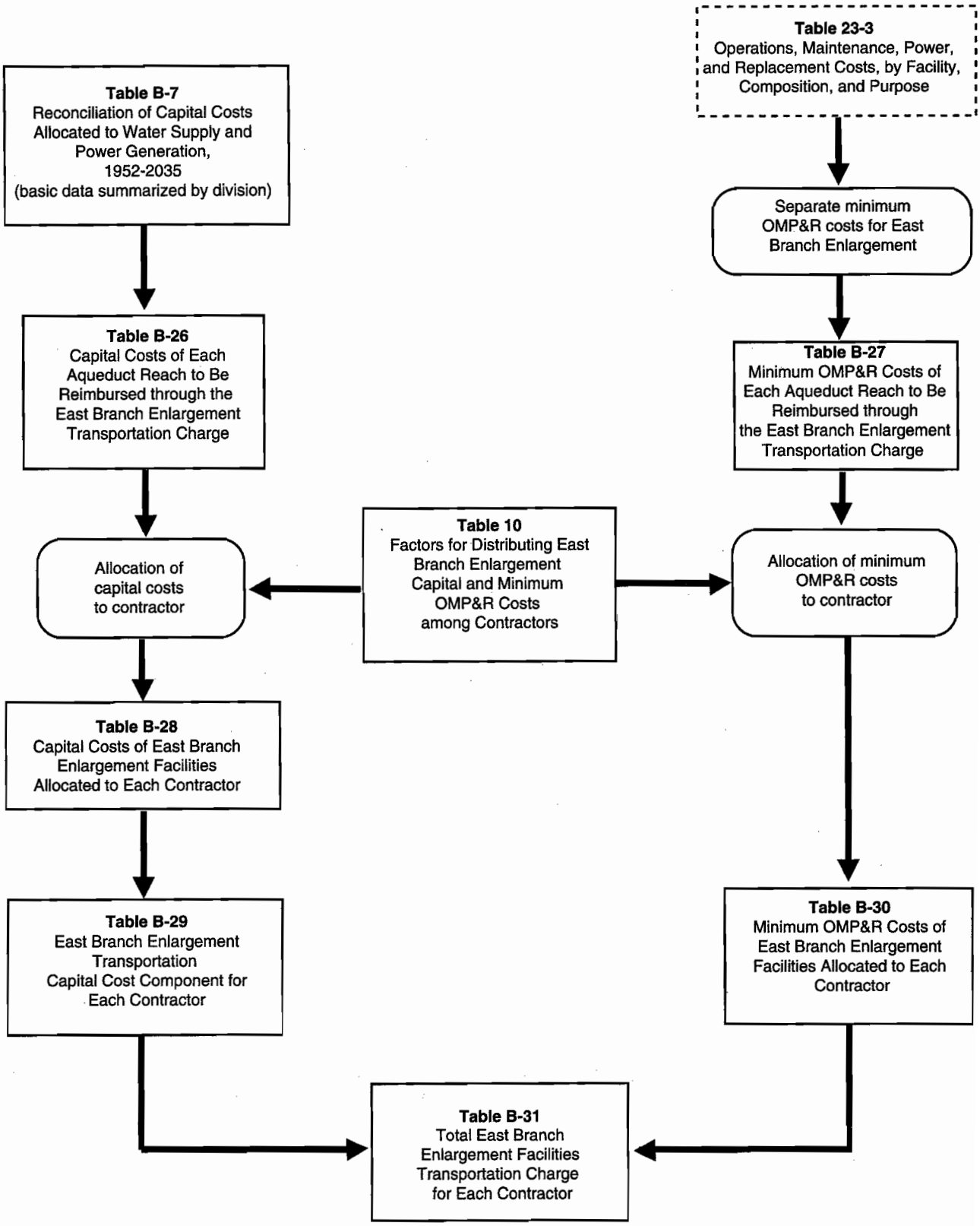



**Fig. 2. Relationships of data used to substantiate East Branch Enlargement charges**

- B. F. Sisk San Luis Dam, San Luis Reservoir, and William R. Gianelli Pumping-Generating Plant

*Project Transportation Facilities*

- Grizzly Valley Pipeline
- North Bay Aqueduct
- South Bay Aqueduct, including Del Valle Dam and Lake Del Valle
- Remainder of the California Aqueduct from the Delta to Dos Amigos Pumping Plant and all facilities south, including dams and lakes in Southern California
- Off-Aqueduct Power Facilities (Reid Gardner Unit No. 4, Bottle Rock Powerplant, and South Geysers Powerplant)

The standard provisions provide for a Delta Water Charge and a Transportation Charge for project water.

*The Delta Water Charge* is a unit charge applied to each acre-foot of SWP water the contractors are entitled to receive according to their contracts. The unit charge, if applied to each acre-foot of all such entitlements for the remainder of the project repayment period, is calculated to result in repayment of all outstanding reimbursable costs of the Project Conservation Facilities, with appropriate interest, by the end of the repayment period (2035).

*The Transportation Charge* is for use of facilities to transport water 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 the Project Transportation Facilities.

Each contractor's allocated share of those reimbursable capital costs is amortized for repayment to the state; and certain variations are allowed in the amortization methods. Essentially, the contractors' shares of reimbursable operating costs are repaid in the year such costs are incurred by the state.

*The East Branch Enlargement Transportation Charge* is paid by the seven Southern California contractors participating in the enlargement. San Bernardino Valley Municipal Water District advanced funds to pay the district's allocated capital costs for the East Branch Enlargement. The remaining six contractors will pay an allocated share of the debt service on revenue bonds sold to finance the enlargement. Each contractor also will pay an allocated share of the minimum operation, maintenance, power and replacement (OMP&R) costs of the East Branch Enlargement.

## Composition and Timing of Water Charges

As shown in Table 1, the Delta Water Charge and the Transportation Charge consist of the following three components:

1. Conservation and transportation capital cost components, which will result in a return to the state of all reimbursable capital costs;
2. Conservation and transportation minimum OMP&R components, which are designed to return to the state all reimbursable operating costs that do not depend on or vary with quantities of water actually delivered to the contractors; and
3. A transportation variable OMP&R component, which will return to the state all reimbursable operating costs that depend on, and vary with, quantities of water actually delivered to the contractors.

The formula for computing the Delta Water Rate, Article 22(f) of the Standard Provisions for Water Supply Contract was designed to ensure that all adjustments for prior overpayments or underpayments of the Delta Water Charge are accounted for in a redetermination of the rate. Since the redeter-

TABLE 1

## Composition of Delta Water Charge and Transportation Charge

**Delta Water Charge**

*Capital Cost Component*

1. Planning, design, right-of-way, and construction costs of conservation facilities
2. Operations and maintenance costs for newly constructed conservation facilities prior to initial operation
3. Activation costs for newly constructed conservation facilities
4. Power costs allocated to initial filling of San Luis Reservoir
5. Capitalized O&M costs (major repair work and so forth) for conservation facilities
6. Program costs (portion) to mitigate impacts on current Delta fishery population due to SWP pumping prior to 1986 (Department of Water Resources – Department of Fish and Game agreement)

*Minimum OMP&R Component*

1. Direct O&M costs of conservation facilities
   a. Headquarters and field divisions (portion)
   b. Insurance and Federal Energy Regulatory Commission costs (portion)
2. General O&M costs allocated to conservation facilities
   a. Contractor Accounting Office (portion)
   b. Financial and contract administration (portion)
   c. Water rights
   d. Power planning for SWP facilities (portion)
3. Replacement deposits for SWP control centers (portion)
4. Credits for a portion of Hyatt-Thermalito power generation
5. Power costs and credits related to pumping water to San Luis Reservoir for project operations (storage changes)
6. Value of power used and generated by William R. Gianelli Pumping-Generating Plant
7. Program costs (portion) to offset annual fish losses resulting from pumping at Harvey O. Banks Delta Pumping Plant (Department of Water Resources – Department of Fish and Game agreement)

**Transportation Charge**

*Capital Cost Component*

1. Planning, design, right-of-way, and construction costs of transportation facilities
2. O&M costs for newly constructed transportation facilities prior to initial operation
3. Activation costs for newly constructed transportation facilities
4. Power costs allocated to initial filling of Southern California reservoirs
5. Capitalized O&M costs (major repair work and so forth) for transportation facilities
6. Program costs (portion) to mitigate impacts on current Delta fishery population due to SWP pumping prior to 1986 (Department of Water Resources – Department of Fish and Game agreement)

*Minimum OMP&R Component*

1. Direct O&M costs of transportation facilities
   a. Headquarters and field divisions (portion)
   b. Insurance and FERC costs (portion)
2. General O&M costs related to transportation facilities
   a. Contractor Accounting Office (portion)
   b. Financial and contract administration (portion)
   c. Power planning for SWP facilities (portion)
3. Power costs and credits related to pumping water to Southern California reservoirs for project operations (storage changes)
4. Power costs for pumping water to replenish losses from transportation facilities
5. Other power costs
   a. Station service at transportation facility power and pumping plants
   b. Transmission service costs related to "backbone" transmission facilities
6. Replacement deposits for SWP control centers (portion)
7. Off-aqueduct power facility costs–bond service, bond cover costs (25 percent of bond service), bond reserves, transmission costs to provide service to "backbone," fuel costs taxes, and O&M–less power sales allocated to off-aqueduct power facilities
8. Program costs (portion) to offset annual fish losses resulting from pumping at Harvey O. Banks Delta Pumping Plant (Department of Water Resources – Department of Fish and Game agreement)

*Variable OMP&R Component*

1. Power purchase costs
   a. Capacity
   b. Energy
   c. Pine Flat bond service, O&M, and transmission costs allocated to aqueduct pumping plants
2. Alamo, Devil Canyon, William E. Warne, and Castaic power generation credited at the power plant reach and charged to aqueduct pumping plants
3. Hyatt-Thermalito and Thermalito Diversion Dam power plant generation charged to aqueduct pumping plants (credits for this generation are reflected in the Delta Water Rate)
4. Replacement deposits for equipment at pumping plants and power plants
5. Credits from sale of excess SWP system power
6. Program costs (portion) to offset annual fish losses resulting from pumping at Harvey O. Banks Delta Pumping Plant (Department of Water Resources – Department of Fish and Game agreement)

Note: Excludes costs recovered under the East Branch Enlargement Transportation Charge

mined rate applies to all future entitlements, such adjustments are amortized during the remainder of the project repayment period. This appendix includes a redetermination of the Delta Water Rate for 1994.

Article 28 of the standard provisions stipulates that transportation charges be redetermined each year. The tables in Appendix B include the numerical data used in this redetermination. Transportation charges for prior years through 1992 included in those tables do not equal the amounts actually paid by contractors.

As provided under the Water System Revenue Bond Amendment to the water supply contracts, differences between actual payments and amounts computed in this redetermination are accumulated with interest and amortized during the remaining years of the contract repayment period. All computations for adjustments are included in the attachments accompanying each contractor's statement of charges and are reflected in revised copies of Table C through Table G of the contract, which are also furnished to each long-term water supply contractor in the annual Statement of Charges.

These redeterminations exclude four charges associated with water service other than the Delta Water Charge and the Transportation Charge. The excluded charges (and the manner in which such excluded charges are treated in this appendix) are:

1. Advances of funds pursuant to Article 24(d) of the standard provisions for excess capacity constructed by the state at the request of contractors;
2. 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 concerning actual and projected capital costs of such delivery structures is included in this appendix. Statements concerning these costs and data are furnished to the appropriate contractors at various times and are not part of the annual statements;
3. Payments for sale and service of surplus water to entities other than contractors, pursuant to Article 21 of the standard provisions, are also excluded. Those payments are generally based on the unit rates shown in Table B-25. Net revenues resulting from noncontractor service are applied as indicated on page 24 of Bulletin 132-71; and
4. Payments under the Devil Canyon-Castaic contract for costs of the Devil Canyon-Castaic facilities allocable to power generation. Charges billed as a result of the contract are billed separately from those billed as a result of the water supply contract. Information about the treatment of such charges in relation to redetermined transportation charges is included in special attachments to the bills of the six participating contractors.

The time and method of payment for corresponding components of the Delta Water Charge and the Transportation Charge are as follows:

1. 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, based on statements furnished by the state about July 1 of the preceding year;
2. The minimum OMP&R components of the Delta Water Charge and the Transportation Charge are paid in 12 equal installments, due the first of each month and based on statements furnished by the state about July 1 of the preceding year; and
3. The variable OMP&R component of the Transportation Charge is paid in varying monthly amounts and is due the fifteenth day of the second month following actual water delivery. The

charges are projected based on a unit charge per acre-foot established about July 1 of the preceding year. Those unit charges may be revised during the year to reflect current power costs and revenues. The unit charges are applied to actual monthly delivery quantities as determined by the state on or before the fifteenth day of the month following actual delivery.

## Bases for Allocating Reimbursable Costs among Contractors

This section describes the procedures for allocating reimbursable costs of Project Transportation Facilities among contractors (see upper right portion of Figure 1). Those costs do not include annual costs of Off-Aqueduct Power Facilities, which are explained in the section "Project Water Charges."

### Capital and Minimum OMP&R Costs

Figure 3 includes information about the repayment reaches that form the basis for allocating reimbursable costs of the Project Transportation Facilities among contractors.

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 development.

Information about the derivation of ratios that represent the proportionate maximum use of each aqueduct reach by the respective contractors was first reported in Bulletin 132-70. The ratios in Bulletin 132-70 were subsequently revised for: (1) the North Bay Aqueduct (2) the South Bay Aqueduct (3) the California Aqueduct from the Delta to the Coastal Branch and (4) the Coastal Branch.

All the revisions reported in previous bulletins regarding the derivation of ratios that represent the proportionate maximum use of each aqueduct reach by the respective contractors are reported in Table B-1 and B-2 of Bulletin 132-91.

*Table B-1* presents the reach ratios currently applicable to reimbursable capital costs.

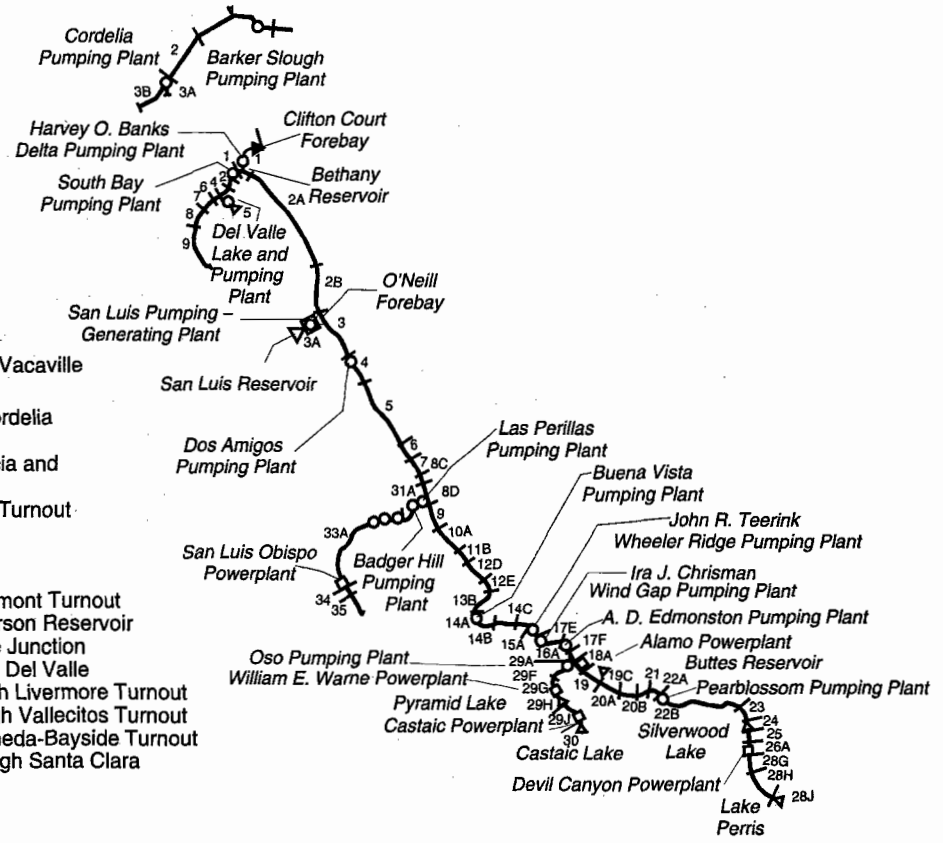
*Table B-2* presents corresponding ratios for reimbursable minimum OMP&R costs. Requested excess capacity is omitted when deriving ratios applicable to capital costs because the capital costs for the excess capacity are paid on an incremental-cost basis and not a proportionate-use basis. However, requested excess capacity is accounted for in the ratios applicable to minimum OMP&R costs.

### Variable OMP&R Costs

Article 26(a) includes provisions to ensure that the variable OMP&R component of the Transportation Charge will result in a return to the state of those costs that depend on and vary with the amount of SWP water deliveries. (The minimum OMP&R component results in a return of those operating costs that do not vary with deliveries.) Under Article 26(a) all such costs for a reach for a given year will be allocated among contractors in proportion to the actual annual use of that reach by the respective contractors.

*Table B-3* summarizes the total variable OMP&R costs for each SWP pumping and power plant. Those variable costs consist of:

- 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); and
- Annual payments to sinking fund reserves to finance periodic replacement of major plant machinery components having economic lives shorter than




**North Bay Aqueduct**

1 Barker Slough through Fairfield/Vacaville Turnout
2 Fairfield/Vacaville Turnout to Cordelia Forebay
3A Cordelia Forebay through Benicia and Vallejo Turnouts
3B Cordelia Forebay through NapaTurnout Reservoir

**South Bay Aqueduct**

1 Bethany Reservoir through Altamont Turnout
2 Altamont Turnout through Patterson Reservoir
4 Patterson Reservoir to Del Valle Junction
5 Del Valle Junction through Lake Del Valle
6 Del Valle Junction through South Livermore Turnout
7 South Livermore Turnout through Vallecitos Turnout
8 Vallecitos Turnout through Alameda-Bayside Turnout
9 Alameda-Bayside Turnout through Santa Clara Terminal Facilities

***California Aqueduct***

**North San Joaquin Division**

1 Delta through 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 through Milham Avenue
8D Milham Avenue through Avenal Gap
9 Avenal Gap through Twisselman Road
10A Twisselman Road through Lost Hills
11B Lost Hills to 7th Standard Road
12D 7th Standard Road through Elk Hills Road
12E Elk Hills Road through Tupman Road
13B Tupman Road to Buena Vista Pumping Plant
14A Buena Vista Pumping Plant through Santiago Creek
14B Santiago Creek through Old River Road
14C Old River Road to John R. Teerink Wheeler Ridge Pumping Plant
15A John R. Teerink Wheeler Ridge Pumping Plant to Ira J. Chrisman Wind Gap Pumping Plant
16A Ira J. Chrisman 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

***California Aqueduct (continued)***

**Mojave Division**

18A Junction, West Branch, California Aqueduct through Alamo Powerplant
19 Alamo Powerplant to Fairmont
19C Buttes Junction through Buttes Reservoir
20A Fairmont through 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 through 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 through Oso Pumping Plant
29F Oso Pumping Plant through Quail Embankment
29G Quail Embankment through William E. Warne Powerplant
29H Pyramid Dam and Lake
29J Pyramid Lake through Castaic Powerplant
30 Castaic Dam and Lake

**Coastal Branch, California Aqueduct**

31A Avenal Gap to Devil's Den Pumping Plant
33A Devil's Den Pumping Plant through San Luis Obispo Powerplant
34 San Luis Obispo Powerplant to Arroyo Grande
35 Arroyo Grande through Santa Maria Terminus

**Fig. 3. Repayment reaches and descriptions**

the project repayment period. Sinking fund payments for years 1962 through 1979 were based on a schedule determined in 1970. Sinking fund payments for years 1980 through 2035 are based on revised replacement schedules. Those schedules were updated in 1986 and 1991. The Department plans to update the replacement deposit schedules periodically.

Table B-3 excludes plant capacity and energy costs associated with surplus and unscheduled water service after May 1, 1973. Prior to that date, surplus water service was charged the same unit variable OMP&R component as entitlement water service. An amendment to the long-term water supply contracts in 1973 significantly changed the rate structure for surplus water service. Capacity and energy costs for pumping surplus and unscheduled water have been allocated directly to those water contractors receiving surplus and unscheduled water service. A contract amendment in 1991 again revised the rate structure to provide for payment of costs through a melded power rate. These revisions to surplus and unscheduled water charges are effective from the date of the amendments and are not applied to past charges.

## Water Conveyance

The water conveyance quantities that form the basis for allocating costs are presented in Tables B-4, B-5A, B-5B, and B-6.

*Table B-4* presents the schedules of annual entitlements as set forth in Table A and Article 6(a) of each water supply contract.

*Table B-5A* shows amounts of actual and projected entitlement water quantities delivered from each aqueduct reach to each contractor. Projected deliveries for years 1994 through 2035 are based on contractors' requests for future water deliveries. The quantities included in Table B-5A also include nonproject water delivered to contractors and surplus water deliveries prior to May 1, 1973.

*Table B-5B* presents a summary of actual and projected annual entitlement water quantities delivered or to be delivered to each contractor. The quantities also include amounts of nonproject water and surplus water delivered prior to May 1, 1973.

*Table B-6* summarizes the annual entitlement water quantities conveyed or to be conveyed through each aqueduct pumping plant or power plant for each of the following functions:

- *Deliveries—Water supply.* Water made available to contractors at down-aqueduct delivery structures, including 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 they would if the deliveries were actually conveyed from the Delta in that year.

  The hypothetical increases in the 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.
- *Initial Fill Water.* Water required for initial filling of down-aqueduct reaches and reservoirs or for repayment of preconsolidation water used during construction.
- *Deliveries—Recreation.* Water delivered to down-aqueduct recreation developments or used for fish and wildlife mitigation or enhancement.

- *Operational Losses.* Water lost through evaporation and seepage from all down-aqueduct reaches.
- *Reservoir Storage Changes.* Water placed in down-aqueduct reservoir storage after initial filling of the reservoirs, including 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. With one exception, "Reservoir Storage Changes" also includes SWP water placed into Southern California ground water storage during the period from 1978 through 1982 (as positive amounts); and water withdrawn from storage and delivered to contractors in 1979, 1982, 1987, 1988, and 1989 (as negative amounts). The exception is Banks Pumping Plant, where ground water additions and withdrawals are included in "Conservation Water."

Table B-6 also summarizes the following two amounts under the heading "Conservation Water" (Column 25):

1. Net annual water amounts stored and projected to be stored in San Luis Reservoir, and
2. Water lost and projected to be lost through evaporation and seepage from San Luis Reservoir and from the water conservation portion of the California Aqueduct.

"Conservation Water" includes initial fill water, operational losses, and net annual storage changes associated with San Luis Reservoir and the portion of the California Aqueduct that is allocated to conservation. The same allocation procedure outlined above for Transportation Facilities also applies to Conservation Facilities, except that the hypothetical cost increases are added to the variable OMP&R cost to be reimbursed through the Transportation Charge and deducted from the minimum OMP&R costs to be reimbursed through the Delta Water Charge.

San Luis Reservoir is operated to conserve water for future delivery to downstream contractors. To account for costs associated with reservoir storage, those power and replacement costs of Banks Pumping Plant (a joint Transportation-Conservation Facility) that 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 of net storage withdrawal from San Luis Reservoir, a portion of the minimum OMP&R cost of the reservoir is transferred to the variable OMP&R cost of Banks Pumping Plant. That transfer is equal to the variable OMP&R cost per acre-foot of delivery through Banks Pumping Plant for that year, multiplied by the acre-feet of deliveries derived from San Luis Reservoir storage for that year. Table B-6 also includes amounts of nonproject water and surplus water delivered prior to May 1, 1973.

## Bases for Reimbursable Costs

This section describes the methods used to derive the costs allocated by the procedures outlined in the preceding section. A diagram of the cost derivation process is shown in the upper-left quadrant of Figure 1.

First, the capital and minimum OMP&R costs of all SWP facilities are allocated among the various project purposes according to the allocation percentages in Table 2. Those percentages may be subject to revision in the future.

The redeterminations in this appendix involve only the costs that are allocated to water supply and power generation.

TABLE 2
## Cost Allocation Factors
(Percentages)

| Project Facilities | Water Supply and Power Generation: Capital Costs | Water Supply and Power Generation: Minimum OMP&R Costs | All Other Purposes (Nonreimbursable): Capital Costs | All Other Purposes (Nonreimbursable): Minimum OMP&R Costs |
|---|---|---|---|---|
| **Project Conservation Facilities** | | | | |
| Frenchman Dam and Lake | 21.5 | 0.0 | 78.5 | 100.0 |
| Antelope Dam and Lake | 0.0 | 0.0 | 100.0 | 100.0 |
| Grizzly Valley Dam and Lake Davis | 1.0 | 1.8 | 99.0 | 98.2 |
| 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 |
| **Transportation Facilities** | | | | |
| Grizzly Valley Pipeline | 100.0 | 100.0 | 0.0 | 0.0 |
| North Bay Aqueduct | 100.0 | 100.0 | 0.0 | 0.0 |
| South Bay Aqueduct: | | | | |
| Del Valle Dam and Lake Del Valle | 25.2 | 22.0 | 74.8 (b | 78.0 (c |
| Remainder of South Bay Aqueduct | 100.0 | 100.0 | 0.0 | 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) | 94.3 | 96.9 | 5.7 | 3.1 |
| Coastal Branch | 100.0 | 100.0 | 0.0 | 0.0 |

a) Percentages indicated are applicable to the remaining costs of the division after excluding costs allocated to flood control that are reimbursed by the federal government (22 percent of capital costs) and excluding specific power costs of Edward Hyatt and Thermalito Powerplants and switchyards.
b) Percentage indicated consists of 48.0 percent of costs allocated to recreation and 26.8 percent to flood control.
c) Percentage indicated consists of 44.9 percent of costs allocated to recreation and 33.1 percent to flood control.

## Capital Costs

Capital costs used in the redeterminations in this appendix reflect prices prevailing on December 31, 1992; future cost escalation will be reflected in subsequent bulletins.

*Table B-7* presents a reconciliation of estimated total capital costs of each Project Conservation Facility and each Project Transportation Facility. This table shows the relationship of Project Conservation and Transportation costs allocated to contractors (Tables B-8, B-9, B-10, and B-13) to the total SWP capital costs projected by the Department.

*Table B-8* shows costs incurred and projected to be incurred by the state in connection with each contractor's turnouts. Costs incurred by the state for both state-constructed and contractor-constructed delivery structures are paid directly by the contractors for which the structures are built. (The state incurs design review and construction inspection costs in connection with contractor-constructed turnouts.)

*Table B-9* lists costs and payments for excess capacity built into SWP Transportation Facilities according to amendments to contracts with the Metropolitan Water District of Southern California, San Gabriel Valley Municipal Water District, and Antelope Valley-East Kern Water Agency as follows:

1. Additional costs incurred by the state for requested excess capacity;
2. Advances by water contractors of funds for such costs; and
3. Credits for advances in excess of costs, which were applied to respective con-

tractors' installments of the capital cost component of the Transportation Charge in 1981.

Under Amendment 2 of MWDSC's contract, 809 cfs of excess capacity originally was constructed in reaches of the West Branch at MWDSC's request. That capacity was reclassified as basic capacity of SWP transportation facilities under Amendment 7. MWDSC paid $16.3 million as a prepayment of the capital cost component of the Transportation Charge in lieu of advancing funds for the original requested capacity.

Amendment 5 to MWDSC's contract requires that additional costs for modifications to the Santa Ana Valley Pipeline (required for enlargement of Lake Perris) will be allocated to MWDSC and returned to the state through payments of the Transportation Charge. The additional costs to be repaid through MWDSC's capital cost component for the aqueduct reach from Devil Canyon Powerplant to Barton Road total about $6.7 million (see Bulletin 132-72, page 98).

*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 contractors' payments of the capital cost component under the Transportation Charge and of debt service under the Devil Canyon-Castaic contracts.

## Annual Operating Costs

Annual operating costs allocable to water supply and power generation are returned to the state through 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 included in the minimum OMP&R component of the Delta Water Charge.

## Transportation and Devil Canyon-Castaic Contract Costs

*Table B-11* shows the amounts of the actual and projected costs to be reimbursed through payments of (1) the minimum OMP&R component of the Transportation Charge, and (2) allocated operating costs under the Devil Canyon-Castaic contract. The table includes the following seven types of operating costs incurred annually which do not vary with water quantities delivered to the contractors:

1. All direct labor charges for field operation and maintenance personnel, including associated indirect costs;
2. A distributed share of general operating costs that cannot be identified solely with one facility or aqueduct reach;
3. Electric power transmission and station service costs allocable to aqueduct pumping and power recovery plants;
4. All costs for equipment, materials, and supplies and for replacement of electronic control systems;
5. Portions of the power and replacement costs of all up-aqueduct pumping and power plants that are allocable to the annual conveyance of water (1) lost to evaporation and seepage from respective aqueduct reaches, or (2) placed into storage in respective reservoirs of the Project Transportation Facilities (after initial fill);
6. Credits, which offset those costs in (5) above, for deliveries drawn from reservoir storage; and
7. Escalation of projected operating costs at zero percent per year for 1993, five percent for 1994, and four percent for 1995.

*Table B-12* shows the portions of variable OMP&R costs in Table B-3 that are allocable

to the water supply delivery quantities included in Table B-6 and reimbursed through payments of the variable OMP&R component of the Transportation Charge.

The following five adjustments are made to the Table B-3 costs to derive the Table B-12 costs:

1. A portion of the variable OMP&R costs of each plant is allocated to recreation. The allocation to recreation is in proportion to the quantity of water conveyed through each plant each year for delivery to on-shore recreational developments.
2. That portion of variable plant costs attributable to the initial fill of aqueduct reaches is allocated to the joint capital costs of respective down-aqueduct reaches and reservoirs.
3. That portion of costs attributable to evaporation and seepage is allocated to the joint minimum OMP&R costs of respective down-aqueduct reaches and reservoirs.
4. Adjustments are made for additions or withdrawals from storage in aqueduct reservoirs. In years when water is added to storage in aqueduct reservoirs, the cost of conveying this water into storage is charged to the minimum OMP&R costs of the corresponding reservoir. The unit cost is equal to the variable OMP&R unit rate for the year the water is conveyed into storage. In years when storage in aqueduct reservoirs is decreased for the purpose of making deliveries, a credit is applied to the minimum OMP&R costs of the reservoir from which the storage is released. This credit is equal to the number of acre-feet of storage reduction times the variable OMP&R unit rate for the year storage is released.
5. That portion of costs attributable to pumping water to replace evaporation and seepage losses and for additions or withdrawals from storage in San Luis Reservoir is charged to the minimum OMP&R component of the Delta Water Rate.

The remaining costs are allocated to Transportation water supply and repaid by the contractors.

### Conservation Capital and Operating Costs

*Table B-13* is a summary of actual and projected capital and operating costs of the initial Project Conservation Facilities. These costs are reimbursed through payments by contractors under (1) the Delta Water Charge; (2) Oroville power sales; and (3) Gianelli Generating Plant credits. Table B-13 also shows credits applied to the reimbursable capital costs of the Project Conservation Facilities according to negotiated settlements concerning incurred planning costs for the period from 1952 through 1978.

## Project Water Charges

This section describes the redetermination of past and projected components of the Transportation Charge for annual revision of Tables C through G of each water supply contract. This section also describes the derivation of the unit Delta Water Rates and the Water System Revenue Bond Surcharge.

A summary of equivalent unit charges for each acre-foot of entitlement water service is also included for each contractor and each aqueduct reach. A diagram of all calculations may be found in the lower half of Figure 1.

### Transportation Charges

The accumulation of allocated costs of each aqueduct reach to each contractor is the basis for the Transportation Charge components.

*Table B-14* summarizes each contractor's share of the capital costs of aqueduct reaches

TABLE 3

## Criteria for Amortizing Capital Costs of Transportation Facilities

| *Contractor* | *Year of Initial Payment (a* |
|---|---|
| Alameda County Flood Control and Water Conservation District, Zone 7 | 1963(b |
| Alameda County Water District | 1963 |
| Antelope Valley-East Kern Water Agency | 1963 |
| Castaic Lake Water Agency | 1964 |
| City of Yuba City | (c |
| Coachella Valley Water District | 1964 |
| County of Butte | (c |
| County of Kings | 1968 |
| Crestline-Lake Arrowhead Water Agency | 1964 |
| Desert Water Agency | 1963(d |
| Dudley Ridge Water District | 1968(e |
| Empire West Side Irrigation District | 1968(e |
| Kern County Water Agency | |
| Agricultural Use | 1968 (e |
| Municipal and Industrial Use | 1965 |
| Littlerock Creek Irrigation District | 1964 |
| Mojave Water Agency | 1964 |
| Napa County Flood Control and Water Conservation District | 1966 |
| Oak Flat Water District | 1968 (e |
| Palmdale Water District | 1964 |
| Plumas County Flood Control and Water Conservation District | 1970 |
| San Bernardino Valley Municipal Water District | 1963 |
| San Gabriel Valley Municipal Water District | 1963 (d |
| San Gorgonio Pass Water Agency | 1963 (d |
| San Luis Obispo County Flood Control and Water Conservation District | 1964(f |
| Santa Barbara County Flood Control and Water Conservation District | 1964 (f |
| Santa Clara Valley Water District | 1963 |
| Solano County Water Agency | 1973 |
| The Metropolitan Water District of Southern California | 1963 |
| Tulare Lake Basin Water Storage District | 1968(e |
| Ventura County Flood Control District | 1964 |

a) Allocated capital costs of Transportation Facilities amortized in equal annual installments unless otherwise noted.
b) Principal payments on each annual capital cost prior to 1971 delayed until calendar year 1972, except payments for 1963.
c) Payments for Delta Water Charge only.
d) Payment deferred for 1963 and added to 1964 payment with accrued interest.
e) Under Article 45 of the contracts for supply of agricultural water, capital costs of Transportation Facilities allocated to agricultural water supply are amortized by using an equivalent unit rate per acre-foot applied to the annual entitlements (Table B-4) through the project repayment period.
f) All principal and interest payments for costs of Coastal Stub deferred until 1976.

presented in Table B-10. Those amounts are determined by applying proportionate-use ratios set forth in Table B-1 to the costs 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 Metropolitan Water District of Southern California's Amendment 7, are included as negative capital costs in Table B-14 and Table C of MWDSC's Statement of Charges for 1994. Solano County Water Agency, Empire West Side Irrigation District, and Castaic Lake Water Agency also prepaid capital costs (see Table B-14 footnotes).

Both Table B-14 and Table C of the six contracts for project water service below Devil Canyon Powerplant and Castaic Powerplant include the capital costs reimbursable under the Devil Canyon-Castaic contract.

*Table B-15* summarizes the capital cost components of the Transportation Charge for each contractor for each year of the project repayment period, based on the amortization schedules included in Table 3 and determined at the current Project Interest Rate of 4.620 percent per annum.

Those estimated components, subsequently adjusted for prior overpayments or underpayments, are included in Table D of the water supply contracts. Costs of excess capacity are billed separately and are not included in Table B-15. Table B-15 includes the debt service payments due from the six contractors down-aqueduct from Devil Canyon Powerplant and Castaic Powerplant according to terms of the Devil Canyon-Castaic contract.

*Table B-16A* summarizes the minimum OMP&R components of the Transportation Charge for each year of the project repayment

period. Those estimated components, subsequently adjusted for prior overpayments or underpayments, are included in Table E of the respective contracts.

The total amounts included in Table B-16A are determined by applying the proportionate-use ratios in Table B-2 to the reach costs in Table B-11. Table B-16A excludes charges for Off-Aqueduct Power Facilities, which are included separately in Table B-16B. Both Table B-16A and Table E for the six contractors down-aqueduct from Devil Canyon Powerplant and Castaic Powerplant include the portion of operating costs payable under the Devil Canyon-Castaic contract.

As part of operating agreements with the Department, Kern County Water Agency is billed for any additional operating costs caused by early installation of units in Las Perillas and Badger Hill Pumping Plants by Berrenda Mesa Water Storage District (see Bulletin 132-71, page 7). Under those agreements, minimum OMP&R costs of Reach 31A are assigned directly to KCWA, with the remaining reach costs allocated by application of the proportionate-use ratios (see Table 4).

*Table B16-B* summarizes the annual charges for Off-Aqueduct Power Facilities allocated to each water contractor, adjusted for prior overpayments or underpayments of charges. Those charges are to repay all Off-Aqueduct Power costs, including bond service, deposits for reserves, operation and maintenance costs, fuel costs, taxes, and insurance.

The General Bond Resolution, adopted October 1, 1979, requires that sufficient revenues be collected each year to repay all of those costs. In addition, an amount totaling 25 percent of the annual bond service is collected each year to ensure that sufficient funds are available to cover all annual costs. Any revenues collected and not needed during the

TABLE 4

**Minimum OMP&R Costs of Reach 31A Charged to Kern County Water Agency 1969 through 1996**

| *Year* | *Direct Charge* | *Year* | *Direct Charge* |
|---|---|---|---|
| 1969 | $46,510 | 1983 | $89,891 |
| 1970 | 46,302 | 1984 | 106,720 |
| 1971 | 140,072 | 1985 | 158,854 |
| 1972 | 95,016 | 1986 | 136,616 |
| 1973 | 72,452 | 1987 | 125,673 |
| 1974 | 100,688 | 1988 | 130,900 |
| 1975 | 127,456 | 1989 | 128,594 |
| 1976 | 138,501 | 1990 | 136,444 |
| 1977 | 120,749 | 1991 | 158,792 |
| 1978 | 157,638 | 1992 | 185,664 |
| 1979 | 121,207 | 1993 | 324,303 |
| 1980 | 150,715 | 1994 | 312,071 |
| 1981 | 74,759 | 1995 | 300,172 |
| 1982 | 82,694 | 1996 | 276,958 |
| **Total** | | | **$4,046,411** |

TABLE 5

**Off-Aqueduct Power Facility Charges and Credits Related to Deliveries of Purchased Water for 1992**

| *Facility* | *Amount* |
|---|---|
| *Charges* | |
| Reid Gardner Powerplant | $92,004,355 |
| Bottle Rock Powerplant | 16,769,417 |
| South Geysers Powerplant | 7,586,525 |
| Subtotal | 116,360,297 |
| *Credits* | |
| Off-aqueduct power sales | 6,173,731 |
| Excise tax refund | 2,437,394 |
| Transmission cost refund | 1,540,558 |
| Miscellaneous water | |
| Napa County Flood Control and Water Conservation District | 22,048 |
| Solano County Water Agency | 28,647 |
| Dudley Ridge Water District | 14,383 |
| Kern County Water Agency | (34,452) |
| Tulare Lake Basin Water Storage District | 330,631 |
| Metropolitan Water District of Southern California | 1,016,714 |
| Westlands Water District | 329,047 |
| City and County of San Francisco | 1,041,493 |
| Department of Fish and Game | 33,850 |
| **Total** | **$103,426,253** |

TABLE 6

## Amounts of Projected Charges for Off-Aqueduct Power Facilities

| Year | Total Annual Cost | 25 Percent Bond Service |
|---|---|---|
| 1993 | $124,439,568 | $13,101,205 |
| 1994 | 128,988,478 | 13,267,196 |
| 1995 | 128,947,733 | 13,276,047 |
| 1996 | 135,901,729 | 13,285,046 |
| 1997 | 134,966,121 | 13,297,924 |
| 1998 | 132,031,463 | 13,294,943 |
| 1999 | 126,110,707 | 13,310,936 |
| 2000 | 114,420,652 | 13,248,260 |
| 2001 | 113,018,130 | 13,242,691 |
| 2002 | 107,739,475 | 13,239,694 |
| 2003 | 102,556,196 | 13,256,773 |
| 2004 | 96,178,111 | 13,254,491 |
| 2005 | 86,535,232 | 13,020,850 |
| 2006 | 84,425,977 | 13,031,332 |
| 2007 | 79,043,354 | 13,029,342 |
| 2008 | 72,760,838 | 13,027,174 |
| 2009 | 67,346,328 | 13,017,807 |
| 2010 | 59,655,038 | 13,017,683 |
| 2011 | 56,717,950 | 13,020,400 |
| 2012 | 50,743,778 | 13,080,101 |
| 2013 | 13,990,981 | 4,426,888 |
| 2014 | 23,261,390 | 4,443,478 |
| 2015 | 9,926,390 | 1,776,478 |
| 2016 | 4,890,015 | 978,003 |
| 2017 | 2,217,265 | 443,453 |
| 2018 | 2,216,515 | 443,303 |
| 2019 | 2,223,765 | 444,753 |
| 2020 | 2,232,015 | 446,403 |
| 2021 | 2,228,390 | 445,678 |
| 2022 | 2,233,796 | 446,759 |
| 2023 | 2,240,297 | 448,060 |
| 2024 | 4,630,122 | 926,025 |

TABLE 7

## Energy Required to Pump Entitlement Water

| Pumping Plant | kWh per Acre-Foot(a At Plant | Cumulative from Delta |
|---|---|---|
| Barker Slough | 223 | 223 |
| Cordelia-Benicia | 434 | 657 |
| Cordelia-Vallejo | 178 | 401 |
| Cordelia-Napa | 563 | 786 |
| Harvey O. Banks Delta | 296 | 296 |
| South Bay (including Del Valle) | 869 | 1,165 |
| Dos Amigos | 138 | 434 |
| Las Perillas | 77 | 511 |
| Badger Hill | 200 | 711 |
| Buena Vista | 242 | 676 |
| John R. Teerink Wheeler Ridge | 295 | 971 |
| Ira J. Chrisman Wind Gap | 639 | 1,610 |
| A. D. Edmonston | 2,236 | 3,846 |
| Pearblossom | 703 | 4,549 |
| Oso | 280 | 4,126 |

a) Includes transmission losses.

year are refunded to the contractors in the next year.

Table 5 is a summary of Off-Aqueduct Power Facility charges and credits related to deliveries for 1992.

Table 6 shows project charges for Off-Aqueduct Power Facilities and an amount equal to 25 percent of annual bond service for 1993 and each year thereafter.

The annual charges for Off-Aqueduct Power Facilities are allocated among contractors in proportion to the electrical energy required to pump entitlement water for the year. The initial allocation for the Statements of Charges is based on estimates of energy to pump requested entitlement water deliveries.

An interim adjustment in the allocation of Off-Aqueduct Power costs may be made in May of each year based on updated cost estimates and April revisions in water delivery schedules for annual entitlement. An additional adjustment is made the following year based on actual entitlement water deliveries and actual costs for the year.

The energy required to pump each contractor's entitlement water is calculated using the kilowatt-hour per acre-foot factors for the pumping plants upstream from the delivery turnouts. The factors are listed in Table 7. The amounts include transmission losses.

*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. Those data are derived according to the following procedure specified in Article 26(a) of the Standard Provisions 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 the projected variable OMP&R costs to be incurred for each reach will be returned to the state.

The total annual variable OMP&R component for any contractor for a given reach is obtained by multiplying the unit charge associated with that reach by the quantity of water actually delivered from or through the reach to the contractor.

The data summarized in Table B-17 are derived by dividing the costs shown in Table B-3 by the quantities of water 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 Bulletin 132-71, page 21, and Water Service Contractors Council Memo No. 593, July 10, 1970). Those costs are excluded from the unit charges shown in Table B-17. Peaking charges based on additional capacity ceased in 1983. Since 1984, costs are based on market energy rates. The amounts of extra peaking charges for additional power costs are listed in Tables 8 and 9.

The unit rates shown in Table B-17 constitute the rates for the pumping plants and power plants listed. The cumulative rates constitute the total rates, cumulative from the Sacramento-San Joaquin Delta, and are applicable to deliveries from or downstream of the pumping plants and power plants. Extra peaking service costs are excluded.

*Table B-18* shows the variable OMP&R components of the Transportation Charge for each contractor for each year of the project repayment period. Table B-18 is developed from the costs per acre-foot included in Table B-17 and the delivery quantities for each contractor from each reach as indicated in Table B-5A, plus any costs for extra peaking service. Those estimated components, subsequently adjusted for prior overpayments or underpayments, are included in Table F of the respective water supply contracts.

*Table B-19* summarizes the annual Transportation Charges for each contractor (the sums of the corresponding amounts included in Tables B-15, B-16A, B-16B, and B-18). Those 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 the six contractors down-aqueduct from Devil Canyon Powerplant and Castaic Powerplant include amounts of debt service and operating cost payments due according to provisions of the Devil Canyon-Castaic contract.

## Delta Water Charges

*Table B-20A* presents the calculation of the Delta Water Rate for the initial Conservation Facilities applicable in 1994 according to the amended Articles 22(e) and 22(g) of all 29 contracts. The Delta Water Rate was calculated at a Project Interest Rate of 4.620 percent based on Conservation Facility costs shown in Table B-13. That Delta Water Rate is used to compute future Delta Water Charges shown in Table B-21.

*Table B-20B* shows each component of the 1994 Delta Water Rate from Table B-20A.

*Table B-21* summarizes the annual Delta Water Charge for each contractor. The projected charges in Table B-21 are developed by multiplying the total rate per acre-foot, as shown in Table B-20A, by the amount of entitlement water for each contractor as shown in Table B-4.

## Water System Revenue Bond Surcharge

*Table B-22* summarizes the Water System Revenue Bond Surcharge to the Delta Water Charge and the Transportation capital cost component of each contractor. The surcharge shown in Table B-22 includes the financing costs of WSRB Series B through L. This surcharge is levied according to an amendment to the water supply contracts for repaying Water System Revenue Bond financing costs. All long-term water supply contractors have signed that amendment.

TABLE 8

## Extra Peaking Charges for Additional Power Capacity, by Pumping Plant

(Dollars)

| Year | Cordelia | South Bay | Harvey O. Banks Delta | Dos Amigos | Las Perillas and Badger Hill | Buena Vista | John R. Teerink Wheeler Ridge | Ira J. Chrisman | A.D. Edmonston | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| 1972 | 0 | 0 | 0 | 10,589 | 24,700 | 0 | 0 | 0 | 0 | 35,289 |
| 1973 | 0 | 0 | 0 | 0 | 6,016 | 0 | 0 | 0 | 0 | 6,016 |
| 1974 | 0 | 0 | 0 | 0 | 7,140 | 0 | 0 | 0 | 0 | 7,140 |
| 1975 | 0 | 0 | 0 | 494 | 6,397 | 0 | 0 | 0 | 0 | 6,891 |
| 1976 | 0 | 0 | 0 | 0 | 1,981 | 0 | 0 | 0 | 0 | 1,981 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 45,145 | 3,680 | 0 | 0 | 0 | 0 | 48,825 |
| 1979 | 0 | 0 | 0 | 0 | 3,306 | 0 | 0 | 0 | 0 | 3,306 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 12,123 | 0 | 0 | 0 | 0 | 0 | 12,123 |
| 1982 | 0 | 0 | 0 | 89,339 | 0 | 0 | 0 | 0 | 0 | 89,339 |
| 1983 | 0 | 48 | 0 | 10,804 | 369 | 0 | 0 | 0 | 0 | 11,221 |
| 1984 | 0 | 2,874 | 809 | 90,091 | 18,490 | 22,450 | 7,123 | 9,052 | 0 | 150,889 |
| 1985 | 0 | 2,029 | 98 | 18,563 | 1,957 | 2,424 | 958 | 2,082 | 48,767 | 76,878 |
| 1986 | 0 | 0 | 13 | 2,219 | 0 | 0 | 0 | 0 | 4,613 | 6,845 |
| 1987 | 0 | 831 | 95 | 19,220 | 2,980 | 2,272 | 689 | 754 | 19,019 | 45,860 |
| 1988 | 990 | 1,223 | 72 | 49,843 | 4,784 | 6,172 | 1,797 | 2,193 | 44,523 | 111,597 |
| 1984 | 4,940 | 96 | 239 | 49,502 | 4,967 | 5,983 | 1,914 | 2,448 | 6,525 | 76,614 |
| 1990 | 64 | 445 | 0 | 26,701 | 0 | 85 | 0 | 305 | 1,048 | 28,648 |
| Total | 5,994 | 7,546 | 1,326 | 424,633 | 86,767 | 39,386 | 12,481 | 16,834 | 124,495 | 719,462 |

TABLE 9

## Extra Peaking Charges for Additional Power Capacity, by Contractor

(Dollars)

| Year | Napa County FC &WCD | Solano County Water Agency | Alameda FC &WCD, Zone 7 | Alameda County Water Agency | Santa Clara Valley 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 | Antelope Valley East Kern Water Agency | Castaic Lake Water Agency | Littlerock Creek Irrigation District | Palmdale Water District | San Gabriel Valley Municipal Water District | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 35,279 | 0 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 35,289 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,016 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,016 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,140 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,891 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,891 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,981 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 2,035 | 0 | 44,484 | 42 | 0 | 0 | 2,264 | 0 | 0 | 0 | 0 | 48,825 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,821 | 0 | 0 | 0 | 0 | 485 | 0 | 0 | 0 | 3,306 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,948 | 0 | 0 | 0 | 0 | 0 | 175 | 0 | 0 | 12,123 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 2,173 | 0 | 80,945 | 0 | 0 | 0 | 4,671 | 1,128 | 0 | 0 | 422 | 89,339 |
| 1983 | 0 | 0 | 0 | 0 | 48 | 9,448 | 0 | 0 | 1,356 | 0 | 0 | 0 | 369 | 0 | 0 | 0 | 11,221 |
| 1984 | 0 | 0 | 0 | 0 | 2,874 | 0 | 0 | 144,019 | 281 | 809 | 0 | 0 | 2,906 | 0 | 0 | 0 | 150,889 |
| 1985 | 0 | 0 | 0 | 2,029 | 0 | 0 | 64 | 25,664 | 0 | 98 | 0 | 48,767 | 256 | 0 | 0 | 0 | 76,878 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 2,219 | 4,613 | 0 | 0 | 0 | 0 | 6,845 |
| 1987 | 0 | 0 | 230 | 0 | 601 | 313 | 84 | 24,135 | 0 | 95 | 0 | 18,206 | 1,383 | 813 | 0 | 0 | 45,860 |
| 1988 | 891 | 99 | 662 | 561 | 0 | 1,853 | 1,404 | 58,538 | 0 | 72 | 2,368 | 44,523 | 626 | 0 | 0 | 0 | 111,597 |
| 1989 | 3,477 | 1,463 | 96 | 0 | 0 | 14 | 403 | 55,074 | 0 | 239 | 8,280 | 0 | 1,043 | 1,035 | 5,490 | 0 | 76,614 |
| 1990 | 64 | 0 | 445 | 0 | 0 | 0 | 0 | 27,091 | 0 | 0 | 0 | 0 | 0 | 77 | 971 | 0 | 28,648 |
| Total | 4,432 | 1,562 | 1,433 | 2,590 | 3,523 | 15,836 | 1,955 | 532,026 | 1,679 | 1,326 | 12,877 | 123,044 | 8,196 | 2,100 | 6,461 | 422 | 719,462 |

Note: FC & WCD = Flood control and water conservation district

## Total Water Charges

*Table B-23* summarizes the total annual charges to each contractor (the sum of the Transportation Charge in Table B-19, the Delta Water Charge in Table B-21, and the Water System Revenue Bond Surcharge in Table B-22). The charges do not reflect past payments by contractors and are unadjusted for prior overpayments or underpayments. The total Transportation Charge and Delta Water Charge for each contractor is listed in Tables B-19 and B-21, respectively.

## Equivalent Total Water Charges

*Table B-24* presents the Transportation Charge and Delta Water Charge in terms of the equivalent unit charge for each acre-foot of entitlement water now projected for delivery to the respective contractors.

These equivalent charges would provide the same principal sum at the end of the project's repayment period as annual payments to be made as part of the Delta Water Charge and Transportation Charge, plus interest at the Project Interest Rate, if applied to each acre-foot of entitlement water delivered to date; all surplus water delivered prior to May 1, 1973; and all entitlement water now projected to be delivered during the remainder of the project repayment period (Table B-5B).

The equivalent unit Delta Water Charges included in Table B-24 are greater than those in Table B-20A because current projections of entitlement water service are less for most contractors than the amounts shown in Table A.

## Equivalent Water Costs by Reach

*Table B-25* presents a summary of the equivalent unit Transportation cost of conveying entitlement water through respective aqueduct reaches of the project Transportation Facilities.

Those unit costs provide the basis of charges assessed (1) for extra service (such as for delivery of entitlements down-aqueduct from a contractor's turnout); and (2) for wheeling service to entities other than the long-term water supply contractors. An explanation of wheeling services in the California Aqueduct may be found at the end of this appendix.

The cumulative unit conveyance costs indicated for reaches in Table B-25 do not necessarily equal the equivalent unit Transportation Charges to contractors served from such reaches. The unit charges in Table B-24 account for the rate of water demand buildup and cost allocation factors of the individual contractors; however the unit costs included in Table B-25 reflect the effect of melding the respective buildups and allocation criteria of all contractors whose entitlements are conveyed through a given reach. Table B-25 also includes surplus water prior to May 1, 1973.

## East Branch Enlargement Facility Charges

*Table B-26* reflects the Department's projection of annual capital costs of the East Branch Enlargement facilities for each aqueduct reach. Those projections will be redetermined in future bulletins to include:

1. A reallocation of costs of constructing the present East Branch facilities between Alamo Powerplant and Silverwood Lake;
2. A reallocation of costs of Silverwood Lake to reflect additional use as a result of East Branch Enlargement operation;
3. Reallocation of costs of San Bernardino Tunnel to reflect redistribution of flow capacities necessary for the East Branch Enlargement facilities; and
4. Actual construction costs of the enlargement.

These costs will be recovered with interest from the seven Southern California water contractors participating in the enlargement, according to their amended water supply contracts (see Table 10).

*Table B-27* lists the projected minimum OMP&R costs for each reach of the enlargement to be repaid by the seven contractors participating in the East Branch Enlargement.

Currently, this table includes only the amounts of estimated incremental minimum OMP&R costs attributable to the East Branch Enlargement. According to Article 49 (e)(1), the contractors participating in the East Branch Enlargement will also share in the remaining minimum OMP&R costs of the affected reaches according to a formula to be developed by the Department in consultation with the affected contractors. Once the formula is developed, subsequent versions of this table will reflect the transfer of a share of the minimum OMP&R costs now included in Table B-11.

*Table B-28* shows each participating contractor's share of the estimated capital costs of the East Branch Enlargement.

*Table B-29* shows the amounts of the annual capital cost components of the East Branch Enlargement Transportation Charge for each participating contractor. This component consists of each contractor's allocated share of debt service on bonds sold to finance the enlargement.

*Table B-30* shows the minimum OMP&R components of the East Branch Enlargement Transportation Charge for each participating contractor for each year of the project repayment period.

*Table B-31* shows the annual East Branch Enlargement Transportation charges for each participating contractor (the sums of the corresponding amounts included in Table B-29 and B-30).

## Surplus and Other Water Services

*Table B-32* shows the quantities of surplus and unscheduled water delivered to long-term contractors from May 1, 1973, through December 31, 1992. Surplus and unscheduled water has been delivered from 1968 through 1992, except during the drought years of 1977, 1988, and 1989.

*Table B-33* shows the costs for power that have been incurred by the state at each pumping plant associated with surplus and unscheduled water deliveries included in Table B-32.

*Table B-34* shows the actual charges to each contractor for delivery of the surplus and unscheduled water quantities included in Table B-32. The method of determining those charges is described in Bulletin 132-77, page 117.

### Wheeling Services in the California Aqueduct

When SWP has additional capability to move nonproject water through the California Aqueduct, services can include pumping, transporting (wheeling), and, if needed temporarily, storing in San Luis Reservoir for delivery at a later time. For example, through separate annual agreements, SWP has provided wheeling to temporary federal water contractors, with the federal Central Valley Project providing the water and electrical power required for making these deliveries. Nine San Joaquin Valley districts signed 20-year agreements during 1975 and 1976. Those agreements provide for wheeling federal CVP water through SWP facilities to the Cross Valley Canal in Kern County. Additional agreements provide for temporary storage, generally in cases when water cannot be wheeled directly to the user on a demand basis.

TABLE 10

# Determination of Factors for Distributing Capital and Minimum OMP&R Costs of East Branch Enlargement Facilities among Participating Contractors

| *Reach Number* | *Description* |
|---|---|
| 18A | Junction, West Branch, California Aqueduct, through Alamo Powerplant |
| 19 | Alamo Powerplant to Fairmont |
| 20A | Fairmont through 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 |
| 23B | West Fork Mojave River to Silverwood Lake (excluding Mojave Siphon Powerplant facilities) |
| 23C | Mojave Siphon Powerplant facilities |
| 24 | Cedar Springs Dam and Silverwood Lake |
| 25 | Silverwood Lake to South Portal, San Bernardino Tunnel |
| 26A | South Portal, San Bernardino Tunnel through Devil Canyon Powerplant |
| 26B | Devil Canyon Powerplant Bypass |

***Share of Enlargement Capacity (cfs)***

| *Reach Number* | *Antelope Valley-East Kern Water Agency* | *Coachella Valley Water District* | *Desert Water Agency* | *Mojave Water Agency* | *Palmdale Water District* | *San Bernardino Valley Municipal Water District* | *Metropolitan Water District of Southern California* | *Total* |
|---|---|---|---|---|---|---|---|---|
| 18A | | 151 | 13 | 136 | 6 | | 1,200 | 1,506 |
| 19 | | 151 | 13 | 136 | 6 | | 1,200 | 1,506 |
| 20A | 35 | 151 | 13 | 136 | 6 | | 1,200 | 1,541 |
| 20B | 35 | 151 | 13 | 136 | 6 | | 1,200 | 1,541 |
| 21 | 35 | 151 | 13 | 136 | | | 1,200 | 1,535 |
| 22A | 35 | 151 | 13 | 136 | | | 1,200 | 1,535 |
| 22B | | 151 | 13 | 136 | | | 1,200 | 1,500 |
| 23B | | 184 | 67 | 212 | | | 1,200 | 1,663 |
| 23C | | 184 | 67 | | | | 1,200 | 1,451 |
| 24 | | 190 | 78 | | | | 1,200 | 1,468 |
| 25 | | 193 | 83 | | | 63 | 1,200 | 1,539 |
| 26A | | 193 | 83 | | | 63 | 1,200 | 1,539 |
| 26B | | | | | | | 300 | 300 |

***Factors for Distributing Capital and Minimum OMP&R Costs of East Branch Enlargement Facilities (flow ratios)***

| *Reach Number* | *Antelope Valley-East Kern Water Agency* | *Coachella Valley Water District* | *Desert Water Agency* | *Mojave Water Agency* | *Palmdale Water District* | *San Bernardino Valley Municipal Water District* | *Metropolitan Water District of Southern California* | *Total* |
|---|---|---|---|---|---|---|---|---|
| 18A | 0.00000000 | 0.10026560 | 0.00863214 | 0.09030544 | 0.00398406 | 0.00000000 | 0.79681276 | 1.00000000 |
| 19 | 0.00000000 | 0.10026560 | 0.00863214 | 0.09030544 | 0.00398406 | 0.00000000 | 0.79681276 | 1.00000000 |
| 20A | 0.02271252 | 0.09798832 | 0.00843608 | 0.08825438 | 0.00389358 | 0.00000000 | 0.77871512 | 1.00000000 |
| 20B | 0.02271252 | 0.09798832 | 0.00843608 | 0.08825438 | 0.00389358 | 0.00000000 | 0.77871512 | 1.00000000 |
| 21 | 0.02280130 | 0.09837134 | 0.00846906 | 0.08859935 | 0.00000000 | 0.00000000 | 0.78175895 | 1.00000000 |
| 22A | 0.02280130 | 0.09837134 | 0.00846906 | 0.08859935 | 0.00000000 | 0.00000000 | 0.78175895 | 1.00000000 |
| 22B | 0.00000000 | 0.10066667 | 0.00866667 | 0.09066667 | 0.00000000 | 0.00000000 | 0.79999999 | 1.00000000 |
| 23B | 0.00000000 | 0.11064342 | 0.04028863 | 0.12748046 | 0.00000000 | 0.00000000 | 0.72158749 | 1.00000000 |
| 23C | 0.00000000 | 0.12680910 | 0.04617505 | 0.00000000 | 0.00000000 | 0.00000000 | 0.82701585 | 1.00000000 |
| 24 | 0.00000000 | 0.12942779 | 0.05313351 | 0.00000000 | 0.00000000 | 0.00000000 | 0.81743870 | 1.00000000 |
| 25 | 0.00000000 | 0.12540611 | 0.05393112 | 0.00000000 | 0.00000000 | 0.04093567 | 0.77972710 | 1.00000000 |
| 26A | 0.00000000 | 0.12540611 | 0.05393112 | 0.00000000 | 0.00000000 | 0.04093567 | 0.77972710 | 1.00000000 |
| 26B | 0.00000000 | 0.00000000 | 0.00000000 | 0.00000000 | 0.00000000 | 0.00000000 | 1.00000000 | 1.00000000 |

For the most part, rates for wheeling and storing water are developed from information included in Appendix B. Wheeling rates are calculated from Appendix B tables used in developing contractors' charges for the year the water is wheeled. Wheeling rates for 1993 were developed from Appendix B tables in Bulletin 132-92.

Annual wheeling rates are developed from four sources:

1. *Table B-25.* Capital and minimum OMP&R equivalent unit transportation costs of water for the aqueduct reaches used.
2. *Table B-20B.* That portion of the Delta Water Rate associated with capital and minimum costs of California Aqueduct reaches 1, 2A, 2B, and 3. For SWP purposes, a portion of costs for these reaches is allocated to SWP contractors as part of the Delta Water Rate. Those costs are added to wheeling rates because they reflect the total costs of constructing and maintaining these reaches, irrespective of the SWP repayment system.
3. *Variable replacement costs.* The Department charges a fixed rate for every acre-foot of water going through SWP pumping plants to provide funds for eventual replacement of equipment.
4. *Fish agreement costs.* On December 30, 1986, the Department of Water Resources and the Department of Fish and Game entered into an agreement to provide a means to offset specific fish losses at Banks Pumping Plant. Specific fish losses are calculated each year; those calculations are used to develop payment amounts for a fund to pay fishery program costs. Those costs are then recalculated on an acre-foot basis by the Department of Water Resources and are allocated to water users based on acre-feet of pumped water. Wheeling charges are based on estimates of the maximum number of fish likely to be lost each year due to pumping from the Delta.

The SWP operates under Delta export limitations as a condition of water right permits and DFG agreements. When deliveries from the California Aqueduct are requested during key summer months, some Cross Valley Canal contractors or contractors with annual wheeling agreements may be allowed to use SWP's share of water stored in San Luis Reservoir.

Advance deliveries are made from SWP water stored in San Luis Reservoir provided that the U. S. Bureau of Reclamation agrees to replace the water later in the year. The San Luis Reservoir use charge is equal to the San Luis Reservoir portion of the Delta Water Rate as indicated in Table B-20B plus the estimated value of the net energy costs to replace water in the San Luis Reservoir.

## Surplus and Unscheduled Water Administrative Charges

The costs associated with administering the surplus and unscheduled water programs are divided into the five following categories. The costs are updated annually, and both programs are administered separately.

*Category 1, Setup Costs.* Activities include setting up the initial surplus or unscheduled water program, receiving and verifying surplus water requests, preparing annual surplus or unscheduled water contracts, and determining availability of surplus water.

*Category 2, Determination of Costs.* Activities include either preparing letters notifying all surplus water contractors or verbally notifying all unscheduled water contractors of the maximum charge for water each month

and determining final delivery amounts and charges.

*Category 3, Schedule Revision Costs.* This cost is applicable only to the surplus water program. Activities include analyzing revised operation studies and preparing revised delivery schedules.

*Category 4, Delivery Billing Costs.* Activities include analyzing delivery data from Division of Operations and Maintenance field divisions, updating data summaries, and preparing monthly bills. The multiple scheduling each month for unscheduled water is included in the delivery billing costs.

*Category 5, Computer Program Development Costs.* Activities include developing computer programs to allocate available surplus water or unscheduled water among contractors and determining the power charge for pumping surplus or unscheduled water. Those costs are not incurred annually.

# Tables for Determining Water Charges

## Tables B-1 through B-34

TABLE B-1

# Factors for Distributing Reach Capital Costs among Contractors



| Reach No. | Reach Description | North Bay Area: Napa County FC&WCD | North Bay Area: Solano County Water Agency | South Bay Area: Alameda County FC&WCD, Zone 7 | South Bay Area: Alameda County Water District | South Bay Area: Santa Clara Valley Water District | South Bay Area: Future Contractor | Total |
|---|---|---|---|---|---|---|---|---|
| | **North Bay Aqueduct** | | | | | | | |
| 1 | Barker Slough thru Fairfield/Vacaville Turnout | 0.29667896 | 0.70332104 | | | | | 1.00000000 |
| 2 | Fairfield/Vacaville Turnout to Cordelia Forebay | 0.38414552 | 0.61585448 | | | | | 1.00000000 |
| 3A | Cordelia Forebay thru Benicia and Vallejo Turnouts | | 1.00000000 | | | | | 1.00000000 |
| 3B | Cordelia Forebay thru Napa Turnout Reservoir | 1.00000000 | | | | | | 1.00000000 |
| | **South Bay Aqueduct** | | | | | | | |
| 1 | Bethany Reservoir thru Altamont Turnout | | | 0.22599612 | 0.20663021 | 0.49237700 | 0.07499667 | 1.00000000 |
| 2 | Altamont Turnout thru Patterson Reservoir | | | 0.22599658 | 0.20663059 | 0.49237783 | 0.07499500 | 1.00000000 |
| 4 | Patterson Reservoir to Del Valle Junction | | | 0.19504795 | 0.21450017 | 0.51113249 | 0.07931939 | 1.00000000 |
| 5 | Del Valle Junction thru Lake Del Valle | | | 0.14436367 | 0.12972254 | 0.33715573 | 0.38875806 | 1.00000000 |
| 6 | Del Valle Junction thru South Livermore Turnout | | | 0.14599918 | 0.21144710 | 0.50574745 | 0.13680627 | 1.00000000 |
| 7 | South Livermore Turnout thru Vallecitos Turnout | | | | 0.25176680 | 0.60218448 | 0.14604872 | 1.00000000 |
| 8 | Vallecitos Turnout thru Alameda-Bayside Turnout | | | | 0.27934645 | 0.72065355 | | 1.00000000 |
| 9 | Alameda-Bayside Turnout thru Santa Clara Terminal Facilities | | | | | 1.00000000 | | 1.00000000 |
| | **California Aqueduct** | | | | | | | |
| 1 | Delta thru Bethany Reservoir | | | 0.00954737 | 0.00872917 | 0.02080118 | 0.00342507 | n/a |

| Reach No. | Reach Description | Central Coastal Area: San Luis Obispo County FC&WCD | Central Coastal Area: Santa Barbara County FC&WCD | Southern California Area: Antelope Valley-East Kern Water Agency | Southern California Area: Castaic Lake Water Agency | Southern California Area: Coachella Valley Water District | Southern California Area: Crestline-Lake Arrowhead Water Agency | Southern California Area: Desert Water Agency |
|---|---|---|---|---|---|---|---|---|
| | **California Aqueduct** | | | | | | | |
| 1 | Delta thru Bethany Reservoir | 0.00533010 | 0.00983337 | 0.02939084 | 0.01285827 | 0.00528315 | 0.00133612 | 0.00871300 |
| 2A | Bethany Reservoir to Orestimba Creek | 0.00557213 | 0.01027988 | 0.03072531 | 0.01343201 | 0.00552068 | 0.00139620 | 0.00910474 |
| 2B | Orestimba Creek to O'Neill Forebay | 0.00557824 | 0.01029119 | 0.03075915 | 0.01345351 | 0.00552831 | 0.00139814 | 0.00911733 |
| 3 | O'Neill Forebay to Dos Amigos Pumping Plant | 0.00557719 | 0.01028923 | 0.03075332 | 0.01345294 | 0.00552772 | 0.00139798 | 0.00911637 |
| 4 | Dos Amigos Pumping Plant to Panoche Creek | 0.00557607 | 0.01028717 | 0.03074719 | 0.01345233 | 0.00552710 | 0.00139784 | 0.00911536 |
| 5 | Panoche Creek to Five Points | 0.00557467 | 0.01028462 | 0.03073954 | 0.01345157 | 0.00552633 | 0.00139763 | 0.00911409 |
| 6 | Five Points to Arroyo Pasajero | 0.00557257 | 0.01028074 | 0.03072799 | 0.01345042 | 0.00552517 | 0.00139733 | 0.00911216 |
| 7 | Arroyo Pasajero to Kettleman City | 0.00557189 | 0.01027949 | 0.03072428 | 0.01345006 | 0.00552480 | 0.00139723 | 0.00911154 |
| 8C | Kettleman City thru Milham Avenue | 0.00557103 | 0.01027792 | 0.03071961 | 0.01344960 | 0.00552432 | 0.00139712 | 0.00911076 |
| 8D | Milham Avenue thru Avenal Gap | 0.00568611 | 0.01049020 | 0.03135418 | 0.01373353 | 0.00563986 | 0.00142632 | 0.00930130 |
| 9 | Avenal Gap thru Twisselman Road | | | 0.03426625 | 0.01356094 | 0.00616886 | 0.00156011 | 0.01017373 |
| 10A | Twisselman Road thru Lost Hills | | | 0.03481391 | 0.01377767 | 0.00626946 | 0.00158556 | 0.01033963 |
| 11B | Lost Hills to 7th Standard Road | | | 0.03835043 | 0.01517717 | 0.00691699 | 0.00174933 | 0.01140749 |
| 12D | 7th Standard Road thru Elk Hills Road | | | 0.04031661 | 0.01595523 | 0.00727790 | 0.00184059 | 0.01200265 |
| 12E | Elk Hills Road thru Tupman Road | | | 0.04037074 | 0.01597665 | 0.00728878 | 0.00184332 | 0.01202059 |
| 13B | Tupman Road to Buena Vista Pumping Plant | | | 0.04379882 | 0.01733322 | 0.00791595 | 0.00200194 | 0.01305492 |
| 14A | Buena Vista Pumping Plant thru Santiago Creek | | | 0.04599268 | 0.01820137 | 0.00831952 | 0.00210399 | 0.01372049 |
| 14B | Santiago Creek thru Old River Road | | | 0.04682530 | 0.01853084 | 0.00847388 | 0.00214303 | 0.01397505 |
| 14C | Old River Road to Teerink Pumping Plant | | | 0.04825217 | 0.01909545 | 0.00873768 | 0.00220973 | 0.01441013 |
| 15A | Teerink Pumping Plant to Chrisman Pumping Plant | | | 0.04905609 | 0.01941356 | 0.00888679 | 0.00224744 | 0.01465600 |
| 16A | Chrisman Pumping Plant to Edmonston Pumping Plant | | | 0.05089794 | 0.02014241 | 0.00922722 | 0.00233351 | 0.01521742 |
| 17E | Edmonston Pumping Plant to Porter Tunnel | | | 0.05329388 | 0.02109050 | 0.00967107 | 0.00244575 | 0.01594937 |
| 17F | Porter Tunnel to Junction, West Branch Calif. Aqueduct | | | 0.05340725 | 0.02113537 | 0.00969176 | 0.00245098 | 0.01598349 |
| 18A | Junction, West Branch Calif. Aqueduct thru Alamo Pwp. | | | 0.13238112 | | 0.02399391 | 0.00606795 | 0.03957043 |
| 19 | Alamo Powerplant to Fairmont | | | 0.13237766 | | 0.02399451 | 0.00606811 | 0.03957141 |
| 19C | Buttes Junction thru Buttes Reservoir | | | 1.00000000 | | | | |
| 20A | Fairmont thru 70th Street West | | | 0.06847931 | | 0.02576425 | 0.00651573 | 0.04249001 |
| 20B | 70th Street West to Palmdale | | | 0.02276024 | | 0.02702917 | 0.00683555 | 0.04457607 |
| 21 | Palmdale to Littlerock Creek | | | 0.02318952 | | 0.02754716 | 0.00696651 | 0.04543034 |
| 22A | Littlerock Creek to Pearblossom Pumping Plant | | | 0.01181870 | | 0.02794143 | 0.00706621 | 0.04608043 |
| 22B | Pearblossom Pumping Plant to West Fork Mojave River | | | | | 0.02827552 | 0.00715074 | 0.04663153 |
| 23 | West Fork Mojave River to Silverwood Lake | | | | | 0.00324449 | 0.00818122 | 0.00535117 |
| 24 | Cedar Springs Dam and Silverwood Lake | | | | | 0.01024605 | 0.01251569 | 0.01690478 |
| 25 | Silverwood Lake to South Portal San Bernardino Tunnel | | | | | | | |
| 26A | So. 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 P.P. | | | | 0.03544337 | | | |
| 29F | Oso Pumping Plant thru Quail Embankment | | | | 0.03544339 | | | |
| 29G | Quail Embankment thru Warne Powerplant | | | | 0.03544339 | | | |
| 29H | Pyramid Dam and Lake | | | | 0.02817144 | | | |
| 29J | Pyramid Lake thru Castaic Powerplant | | | | 0.03544338 | | | |
| 30 | Castaic Dam and Lake | | | | 0.02927284 | | | |
| 31A | Avenal Gap to Devil's Den Pumping Plant | 0.10560301 | 0.19482503 | | 0.07364766 | | | |
| 33A | Devil's Den Pumping Plant thru San Luis Obispo Pwp. | 0.35150791 | 0.64849209 | | | | | |
| 34 | San Luis Obispo Powerplant to Arroyo Grande | 0.24688802 | 0.75311198 | | | | | |
| 35 | Arroyo Grande thru Santa Maria Terminus | 0.18022521 | 0.81977479 | | | | | |

TABLE B-1

# Factors for Distributing Reach Capital Costs among Contractors



| Reach No. | San Joaquin Valley Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Kern County Water Agency: Municipal and Industrial | Kern County Water Agency: Agricultural | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District |
| | **California Aqueduct** | | | | | | | |
| 1 | 0.01707770 | 0.00088678 | 0.00254693 | 0.02741768 | 0.30629913 | 0.00090695 | 0.00167121 | 0.03504975 |
| 2A | 0.01781031 | 0.00092482 | 0.00266258 | 0.02864263 | 0.31945188 | 0.00094747 | 0.00174288 | 0.03655331 |
| 2B | 0.01785838 | 0.00092731 | 0.00266550 | 0.02868743 | 0.32030556 | 0.00094896 | | 0.03665201 |
| 3 | 0.01786337 | 0.00092757 | 0.00266499 | 0.02868589 | 0.32039254 | 0.00094892 | | 0.03666225 |
| 4 | 0.01786863 | 0.00092785 | 0.00266446 | 0.02868428 | 0.32048398 | 0.00094886 | | 0.03667303 |
| 5 | 0.01787517 | 0.00092819 | 0.00266380 | 0.02868227 | 0.32059816 | 0.00094879 | | 0.03668649 |
| 6 | 0.01788508 | 0.00092870 | 0.00266279 | 0.02867923 | 0.32077093 | 0.00094868 | | 0.03670685 |
| 7 | 0.01788826 | 0.00092887 | 0.00266246 | 0.02867825 | 0.32082633 | 0.00094864 | | 0.03671338 |
| 8C | 0.01789228 | 0.00092909 | 0.00266205 | 0.02867702 | 0.32089625 | 0.00094859 | | 0.03672162 |
| 8D | 0.01828779 | | 0.00271703 | 0.02928147 | 0.32798200 | | | 0.01820857 |
| 9 | | | | 0.03204523 | 0.32739538 | | | |
| 10A | | | | 0.03257442 | 0.31658608 | | | |
| 11B | | | | 0.03597398 | 0.24684668 | | | |
| 12D | | | | 0.03787171 | 0.20804762 | | | |
| 12E | | | | 0.03793198 | 0.20695175 | | | |
| 13B | | | | 0.01458796 | 0.16600071 | | | |
| 14A | | | | 0.00620338 | 0.13319181 | | | |
| 14B | | | | 0.00632023 | 0.11741558 | | | |
| 14C | | | | 0.00651962 | 0.09039633 | | | |
| 15A | | | | 0.00663252 | 0.07516317 | | | |
| 16A | | | | 0.00688973 | 0.04028829 | | | |
| 17E | | | | 0.00212516 | | | | |
| 31A | | | 0.05046240 | | 0.57546190 | | | |

| Reach No. | Southern California Area (continued) | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Municipal Water District | San Gabriel Valley Municipal Water District | San Gorgonio Pass Water Agency | Metropolitan Water District of Southern California | Ventura County Flood Control District | |
| 1 | 0.00049180 | 0.01101147 | 0.00369131 | 0.02362857 | 0.00650354 | 0.00398392 | 0.43929350 | 0.00429212 | 1.00000000 |
| 2A | 0.00051413 | 0.01151136 | 0.00385891 | 0.02469101 | 0.00679699 | 0.00416304 | 0.45921072 | 0.00448701 | 1.00000000 |
| 2B | 0.00051469 | 0.01152409 | 0.00386317 | 0.02472511 | 0.00680570 | 0.00416880 | 0.45973548 | 0.00449194 | 1.00000000 |
| 3 | 0.00051461 | 0.01152193 | 0.00386244 | 0.02472246 | 0.00680478 | 0.00416835 | 0.45965407 | 0.00449108 | 1.00000000 |
| 4 | 0.00051451 | 0.01151965 | 0.00386167 | 0.02471968 | 0.00680380 | 0.00416787 | 0.45956848 | 0.00449019 | 1.00000000 |
| 5 | 0.00051440 | 0.01151681 | 0.00386070 | 0.02471620 | 0.00680259 | 0.00416730 | 0.45946161 | 0.00448907 | 1.00000000 |
| 6 | 0.00051419 | 0.01151251 | 0.00385926 | 0.02471095 | 0.00680076 | 0.00416640 | 0.45929991 | 0.00448738 | 1.00000000 |
| 7 | 0.00051413 | 0.01151113 | 0.00385879 | 0.02470927 | 0.00680016 | 0.00416612 | 0.45924807 | 0.00448685 | 1.00000000 |
| 8C | 0.00051405 | 0.01150938 | 0.00385821 | 0.02470716 | 0.00679941 | 0.00416576 | 0.45918261 | 0.00448616 | 1.00000000 |
| 8D | 0.00052466 | 0.01174718 | 0.00393793 | 0.02522383 | 0.00694100 | 0.00425288 | 0.46868533 | 0.00457883 | 1.00000000 |
| 9 | 0.00057339 | 0.01283841 | 0.00430367 | 0.02758959 | 0.00758975 | 0.00465175 | 0.51227887 | 0.00500407 | 1.00000000 |
| 10A | 0.00058254 | 0.01304366 | 0.00437246 | 0.02803943 | 0.00771262 | 0.00472760 | 0.52049091 | 0.00508405 | 1.00000000 |
| 11B | 0.00064171 | 0.01436906 | 0.00481665 | 0.03093503 | 0.00850448 | 0.00521581 | 0.57349473 | 0.00560046 | 1.00000000 |
| 12D | 0.00067463 | 0.01510596 | 0.00506361 | 0.03254889 | 0.00894541 | 0.00548790 | 0.60297374 | 0.00588755 | 1.00000000 |
| 12E | 0.00067553 | 0.01512626 | 0.00507040 | 0.03259749 | 0.00895830 | 0.00549608 | 0.60379667 | 0.00589546 | 1.00000000 |
| 13B | 0.00073290 | 0.01641098 | 0.00550099 | 0.03540212 | 0.00972547 | 0.00596896 | 0.65516902 | 0.00639604 | 1.00000000 |
| 14A | 0.00076961 | 0.01723325 | 0.00577656 | 0.03720681 | 0.01021819 | 0.00627322 | 0.68807273 | 0.00671639 | 1.00000000 |
| 14B | 0.00078354 | 0.01754538 | 0.00588113 | 0.03789703 | 0.01040613 | 0.00638960 | 0.70057530 | 0.00683798 | 1.00000000 |
| 14C | 0.00080743 | 0.01808019 | 0.00606036 | 0.03907670 | 0.01072763 | 0.00658850 | 0.72199174 | 0.00704634 | 1.00000000 |
| 15A | 0.00082089 | 0.01838154 | 0.00616135 | 0.03974336 | 0.01090913 | 0.00670088 | 0.73406357 | 0.00716371 | 1.00000000 |
| 16A | 0.00085171 | 0.01907194 | 0.00639271 | 0.04126559 | 0.01132404 | 0.00695754 | 0.76170731 | 0.00743264 | 1.00000000 |
| 17E | 0.00089182 | 0.01997003 | 0.00669365 | 0.04325018 | 0.01186455 | 0.00729213 | 0.79767940 | 0.00778251 | 1.00000000 |
| 17F | 0.00089372 | 0.02001251 | 0.00670788 | 0.04334270 | 0.01188988 | 0.00730773 | 0.79937767 | 0.00779906 | 1.00000000 |
| 18A | 0.00221525 | 0.04960424 | 0.01662680 | 0.10730448 | 0.02944860 | 0.01809192 | 0.57469530 | | 1.00000000 |
| 19 | 0.00221522 | 0.04960300 | 0.01662640 | 0.10730707 | 0.02944876 | 0.01809230 | 0.57469556 | | 1.00000000 |
| 19C | | | | | | | | | 1.00000000 |
| 20A | 0.00237800 | 0.05324853 | 0.01784830 | 0.11522152 | 0.03161798 | 0.01942666 | 0.61700971 | | 1.00000000 |
| 20B | 0.00249470 | 0.05586076 | 0.01872390 | 0.12087843 | 0.03316986 | 0.02038045 | 0.64729087 | | 1.00000000 |
| 21 | 0.00254199 | 0.05692053 | | 0.12319480 | 0.03380324 | 0.02077093 | 0.65963498 | | 1.00000000 |
| 22A | | 0.05773082 | | 0.12495766 | 0.03428605 | 0.02106816 | 0.66905054 | | 1.00000000 |
| 22B | | 0.05842136 | | 0.12645207 | 0.03469614 | 0.02132008 | 0.67705256 | | 1.00000000 |
| 23 | | | | 0.14467451 | 0.03969010 | 0.02439237 | 0.77446614 | | 1.00000000 |
| 24 | | | | 0.22243002 | 0.04339444 | 0.02843498 | 0.66607404 | | 1.00000000 |
| 25 | | | | 0.14947726 | 0.03997502 | 0.02520426 | 0.78534346 | | 1.00000000 |
| 26A | | | | 0.14947726 | 0.03997502 | 0.02520426 | 0.78534346 | | 1.00000000 |
| 28G | | | | 0.05126137 | | | 0.94873863 | | 1.00000000 |
| 28H | | | | | | | 1.00000000 | | 1.00000000 |
| 28J | | | | | | | 1.00000000 | | 1.00000000 |
| 29A | | | | | | | 0.95147783 | 0.01307880 | 1.00000000 |
| 29F | | | | | | | 0.95147785 | 0.01307876 | 1.00000000 |
| 29G | | | | | | | 0.95147785 | 0.01307876 | 1.00000000 |
| 29H | | | | | | | 0.96278381 | 0.00904475 | 1.00000000 |
| 29J | | | | | | | 0.95147787 | 0.01307875 | 1.00000000 |
| 30 | | | | | | | 0.96212388 | 0.00860328 | 1.00000000 |
| 31A | | | | | | | | | 1.00000000 |
| 33A | | | | | | | | | 1.00000000 |
| 34 | | | | | | | | | 1.00000000 |
| 35 | | | | | | | | | 1.00000000 |

TABLE B-2

# Factors for Distributing Reach Minimum OMP&R Costs among Contractors



| Reach No. | Reach Description | North Bay Area: Napa County FC&WCD | North Bay Area: Solano County Water Agency | South Bay Area: Alameda County FC&WCD, Zone 7 | South Bay Area: Alameda County Water District | South Bay Area: Santa Clara Valley Water District | South Bay Area: Future Contractor | Total |
|---|---|---|---|---|---|---|---|---|
| | **North Bay Aqueduct** | | | | | | | |
| 1 | Barker Slough thru Fairfield/Vacaville Turnout | 0.27960541 | 0.72039459 | | | | | 1.00000000 |
| 2 | Fairfield/Vacaville Turnout to Cordelia Forebay | 0.38414552 | 0.61585448 | | | | | 1.00000000 |
| 3A | Cordelia Forebay thru Benicia and Vallejo Turnouts | | 1.00000000 | | | | | 1.00000000 |
| 3B | Cordelia Forebay thru Napa Turnout Reservoir | 1.00000000 | | | | | | 1.00000000 |
| | **South Bay Aqueduct** | | | | | | | |
| 1 | Bethany Reservoir thru Altamont Turnout | | | 0.22599612 | 0.20663021 | 0.492377 | 0.07499667 | 1.00000000 |
| 2 | Altamont Turnout thru Patterson Reservoir | | | 0.22599658 | 0.20663059 | 0.49237783 | 0.07499500 | 1.00000000 |
| 4 | Patterson Reservoir to Del Valle Junction | | | 0.19504795 | 0.21450017 | 0.51113249 | 0.07931939 | 1.00000000 |
| 5 | Del Valle Junction thru Lake Del Valle | | | 0.14436367 | 0.12972254 | 0.33715573 | 0.38875806 | 1.00000000 |
| 6 | Del Valle Junction thru South Livermore Turnout | | | 0.14599918 | 0.21144710 | 0.50574745 | 0.13680627 | 1.00000000 |
| 7 | South Livermore Turnout thru Vallecitos Turnout | | | | 0.25176680 | 0.60218448 | 0.14604872 | 1.00000000 |
| 8 | Vallecitos Turnout thru Alameda-Bayside Turnout | | | | 0.27934645 | 0.72065355 | | 1.00000000 |
| 9 | Alameda-Bayside Turnout thru Santa Clara Terminal Facilities | | | | | 1.00000000 | | 1.00000000 |
| | **California Aqueduct** | | | | | | | |
| 1 | Delta thru Bethany Reservoir | | | 0.00954737 | 0.00872917 | 0.02080118 | 0.00342507 | n/a |

| Reach No. | Reach Description | Central Coastal Area: San Luis Obispo County FC&WCD | Central Coastal Area: Santa Barbara County FC&WCD | Southern California Area: Antelope Valley-East Kern Water Agency | Southern California Area: Castaic Lake Water Agency | Southern California Area: Coachella Valley Water District | Southern California Area: Crestline-Lake Arrowhead Water Agency | Southern California Area: Desert Water Agency |
|---|---|---|---|---|---|---|---|---|
| | **California Aqueduct** | | | | | | | |
| 1 | Delta thru Bethany Reservoir | 0.00533010 | 0.00983337 | 0.02939084 | 0.01285827 | 0.00528315 | 0.00133612 | 0.00871300 |
| 2A | Bethany Reservoir to Orestimba Creek | 0.00557213 | 0.01027988 | 0.03072531 | 0.01343201 | 0.00552068 | 0.00139620 | 0.00910474 |
| 2B | Orestimba Creek to O'Neill Forebay | 0.00557824 | 0.01029119 | 0.03075915 | 0.01345351 | 0.00552831 | 0.00139814 | 0.00911733 |
| 3 | O"Neill Forebay to Dos Amigos Pumping Plant | 0.00557719 | 0.01028923 | 0.03075332 | 0.01345294 | 0.00552772 | 0.00139798 | 0.00911637 |
| 4 | Dos Amigos Pumping Plant to Panoche Creek | 0.00557607 | 0.01028717 | 0.03074719 | 0.01345233 | 0.00552710 | 0.00139784 | 0.00911536 |
| 5 | Panoche Creek to Five Points | 0.00557467 | 0.01028462 | 0.03073954 | 0.01345157 | 0.00552633 | 0.00139763 | 0.00911409 |
| 6 | Five Points to Arroyo Pasajero | 0.00557257 | 0.01028074 | 0.03072799 | 0.01345042 | 0.00552517 | 0.00139733 | 0.00911216 |
| 7 | Arroyo Pasajero to Kettleman City | 0.00557189 | 0.01027949 | 0.03072428 | 0.01345006 | 0.00552480 | 0.00139723 | 0.00911154 |
| 8C | Kettleman City thru Milham Avenue | 0.00551596 | 0.01017632 | 0.03041581 | 0.01329997 | 0.00546583 | 0.00138232 | 0.00901430 |
| 8D | Milham Avenue thru Avenal Gap | 0.00562824 | 0.01038343 | 0.03103491 | 0.01357628 | 0.00557838 | 0.00141078 | 0.00919992 |
| 9 | Avenal Gap thru Twisselman Road | | | 0.03387464 | 0.01340600 | 0.00609344 | 0.00154104 | 0.01004936 |
| 10A | Twisselman Road thru Lost Hills | | | 0.03440598 | 0.01361627 | 0.00619088 | 0.00156569 | 0.01021004 |
| 11B | Lost Hills to 7th Standard Road | | | 0.03783014 | 0.01497132 | 0.00681674 | 0.00172398 | 0.01124216 |
| 12D | 7th Standard Road thru Elk Hills Road | | | 0.03972579 | 0.01572148 | 0.00716403 | 0.00181179 | 0.01181489 |
| 12E | Elk Hills Road thru Tupman Road | | | 0.03977669 | 0.01574162 | 0.00717426 | 0.00181437 | 0.01183175 |
| 13B | Tupman Road to Buena Vista Pumping Plant | | | 0.04307711 | 0.01704769 | 0.00777681 | 0.00196675 | 0.01282547 |
| 14A | Buena Vista Pumping Plant thru Santiago Creek | | | 0.04517714 | 0.01787870 | 0.00816225 | 0.00206423 | 0.01346114 |
| 14B | Santiago Creek thru Old River Road | | | 0.04596983 | 0.01819238 | 0.00830887 | 0.00210130 | 0.01370294 |
| 14C | Old River Road to Teerink Pumping Plant | | | 0.04732690 | 0.01872938 | 0.00855917 | 0.00216459 | 0.01411577 |
| 15A | Teerink Pumping Plant to Chrisman Pumping Plant | | | 0.04808935 | 0.01903108 | 0.00870025 | 0.00220027 | 0.01434839 |
| 16A | Chrisman Pumping Plant to Edmonston Pumping Plant | | | 0.04983435 | 0.01972161 | 0.00902198 | 0.00228161 | 0.01487897 |
| 17E | Edmonston Pumping Plant to Porter Tunnel | | | 0.05209597 | 0.02061656 | 0.00943985 | 0.00238729 | 0.01556809 |
| 17F | Porter Tunnel to Junction, West Branch Calif. Aqueduct | | | 0.05220390 | 0.02065927 | 0.00945949 | 0.00239225 | 0.01560048 |
| 18A | Junction, West Branch Calif. Aqueduct thru Alamo Pwp. | | | 0.13238112 | | 0.02399391 | 0.00606795 | 0.03957043 |
| 19 | Alamo Powerplant to Fairmont | | | 0.13237766 | | 0.02399451 | 0.00606811 | 0.03957141 |
| 19C | Buttes Junction thru Buttes Reservoir | | | 1.00000000 | | | | |
| 20A | Fairmont thru 70th Street West | | | 0.06847931 | | 0.02576425 | 0.00651573 | 0.04249001 |
| 20B | 70th Street West to Palmdale | | | 0.02276024 | | 0.02702917 | 0.00683555 | 0.04457607 |
| 21 | Palmdale to Littlerock Creek | | | 0.02318952 | | 0.02754716 | 0.00696651 | 0.04543034 |
| 22A | Littlerock Creek to Pearblossom Pumping Plant | | | 0.01181870 | | 0.02794143 | 0.00706621 | 0.04608043 |
| 22B | Pearblossom Pumping Plant to West Fork Mojave River | | | | | 0.02827552 | 0.00715074 | 0.04663153 |
| 23 | West Fork Mojave River to Silverwood Lake | | | | | 0.00324449 | 0.00818122 | 0.00535117 |
| 24 | Cedar Springs Dam and Silverwood Lake | | | | | 0.01024605 | 0.01251569 | 0.01690478 |
| 25 | Silverwood Lake to South Portal San Bernardino Tunnel | | | | | | | |
| 26A | So. 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 P.P. | | | 0.00302472 | 0.03533617 | | | |
| 29F | Oso Pumping Plant thru Quail Embankment | | | 0.00302551 | 0.03533615 | | | |
| 29G | Quail Embankment thru Warne Powerplant | | | | 0.03544339 | | | |
| 29H | Pyramid Dam and Lake | | | | 0.02817144 | | | |
| 29J | Pyramid Lake thru Castaic Powerplant | | | | 0.03544338 | | | |
| 30 | Castaic Dam and Lake | | | | 0.02927284 | | | |
| 31A | Avenal Gap to Devil's Den Pumping Plant | 0.10560301 | 0.19482503 | | 0.07364766 | | | |
| 33A | Devil's Den Pumping Plant thru San Luis Obispo Pwp. | 0.35150791 | 0.64849209 | | | | | |
| 34 | San Luis Obispo Powerplant to Arroyo Grande | 0.24688802 | 0.75311198 | | | | | |
| 35 | Arroyo Grande thru Santa Maria Terminus | 0.18022521 | 0.81977479 | | | | | |

TABLE B-2

# Factors for Distributing Reach Minimum OMP&R Costs among Contractors



| Reach No. | San Joaquin Valley Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | |
| | Dudley Ridge Water District | Empire West Side Irrigation District | Future Contractor San Joaquin Valley | Municipal and Industrial | Agricultural | County of Kings | Oak Flat Water District | Tulare Lake Basin Water Storage District |
| | **California Aqueduct** | | | | | | | |
| 1 | 0.01707770 | 0.00088678 | 0.00254693 | 0.02741768 | 0.30629913 | 0.00090695 | 0.00167121 | 0.03504975 |
| 2A | 0.01781031 | 0.00092482 | 0.00266258 | 0.02864263 | 0.31945188 | 0.00094747 | 0.00174288 | 0.03655331 |
| 2B | 0.01785838 | 0.00092731 | 0.00266550 | 0.02868743 | 0.32030556 | 0.00094896 | | 0.03665201 |
| 3 | 0.01786337 | 0.00092757 | 0.00266499 | 0.02868589 | 0.32039254 | 0.00094892 | | 0.03666225 |
| 4 | 0.01786863 | 0.00092785 | 0.00266446 | 0.02868428 | 0.32048398 | 0.00094886 | | 0.03667303 |
| 5 | 0.01787517 | 0.00092819 | 0.00266380 | 0.02868227 | 0.32059816 | 0.00094879 | | 0.03668649 |
| 6 | 0.01788508 | 0.00092870 | 0.00266279 | 0.02867923 | 0.32077093 | 0.00094868 | | 0.03670685 |
| 7 | 0.01788826 | 0.00092887 | 0.00266246 | 0.02867825 | 0.32082633 | 0.00094864 | | 0.03671338 |
| 8C | 0.01764479 | 0.00091624 | 0.00263575 | 0.02836054 | 0.31647868 | 0.00093812 | | 0.03621361 |
| 8D | 0.01802770 | | 0.00268939 | 0.02894888 | 0.32333939 | | | 0.01794960 |
| 9 | | | | 0.03163713 | 0.32219659 | | | |
| 10A | | | | 0.03214916 | 0.31143611 | | | |
| 11B | | | | 0.03543138 | 0.24223373 | | | |
| 12D | | | | 0.03725540 | 0.20386623 | | | |
| 12E | | | | 0.03731203 | 0.20277371 | | | |
| 13B | | | | 0.01432141 | 0.16226809 | | | |
| 14A | | | | 0.00608155 | 0.12998083 | | | |
| 14B | | | | 0.00619239 | 0.11450333 | | | |
| 14C | | | | 0.00638131 | 0.08804967 | | | |
| 15A | | | | 0.00648796 | 0.07316084 | | | |
| 16A | | | | 0.00673069 | 0.03915469 | | | |
| 17E | | | | 0.00207245 | | | | |
| 31A | | | 0.05046240 | | 0.57546190 | | | |

| Reach No. | Southern California Area (continued) | | | | | | | | Total |
|---|---|---|---|---|---|---|---|---|---|
| | Littlerock Creek Irrigation District | Mojave Water Agency | Palmdale Water District | San Bernardino Municipal Water District | San Gabriel Valley Municipal Water District | San Gorgonio Pass Water Agency | Metropolitan Water District of Southern California | Ventura County Flood Control District | |
| 1 | 0.00049180 | 0.01101147 | 0.00369131 | 0.02362857 | 0.00650354 | 0.00398392 | 0.43929350 | 0.00429212 | 1.00000000 |
| 2A | 0.00051413 | 0.01151136 | 0.00385891 | 0.02469101 | 0.00679699 | 0.00416304 | 0.45921072 | 0.00448701 | 1.00000000 |
| 2B | 0.00051469 | 0.01152409 | 0.00386317 | 0.02472511 | 0.00680570 | 0.00416880 | 0.45973548 | 0.00449194 | 1.00000000 |
| 3 | 0.00051461 | 0.01152193 | 0.00386244 | 0.02472246 | 0.00680478 | 0.00416835 | 0.45965407 | 0.00449108 | 1.00000000 |
| 4 | 0.00051451 | 0.01151965 | 0.00386167 | 0.02471968 | 0.0068038 | 0.00416787 | 0.45956848 | 0.00449019 | 1.00000000 |
| 5 | 0.00051440 | 0.01151681 | 0.00386070 | 0.02471620 | 0.00680259 | 0.00416730 | 0.45946161 | 0.00448907 | 1.00000000 |
| 6 | 0.00051419 | 0.01151251 | 0.00385926 | 0.02471095 | 0.00680076 | 0.00416640 | 0.45929991 | 0.00448738 | 1.00000000 |
| 7 | 0.00051413 | 0.01151113 | 0.00385879 | 0.02470927 | 0.00680016 | 0.00416612 | 0.45924807 | 0.00448685 | 1.00000000 |
| 8C | 0.00050897 | 0.01139543 | 0.00382005 | 0.02444566 | 0.00672913 | 0.00412167 | 0.46607904 | 0.00444181 | 1.00000000 |
| 8D | 0.00051932 | 0.01162742 | 0.00389782 | 0.02494901 | 0.00686714 | 0.00420655 | 0.47563362 | 0.00453222 | 1.00000000 |
| 9 | 0.00056683 | 0.01269152 | 0.00425448 | 0.02725243 | 0.00749914 | 0.00459491 | 0.51939559 | 0.00494690 | 1.00000000 |
| 10A | 0.00057571 | 0.01289064 | 0.00432121 | 0.02768814 | 0.00761823 | 0.00466838 | 0.52763907 | 0.00502449 | 1.00000000 |
| 11B | 0.00063300 | 0.01417390 | 0.00475129 | 0.03048687 | 0.00838406 | 0.00514026 | 0.58065667 | 0.00552450 | 1.00000000 |
| 12D | 0.00066474 | 0.01488434 | 0.00498939 | 0.03203990 | 0.00880866 | 0.00540209 | 0.61004998 | 0.00580129 | 1.00000000 |
| 12E | 0.00066559 | 0.01490343 | 0.00499577 | 0.03208558 | 0.00882077 | 0.00540978 | 0.61088592 | 0.00580873 | 1.00000000 |
| 13B | 0.00072082 | 0.01614026 | 0.00541032 | 0.03478013 | 0.00955838 | 0.00586410 | 0.66195198 | 0.00629068 | 1.00000000 |
| 14A | 0.00075596 | 0.01692733 | 0.00567410 | 0.03650376 | 0.01002933 | 0.00615469 | 0.69455166 | 0.00659733 | 1.00000000 |
| 14B | 0.00076922 | 0.01722449 | 0.00577366 | 0.03715939 | 0.01020799 | 0.00626523 | 0.70691589 | 0.00671309 | 1.00000000 |
| 14C | 0.00079194 | 0.01773312 | 0.00594412 | 0.03827874 | 0.01051330 | 0.00645397 | 0.72804676 | 0.00691126 | 1.00000000 |
| 15A | 0.00080471 | 0.01801891 | 0.00603990 | 0.03890949 | 0.01068518 | 0.00656030 | 0.73994080 | 0.00702257 | 1.00000000 |
| 16A | 0.00083391 | 0.01867297 | 0.00625909 | 0.04034814 | 0.01107764 | 0.00680287 | 0.76710412 | 0.00727736 | 1.00000000 |
| 17E | 0.00087177 | 0.01952067 | 0.00654315 | 0.04221660 | 0.01158699 | 0.00711787 | 0.80235512 | 0.00760762 | 1.00000000 |
| 17F | 0.00087358 | 0.01956112 | 0.00655671 | 0.04230442 | 0.01161106 | 0.00713268 | 0.80402166 | 0.00762338 | 1.00000000 |
| 18A | 0.00221525 | 0.04960424 | 0.01662680 | 0.10730448 | 0.02944860 | 0.01809192 | 0.57469530 | | 1.00000000 |
| 19 | 0.00221522 | 0.04960300 | 0.01662640 | 0.10730707 | 0.02944876 | 0.01809230 | 0.57469556 | | 1.00000000 |
| 19C | | | | | | | | | 1.00000000 |
| 20A | 0.00237800 | 0.05324853 | 0.01784830 | 0.11522152 | 0.03161798 | 0.01942666 | 0.61700971 | | 1.00000000 |
| 20B | 0.00249470 | 0.05586076 | 0.01872390 | 0.12087843 | 0.03316986 | 0.02038045 | 0.64729087 | | 1.00000000 |
| 21 | 0.00254199 | 0.05692053 | | 0.12319480 | 0.03380324 | 0.02077093 | 0.65963498 | | 1.00000000 |
| 22A | | 0.05773082 | | 0.12495766 | 0.03428605 | 0.02106816 | 0.66905054 | | 1.00000000 |
| 22B | | 0.05842136 | | 0.12645207 | 0.03469614 | 0.02132008 | 0.67705256 | | 1.00000000 |
| 23 | | | | 0.14467451 | 0.03969010 | 0.02439237 | 0.77446614 | | 1.00000000 |
| 24 | | | | 0.22243002 | 0.04339444 | 0.02843498 | 0.66607404 | | 1.00000000 |
| 25 | | | | 0.11825184 | 0.03722720 | 0.01993915 | 0.82458181 | | 1.00000000 |
| 26A | | | | 0.14947726 | 0.03997502 | 0.02520426 | 0.78534346 | | 1.00000000 |
| 28G | | | | 0.05126137 | | | 0.94873863 | | 1.00000000 |
| 28H | | | | | | | 1.00000000 | | 1.00000000 |
| 28J | | | | | | | 1.00000000 | | 1.00000000 |
| 29A | | | | | | | 0.94859988 | 0.01303923 | 1.00000000 |
| 29F | | | | | | | 0.94859915 | 0.01303919 | 1.00000000 |
| 29G | | | | | | | 0.95147785 | 0.01307876 | 1.00000000 |
| 29H | | | | | | | 0.96278381 | 0.00904475 | 1.00000000 |
| 29J | | | | | | | 0.95147787 | 0.01307875 | 1.00000000 |
| 30 | | | | | | | 0.96212388 | 0.00860328 | 1.00000000 |
| 31A | | | | | | | | | 1.00000000 |
| 33A | | | | | | | | | 1.00000000 |
| 34 | | | | | | | | | 1.00000000 |
| 35 | | | | | | | | | 1.00000000 |

TABLE B-3

# Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant

(Dollars)



| | North Bay Aqueduct | | | South Bay Aqueduct | California Aqueduct | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reach 1 | Reach 3A | Reach 3B | Reach 1(b | Reach 1 | Reach 4 | Reach 14A | Reach 15A | Reach 16A | Reach 17E |
| Calendar Year | Barker Slough Pumping Plant (1) | Cordelia Pumping Plant Solano (2) | Cordelia Pumping Plant Napa (a (3) | South Bay & Del Valle Pumping Plants (4) | Banks Pumping Plant (5) | Dos Amigos Pumping Plant (6) | Buena Vista Pumping Plant (7) | Teerink Pumping Plant (8) | Chrisman Pumping Plant (9) | Edmonston Pumping Plant (10) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 38,130 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 58,871 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 75,239 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1965 | 0 | 0 | 0 | 146,297 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1966 | 0 | 0 | 0 | 198,643 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1967 | 0 | 0 | 0 | 229,629 | 26,982 | 0 | 0 | 0 | 0 | 0 |
| 1968 | 0 | 0 | 7,128 | 342,761 | 1,324,777 | 239,505 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 0 | 8,557 | 279,751 | 855,304 | 143,403 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 0 | 13,666 | 448,383 | 368,508 | 217,820 | 2,940 | 0 | 0 | 0 |
| 1971 | 0 | 0 | 10,626 | 422,057 | 597,946 | 229,306 | 156,540 | 23,021 | 18,577 | 29,067 |
| 1972 | 0 | 0 | 14,430 | 623,564 | 1,110,833 | 575,291 | 348,668 | 187,825 | 385,935 | 1,263,087 |
| 1973 | 0 | 0 | 14,453 | 485,534 | 918,234 | 493,776 | 511,904 | 514,487 | 883,725 | 3,139,297 |
| 1974 | 0 | 0 | 17,508 | 510,873 | 997,269 | 560,461 | 556,968 | 595,585 | 1,048,196 | 3,700,573 |
| 1975 | 0 | 0 | 14,801 | 382,106 | 1,353,916 | 561,089 | 650,781 | 707,038 | 1,394,918 | 4,853,538 |
| 1976 | 0 | 0 | 20,867 | 589,007 | 916,728 | 596,426 | 701,061 | 687,677 | 1,414,902 | 4,917,776 |
| 1977 | 0 | 0 | 22,640 | 541,803 | 653,304 | 191,906 | 170,689 | 173,496 | 337,890 | 1,130,422 |
| 1978 | 0 | 0 | 21,670 | 568,381 | 3,871,011 | 723,989 | 1,009,556 | 968,744 | 1,782,668 | 6,281,786 |
| 1979 | 0 | 0 | 16,240 | 622,517 | 3,431,278 | 1,019,021 | 848,639 | 830,839 | 1,666,505 | 5,741,609 |
| 1980 | 0 | 0 | 19,936 | 523,445 | 2,267,876 | 1,097,085 | 1,007,198 | 997,877 | 2,018,282 | 6,671,880 |
| 1981 | 0 | 0 | 23,859 | 630,690 | 2,553,431 | 1,984,530 | 1,392,248 | 1,390,323 | 3,001,888 | 9,863,443 |
| 1982 | 0 | 0 | 12,080 | 410,901 | 3,829,918 | 1,468,821 | 1,342,384 | 1,393,867 | 2,801,427 | 9,792,760 |
| 1983 | 0 | 0 | 2,333 | 82,872 | 1,374,743 | 412,432 | 431,809 | 421,741 | 764,599 | 2,310,080 |
| 1984 | 0 | 0 | 4,854 | 282,748 | 1,834,751 | 949,018 | 801,848 | 747,345 | 1,412,330 | 4,379,455 |
| 1985 | 0 | 0 | 10,211 | 454,973 | 3,271,195 | 1,702,552 | 1,565,835 | 1,600,549 | 3,250,144 | 10,857,355 |
| 1986 | 0 | 0 | 15,455 | 845,875 | 7,844,381 | 2,718,997 | 2,573,965 | 2,632,451 | 5,465,227 | 18,526,707 |
| 1987 | 0 | 0 | 27,222 | 912,939 | 6,408,975 | 2,608,546 | 2,288,359 | 2,320,323 | 4,583,116 | 15,035,581 |
| 1988 | 17,867 | 38,092 | 23,987 | 914,733 | 7,135,965 | 2,700,388 | 2,646,118 | 2,679,795 | 5,329,296 | 17,534,056 |
| 1989 | 26,414 | 112,762 | 6,673 | 1,133,875 | 11,924,124 | 4,112,517 | 4,085,791 | 4,178,369 | 8,757,938 | 29,100,259 |
| 1990 | 59,310 | 154,833 | 43,103 | 1,911,452 | 11,066,681 | 4,860,219 | 6,021,136 | 6,382,340 | 14,358,165 | 50,406,663 |
| 1991 | 24,875 | 97,002 | 2,090 | 566,952 | 3,317,167 | 1,000,961 | 891,349 | 859,261 | 2,126,894 | 7,495,024 |
| 1992 | 25,228 | 85,408 | 11,633 | 364,496 | 6,163,195 | 1,629,578 | 1,881,882 | 2,148,741 | 3,863,401 | 10,869,049 |
| 1993 | 52,081 | 40,961 | 33,599 | 984,573 | 10,875,397 | 5,011,588 | 5,390,809 | 6,230,679 | 12,609,342 | 43,365,344 |
| 1994 | 140,194 | 111,138 | 91,615 | 2,528,217 | 23,677,608 | 10,502,524 | 11,680,408 | 13,599,109 | 28,250,368 | 98,774,488 |
| 1995 | 277,898 | 133,447 | 114,888 | 2,993,516 | 29,508,509 | 12,233,880 | 13,737,600 | 16,015,622 | 33,366,522 | 116,863,186 |
| 1996 | 210,366 | 139,958 | 134,423 | 4,132,873 | 34,898,616 | 14,590,932 | 16,103,741 | 18,797,922 | 39,339,329 | 138,139,914 |
| 1997 | 207,150 | 139,247 | 136,992 | 3,973,771 | 35,399,289 | 14,220,215 | 15,634,088 | 18,255,836 | 38,187,546 | 134,063,792 |
| 1998 | 214,570 | 140,058 | 146,598 | 4,014,218 | 35,745,510 | 14,518,509 | 16,450,910 | 18,799,272 | 39,194,188 | 137,315,645 |
| 1999 | 222,238 | 143,568 | 156,226 | 4,059,443 | 32,571,239 | 14,303,415 | 16,627,922 | 19,001,779 | 39,625,036 | 138,840,536 |
| 2000 | 235,764 | 150,250 | 170,899 | 4,193,387 | 33,931,515 | 14,718,091 | 17,168,120 | 19,621,187 | 40,943,305 | 143,507,128 |
| 2001 | 239,855 | 150,925 | 179,840 | 4,212,216 | 33,945,975 | 14,833,458 | 17,339,827 | 19,825,124 | 41,381,802 | 145,067,165 |
| 2002 | 248,751 | 154,732 | 191,544 | 4,318,473 | 34,752,745 | 15,179,145 | 17,765,611 | 20,313,108 | 42,420,351 | 148,743,328 |
| 2003 | 255,312 | 156,722 | 202,547 | 4,373,994 | 35,214,598 | 15,358,930 | 17,986,664 | 20,566,242 | 42,959,048 | 150,650,073 |
| 2004 | 262,283 | 158,908 | 213,816 | 4,435,003 | 35,579,236 | 15,561,868 | 18,239,066 | 20,856,168 | 43,576,231 | 152,835,785 |
| 2005 | 284,165 | 174,052 | 228,886 | 4,563,904 | 36,954,402 | 16,188,965 | 19,161,462 | 21,943,132 | 45,908,647 | 161,124,733 |
| 2006 | 287,341 | 174,290 | 235,779 | 4,570,123 | 37,013,123 | 16,204,052 | 19,177,457 | 21,960,712 | 45,945,661 | 161,255,172 |
| 2007 | 293,291 | 175,918 | 246,088 | 4,612,825 | 37,397,026 | 16,332,955 | 19,330,981 | 22,135,410 | 46,316,663 | 162,566,947 |
| 2008 | 300,162 | 177,720 | 258,448 | 4,660,077 | 37,822,853 | 16,492,529 | 19,530,873 | 22,365,366 | 46,806,519 | 164,301,820 |
| 2009 | 305,955 | 179,148 | 268,778 | 4,697,501 | 37,987,725 | 16,583,225 | 19,626,157 | 22,470,505 | 47,027,647 | 165,080,131 |
| 2010 | 322,905 | 187,672 | 287,877 | 4,877,331 | 39,644,239 | 17,459,206 | 20,865,236 | 23,928,640 | 50,155,340 | 176,193,567 |
| 2011 | 324,540 | 186,219 | 296,516 | 4,839,572 | 39,496,519 | 17,159,011 | 20,397,752 | 23,369,664 | 48,950,892 | 171,904,291 |
| 2012 | 331,615 | 188,223 | 308,960 | 4,891,658 | 39,854,990 | 17,407,875 | 20,748,364 | 23,781,928 | 49,834,753 | 175,044,651 |
| 2013 | 339,120 | 190,121 | 323,774 | 4,940,993 | 40,223,444 | 17,564,304 | 20,939,058 | 23,999,905 | 50,298,506 | 176,685,572 |
| 2014 | 347,510 | 192,363 | 339,365 | 4,999,242 | 40,706,956 | 17,784,641 | 21,227,641 | 24,334,815 | 51,013,733 | 179,221,704 |
| 2015 | 352,168 | 193,368 | 350,133 | 4,977,978 | 40,526,899 | 17,666,585 | 21,055,593 | 24,131,286 | 50,576,369 | 177,666,806 |
| 2016 | 356,999 | 193,880 | 362,511 | 4,991,164 | 40,641,701 | 17,746,053 | 21,173,697 | 24,271,387 | 50,877,621 | 178,738,461 |
| 2017 | 374,386 | 200,956 | 387,929 | 5,173,348 | 42,044,017 | 18,352,628 | 21,929,830 | 25,139,789 | 52,727,094 | 185,287,212 |
| 2018 | 378,428 | 200,890 | 400,108 | 5,171,645 | 42,015,877 | 18,340,131 | 21,910,456 | 25,116,703 | 52,677,429 | 185,110,232 |
| 2019 | 383,463 | 201,214 | 413,332 | 5,179,974 | 42,094,114 | 18,392,179 | 21,988,337 | 25,209,127 | 52,876,078 | 185,817,330 |
| 2020 | 381,316 | 197,933 | 419,839 | 5,095,524 | 41,447,997 | 18,052,402 | 21,533,369 | 24,679,316 | 51,743,051 | 181,797,086 |
| 2021 | 383,760 | 198,780 | 423,760 | 5,117,340 | 41,654,812 | 18,190,271 | 21,740,123 | 24,924,851 | 52,271,321 | 183,676,692 |
| 2022 | 384,531 | 199,180 | 424,611 | 5,127,621 | 41,741,103 | 18,220,092 | 21,774,841 | 24,964,329 | 52,354,836 | 183,971,891 |
| 2023 | 384,463 | 199,145 | 424,536 | 5,126,709 | 41,731,357 | 18,218,896 | 21,774,294 | 24,963,949 | 52,354,180 | 183,969,711 |
| 2024 | 384,477 | 199,153 | 424,552 | 5,126,905 | 41,721,489 | 18,220,134 | 21,776,157 | 24,966,087 | 52,358,980 | 183,986,606 |
| 2025 | 384,823 | 199,331 | 424,934 | 5,131,517 | 41,777,746 | 18,264,956 | 21,847,707 | 25,052,018 | 52,544,354 | 184,647,337 |
| 2026 | 382,960 | 198,367 | 422,876 | 5,106,672 | 41,628,784 | 18,155,163 | 21,696,399 | 24,874,817 | 52,164,706 | 183,299,328 |
| 2027 | 382,999 | 198,387 | 422,919 | 5,107,191 | 41,616,483 | 18,160,117 | 21,704,229 | 24,884,177 | 52,184,988 | 183,371,461 |
| 2028 | 383,166 | 198,473 | 423,103 | 5,109,415 | 41,591,391 | 18,163,347 | 21,706,244 | 24,885,856 | 52,188,326 | 183,382,803 |
| 2029 | 383,231 | 198,507 | 423,176 | 5,110,294 | 41,674,936 | 18,169,836 | 21,716,148 | 24,897,758 | 52,213,787 | 183,473,459 |
| 2030 | 382,988 | 198,381 | 422,907 | 5,107,046 | 41,511,444 | 18,158,359 | 21,701,670 | 24,881,124 | 52,178,232 | 183,347,414 |
| 2031 | 383,661 | 198,729 | 423,650 | 5,116,019 | 41,673,415 | 18,194,337 | 21,749,722 | 24,937,052 | 52,297,854 | 183,771,831 |
| 2032 | 383,661 | 198,729 | 423,650 | 5,116,019 | 41,673,415 | 18,194,337 | 21,749,722 | 24,937,052 | 52,297,854 | 183,771,831 |
| 2033 | 383,962 | 198,886 | 423,983 | 5,120,040 | 41,710,133 | 18,220,429 | 21,788,934 | 24,983,733 | 52,398,505 | 184,129,980 |
| 2034 | 383,070 | 198,423 | 422,998 | 5,108,143 | 41,598,550 | 18,146,370 | 21,678,091 | 24,852,071 | 52,115,121 | 183,121,830 |
| 2035 | 384,604 | 199,218 | 424,692 | 5,128,595 | 42,595,263 | 18,266,962 | 21,856,536 | 25,063,669 | 52,570,006 | 184,739,683 |
| Total | 13,839,876 | 8,103,667 | 13,643,679 | 214,821,566 | 1,723,290,932 | 744,500,539 | 872,869,514 | 997,229,970 | 2,086,748,144 | 7,316,523,423 |

a) Power costs for years 1968 through 1987 are for an interim facility. b) Costs of Del Valle and South Bay Pumping Plants are combined to simplify cost allocations.

TABLE B-3

# Power Costs and Credits and Annual Replacement Deposits for Each Aqueduct Pumping and Power Recovery Plant

(Dollars)



| | California Aqueduct (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reach 18A | Reach 22B | Reach 23 | Reach 26A | Reach 29A | Reach 29G | Reach 29J | Reach 31A | Reach 33A | |
| Calendar Year | Alamo Powerplant (11) | Pearblossom Pumping Plant (12) | Mojave Siphon Powerplant (13) | Devil Canyon Powerplant (14) | Oso Pumping Plant (15) | Warne Powerplant (16) | Castaic Powerplant (17) | Las Perillas and Badger Hill Pumping Plants (18) | Devil's Den, Bluestone, and Polonio PPs and San Luis Obispo Pwp. (19) | Grand Total (20) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38,130 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 58,871 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 75,239 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 146,297 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 198,643 |
| 1967 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,517 | 0 | 263,128 |
| 1968 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 120,278 | 0 | 2,034,449 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79,620 | 0 | 1,366,635 |
| 1970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 137,449 | 0 | 1,188,766 |
| 1971 | 0 | 64,807 | 0 | 0 | 1,696 | 0 | 0 | 171,389 | 0 | 1,725,032 |
| 1972 | 0 | 103,584 | 0 | (3,112) | 180,005 | 0 | (385,696) | 240,651 | 0 | 4,645,065 |
| 1973 | 0 | 615,309 | 0 | (931,697) | 274,450 | 0 | (1,193,216) | 128,730 | 0 | 5,854,986 |
| 1974 | 0 | 595,646 | 0 | (939,072) | 322,440 | 0 | (1,823,397) | 129,345 | 0 | 6,272,395 |
| 1975 | 0 | 616,327 | 0 | (1,101,445) | 457,487 | 0 | -2835302 | 101,109 | 0 | 7,156,363 |
| 1976 | 0 | 914,440 | 0 | (1,520,412) | 314,669 | 0 | (2,512,021) | 151,211 | 0 | 7,192,331 |
| 1977 | 0 | 318,880 | 0 | (1,216,060) | 53,119 | 0 | (1,701,284) | 85,538 | 0 | 762,343 |
| 1978 | 0 | 1,801,373 | 0 | (3,298,247) | 251,373 | 0 | (2,361,377) | 197,217 | 0 | 11,818,144 |
| 1979 | 0 | 1,813,744 | 0 | (3,335,069) | 157,934 | 0 | (2,749,296) | 209,088 | 0 | 10,273,049 |
| 1980 | 0 | 1,866,161 | 0 | (3,508,195) | 170,688 | 0 | (2,721,871) | 182,996 | 0 | 10,593,358 |
| 1981 | 0 | 2,187,538 | 0 | (3,769,972) | 514,832 | 0 | (3,248,819) | 186,954 | 0 | 16,710,945 |
| 1982 | 0 | 1,686,620 | 0 | (3,172,286) | 625,731 | (973,898) | (3,476,126) | 182,343 | 0 | 15,924,542 |
| 1983 | 0 | 385,049 | 0 | (5,776,899) | 234,998 | (1,373,756) | (4,112,979) | 18,778 | 0 | (4,824,200) |
| 1984 | 0 | 673,007 | 0 | (7,751,311) | 435,350 | (2,269,583) | 1,601,424) | 116,056 | 0 | 3,217,292 |
| 1985 | 0 | 1,249,530 | 0 | (10,518,533) | 1,048,791 | (8,489,604) | (19,846,283) | 154,762 | 0 | (13,688,523) |
| 1986 | (1,066,189) | 2,618,876 | 0 | (12,055,463) | 1,388,243 | (6,276,296) | (11,466,466) | 318,097 | 0 | 14,083,860 |
| 1987 | (1,015,186) | 1,893,233 | 0 | (10,586,823) | 1,390,585 | (6,703,320) | (11,630,565) | 270,952 | 0 | 7,803,937 |
| 1988 | (767,246) | 2,426,127 | 0 | (14,655,710) | 1,490,282 | (7,385,651) | (12,678,838) | 235,508 | 0 | 7,684,769 |
| 1989 | (778,167) | 4,408,609 | 0 | (19,092,290) | 2,141,623 | (8,720,204) | (14,653,369) | 322,766 | 0 | 27,067,690 |
| 1990 | (845,641) | 6,878,176 | 0 | (21,336,948) | 3,061,070 | (11,692,826) | (19,863,014) | 486,602 | 0 | 51,951,321 |
| 1991 | (443,010) | 769,758 | 0 | (7,844,946) | 551,608 | (6,718,456) | (11,582,917) | (110,793) | 0 | (8,997,181) |
| 1992 | (54,898) | 2,104,344 | 0 | (8,845,930) | 1,840,400 | (4,336,554) | (8,057,801) | 176,004 | 0 | 9,868,176 |
| 1993 | (1,049,046) | 6,660,769 | 0 | (23,149,960) | 2,991,135 | (11,543,307) | (21,216,350) | 183,333 | 0 | 37,470,947 |
| 1994 | (1,774,098) | 13,385,430 | 0 | (26,514,458) | 6,895,848 | (17,121,872) | (29,833,600) | 483,928 | 0 | 134,876,847 |
| 1995 | (1,770,373) | 17,621,268 | 0 | (29,943,181) | 7,359,565 | (15,607,216) | (27,351,100) | 564,017 | 0 | 176,118,048 |
| 1996 | (4,259,119) | 20,365,764 | (8,260,214) | (30,418,156) | 8,720,931 | (17,350,116) | (28,030,450) | 854,405 | 1,168,872 | 209,279,991 |
| 1997 | (4,114,585) | 18,679,066 | (8,058,802) | (29,508,231) | 8,894,501 | (18,383,616) | (29,861,100) | 985,840 | 2,024,622 | 200,875,621 |
| 1998 | (4,251,085) | 19,438,547 | (8,705,350) | (29,734,456) | 8,960,964 | (18,357,291) | (29,804,800) | 1,368,151 | 2,714,974 | 208,169,132 |
| 1999 | (4,374,052) | 20,051,823 | (8,735,278) | (29,807,356) | 8,815,142 | (17,959,366) | (28,994,300) | 1,383,565 | 2,756,623 | 208,688,203 |
| 2000 | (4,292,932) | 20,199,399 | (8,244,820) | (30,155,381) | 9,217,853 | (18,172,141) | (29,428,850) | 1,377,582 | 2,879,971 | 218,020,327 |
| 2001 | (4,371,712) | 20,612,057 | (8,694,428) | (30,062,231) | 9,241,158 | (18,148,566) | (29,379,100) | 1,383,767 | 2,897,308 | 220,654,440 |
| 2002 | (4,375,300) | 21,137,546 | (8,690,386) | (30,087,731) | 9,461,058 | (18,153,641) | (29,381,150) | 1,418,674 | 2,995,159 | 228,412,017 |
| 2003 | (4,377,250) | 21,411,301 | (8,673,874) | (30,136,156) | 9,574,615 | (18,153,241) | (29,381,200) | 1,436,914 | 3,046,288 | 232,471,527 |
| 2004 | (4,385,518) | 21,740,071 | (8,734,418) | (30,168,931) | 9,699,313 | (18,153,216) | (29,381,200) | 1,456,956 | 3,102,469 | 236,893,890 |
| 2005 | (4,588,825) | 23,075,897 | (9,125,460) | (31,007,856) | 10,002,209 | (18,214,316) | (29,499,850) | 1,457,640 | 3,221,173 | 251,852,960 |
| 2006 | (4,581,259) | 23,073,177 | (9,072,226) | (31,035,781) | 10,017,765 | (18,215,566) | (29,508,050) | 1,459,627 | 3,226,900 | 252,188,297 |
| 2007 | (4,569,442) | 23,231,386 | (9,035,676) | (31,002,456) | 10,105,457 | (18,215,566) | (29,503,450) | 1,473,264 | 3,266,221 | 255,157,842 |
| 2008 | (4,575,487) | 23,493,884 | (9,065,002) | (30,998,231) | 10,202,464 | (18,215,316) | (29,503,350) | 1,488,356 | 3,309,736 | 258,853,421 |
| 2009 | (4,537,267) | 23,518,104 | (8,986,828) | (30,922,756) | 10,279,318 | (18,216,941) | (29,503,600) | 1,500,308 | 3,344,200 | 260,701,310 |
| 2010 | (4,762,765) | 25,473,365 | (8,878,726) | (31,625,481) | 10,654,832 | (18,226,391) | (29,521,300) | 1,557,743 | 3,509,800 | 282,103,090 |
| 2011 | (4,606,843) | 24,353,811 | (8,267,954) | (31,605,606) | 10,564,695 | (18,204,091) | (29,485,000) | 1,545,684 | 3,475,030 | 274,694,702 |
| 2012 | (4,679,032) | 25,000,313 | (8,603,010) | (31,651,431) | 10,678,125 | (18,217,616) | (29,503,900) | 1,562,320 | 3,522,994 | 280,501,780 |
| 2013 | (4,675,405) | 25,216,985 | (8,596,302) | (31,616,906) | 10,779,439 | (18,217,616) | (29,503,900) | 1,578,076 | 3,568,426 | 284,037,594 |
| 2014 | (4,701,418) | 25,639,524 | (8,739,922) | (31,663,606) | 10,906,226 | (18,227,166) | (29,523,650) | 1,596,680 | 3,622,066 | 289,076,704 |
| 2015 | (4,619,284) | 25,262,172 | (8,646,096) | (31,684,456) | 10,871,550 | (18,240,766) | (29,548,700) | 1,589,888 | 3,602,485 | 286,083,978 |
| 2016 | (4,668,268) | 25,587,032 | (8,787,910) | (31,678,481) | 10,870,075 | (18,203,291) | (29,470,100) | 1,594,100 | 3,614,629 | 288,211,260 |
| 2017 | (4,664,524) | 26,498,325 | (8,765,550) | (31,698,331) | 11,259,981 | (18,222,816) | (29,513,100) | 1,652,287 | 3,782,398 | 301,945,859 |
| 2018 | (4,666,708) | 26,478,640 | (8,762,024) | (31,698,181) | 11,246,668 | (18,210,641) | (29,486,850) | 1,651,743 | 3,780,829 | 301,655,375 |
| 2019 | (4,688,821) | 26,662,476 | (8,844,068) | (31,774,656) | 11,257,882 | (18,198,541) | (29,470,900) | 1,654,403 | 3,788,500 | 302,941,423 |
| 2020 | (4,652,083) | 25,875,837 | (8,924,736) | (31,675,706) | 11,101,292 | (18,222,766) | (29,515,950) | 1,627,431 | 3,710,731 | 294,671,883 |
| 2021 | (4,708,750) | 26,338,904 | (9,243,194) | (31,707,406) | 11,141,492 | (18,218,116) | (29,503,800) | 1,634,399 | 3,730,822 | 298,046,061 |
| 2022 | (4,694,671) | 26,361,202 | (9,178,350) | (31,648,531) | 11,166,015 | (18,221,091) | (29,512,750) | 1,637,683 | 3,740,290 | 298,812,832 |
| 2023 | (4,709,218) | 26,374,127 | (9,185,660) | (31,716,106) | 11,160,858 | (18,216,816) | (29,503,950) | 1,637,392 | 3,739,450 | 298,727,317 |
| 2024 | (4,711,402) | 26,386,441 | (9,195,722) | (31,749,781) | 11,157,911 | (18,213,091) | (29,495,150) | 1,637,454 | 3,739,630 | 298,720,830 |
| 2025 | (4,715,302) | 26,536,303 | (9,122,880) | (31,811,881) | 11,178,058 | (18,227,166) | (29,523,700) | 1,638,926 | 3,7438,78 | 299,970,959 |
| 2026 | (4,705,474) | 26,301,488 | (9,031,204) | (31,808,406) | 11,113,071 | (18,209,591) | (29,486,350) | 1,630,992 | 3,720,997 | 297,455,595 |
| 2027 | (4,700,677) | 26,287,857 | (9,030,602) | (31,799,756) | 11,127,193 | (18,226,091) | (29,521,450) | 1,631,158 | 3,721,474 | 297,522,057 |
| 2028 | (4,699,897) | 26,318,386 | (9,069,474) | (31,735,256) | 11,115,831 | (18,204,216) | (29,478,300) | 1,631,868 | 3,723,523 | 297,634,589 |
| 2029 | (4,704,811) | 26,317,709 | (9,140,682) | (31,850,731) | 11,127,020 | (18,215,116) | (29,503,350) | 1,632,148 | 3,724,333 | 297,647,652 |
| 2030 | (4,725,715) | 26,291,886 | (9,190,218) | (31,762,031) | 11,122,718 | (18,220,291) | (29,509,900) | 1,631,111 | 3,721,342 | 297,248,467 |
| 2031 | (4,705,435) | 26,375,713 | (9,291,784) | (31,763,506) | 11,138,936 | (18,217,491) | (29,503,900) | 1,633,977 | 3,729,607 | 298,142,387 |
| 2032 | (4,705,435) | 26,375,713 | (9,291,784) | (31,763,506) | 11,138,936 | (18,217,491) | (29,503,900) | 1,633,977 | 3,729,607 | 298,142,387 |
| 2033 | (4,716,901) | 26,454,367 | (9,311,392) | (31,750,231) | 11,150,441 | (18,221,716) | (29,512,750) | 1,635,261 | 3,733,309 | 298,818,973 |
| 2034 | (4,687,300) | 26,213,433 | (9,208,020) | (31,708,306) | 11,125,972 | (18,222,166) | (29,512,700) | 1,631,462 | 3,722,353 | 296,979,395 |
| 2035 | (4,748,647) | 26,747,897 | (8,974,444) | (31,661,006) | 11,106,053 | (18,134,091) | (29,345,950) | 1,637,994 | 3,741,187 | 301,598,221 |
| Total | (193,242,473) | 1,051,416,533 | (355,364,470) | (1,470,523,009) | 454,607,940 | (836,697,683) | (1,393,821,963) | 66,701,651 | 135,894,206 | 11,450,542,042 |

TABLE B-4

# Annual Entitlements to Project Water

(Acre-feet)



| | North Bay Area | | | South Bay Area (a | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (b (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 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 | 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 | 1,100 | 1,100 | 26,000 | 29,600 | 88,000 | 143,600 | 4,500 | 8,198 | 12,698 |
| 1985 | 0 | 1,250 | 1,250 | 27,000 | 30,800 | 88,000 | 145,800 | 7,500 | 13,638 | 21,138 |
| 1986 | 0 | 1,400 | 1,400 | 28,000 | 32,100 | 88,000 | 148,100 | 10,000 | 18,210 | 28,210 |
| 1987 | 0 | 1,550 | 1,550 | 29,000 | 33,300 | 88,000 | 150,300 | 12,500 | 22,704 | 35,204 |
| 1988 | 5,745 | 9,726 | 15,471 | 30,000 | 34,500 | 88,000 | 152,500 | 15,500 | 28,222 | 43,722 |
| 1989 | 6,195 | 18,420 | 24,615 | 31,000 | 35,700 | 90,000 | 156,700 | 20,000 | 36,342 | 56,342 |
| 1990 | 6,940 | 21,250 | 28,190 | 32,000 | 36,900 | 92,000 | 160,900 | 25,000 | 45,486 | 70,486 |
| 1991 | 7,290 | 22,300 | 29,590 | 34,000 | 38,400 | 94,000 | 166,400 | 25,000 | 45,486 | 70,486 |
| 1992 | 7,840 | 24,170 | 32,010 | 36,000 | 39,900 | 96,000 | 171,900 | 25,000 | 45,486 | 70,486 |
| 1993 | 8,490 | 26,130 | 34,620 | 38,000 | 41,400 | 98,000 | 177,400 | 25,000 | 45,486 | 70,486 |
| 1994 | 9,135 | 28,080 | 37,215 | 40,000 | 42,000 | 100,000 | 182,000 | 25,000 | 45,486 | 70,486 |
| 1995 | 9,780 | 34,250 | 44,030 | 42,000 | 42,000 | 100,000 | 184,000 | 25,000 | 45,486 | 70,486 |
| 1996 | 10,425 | 37,800 | 48,225 | 44,000 | 42,000 | 100,000 | 186,000 | 25,000 | 45,486 | 70,486 |
| 1997 | 11,065 | 38,250 | 49,315 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 1998 | 11,710 | 38,710 | 50,420 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 1999 | 12,330 | 39,170 | 51,500 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2000 | 13,050 | 39,620 | 52,670 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2001 | 13,665 | 40,080 | 53,745 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2002 | 14,185 | 40,540 | 54,725 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2003 | 14,800 | 41,000 | 55,800 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2004 | 15,400 | 41,450 | 56,850 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2005 | 16,000 | 41,500 | 57,500 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2006 | 16,450 | 41,550 | 58,000 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2007 | 17,000 | 41,600 | 58,600 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2008 | 17,650 | 41,650 | 59,300 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2009 | 18,200 | 41,700 | 59,900 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2010 | 18,750 | 41,750 | 60,500 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2011 | 19,400 | 41,800 | 61,200 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2012 | 19,950 | 41,850 | 61,800 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2013 | 20,600 | 41,900 | 62,500 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2014 | 21,250 | 41,950 | 63,200 | 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 | 878,695 | 1,848,396 | 2,727,091 | 2,494,607 | 2,459,248 | 6,510,783 | 11,464,638 | 1,227,000 | 2,231,494 | 3,458,494 |

a) Entitlements for the South Bay area were supplied by nonproject water from June 1962 through November 1967. Actual delivery quantities of project water are shown for 1967.
b) District's Table A quantities exclude amounts from 1968 through 1987 that are assumed to be supplied by non-SWP water.

TABLE B-4

# Annual Entitlements to Project Water

(Acre-feet)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Kern County Water Agency | | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Municipal and Industrial (13) | Agricultural (14) | Total (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 14,300 | 1,000 | 0 | 46,600 | 46,600 | 900 | 2,300 | 12,250 | 77,350 |
| 1969 | 14,325 | 3,000 | 0 | 95,700 | 95,700 | 1,200 | 2,500 | 46,350 | 163,075 |
| 1970 | 15,700 | 3,000 | 28,700 | 116,400 | 145,100 | 1,300 | 2,600 | 34,300 | 202,000 |
| 1971 | 17,900 | 3,000 | 35,700 | 154,600 | 190,300 | 1,300 | 2,800 | 36,500 | 251,800 |
| 1972 | 20,000 | 3,000 | 39,200 | 231,500 | 270,700 | 1,400 | 5,366 | 112,600 | 413,066 |
| 1973 | 22,000 | 3,000 | 43,500 | 267,000 | 310,500 | 1,500 | 3,100 | 43,552 | 383,652 |
| 1974 | 33,390 | 3,000 | 48,000 | 299,000 | 347,000 | 1,500 | 3,471 | 72,289 | 460,650 |
| 1975 | 40,555 | 3,000 | 52,700 | 358,120 | 410,820 | 1,600 | 3,576 | 86,258 | 545,809 |
| 1976 | 30,921 | 3,000 | 56,100 | 386,050 | 442,150 | 1,600 | 4,039 | 61,707 | 543,417 |
| 1977 | 30,400 | 3,000 | 60,600 | 423,000 | 483,600 | 1,700 | 3,700 | 59,000 | 581,400 |
| 1978 | 32,500 | 0 | 64,100 | 470,200 | 534,300 | 1,900 | 3,900 | 63,300 | 635,900 |
| 1979 | 38,544 | 3,000 | 67,600 | 516,300 | 583,900 | 2,000 | 4,000 | 71,241 | 702,685 |
| 1980 | 41,000 | 3,000 | 71,100 | 563,400 | 634,500 | 2,200 | 5,700 | 71,700 | 758,100 |
| 1981 | 41,000 | 3,000 | 74,800 | 616,600 | 691,400 | 2,300 | 4,300 | 76,000 | 818,000 |
| 1982 | 41,000 | 3,000 | 79,600 | 665,700 | 745,300 | 2,500 | 4,500 | 80,200 | 876,500 |
| 1983 | 42,900 | 3,000 | 83,500 | 721,600 | 805,100 | 2,800 | 4,600 | 9,548 | 867,948 |
| 1984 | 45,100 | 3,000 | 103,600 | 757,000 | 860,600 | 3,100 | 4,800 | 62,611 | 979,211 |
| 1985 | 47,200 | 3,000 | 108,900 | 806,100 | 915,000 | 3,400 | 4,900 | 45,549 | 1,019,049 |
| 1986 | 49,300 | 3,000 | 113,400 | 854,800 | 968,200 | 3,700 | 5,100 | 97,200 | 1,126,500 |
| 1987 | 51,400 | 3,000 | 119,100 | 904,400 | 1,023,500 | 4,000 | 5,200 | 101,400 | 1,188,500 |
| 1988 | 53,500 | 3,000 | 123,900 | 950,700 | 1,074,600 | 4,000 | 5,400 | 105,600 | 1,246,100 |
| 1989 | 55,600 | 3,000 | 128,200 | 984,100 | 1,112,300 | 4,000 | 5,600 | 109,900 | 1,290,400 |
| 1990 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1991 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1992 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1993 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1994 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1995 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1996 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1997 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1998 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1999 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2000 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2001 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2002 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2003 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2004 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2005 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2006 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2007 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2008 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2009 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2010 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2011 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2012 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2013 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2014 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2015 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2016 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2017 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2018 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2019 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2020 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2021 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2022 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2023 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2024 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2025 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2026 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2027 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2028 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2029 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2030 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2031 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2032 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2033 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2034 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2035 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| Total | 3,432,735 | 199,000 | 7,693,900 | 58,053,670 | 65,747,570 | 233,900 | 353,652 | 6,910,055 | 76,876,912 |

TABLE B-4

# Annual Entitlements to Project Water

(Acre-feet)



| Calendar Year | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Antelope Valley-East Kern Water Agency (20)* | *Castaic Lake Water Agency (21)* | *Coachella Valley Water District (22)* | *Crestline-Lake Arrowhead Water Agency (23)* | *Desert Water Agency (24)* | *Littlerock Creek Irrigation District (25)* | *Mojave Water Agency (26)* | *Palmdale Water District (27)* | *San Bernardino Valley Municipal Water District (28)* | *San Gabriel Valley Municipal Water District (29)* |
| 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 | 3,700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 5,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0 | 6,700 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 20,000 | 8,936 | 5,200 | 526 | 8,000 | 170 | 8,400 | 1,620 | 1,677 | 122 |
| 1973 | 25,000 | 12,400 | 5,800 | 870 | 9,000 | 290 | 10,700 | 2,940 | 48,000 | 11,500 |
| 1974 | 30,000 | 15,400 | 6,400 | 1,160 | 10,000 | 400 | 13,100 | 4,260 | 50,000 | 12,300 |
| 1975 | 35,000 | 18,200 | 7,000 | 1,450 | 11,000 | 520 | 15,400 | 5,580 | 52,500 | 13,100 |
| 1976 | 44,000 | 21,200 | 7,600 | 1,740 | 12,000 | 640 | 17,800 | 6,900 | 55,000 | 14,000 |
| 1977 | 50,000 | 24,100 | 8,421 | 2,030 | 13,000 | 730 | 20,200 | 8,220 | 57,500 | 14,800 |
| 1978 | 57,000 | 24,762 | 9,242 | 2,320 | 14,000 | 920 | 0 | 9,340 | 60,000 | 15,700 |
| 1979 | 63,000 | 28,000 | 10,063 | 2,610 | 15,000 | 1,040 | 24,900 | 10,260 | 62,500 | 16,600 |
| 1980 | 69,200 | 30,400 | 10,884 | 2,900 | 17,000 | 1,150 | 27,200 | 11,180 | 65,500 | 17,400 |
| 1981 | 75,000 | 32,800 | 12,105 | 3,190 | 19,000 | 1,270 | 23,100 | 11,700 | 68,500 | 18,300 |
| 1982 | 81,300 | 34,800 | 13,326 | 3,480 | 21,000 | 1,380 | 22,843 | 12,320 | 71,500 | 19,100 |
| 1983 | 87,700 | 37,300 | 14,547 | 3,770 | 23,000 | 1,500 | 34,300 | 12,940 | 74,500 | 19,900 |
| 1984 | 35,000 | 39,600 | 15,768 | 4,060 | 25,000 | 1,610 | 36,700 | 13,560 | 78,000 | 20,700 |
| 1985 | 40,000 | 41,800 | 16,989 | 4,350 | 27,000 | 1,730 | 39,000 | 14,180 | 81,500 | 21,800 |
| 1986 | 42,000 | 43,600 | 18,210 | 4,640 | 29,000 | 1,840 | 41,400 | 14,800 | 85,000 | 23,200 |
| 1987 | 44,000 | 45,600 | 19,431 | 4,930 | 31,500 | 1,960 | 43,700 | 15,420 | 89,000 | 24,600 |
| 1988 | 46,000 | 48,000 | 20,652 | 5,220 | 34,000 | 2,070 | 46,000 | 16,040 | 93,000 | 26,000 |
| 1989 | 125,700 | 50,100 | 21,873 | 5,510 | 36,500 | 2,190 | 48,500 | 16,660 | 97,000 | 27,400 |
| 1990 | 132,100 | 52,000 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 101,500 | 28,800 |
| 1991 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1992 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1993 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1994 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1995 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1996 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1997 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1998 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 1999 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2000 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2001 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2002 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2003 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2004 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2005 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2006 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2007 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2008 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2009 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2010 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2011 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2012 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2013 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2014 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2015 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2016 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2017 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2018 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2019 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2020 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2021 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2022 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2023 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2024 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2025 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2026 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2027 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2028 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2029 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2030 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2031 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2032 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2033 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2034 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| 2035 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| Total | 7,330,000 | 3,069,098 | 1,286,111 | 321,556 | 2,107,600 | 127,210 | 2,810,043 | 983,720 | 5,909,177 | 1,641,322 |

TABLE B-4

# Annual Entitlements to Project Water

(Acre-feet)



| | Southern California Area | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC&WCD (36) | Total (37) | South Bay Area Future Contractor (38) | Grand Total (39) |
| 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 | 11,538 |
| 1968 | 0 | 0 | 0 | 3,700 | 0 | 300 | 250 | 550 | 0 | 191,500 |
| 1969 | 0 | 0 | 0 | 5,000 | 0 | 350 | 270 | 620 | 0 | 267,395 |
| 1970 | 0 | 0 | 0 | 5,700 | 0 | 400 | 300 | 700 | 0 | 322,600 |
| 1971 | 0 | 0 | 0 | 6,700 | 0 | 450 | 440 | 890 | 0 | 375,590 |
| 1972 | 0 | 154,772 | 0 | 209,423 | 0 | 500 | 470 | 970 | 0 | 741,759 |
| 1973 | 0 | 354,600 | 0 | 481,100 | 0 | 600 | 500 | 1,100 | 0 | 986,252 |
| 1974 | 0 | 454,900 | 0 | 597,920 | 0 | 700 | 530 | 1,230 | 0 | 1,182,200 |
| 1975 | 0 | 555,200 | 0 | 714,950 | 0 | 1,050 | 560 | 1,610 | 0 | 1,386,869 |
| 1976 | 0 | 655,600 | 0 | 836,480 | 0 | 1,400 | 590 | 1,990 | 0 | 1,508,387 |
| 1977 | 0 | 755,900 | 0 | 954,901 | 0 | 1,800 | 620 | 2,420 | 0 | 1,667,321 |
| 1978 | 0 | 856,300 | 0 | 1,049,584 | 0 | 1,200 | 650 | 1,850 | 0 | 1,818,034 |
| 1979 | 0 | 956,600 | 0 | 1,190,573 | 0 | 1,450 | 680 | 2,130 | 0 | 2,028,088 |
| 1980 | 6,800 | 1,057,000 | 1,000 | 1,317,614 | 0 | 1,100 | 710 | 1,810 | 0 | 2,214,770 |
| 1981 | 7,800 | 1,157,300 | 2,000 | 1,432,065 | 0 | 1,200 | 740 | 1,940 | 0 | 2,392,468 |
| 1982 | 8,800 | 1,257,600 | 3,000 | 1,550,449 | 0 | 1,200 | 770 | 1,970 | 0 | 2,574,545 |
| 1983 | 9,800 | 1,358,000 | 4,000 | 1,681,257 | 0 | 1,200 | 800 | 2,000 | 0 | 2,701,994 |
| 1984 | 10,800 | 1,458,300 | 5,000 | 1,744,098 | 1,600 | 1,200 | 830 | 3,630 | 0 | 2,884,337 |
| 1985 | 11,800 | 1,558,700 | 6,000 | 1,864,849 | 1,700 | 1,200 | 860 | 3,760 | 0 | 3,055,846 |
| 1986 | 12,900 | 1,659,300 | 8,000 | 1,983,890 | 2,100 | 1,200 | 890 | 4,190 | 0 | 3,292,290 |
| 1987 | 14,000 | 1,759,800 | 10,000 | 2,103,941 | 2,500 | 1,200 | 920 | 4,620 | 0 | 3,484,115 |
| 1988 | 15,100 | 1,860,400 | 13,000 | 2,225,482 | 2,900 | 1,200 | 960 | 5,060 | 0 | 3,688,335 |
| 1989 | 16,200 | 1,961,000 | 16,000 | 2,424,633 | 3,300 | 1,200 | 1,000 | 5,500 | 0 | 3,958,190 |
| 1990 | 17,300 | 2,011,500 | 20,000 | 2,500,600 | 3,800 | 1,200 | 1,040 | 6,040 | 0 | 4,108,516 |
| 1991 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,080 | 11,880 | 0 | 4,130,856 |
| 1992 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,120 | 11,920 | 0 | 4,138,816 |
| 1993 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,160 | 11,960 | 0 | 4,146,966 |
| 1994 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,200 | 12,000 | 0 | 4,154,201 |
| 1995 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,250 | 12,050 | 0 | 4,163,066 |
| 1996 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,300 | 12,100 | 0 | 4,169,311 |
| 1997 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,350 | 12,150 | 0 | 4,172,451 |
| 1998 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,400 | 12,200 | 0 | 4,173,606 |
| 1999 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,450 | 12,250 | 0 | 4,174,736 |
| 2000 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 1,200 | 1,510 | 12,310 | 0 | 4,175,966 |
| 2001 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 1,570 | 38,670 | 0 | 4,203,401 |
| 2002 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 1,630 | 38,730 | 0 | 4,204,441 |
| 2003 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 1,690 | 38,790 | 0 | 4,205,576 |
| 2004 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 1,750 | 38,850 | 0 | 4,206,686 |
| 2005 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 1,810 | 38,910 | 0 | 4,207,396 |
| 2006 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 1,880 | 38,980 | 0 | 4,207,966 |
| 2007 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 1,950 | 39,050 | 0 | 4,208,636 |
| 2008 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,020 | 39,120 | 0 | 4,209,406 |
| 2009 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,090 | 39,190 | 0 | 4,210,076 |
| 2010 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,160 | 39,260 | 0 | 4,210,746 |
| 2011 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,240 | 39,340 | 0 | 4,211,526 |
| 2012 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,320 | 39,420 | 0 | 4,212,206 |
| 2013 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,410 | 39,510 | 0 | 4,212,996 |
| 2014 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,500 | 39,600 | 0 | 4,213,786 |
| 2015 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,600 | 39,700 | 0 | 4,214,586 |
| 2016 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,215,286 |
| 2017 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,215,886 |
| 2018 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,216,486 |
| 2019 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,086 |
| 2020 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,686 |
| 2021 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2022 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2023 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2024 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2025 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2026 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2027 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2028 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2029 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2030 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2031 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2032 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2033 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2034 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| 2035 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| Total | 909,800 | 112,360,272 | 988,000 | 139,843,909 | 449,900 | 997,800 | 112,820 | 1,560,520 | 0 | 235,931,564 |

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | | North Bay Aqueduct | | | | South Bay Aqueduct | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Reach 1 | Reach 3A | Reach 3B | | Reach 1 | | Reach 2 | Reach 4 | Reach 5 | |
| Calendar Year | Grizzly Valley Pipeline PC FC&WCD (1) | SCWA (2) | SCWA (3) | NC FC&WCD (a (4) | Total (5) | ACWD (6) | AC FC&WCD (7) | AC FC&WCD (8) | AC FC&WCD (9) | ACWD (10) | AC FC&WCD (11) |
| 1962 | 0 | 0 | 0 | 0 | 0 | 8,412 | 141 | 353 | 0 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 10,914 | 814 | 917 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 19,238 | 248 | 1,425 | 0 | 0 | 0 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 15,280 | 637 | 1,830 | 138 | 0 | 0 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 2,475 | 2,537 | 499 | 0 | 0 |
| 1967 | 0 | 0 | 0 | 0 | 0 | 0 | 1,527 | 2,391 | 862 | 0 | 0 |
| 1968 | 0 | 0 | 0 | 1,214 | 1,214 | 0 | 1,608 | 3,799 | 721 | 0 | 5 |
| 1969 | 0 | 0 | 0 | 2,687 | 2,687 | 0 | 1,165 | 3,459 | 1,851 | 0 | 160 |
| 1970 | 70 | 0 | 0 | 3,618 | 3,618 | 0 | 1,345 | 4,558 | 3,182 | 0 | 164 |
| 1971 | 64 | 0 | 0 | 2,521 | 2,521 | 0 | 546 | 1,908 | 2,403 | 0 | 160 |
| 1972 | 505 | 0 | 0 | 3,647 | 3,647 | 0 | 1,066 | 4,605 | 2,041 | 1,489 | 2,777 |
| 1973 | 679 | 0 | 0 | 3,792 | 3,792 | 0 | 430 | 1,123 | 1,193 | 0 | 229 |
| 1974 | 648 | 0 | 0 | 4,870 | 4,870 | 0 | 177 | 0 | 975 | 0 | 162 |
| 1975 | 405 | 0 | 0 | 6,840 | 6,840 | 0 | 137 | 1,783 | 1,864 | 0 | 120 |
| 1976 | 382 | 0 | 0 | 7,122 | 7,122 | 0 | 265 | 7,204 | 3,384 | 0 | 817 |
| 1977 | 303 | 0 | 0 | 8,226 | 8,226 | 0 | 210 | 4,491 | 2,213 | 0 | 524 |
| 1978 | 278 | 0 | 0 | 6,034 | 6,034 | 0 | 422 | 2,426 | 3,754 | 0 | 2,034 |
| 1979 | 329 | 0 | 0 | 6,561 | 6,561 | 0 | 197 | 4,283 | 5,567 | 0 | 3,937 |
| 1980 | 295 | 0 | 0 | 6,707 | 6,707 | 0 | 77 | 3,883 | 6,686 | 1,508 | 0 |
| 1981 | 355 | 0 | 0 | 9,001 | 9,001 | 0 | 1,250 | 4,648 | 5,273 | 5,752 | 1,157 |
| 1982 | 305 | 0 | 0 | 1,213 | 1,213 | 0 | 473 | 3,043 | 4,406 | 0 | 630 |
| 1983 | 262 | 0 | 0 | 2,287 | 2,287 | 0 | 179 | 2,712 | 1,714 | 0 | 50 |
| 1984 | 272 | 0 | 0 | 2,923 | 2,923 | 0 | 165 | 4,219 | 2,219 | 0 | 55 |
| 1985 | 254 | 0 | 0 | 4,039 | 4,039 | 0 | 213 | 5,199 | 2,060 | 0 | 63 |
| 1986 | 317 | 1,400 | 0 | 3,519 | 4,919 | 0 | 200 | 6,052 | 2,062 | 0 | 212 |
| 1987 | 452 | 1,550 | 0 | 7,693 | 9,243 | 0 | 218 | 7,538 | 2,372 | 0 | 285 |
| 1988 | 523 | 1 | 9,725 | 5,392 | 15,118 | 0 | 222 | 8,302 | 4,681 | 0 | 189 |
| 1989 | 486 | 10 | 17,246 | 3,819 | 21,075 | 0 | 222 | 8,051 | 6,562 | 0 | 418 |
| 1990 | 574 | 3,275 | 15,856 | 6,940 | 26,071 | 0 | 256 | 8,160 | 8,347 | 0 | 593 |
| 1991 | 420 | 3,117 | 3,855 | 1,380 | 8,352 | 0 | 162 | 3,676 | 3,269 | 0 | 359 |
| 1992 | 485 | 4,003 | 7,930 | 4,238 | 16,171 | 0 | 217 | 5,177 | 2,188 | 0 | 154 |
| 1993 | 812 | 6,717 | 11,574 | 5,943 | 24,234 | 0 | 294 | 5,663 | 7,516 | 0 | 1,706 |
| 1994 | 1,200 | 11,150 | 16,930 | 9,135 | 37,215 | 0 | 413 | 8,624 | 10,777 | 0 | 2,805 |
| 1995 | 1,250 | 16,900 | 17,340 | 9,780 | 44,020 | 0 | 413 | 9,178 | 10,918 | 0 | 2,858 |
| 1996 | 1,304 | 20,050 | 17,750 | 10,425 | 48,225 | 0 | 413 | 9,409 | 11,403 | 0 | 3,318 |
| 1997 | 1,352 | 20,100 | 18,150 | 11,065 | 49,315 | 0 | 413 | 9,636 | 12,131 | 0 | 3,522 |
| 1998 | 1,400 | 20,533 | 18,182 | 11,710 | 50,425 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 1999 | 1,469 | 20,772 | 18,393 | 12,330 | 51,495 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2000 | 1,522 | 21,012 | 18,608 | 13,050 | 52,670 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2001 | 1,577 | 21,012 | 18,608 | 13,665 | 53,285 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2002 | 1,632 | 21,012 | 18,608 | 14,185 | 53,805 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2003 | 1,690 | 21,012 | 18,608 | 14,800 | 54,420 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2004 | 1,766 | 21,012 | 18,608 | 15,400 | 55,020 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2005 | 1,827 | 22,012 | 19,488 | 16,000 | 57,500 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2006 | 1,890 | 22,012 | 19,488 | 16,450 | 57,950 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2007 | 1,954 | 22,012 | 19,488 | 17,000 | 58,500 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2008 | 2,020 | 22,012 | 19,488 | 17,650 | 59,150 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2009 | 2,112 | 22,012 | 19,488 | 18,200 | 59,700 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2010 | 2,183 | 22,144 | 19,606 | 18,750 | 60,500 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2011 | 2,256 | 22,144 | 19,606 | 19,400 | 61,150 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2012 | 2,332 | 22,144 | 19,606 | 19,950 | 61,700 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2013 | 2,410 | 22,144 | 19,606 | 20,600 | 62,350 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2014 | 2,449 | 22,144 | 19,606 | 21,250 | 63,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2015 | 2,515 | 22,276 | 19,724 | 21,900 | 63,900 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2016 | 2,580 | 22,276 | 19,724 | 22,500 | 64,500 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2017 | 2,642 | 22,276 | 19,724 | 23,100 | 65,100 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2018 | 2,700 | 22,276 | 19,724 | 23,700 | 65,700 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2019 | 2,700 | 22,276 | 19,724 | 24,300 | 66,300 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2020 | 2,700 | 22,276 | 19,724 | 24,900 | 66,900 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2021 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2022 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2023 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2024 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2025 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2026 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2027 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2028 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2029 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2030 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2031 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2032 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2033 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2034 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| 2035 | 2,700 | 22,276 | 19,724 | 25,000 | 67,000 | 0 | 828 | 7,800 | 6,711 | 0 | 2,610 |
| Total | 103,407 | 923,214 | 875,645 | 958,421 | 2,757,280 | 53,844 | 50,674 | 458,662 | 390,249 | 8,749 | 128,643 |

a) For 1968 through 1987, deliveries are nonproject water pumped through an interim facility.

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | South Bay Aqueduct (continued) (b | | | | | California Aqueduct | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | North San Joaquin Division | | | San Luis Division | | | |
| | Reach 6 | Reach 7 | Reach 8 | Reach 9 | | Reach 2A | | | Reach 3 | Reach 4 | | |
| Calendar Year | AC FC&WCD (12) | ACWD (13) | ACWD (14) | SCVWD (15) | Total (16) | OFWD (c (17) | TLBWSD (18) | SCVWD (19) | DRWD (20) | KCWA (ag) (21) | DRWD (22) | TLBWSD (23) |
| 1962 | 0 | 0 | 0 | 0 | 8,906 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 0 | 12,645 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 0 | 20,911 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1965 | 0 | 1,127 | 0 | 15,014 | 34,026 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1966 | 0 | 14,864 | 0 | 34,538 | 54,913 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1967 | 0 | 12,882 | 0 | 39,101 | 56,763 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1968 | 0 | 24,817 | 0 | 70,105 | 101,055 | 3,084 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 813 | 0 | 62,264 | 69,712 | 3,016 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 0 | 0 | 80,311 | 89,560 | 5,911 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0 | 5,961 | 0 | 87,606 | 98,584 | 7,212 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 26,182 | 0 | 100,266 | 138,426 | 8,166 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 2,521 | 0 | 88,582 | 94,078 | 3,214 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 4 | 88,000 | 89,318 | 3,471 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 714 | 393 | 593 | 88,000 | 93,604 | 3,576 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 5,461 | 13,774 | 7,526 | 88,000 | 126,431 | 4,112 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 5,206 | 11,284 | 7,556 | 76,220 | 107,704 | 1,472 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 2,348 | 854 | 5,009 | 95,727 | 112,574 | 3,906 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 5,341 | 3,430 | 7,444 | 91,991 | 122,190 | 6,149 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 6,144 | 2,824 | 6,702 | 88,000 | 115,824 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 7,262 | 7,595 | 8,570 | 88,000 | 129,507 | 4,300 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 4,571 | 1,776 | 4,540 | 87,261 | 106,700 | 3,838 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 111 | 0 | 3,157 | 86,733 | 94,656 | 3,822 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 126 | 0 | 3,338 | 88,000 | 98,122 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 7,537 | 11,203 | 7,813 | 88,000 | 122,088 | 5,433 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 2,083 | 5,311 | 7,068 | 88,000 | 110,988 | 5,107 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 12,993 | 15,488 | 9,902 | 88,000 | 136,796 | 5,625 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 12,436 | 24,259 | 9,205 | 87,961 | 147,255 | 4,412 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | 10,974 | 17,340 | 8,702 | 90,000 | 142,269 | 6,091 | 300 | 0 | 602 | 12,647 | 1,898 | 0 |
| 1990 | 15,678 | 22,149 | 9,554 | 91,800 | 156,537 | 2,922 | 0 | 200 | 0 | 0 | 0 | 1,500 |
| 1991 | 1,945 | 9,155 | 3,493 | 28,200 | 50,259 | 141 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1992 | 6,933 | 12,621 | 6,532 | 42,839 | 76,661 | 2,239 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1993 | 11,421 | 11,742 | 17,238 | 68,600 | 124,180 | 3,990 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 17,381 | 8,952 | 33,048 | 100,000 | 182,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1995 | 18,633 | 8,952 | 33,048 | 100,000 | 184,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1996 | 19,457 | 8,952 | 33,048 | 100,000 | 186,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1997 | 20,298 | 8,952 | 33,048 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1999 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2001 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2002 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2003 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2004 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2005 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2006 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2007 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2008 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2009 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2010 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2011 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2012 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2013 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2014 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2015 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2016 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2017 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2018 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2020 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2023 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2024 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2025 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2026 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2027 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2028 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2030 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2031 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2032 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2033 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2034 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2035 | 28,051 | 11,011 | 30,989 | 100,000 | 188,000 | 5,700 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 1,260,991 | 714,591 | 1,443,720 | 6,417,119 | 10,927,242 | 352,009 | 300 | 200 | 602 | 12,647 | 1,898 | 1,500 |

b) From June 1962 through November 1967, deliveries were supplied by nonproject water.
c) Includes 425 AF of 1988 advance entitlement and 141 AF of 1992 advance entitlement.

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | San Luis Division (continued) | | | | South San Joaquin Division | | | | | | | |
| | Reach 5 | | Reach 6 | Reach 7 | Reach 8C | | | Reach 8D | | | | |
| Calendar Year | KCWA (Ag) (24) | DRWD (25) | KCWA (Ag) (26) | KCWA (Ag) (27) | DRWD (28) | TLBWSD (29) | EWSID (30) | CK (31) | KCWA (Ag) (32) | DRWD (33) | CK (34) | TLBWSD (35) |
| 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 | 0 | 0 | 0 | 0 | 25,100 | 1,978 | 900 | 0 | 26,360 | 0 | 0 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 7,081 | 56 | 100 | 0 | 31,375 | 0 | 0 |
| 1970 | 0 | 0 | 0 | 0 | 0 | 0 | 3,942 | 0 | 0 | 40,407 | 0 | 3,408 |
| 1971 | 0 | 0 | 0 | 0 | 0 | 80,906 | 5,990 | 3,700 | 0 | 41,053 | 0 | 41,579 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 144,843 | 5,795 | 1,400 | 0 | 42,443 | 0 | 113,550 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 26,317 | 3,000 | 1,500 | 1,500 | 22,057 | 0 | 24,147 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 32,603 | 3,000 | 1,500 | 0 | 33,390 | 0 | 39,686 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 41,536 | 3,000 | 1,600 | 0 | 40,555 | 0 | 44,722 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 26,595 | 3,000 | 1,600 | 0 | 41,421 | 0 | 32,216 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 12,984 | 738 | 1,530 | 0 | 11,153 | 0 | 5,097 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 3,934 | 454 | 2,070 | 0 | 51,747 | 0 | 8,119 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 74,758 | 1,739 | 2,000 | 0 | 38,544 | 0 | 80,363 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 35,140 | 894 | 2,200 | 0 | 41,000 | 0 | 34,104 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 50,888 | 5,859 | 2,300 | 0 | 41,000 | 0 | 32,550 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 4,405 | 361 | 1,536 | 0 | 41,000 | 214 | 14,146 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 1,001 | 0 | 3,550 | 0 | 42,900 | 0 | 5 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 3,677 | 0 | 3,100 | 0 | 45,100 | 0 | 2,066 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 68,638 | 5,197 | 3,400 | 0 | 46,251 | 0 | 41,153 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 40,017 | 1,170 | 3,700 | 0 | 50,249 | 0 | 39,338 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 30,359 | 2,525 | 4,000 | 0 | 46,288 | 0 | 62,725 |
| 1988 | 0 | 0 | 0 | 0 | 0 | 47,831 | 3,775 | 4,000 | 0 | 47,994 | 0 | 48,035 |
| 1989 | 18,831 | 0 | 8,260 | 5,262 | 2,391 | 63,703 | 3,000 | 4,000 | 0 | 52,158 | 0 | 63,947 |
| 1990 | 0 | 0 | 0 | 0 | 0 | 23,504 | 1,279 | 2,000 | 161 | 36,296 | 0 | 32,066 |
| 1991 | 0 | 0 | 0 | 0 | 0 | 1,697 | 221 | 0 | 0 | 927 | 0 | 483 |
| 1992 | 0 | 10,823 | 0 | 0 | 280 | 15,982 | 1,354 | 1,806 | 0 | 12,667 | 0 | 30,746 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 33,180 | 2,100 | 2,800 | 0 | 40,390 | 0 | 49,770 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 1995 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2001 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2002 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2003 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2004 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2006 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2007 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2008 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2009 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2010 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2011 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2012 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2013 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2014 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2015 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2016 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2017 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2018 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2019 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2031 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2032 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2033 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2034 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| 2035 | 0 | 0 | 0 | 0 | 0 | 47,400 | 3,000 | 4,000 | 0 | 57,700 | 0 | 71,100 |
| Total | 18,831 | 10,823 | 8,260 | 5,262 | 2,671 | 2,887,479 | 186,427 | 224,292 | 1,661 | 3,388,125 | 214 | 3,830,221 |

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | South San Joaquin Division | | | | | | | | | |
| | Reach 9 | | | Reach 10A | | | Reach 11B | | Reach 12E | |
| Calendar Year | KCWA (M&I) (36) | KCWA (Ag) (37) | TLBWSD (38) | KCWA (M&I) (39) | KCWA (Ag) (40) | TLBWSD (41) | KCWA (M&I) (42) | KCWA (Ag) (43) | KCWA (M&I) (44) | KCWA (Ag) (45) |
| 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 | 30,951 | 0 | 0 | 0 | 0 | 0 | 24,776 | 0 | 0 |
| 1969 | 0 | 24,489 | 0 | 0 | 0 | 2,842 | 0 | 64,682 | 0 | 0 |
| 1970 | 0 | 46,114 | 1,855 | 0 | 158 | 4,315 | 0 | 72,279 | 0 | 9,279 |
| 1971 | 0 | 58,356 | 0 | 0 | 9,973 | 0 | 0 | 63,773 | 0 | 28,056 |
| 1972 | 0 | 75,464 | 0 | 0 | 5,876 | 0 | 0 | 72,358 | 0 | 62,342 |
| 1973 | 0 | 54,583 | 0 | 0 | 22,948 | 0 | 0 | 67,544 | 0 | 13,082 |
| 1974 | 0 | 63,814 | 0 | 10,019 | 22,719 | 0 | 0 | 87,476 | 2,651 | 4,248 |
| 1975 | 0 | 50,021 | 0 | 2,791 | 72,121 | 0 | 0 | 85,675 | 0 | 10,787 |
| 1976 | 0 | 53,465 | 0 | 74 | 50,444 | 0 | 0 | 85,067 | 37,519 | 20,555 |
| 1977 | 0 | 24,668 | 0 | 201 | 34,451 | 0 | 3,981 | 29,603 | 20,280 | 1,737 |
| 1978 | 0 | 72,231 | 0 | 0 | 161,889 | 0 | 0 | 88,753 | 47,133 | 15,011 |
| 1979 | 0 | 74,524 | 0 | 285 | 153,245 | 0 | 484 | 108,379 | 50,740 | 61,567 |
| 1980 | 0 | 79,946 | 0 | 3,780 | 131,836 | 0 | 3,112 | 103,207 | 32,039 | 22,252 |
| 1981 | 0 | 76,508 | 0 | 341 | 133,500 | 0 | 494 | 104,395 | 59,917 | 58,470 |
| 1982 | 0 | 76,877 | 0 | 4,700 | 164,832 | 0 | 798 | 99,081 | 36,139 | 75,587 |
| 1983 | 2,217 | 84,573 | 0 | 0 | 146,493 | 0 | 2,069 | 94,117 | 0 | 10,950 |
| 1984 | 4,100 | 85,732 | 0 | 6,910 | 150,302 | 0 | 2,349 | 124,819 | 63,941 | 39,929 |
| 1985 | 0 | 67,696 | 0 | 6,495 | 153,473 | 0 | 10,666 | 118,646 | 69,839 | 84,117 |
| 1986 | 0 | 79,943 | 0 | 5,065 | 198,099 | 0 | 8,673 | 124,836 | 62,109 | 51,540 |
| 1987 | 0 | 97,732 | 0 | 900 | 226,521 | 0 | 13,074 | 111,877 | 95,297 | 86,223 |
| 1988 | 1,100 | 83,858 | 0 | 8,229 | 213,795 | 0 | 13,509 | 114,031 | 86,390 | 123,249 |
| 1989 | 0 | 91,134 | 0 | 21,038 | 251,979 | 0 | 9,986 | 127,058 | 83,965 | 146,544 |
| 1990 | 0 | 83,108 | 0 | 25,189 | 47,472 | 0 | 9,319 | 104,107 | 82,164 | 38,973 |
| 1991 | 13,683 | 601 | 0 | 1,142 | 6,820 | 0 | 6,099 | 118 | 8,842 | 303 |
| 1992 | 28 | 40,183 | 0 | 3,685 | 71,603 | 0 | 7,419 | 35,093 | 41,160 | 51,898 |
| 1993 | 0 | 68,752 | 0 | 1,393 | 180,062 | 0 | 10,504 | 93,167 | 79,452 | 186,112 |
| 1994 | 0 | 98,220 | 0 | 2,000 | 283,334 | 0 | 15,000 | 133,096 | 113,500 | 233,720 |
| 1995 | 0 | 98,220 | 0 | 2,000 | 283,334 | 0 | 15,000 | 133,096 | 113,500 | 233,720 |
| 1996 | 0 | 98,220 | 0 | 2,000 | 283,334 | 0 | 15,000 | 133,096 | 113,500 | 233,720 |
| 1997 | 0 | 98,220 | 0 | 2,000 | 283,334 | 0 | 15,000 | 133,096 | 113,500 | 233,720 |
| 1998 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 1999 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2000 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2001 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2002 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2003 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2004 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2005 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2006 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2007 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2008 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2009 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2010 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2011 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2012 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2013 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2014 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2015 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2016 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2017 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2018 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2019 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2020 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2021 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2022 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2023 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2024 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2025 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2026 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2027 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2028 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2029 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2030 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2031 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2032 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2033 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2034 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| 2035 | 0 | 91,200 | 0 | 2,600 | 245,053 | 0 | 20,000 | 129,059 | 113,400 | 173,588 |
| Total | 21,128 | 5,503,803 | 1,855 | 209,037 | 13,055,961 | 7,157 | 922,536 | 7,641,543 | 5,722,777 | 8,734,035 |

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | South San Joaquin Division (continued) | | | | | | | |
| | Reach 13B | | Reach 14A | | Reach 14B | | Reach 14C | |
| Calendar Year | KCWA (M&I) (46) | KCWA (Ag) (47) | KCWA (M&I) (48) | KCWA (Ag) (49) | KCWA (M&I) (50) | KCWA (Ag) (51) | KCWA (M&I) (52) | KCWA (Ag) (53) |
| 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 | 4,891 | 0 | 0 | 0 | 3 | 0 | 0 |
| 1971 | 0 | 0 | 0 | 23,844 | 0 | 49,929 | 0 | 24,187 |
| 1972 | 0 | 17,388 | 0 | 26,621 | 0 | 77,034 | 0 | 35,016 |
| 1973 | 0 | 9,297 | 0 | 15,328 | 0 | 47,040 | 0 | 19,043 |
| 1974 | 8,038 | 4,246 | 0 | 7,794 | 0 | 32,356 | 0 | 12,601 |
| 1975 | 8,538 | 7,059 | 0 | 10,306 | 0 | 27,736 | 0 | 12,783 |
| 1976 | 5,626 | 8,855 | 0 | 268 | 0 | 35,296 | 0 | 9,005 |
| 1977 | 0 | 5,024 | 0 | 8,299 | 0 | 13,539 | 0 | 3,757 |
| 1978 | 21,773 | 7,601 | 0 | 34,029 | 0 | 72,351 | 0 | 24,542 |
| 1979 | 5,663 | 17,766 | 3,012 | 27,356 | 0 | 59,413 | 0 | 22,372 |
| 1980 | 0 | 22,515 | 4,312 | 16,876 | 0 | 40,513 | 0 | 19,953 |
| 1981 | 7,844 | 14,037 | 4,511 | 13,007 | 8 | 42,753 | 7 | 18,729 |
| 1982 | 0 | 25,553 | 5,373 | 22,602 | 184 | 57,739 | 0 | 26,479 |
| 1983 | 0 | 3,491 | 1,168 | 20,302 | 0 | 57,922 | 0 | 26,613 |
| 1984 | 12,117 | 26,178 | 137 | 35,369 | 10 | 79,179 | 2 | 34,996 |
| 1985 | 0 | 67,711 | 206 | 33,103 | 0 | 72,855 | 0 | 31,758 |
| 1986 | 0 | 66,551 | 180 | 26,384 | 0 | 70,864 | 0 | 34,566 |
| 1987 | 5,609 | 40,374 | 610 | 30,098 | 9 | 67,710 | 9 | 31,019 |
| 1988 | 9,298 | 47,167 | 604 | 32,796 | 4 | 75,983 | 0 | 37,166 |
| 1989 | 5,504 | 57,114 | 721 | 29,292 | 7 | 82,201 | 5 | 37,800 |
| 1990 | 7,645 | 20,423 | 673 | 26,800 | 13 | 81,076 | 9 | 34,174 |
| 1991 | 0 | 0 | 768 | 0 | 0 | 0 | 0 | 0 |
| 1992 | 789 | 17,449 | 673 | 16,238 | 464 | 41,143 | 0 | 18,084 |
| 1993 | 0 | 29,891 | 561 | 13,440 | 0 | 35,910 | 0 | 18,830 |
| 1994 | 0 | 48,750 | 800 | 19,200 | 0 | 51,300 | 0 | 26,900 |
| 1995 | 0 | 48,750 | 800 | 19,200 | 0 | 51,300 | 0 | 26,900 |
| 1996 | 0 | 48,750 | 800 | 19,200 | 0 | 51,300 | 0 | 26,900 |
| 1997 | 0 | 48,750 | 800 | 19,200 | 0 | 51,300 | 0 | 26,900 |
| 1998 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 1999 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2000 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2001 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2002 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2003 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2004 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2005 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2006 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2007 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2008 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2009 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2010 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2011 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2012 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2013 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2014 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2015 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2016 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2017 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2018 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2019 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2020 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2021 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2022 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2023 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2024 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2025 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2026 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2027 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2028 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2029 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2030 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2031 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2032 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2033 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2034 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| 2035 | 0 | 35,500 | 800 | 35,075 | 0 | 80,000 | 0 | 44,000 |
| Total | 98,444 | 2,064,581 | 57,109 | 1,879,802 | 699 | 4,465,745 | 32 | 2,313,073 |

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | South San Joaquin Division (continued) | | | | | Mojave Division | | | | |
| | Reach 15A | | Reach 16A | | | Reach 18A | Reach 19 | Reach 20A | | |
| Calendar Year | KCWA (M&I) (54) | KCWA (Ag) (55) | KCWA (M&I) (56) | KCWA (Ag) (57) | AVEKWA (58) | AVEKWA (59) | AVEKWA (60) | PWD (61) | MWA (62) | AVEKWA (63) |
| 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 | 3,552 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 6,064 | 0 | 4,768 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 19,916 | 0 | 1,961 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 18,000 | 3,000 | 1,564 | 0 | 0 | 1,223 | 0 | 0 | 0 |
| 1975 | 0 | 35,420 | 3,200 | 9,867 | 0 | 0 | 7,622 | 0 | 0 | 420 |
| 1976 | 0 | 39,551 | 3,500 | 11,667 | 0 | 3,808 | 23,063 | 0 | 0 | 471 |
| 1977 | 0 | 6,158 | 3,420 | 685 | 0 | 1,231 | 8,927 | 0 | 0 | 773 |
| 1978 | 0 | 31,148 | 7,989 | 1,655 | 0 | 1,321 | 36,333 | 0 | 0 | 5,549 |
| 1979 | 0 | 38,602 | 2,813 | 15,808 | 0 | 2,098 | 49,910 | 0 | 0 | 7,555 |
| 1980 | 0 | 37,817 | 2,700 | 16,145 | 0 | 2,610 | 61,534 | 0 | 0 | 7,605 |
| 1981 | 0 | 39,033 | 2,636 | 18,156 | 0 | 2,340 | 65,690 | 0 | 0 | 10,333 |
| 1982 | 0 | 47,782 | 1,289 | 17,209 | 0 | 1,669 | 41,127 | 0 | 0 | 7,313 |
| 1983 | 0 | 37,426 | 1,400 | 17,907 | 0 | 43 | 26,377 | 0 | 0 | 6,253 |
| 1984 | 0 | 49,848 | 1,338 | 24,202 | 0 | 90 | 22,462 | 0 | 0 | 9,558 |
| 1985 | 0 | 44,078 | 1,309 | 16,820 | 0 | 8 | 23,440 | 1,510 | 0 | 11,613 |
| 1986 | 0 | 42,461 | 1,213 | 15,559 | 0 | 8 | 16,898 | 3,041 | 0 | 13,808 |
| 1987 | 0 | 34,748 | 1,665 | 10,170 | 0 | 0 | 15,958 | 2,389 | 0 | 15,493 |
| 1988 | 2 | 41,992 | 1,913 | 8,999 | 0 | 0 | 13,471 | 366 | 0 | 17,117 |
| 1989 | 2 | 43,239 | 2,668 | 8,649 | 0 | 0 | 18,007 | 381 | 0 | 23,481 |
| 1990 | 6 | 36,347 | 2,819 | 8,608 | 0 | 0 | 17,281 | 282 | 0 | 25,843 |
| 1991 | 0 | 0 | 2,588 | 343 | 2,000 | 0 | 728 | 84 | 1,391 | 4,282 |
| 1992 | 0 | 24,243 | 2,087 | 8,275 | 0 | 0 | 7,238 | 185 | 1,310 | 18,518 |
| 1993 | 0 | 24,150 | 2,310 | 7,546 | 0 | 89 | 11,888 | 0 | 0 | 21,279 |
| 1994 | 0 | 34,500 | 3,300 | 10,780 | 0 | 144 | 17,210 | 0 | 0 | 32,639 |
| 1995 | 0 | 34,500 | 3,300 | 10,780 | 0 | 144 | 17,540 | 0 | 0 | 36,934 |
| 1996 | 0 | 34,500 | 3,300 | 10,780 | 0 | 144 | 17,970 | 0 | 0 | 39,359 |
| 1997 | 0 | 34,500 | 3,300 | 10,780 | 0 | 144 | 18,400 | 0 | 0 | 41,779 |
| 1998 | 0 | 45,075 | 2,200 | 17,850 | 0 | 144 | 18,850 | 0 | 0 | 44,219 |
| 1999 | 0 | 45,075 | 2,200 | 17,850 | 0 | 144 | 25,976 | 0 | 0 | 44,574 |
| 2000 | 0 | 45,075 | 2,200 | 17,850 | 0 | 120 | 29,733 | 0 | 0 | 50,997 |
| 2001 | 0 | 45,075 | 2,200 | 17,850 | 0 | 120 | 29,733 | 0 | 0 | 50,997 |
| 2002 | 0 | 45,075 | 2,200 | 17,850 | 0 | 120 | 29,733 | 0 | 0 | 50,997 |
| 2003 | 0 | 45,075 | 2,200 | 17,850 | 0 | 120 | 29,733 | 0 | 0 | 50,997 |
| 2004 | 0 | 45,075 | 2,200 | 17,850 | 0 | 120 | 29,733 | 0 | 0 | 50,997 |
| 2005 | 0 | 45,075 | 2,200 | 17,850 | 0 | 144 | 35,934 | 0 | 0 | 61,619 |
| 2006 | 0 | 45,075 | 2,200 | 17,850 | 0 | 144 | 35,934 | 0 | 0 | 61,619 |
| 2007 | 0 | 45,075 | 2,200 | 17,850 | 0 | 144 | 35,934 | 0 | 0 | 61,619 |
| 2008 | 0 | 45,075 | 2,200 | 17,850 | 0 | 144 | 35,934 | 0 | 0 | 61,619 |
| 2009 | 0 | 45,075 | 2,200 | 17,850 | 0 | 144 | 35,934 | 0 | 0 | 61,619 |
| 2010 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,132 | 0 | 0 | 72,244 |
| 2011 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2012 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2013 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2014 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2015 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2016 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2017 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2018 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2019 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2020 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2021 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2022 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2023 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2024 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2025 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2026 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2027 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2028 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2029 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2030 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2031 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2032 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2033 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2034 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| 2035 | 0 | 45,075 | 2,200 | 17,850 | 0 | 168 | 42,873 | 0 | 0 | 73,519 |
| Total | 10 | 2,552,425 | 148,657 | 947,983 | 2,000 | 21,867 | 2,027,415 | 0 | 2,701 | 2,920,067 |

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mojave Division (continued) | | | | | | | | | |
| | Reach 20B | | Reach 21 | | Reach 22A | Reach 22B | | | | |
| Calendar Year | PWD (64) | AVEKWA (65) | LCID (66) | PWD (67) | AVEKWA (68) | MWDSC (d (69) | CVWD (d (70) | AVEKWA (e (71) | DWA (d (72) | MWA (73) |
| 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 | 338 | 0 | 0 | 0 | 0 | 0 | 0 | 55 |
| 1973 | 0 | 0 | 290 | 0 | 0 | (14,800) | 5,800 | 0 | 9,000 | 0 |
| 1974 | 0 | 0 | 400 | 0 | 0 | (16,400) | 6,400 | 0 | 10,000 | 0 |
| 1975 | 0 | 0 | 520 | 0 | 0 | (18,000) | 7,000 | 0 | 11,000 | 0 |
| 1976 | 0 | 416 | 589 | 0 | 0 | (19,600) | 7,600 | 0 | 12,000 | 0 |
| 1977 | 0 | 271 | 111 | 0 | 0 | 0 | 0 | 0 | 0 | 22 |
| 1978 | 0 | 934 | 208 | 0 | 0 | (25,384) | 10,084 | 0 | 15,300 | 0 |
| 1979 | 0 | 930 | 133 | 0 | 0 | (25,063) | 10,063 | 0 | 15,000 | 4,000 |
| 1980 | 0 | 655 | 191 | 0 | 3 | (27,884) | 10,884 | 0 | 17,000 | 4,000 |
| 1981 | 0 | 966 | 1,270 | 0 | 46 | (31,105) | 12,105 | 0 | 19,000 | 4,000 |
| 1982 | 0 | 8 | 0 | 0 | 174 | (34,326) | 13,326 | 0 | 21,000 | 10,500 |
| 1983 | 0 | 20 | 38 | 0 | 268 | (37,547) | 14,547 | 0 | 23,000 | 0 |
| 1984 | 0 | 2 | 1 | 0 | 550 | (40,768) | 15,768 | 0 | 25,000 | 0 |
| 1985 | 32 | 217 | 0 | 16 | 1,786 | (43,989) | 16,989 | 0 | 27,000 | 0 |
| 1986 | 45 | 0 | 163 | 10 | 1,735 | (47,210) | 18,210 | 0 | 29,000 | 0 |
| 1987 | 1,624 | 151 | 1,080 | 1,366 | 2,278 | (50,931) | 19,431 | 214 | 31,500 | 17 |
| 1988 | 1,261 | 281 | 419 | 143 | 3,210 | (54,652) | 20,652 | 0 | 34,000 | 9 |
| 1989 | 7,848 | 112 | 971 | 780 | 3,591 | (58,373) | 21,873 | 89 | 36,500 | 0 |
| 1990 | 8,292 | 84 | 1,747 | 34 | 3,988 | (61,200) | 23,100 | 10 | 38,100 | 0 |
| 1991 | 3,830 | 131 | 522 | 0 | 2,427 | (18,360) | 6,930 | 0 | 11,430 | 0 |
| 1992 | 3,850 | 650 | 251 | 0 | 3,859 | (27,624) | 10,427 | 0 | 17,197 | 42 |
| 1993 | 10,010 | 678 | 1,610 | 0 | 3,798 | (21,420) | 8,085 | 0 | 13,335 | 0 |
| 1994 | 15,060 | 1,175 | 2,300 | 0 | 5,635 | 0 | 0 | 0 | 0 | 0 |
| 1995 | 15,560 | 1,415 | 2,300 | 0 | 5,875 | 0 | 0 | 0 | 0 | 0 |
| 1996 | 17,280 | 1,700 | 2,300 | 0 | 6,135 | 0 | 0 | 0 | 0 | 0 |
| 1997 | 17,300 | 2,025 | 2,300 | 0 | 6,400 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 17,300 | 2,355 | 2,300 | 0 | 6,660 | 0 | 0 | 0 | 0 | 0 |
| 1999 | 17,300 | 6,560 | 2,300 | 0 | 6,700 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 17,300 | 7,510 | 2,300 | 0 | 7,640 | 0 | 0 | 0 | 0 | 0 |
| 2001 | 17,300 | 7,510 | 2,300 | 0 | 7,640 | 0 | 0 | 0 | 0 | 0 |
| 2002 | 17,300 | 7,510 | 2,300 | 0 | 7,640 | 0 | 0 | 0 | 0 | 0 |
| 2003 | 17,300 | 7,510 | 2,300 | 0 | 7,640 | 0 | 0 | 0 | 0 | 0 |
| 2004 | 17,300 | 7,510 | 2,300 | 0 | 7,640 | 0 | 0 | 0 | 0 | 0 |
| 2005 | 17,300 | 9,072 | 2,300 | 0 | 9,231 | 0 | 0 | 0 | 0 | 0 |
| 2006 | 17,300 | 9,072 | 2,300 | 0 | 9,231 | 0 | 0 | 0 | 0 | 0 |
| 2007 | 17,300 | 9,072 | 2,300 | 0 | 9,231 | 0 | 0 | 0 | 0 | 0 |
| 2008 | 17,300 | 9,072 | 2,300 | 0 | 9,231 | 0 | 0 | 0 | 0 | 0 |
| 2009 | 17,300 | 9,072 | 2,300 | 0 | 9,231 | 0 | 0 | 0 | 0 | 0 |
| 2010 | 17,300 | 10,634 | 2,300 | 0 | 10,822 | 0 | 0 | 0 | 0 | 0 |
| 2011 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2012 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2013 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2014 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2015 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2016 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2017 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2018 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2019 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2020 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2021 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2022 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2023 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2024 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2025 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2026 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2027 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2028 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2029 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2030 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2031 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2032 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2033 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2034 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| 2035 | 17,300 | 10,824 | 2,300 | 0 | 11,016 | 0 | 0 | 0 | 0 | 0 |
| TotalL | 759,392 | 385,880 | 107,452 | 2,349 | 435,695 | (674,636) | 259,274 | 313 | 415,362 | 22,645 |

d) In accordance with the Exchange Agreement between the noted agencies, MWDSC 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 in Reach 22B complies with provisions for the repayment of costs under the agreement. In 1993 and after, the exchange takes place in Reach 26A.

e) 1988 advance entitlement.

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mojave Division (continued) | | | Santa Ana Division | | | | | | |
| | Reach 23 | Reach 24 | | Reach 26A | | | | | | Reach 28G |
| Calendar Year | MWA (74) | CLAWA (75) | MWA (76) | MWDSC (f (77) | SBVMWD (g (78) | SGVMWD (79) | SGPWA (80) | CVWD (f (81) | DWA (f (82) | MWDSC (83) |
| 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 | 464 | 0 | 0 | 1,275 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 389 | 0 | 444 | 32,426 | 0 | 0 | 0 | 0 | 18,942 |
| 1974 | 14 | 627 | 0 | 84,981 | 16,605 | 612 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 825 | 0 | 169,960 | 13,865 | 5,450 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 1,002 | 0 | 215,312 | 12,273 | 6,071 | 0 | 0 | 0 | 0 |
| 1977 | 58 | 1,109 | 0 | 64,823 | 24,833 | 8,996 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 1,209 | 0 | 297,708 | 4,055 | 7,771 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 1,260 | 0 | 260,903 | 18 | 290 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 1,239 | 0 | 300,345 | 0 | 1,085 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 1,485 | 0 | 395,678 | 16,021 | 3,619 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 1,238 | 0 | 214,566 | 8,409 | 12,599 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 911 | 0 | 175,288 | 5,994 | 734 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 1,128 | 0 | 122,311 | 5,556 | 7,656 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 1,422 | 0 | 147,599 | 7,390 | 5,028 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 1,506 | 0 | 215,265 | 6,421 | 9,454 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 1,849 | 0 | 175,012 | 8,751 | 10,630 | 0 | 0 | 0 | 0 |
| 1988 | 0 | 2,006 | 0 | 247,101 | 12,637 | 8,948 | 0 | 0 | 0 | 0 |
| 1989 | 200 | 2,170 | 0 | 326,217 | 20,782 | 12,839 | 0 | 0 | 0 | 0 |
| 1990 | 0 | 1,827 | 0 | 399,387 | 18,831 | 16,649 | 0 | 0 | 0 | 0 |
| 1991 | 0 | 852 | 2,032 | 107,182 | 3,661 | 5,399 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 264 | 9,334 | 215,522 | 3,358 | 7,908 | 0 | 0 | 0 | 0 |
| 1993 | 0 | 1,950 | 25,200 | 433,109 | 22,400 | 16,800 | 0 | 8,085 | 13,335 | 0 |
| 1994 | 0 | 2,650 | 36,000 | 546,900 | 35,000 | 18,000 | 0 | 23,100 | 38,100 | 0 |
| 1995 | 0 | 2,900 | 50,800 | 521,900 | 38,000 | 18,000 | 3,000 | 23,100 | 38,100 | 0 |
| 1996 | 0 | 3,100 | 50,800 | 496,900 | 41,000 | 18,000 | 7,200 | 23,100 | 38,100 | 0 |
| 1997 | 0 | 3,300 | 50,800 | 471,900 | 44,000 | 18,000 | 7,200 | 23,100 | 38,100 | 0 |
| 1998 | 0 | 2,600 | 50,800 | 471,900 | 51,004 | 18,000 | 5,570 | 23,100 | 38,100 | 0 |
| 1999 | 0 | 2,600 | 50,800 | 471,900 | 55,000 | 18,000 | 5,570 | 23,100 | 38,100 | 0 |
| 2000 | 0 | 3,000 | 50,800 | 471,900 | 60,000 | 20,000 | 6,350 | 23,100 | 38,100 | 0 |
| 2001 | 0 | 3,000 | 50,800 | 471,900 | 60,000 | 20,000 | 6,350 | 23,100 | 38,100 | 0 |
| 2002 | 0 | 3,000 | 50,800 | 471,900 | 60,000 | 20,000 | 6,350 | 23,100 | 38,100 | 0 |
| 2003 | 0 | 3,000 | 50,800 | 471,900 | 60,000 | 20,000 | 6,350 | 23,100 | 38,100 | 0 |
| 2004 | 0 | 3,000 | 50,800 | 471,900 | 60,000 | 20,000 | 6,350 | 23,100 | 38,100 | 0 |
| 2005 | 0 | 3,825 | 50,800 | 471,900 | 90,000 | 21,300 | 8,450 | 23,100 | 38,100 | 0 |
| 2006 | 0 | 3,825 | 50,800 | 471,900 | 90,000 | 21,300 | 8,450 | 23,100 | 38,100 | 0 |
| 2007 | 0 | 3,825 | 50,800 | 471,900 | 90,000 | 21,300 | 8,450 | 23,100 | 38,100 | 0 |
| 2008 | 0 | 3,825 | 50,800 | 471,900 | 90,000 | 21,300 | 8,450 | 23,100 | 38,100 | 0 |
| 2009 | 0 | 3,825 | 50,800 | 471,900 | 90,000 | 21,300 | 8,450 | 23,100 | 38,100 | 0 |
| 2010 | 0 | 4,750 | 50,800 | 471,900 | 102,600 | 22,500 | 10,550 | 23,100 | 38,100 | 0 |
| 2011 | 0 | 4,750 | 50,800 | 471,900 | 102,600 | 22,500 | 10,550 | 23,100 | 38,100 | 0 |
| 2012 | 0 | 4,750 | 50,800 | 471,900 | 102,600 | 22,500 | 10,550 | 23,100 | 38,100 | 0 |
| 2013 | 0 | 4,750 | 50,800 | 471,900 | 102,600 | 22,500 | 10,550 | 23,100 | 38,100 | 0 |
| 2014 | 0 | 4,750 | 50,800 | 471,900 | 102,600 | 22,500 | 10,550 | 23,100 | 38,100 | 0 |
| 2015 | 0 | 5,300 | 50,800 | 471,900 | 102,600 | 23,800 | 13,550 | 23,100 | 38,100 | 0 |
| 2016 | 0 | 5,300 | 50,800 | 471,900 | 102,600 | 23,800 | 13,550 | 23,100 | 38,100 | 0 |
| 2017 | 0 | 5,300 | 50,800 | 471,900 | 102,600 | 23,800 | 13,550 | 23,100 | 38,100 | 0 |
| 2018 | 0 | 5,300 | 50,800 | 471,900 | 102,600 | 23,800 | 13,550 | 23,100 | 38,100 | 0 |
| 2019 | 0 | 5,300 | 50,800 | 471,900 | 102,600 | 23,800 | 13,550 | 23,100 | 38,100 | 0 |
| 2020 | 0 | 5,700 | 50,800 | 471,900 | 102,600 | 25,000 | 16,650 | 23,100 | 38,100 | 0 |
| 2021 | 0 | 5,700 | 50,800 | 471,900 | 102,600 | 25,000 | 17,300 | 23,100 | 38,100 | 0 |
| 2022 | 0 | 5,700 | 50,800 | 471,900 | 102,600 | 25,000 | 17,300 | 23,100 | 38,100 | 0 |
| 2023 | 0 | 5,700 | 50,800 | 471,900 | 102,600 | 25,000 | 17,300 | 23,100 | 38,100 | 0 |
| 2024 | 0 | 5,700 | 50,800 | 471,900 | 102,600 | 25,000 | 17,300 | 23,100 | 38,100 | 0 |
| 2025 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 26,300 | 17,300 | 23,100 | 38,100 | 0 |
| 2026 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 26,300 | 17,300 | 23,100 | 38,100 | 0 |
| 2027 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 26,300 | 17,300 | 23,100 | 38,100 | 0 |
| 2028 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 26,300 | 17,300 | 23,100 | 38,100 | 0 |
| 2029 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 26,300 | 17,300 | 23,100 | 38,100 | 0 |
| 2030 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 27,500 | 17,300 | 23,100 | 38,100 | 0 |
| 2031 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 27,500 | 17,300 | 23,100 | 38,100 | 0 |
| 2032 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 27,500 | 17,300 | 23,100 | 38,100 | 0 |
| 2033 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 27,500 | 17,300 | 23,100 | 38,100 | 0 |
| 2034 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 27,500 | 17,300 | 23,100 | 38,100 | 0 |
| 2035 | 0 | 5,800 | 50,800 | 471,900 | 102,600 | 28,800 | 17,300 | 23,100 | 38,100 | 0 |
| Total | 272 | 220,557 | 2,155,366 | 24,538,513 | 3,927,165 | 1,117,338 | 499,190 | 978,285 | 1,613,535 | 18,942 |

f) In accordance with the Exchange Agreement between the noted agencies, MWDSC 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 in Reach 22B complies with provisions for the repayment of costs under the agreement. In 1993 and after the exchange takes place in Reach 26A.

g) Includes 1,650 AF recaptured from ground water storage in 1982, 10,000 AF in 1987, and 8,749 AF in 1988. This water was stored under the Department's Ground Water Demonstration Program.

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Santa Ana Division (continued) | | West Branch | | | | | |
| | Reach 28H | Reach 28J | Reach 29F | Reach 29H | Reach 30 | | | |
| Calendar Year | MWDSC (84) | MWDSC (85) | AVEKWA (86) | VCFCD (87) | MWDSC (h (88) | VCFCD (89) | CLWA (90) | SBCFC&WCD (91) |
| 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 | 0 | 53 | 0 | 71,938 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 20 | 0 | 155,297 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 36 | 0 | 209,136 | 0 | 0 | 0 |
| 1975 | 0 | 251 | 26 | 0 | 374,280 | 0 | 0 | 0 |
| 1976 | 55 | 2,000 | 24 | 0 | 420,684 | 0 | 0 | 0 |
| 1977 | 43 | 2,442 | 0 | 0 | 122,447 | 0 | 0 | 0 |
| 1978 | 48 | 64,054 | 0 | 0 | 171,139 | 0 | 0 | 0 |
| 1979 | 1,290 | 94,353 | 0 | 0 | 145,591 | 0 | 7 | 0 |
| 1980 | 3,013 | 91,532 | 0 | 0 | 164,721 | 0 | 1,210 | 0 |
| 1981 | 4,365 | 149,405 | 0 | 0 | 277,503 | 0 | 5,761 | 0 |
| 1982 | 3,961 | 155,629 | 0 | 0 | 351,362 | 0 | 9,516 | 0 |
| 1983 | 6,645 | 41,616 | 0 | 0 | 157,519 | 0 | 9,476 | 0 |
| 1984 | 106,781 | 5,270 | 0 | 0 | 260,624 | 0 | 11,477 | 0 |
| 1985 | 182,781 | 6,538 | 0 | 0 | 390,696 | 0 | 12,401 | 0 |
| 1986 | 131,439 | 30,071 | 0 | 0 | 379,275 | 0 | 13,928 | 0 |
| 1987 | 144,743 | 26,315 | 0 | 0 | 417,285 | 0 | 16,167 | 0 |
| 1988 | 199,641 | 22,209 | 0 | 0 | 488,265 | 0 | 18,904 | 0 |
| 1989 | 247,430 | 51,462 | 0 | 0 | 589,962 | 0 | 21,719 | 0 |
| 1990 | 257,796 | 36,060 | 0 | 4,836 | 764,380 | 0 | 22,139 | 0 |
| 1991 | 38,832 | 5,958 | 0 | 988 | 257,835 | 0 | 3,846 | 1,240 |
| 1992 | 84,841 | 11,723 | 0 | 0 | 422,849 | 0 | 14,812 | 0 |
| 1993 | 283,034 | 0 | 3 | 3,500 | 713,327 | 0 | 22,157 | 0 |
| 1994 | 396,900 | 34,800 | 0 | 5,000 | 1,032,900 | 0 | 32,287 | 0 |
| 1995 | 396,900 | 34,800 | 0 | 5,000 | 1,057,900 | 0 | 34,904 | 0 |
| 1996 | 396,900 | 34,800 | 0 | 5,000 | 1,082,900 | 0 | 37,532 | 0 |
| 1997 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 0 | 40,400 | 0 |
| 1998 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 40,401 | 0 |
| 1999 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 40,401 | 0 |
| 2000 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 48,796 | 0 |
| 2001 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 48,796 | 0 |
| 2002 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 48,796 | 0 |
| 2003 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 48,796 | 0 |
| 2004 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 48,796 | 0 |
| 2005 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2006 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2007 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2008 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2009 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2010 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2011 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2012 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2013 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2014 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2015 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2016 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2017 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2018 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2019 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2020 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2021 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2022 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2023 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2024 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2025 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2026 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2027 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2028 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2029 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2030 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2031 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2032 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2033 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2034 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| 2035 | 396,900 | 34,800 | 0 | 5,000 | 1,107,900 | 15,000 | 54,200 | 0 |
| Total | 18,366,538 | 2,258,488 | 162 | 219,324 | 53,687,915 | 570,000 | 2,333,625 | 1,240 |

h) Deliveries exclude 6,171 AF of 1982 exchange water.

TABLE B-5A

# Annual Water Quantities Delivered from Each Aqueduct Reach to Each Contractor

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Coastal Branch | | | | | | | |
| | Reach 31A | | Reach 33A | Reach 34 | Reach 35 | | | |
| Calendar Year | KCWA (Ag) (92) | CLWA (93) | SLOCFC&WCD (94) | SLOCFC&WCD (95) | SLOCFC&WCD (96) | SBCFC&WCD (97) | Total (98) | Grand Total (99) |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8,906 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,645 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20,911 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 34,026 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54,913 |
| 1967 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 56,763 |
| 1968 | 71,657 | 7,382 | 0 | 0 | 0 | 0 | 192,188 | 294,457 |
| 1969 | 52,094 | 9,970 | 0 | 0 | 0 | 0 | 195,705 | 268,104 |
| 1970 | 71,910 | 11,739 | 0 | 0 | 0 | 0 | 276,211 | 369,459 |
| 1971 | 98,481 | 12,490 | 0 | 0 | 0 | 0 | 553,081 | 654,250 |
| 1972 | 107,850 | 13,905 | 0 | 0 | 0 | 0 | 895,006 | 1,037,584 |
| 1973 | 69,227 | 9,418 | 0 | 0 | 0 | 0 | 638,930 | 737,479 |
| 1974 | 68,474 | 9,700 | 0 | 0 | 0 | 0 | 783,984 | 878,820 |
| 1975 | 74,516 | 10,700 | 0 | 0 | 0 | 0 | 1,129,728 | 1,230,577 |
| 1976 | 78,358 | 11,700 | 0 | 0 | 0 | 0 | 1,245,662 | 1,379,597 |
| 1977 | 35,504 | 5,075 | 0 | 0 | 0 | 0 | 465,442 | 581,675 |
| 1978 | 81,242 | 11,362 | 0 | 0 | 0 | 0 | 1,339,268 | 1,458,154 |
| 1979 | 104,017 | 19,138 | 0 | 0 | 0 | 0 | 1,537,075 | 1,666,155 |
| 1980 | 97,497 | 13,882 | 0 | 0 | 0 | 0 | 1,407,163 | 1,529,989 |
| 1981 | 97,054 | 12,700 | 0 | 0 | 0 | 0 | 1,779,479 | 1,918,342 |
| 1982 | 83,076 | 12,700 | 0 | 0 | 0 | 0 | 1,641,571 | 1,749,789 |
| 1983 | 87,859 | 12,659 | 0 | 0 | 0 | 0 | 1,089,626 | 1,186,831 |
| 1984 | 119,098 | 12,741 | 0 | 0 | 0 | 0 | 1,486,406 | 1,587,723 |
| 1985 | 110,124 | 12,099 | 0 | 0 | 0 | 0 | 1,863,544 | 1,989,925 |
| 1986 | 118,298 | 13,301 | 0 | 0 | 0 | 0 | 1,882,290 | 1,998,514 |
| 1987 | 116,259 | 11,821 | 0 | 0 | 0 | 0 | 1,974,569 | 2,121,060 |
| 1988 | 109,435 | 11,534 | 0 | 0 | 0 | 0 | 2,213,089 | 2,375,985 |
| 1989 | 102,156 | 14,645 | 0 | 0 | 0 | 0 | 2,686,838 | 2,850,668 |
| 1990 | 103,362 | 6,440 | 0 | 0 | 0 | 0 | 2,398,121 | 2,581,303 |
| 1991 | 780 | 716 | 0 | 0 | 0 | 0 | 489,492 | 548,523 |
| 1992 | 73,758 | 5,887 | 0 | 0 | 0 | 0 | 1,342,570 | 1,435,887 |
| 1993 | 55,300 | 8,890 | 0 | 0 | 0 | 0 | 2,540,752 | 2,689,978 |
| 1994 | 79,000 | 12,700 | 0 | 0 | 0 | 0 | 3,630,800 | 3,851,215 |
| 1995 | 79,000 | 12,700 | 0 | 0 | 0 | 0 | 3,660,072 | 3,889,342 |
| 1996 | 79,000 | 12,700 | 2,346 | 1,534 | 150 | 38,700 | 3,717,950 | 3,953,479 |
| 1997 | 79,000 | 12,700 | 4,688 | 3,040 | 300 | 46,478 | 3,739,254 | 3,977,921 |
| 1998 | 118,000 | 12,700 | 10,000 | 5,000 | 10,000 | 45,486 | 3,778,389 | 4,018,214 |
| 1999 | 118,000 | 12,700 | 10,000 | 5,000 | 10,000 | 45,486 | 3,794,111 | 4,035,075 |
| 2000 | 118,000 | 5,404 | 10,000 | 5,000 | 10,000 | 45,486 | 3,815,436 | 4,057,628 |
| 2001 | 118,000 | 5,404 | 10,000 | 5,000 | 10,000 | 45,486 | 3,815,436 | 4,058,298 |
| 2002 | 118,000 | 5,404 | 10,000 | 5,000 | 10,000 | 45,486 | 3,815,436 | 4,058,873 |
| 2003 | 118,000 | 5,404 | 10,000 | 5,000 | 10,000 | 45,486 | 3,815,436 | 4,059,546 |
| 2004 | 118,000 | 5,404 | 10,000 | 5,000 | 10,000 | 45,486 | 3,815,436 | 4,060,222 |
| 2005 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,869,661 | 4,116,988 |
| 2006 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,869,661 | 4,117,501 |
| 2007 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,869,661 | 4,118,115 |
| 2008 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,869,661 | 4,118,831 |
| 2009 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,869,661 | 4,119,473 |
| 2010 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,906,486 | 4,157,169 |
| 2011 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,908,886 | 4,160,292 |
| 2012 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,908,886 | 4,160,918 |
| 2013 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,908,886 | 4,161,646 |
| 2014 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,908,886 | 4,162,335 |
| 2015 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,913,736 | 4,168,151 |
| 2016 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,913,736 | 4,168,816 |
| 2017 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,913,736 | 4,169,478 |
| 2018 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,913,736 | 4,170,136 |
| 2019 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,913,736 | 4,170,736 |
| 2020 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,918,436 | 4,176,036 |
| 2021 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,919,086 | 4,176,786 |
| 2022 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,919,086 | 4,176,786 |
| 2023 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,919,086 | 4,176,786 |
| 2024 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,919,086 | 4,176,786 |
| 2025 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,920,486 | 4,178,186 |
| 2026 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,920,486 | 4,178,186 |
| 2027 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,920,486 | 4,178,186 |
| 2028 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,920,486 | 4,178,186 |
| 2029 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,920,486 | 4,178,186 |
| 2030 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,921,686 | 4,179,386 |
| 2031 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,921,686 | 4,179,386 |
| 2032 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,921,686 | 4,179,386 |
| 2033 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,921,686 | 4,179,386 |
| 2034 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,921,686 | 4,179,386 |
| 2035 | 118,000 | 0 | 10,000 | 5,000 | 10,000 | 45,486 | 3,922,986 | 4,180,686 |
| Total | 6,987,386 | 385,814 | 387,034 | 194,574 | 380,450 | 1,813,646 | 196,633,187 | 210,421,116 |

TABLE B-5B

# Annual Water Quantities Delivered to Each Contractor

(Acre-feet)



| | North Bay Area | | | South Bay Area (b | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (a (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (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 | 2,287 | 0 | 2,287 | 4,766 | 3,157 | 86,733 | 94,656 | 0 | 0 | 0 |
| 1984 | 2,923 | 0 | 2,923 | 6,784 | 3,338 | 88,000 | 98,122 | 0 | 0 | 0 |
| 1985 | 4,039 | 0 | 4,039 | 15,072 | 19,016 | 88,000 | 122,088 | 0 | 0 | 0 |
| 1986 | 3,519 | 1,400 | 4,919 | 10,609 | 12,379 | 88,000 | 110,988 | 0 | 0 | 0 |
| 1987 | 7,693 | 1,550 | 9,243 | 23,406 | 25,390 | 88,000 | 136,796 | 0 | 0 | 0 |
| 1988 | 5,392 | 9,726 | 15,118 | 25,830 | 33,464 | 87,961 | 147,255 | 0 | 0 | 0 |
| 1989 | 3,819 | 17,256 | 21,075 | 26,227 | 26,042 | 90,000 | 142,269 | 0 | 0 | 0 |
| 1990 | 6,940 | 19,131 | 26,071 | 33,034 | 31,703 | 92,000 | 156,737 | 0 | 0 | 0 |
| 1991 | 1,380 | 6,972 | 8,352 | 9,411 | 12,648 | 28,200 | 50,259 | 0 | 1,240 | 1,240 |
| 1992 | 4,238 | 11,933 | 16,171 | 14,669 | 19,153 | 42,839 | 76,661 | 0 | 0 | 0 |
| 1993 | 5,943 | 18,291 | 24,234 | 26,600 | 28,980 | 68,600 | 124,180 | 0 | 0 | 0 |
| 1994 | 9,135 | 28,080 | 37,215 | 40,000 | 42,000 | 100,000 | 182,000 | 0 | 0 | 0 |
| 1995 | 9,780 | 34,240 | 44,020 | 42,000 | 42,000 | 100,000 | 184,000 | 0 | 0 | 0 |
| 1996 | 10,425 | 37,800 | 48,225 | 44,000 | 42,000 | 100,000 | 186,000 | 4,030 | 38,700 | 42,730 |
| 1997 | 11,065 | 38,250 | 49,315 | 46,000 | 42,000 | 100,000 | 188,000 | 8,028 | 46,478 | 54,506 |
| 1998 | 11,710 | 38,715 | 50,425 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 1999 | 12,330 | 39,165 | 51,495 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2000 | 13,050 | 39,620 | 52,670 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2001 | 13,665 | 39,620 | 53,285 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2002 | 14,185 | 39,620 | 53,805 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2003 | 14,800 | 39,620 | 54,420 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2004 | 15,400 | 39,620 | 55,020 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2005 | 16,000 | 41,500 | 57,500 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2006 | 16,450 | 41,500 | 57,950 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2007 | 17,000 | 41,500 | 58,500 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2008 | 17,650 | 41,500 | 59,150 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2009 | 18,200 | 41,500 | 59,700 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2010 | 18,750 | 41,750 | 60,500 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2011 | 19,400 | 41,750 | 61,150 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2012 | 19,950 | 41,750 | 61,700 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2013 | 20,600 | 41,750 | 62,350 | 46,000 | 42,000 | 100,000 | 188,000 | 25,000 | 45,486 | 70,486 |
| 2014 | 21,250 | 41,750 | 63,000 | 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 | 958,421 | 1,798,859 | 2,757,280 | 2,289,219 | 2,220,904 | 6,417,319 | 10,927,442 | 962,058 | 1,814,886 | 2,776,944 |

a) From 1968 through 1987, deliveries are nonproject water pumped through an interim facility.
b) From June 1962 through November 1967, deliveries were supplied by nonproject water.

TABLE B-5B

# Annual Water Quantities Delivered to Each Contractor

(Acre-feet)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | Kern County Water Agency | | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Municipal and Industrial (13) | Agricultural (14) | Total (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 26,360 | 1,978 | 0 | 127,384 | 127,384 | 900 | 3,084 | 25,100 | 184,806 |
| 1969 | 31,375 | 56 | 0 | 141,265 | 141,265 | 100 | 3,016 | 9,923 | 185,735 |
| 1970 | 40,407 | 3,942 | 0 | 204,634 | 204,634 | 0 | 5,911 | 9,578 | 264,472 |
| 1971 | 41,053 | 5,990 | 0 | 360,151 | 360,151 | 3,700 | 7,212 | 122,485 | 540,591 |
| 1972 | 42,443 | 5,795 | 0 | 490,781 | 490,781 | 1,400 | 8,166 | 258,393 | 806,978 |
| 1973 | 22,057 | 3,000 | 0 | 341,469 | 341,469 | 1,500 | 3,214 | 50,464 | 421,704 |
| 1974 | 33,390 | 3,000 | 23,708 | 323,292 | 347,000 | 1,500 | 3,471 | 72,289 | 460,650 |
| 1975 | 40,555 | 3,000 | 14,529 | 396,291 | 410,820 | 1,600 | 3,576 | 86,258 | 545,809 |
| 1976 | 41,421 | 3,000 | 46,719 | 392,531 | 439,250 | 1,600 | 4,112 | 58,811 | 548,194 |
| 1977 | 11,153 | 738 | 27,882 | 163,425 | 191,307 | 1,530 | 1,472 | 18,081 | 224,281 |
| 1978 | 51,747 | 454 | 76,895 | 590,452 | 667,347 | 2,070 | 3,906 | 12,053 | 737,577 |
| 1979 | 38,544 | 1,739 | 62,997 | 683,049 | 746,046 | 2,000 | 6,149 | 155,121 | 949,599 |
| 1980 | 41,000 | 894 | 45,943 | 588,557 | 634,500 | 2,200 | 5,700 | 69,244 | 753,538 |
| 1981 | 41,000 | 5,859 | 75,758 | 615,642 | 691,400 | 2,300 | 4,300 | 83,438 | 828,297 |
| 1982 | 41,000 | 361 | 48,483 | 696,817 | 745,300 | 1,750 | 3,838 | 18,551 | 810,800 |
| 1983 | 42,900 | 0 | 6,854 | 587,653 | 594,507 | 3,550 | 3,822 | 1,006 | 645,785 |
| 1984 | 45,100 | 0 | 90,904 | 769,652 | 860,556 | 3,100 | 5,700 | 5,743 | 920,199 |
| 1985 | 46,251 | 5,197 | 88,515 | 800,381 | 888,896 | 3,400 | 5,433 | 109,791 | 1,058,968 |
| 1986 | 50,249 | 1,170 | 77,240 | 829,101 | 906,341 | 3,700 | 5,107 | 79,355 | 1,045,922 |
| 1987 | 46,288 | 2,525 | 117,173 | 852,731 | 969,904 | 4,000 | 5,625 | 93,084 | 1,121,426 |
| 1988 | 47,994 | 3,775 | 121,049 | 888,471 | 1,009,520 | 4,000 | 4,412 | 95,866 | 1,165,567 |
| 1989 | 57,049 | 3,000 | 123,896 | 1,022,166 | 1,146,062 | 4,000 | 6,091 | 127,950 | 1,344,152 |
| 1990 | 36,296 | 1,279 | 127,837 | 584,611 | 712,448 | 2,000 | 2,922 | 57,070 | 812,015 |
| 1991 | 927 | 221 | 33,122 | 8,965 | 42,087 | 0 | 141 | 2,180 | 45,556 |
| 1992 | 23,770 | 1,354 | 56,305 | 397,967 | 454,272 | 1,806 | 2,239 | 46,728 | 530,169 |
| 1993 | 40,390 | 2,100 | 94,220 | 713,160 | 807,380 | 2,800 | 3,990 | 82,950 | 939,610 |
| 1994 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1995 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1996 | 57,700 | 3,000 | 134,600 | 1,018,800 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1997 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1998 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 1999 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2000 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2001 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2002 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2003 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2004 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2005 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2006 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2007 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2008 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2009 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2010 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2011 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2012 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2013 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2014 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2015 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2016 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2017 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2018 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2019 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2020 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2021 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2022 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2023 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2024 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2025 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2026 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2027 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2028 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2029 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2030 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2031 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2032 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2033 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2034 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| 2035 | 57,700 | 3,000 | 139,000 | 1,014,400 | 1,153,400 | 4,000 | 5,700 | 118,500 | 1,342,300 |
| Total | 3,404,119 | 186,427 | 7,184,829 | 56,188,598 | 63,373,427 | 224,506 | 352,009 | 6,728,512 | 74,269,000 |

TABLE B-5B

# Annual Water Quantities Delivered to Each Contractor

(Acre-feet)



| Calendar Year | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Antelope Valley-East Kern Water Agency (20)* | *Castaic Lake Water Agency (c (21)* | *Coachella Valley Water District (22)* | *Crestline-Lake Arrowhead Water Agency (23)* | *Desert Water Agency (24)* | *Littlerock Creek Irrigation District (25)* | *Mojave Water Agency (26)* | *Palmdale Water District (27)* | *San Bernardino Valley Municipal Water District (28)* | *San Gabriel Valley Municipal Water District (29)* |
| 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 | 7,382 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 9,970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 11,739 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0 | 12,490 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 53 | 13,905 | 0 | 464 | 0 | 338 | 55 | 0 | 1,275 | 0 |
| 1973 | 20 | 9,418 | 5,800 | 389 | 9,000 | 290 | 0 | 0 | 32,426 | 0 |
| 1974 | 1,259 | 9,700 | 6,400 | 627 | 10,000 | 400 | 14 | 0 | 16,605 | 612 |
| 1975 | 8,068 | 10,700 | 7,000 | 825 | 11,000 | 520 | 0 | 0 | 13,865 | 5,450 |
| 1976 | 27,782 | 11,700 | 7,600 | 1,002 | 12,000 | 589 | 0 | 0 | 12,273 | 6,071 |
| 1977 | 11,202 | 5,075 | 0 | 1,109 | 0 | 111 | 80 | 0 | 24,833 | 8,996 |
| 1978 | 44,137 | 11,362 | 10,084 | 1,209 | 15,300 | 208 | 0 | 0 | 4,055 | 7,771 |
| 1979 | 60,493 | 19,145 | 10,063 | 1,260 | 15,000 | 133 | 4,000 | 0 | 18 | 290 |
| 1980 | 72,407 | 15,092 | 10,884 | 1,239 | 17,000 | 191 | 4,000 | 0 | 0 | 1,085 |
| 1981 | 79,375 | 18,461 | 12,105 | 1,485 | 19,000 | 1,270 | 4,000 | 0 | 16,021 | 3,619 |
| 1982 | 50,291 | 22,216 | 13,326 | 1,238 | 21,000 | 0 | 10,500 | 0 | 8,409 | 12,599 |
| 1983 | 32,961 | 22,135 | 14,547 | 911 | 23,000 | 38 | 0 | 0 | 5,994 | 734 |
| 1984 | 32,662 | 24,218 | 15,768 | 1,128 | 25,000 | 1 | 0 | 0 | 5,556 | 7,656 |
| 1985 | 37,064 | 24,500 | 16,989 | 1,422 | 27,000 | 0 | 0 | 1,558 | 7,390 | 5,028 |
| 1986 | 32,449 | 27,229 | 18,210 | 1,506 | 29,000 | 163 | 0 | 3,096 | 6,421 | 9,454 |
| 1987 | 34,094 | 27,988 | 19,431 | 1,849 | 31,500 | 1,080 | 17 | 5,379 | 8,751 | 10,630 |
| 1988 | 34,079 | 30,438 | 20,652 | 2,006 | 34,000 | 419 | 9 | 1,770 | 12,637 | 8,948 |
| 1989 | 45,280 | 36,364 | 21,873 | 2,170 | 36,500 | 971 | 200 | 9,009 | 20,782 | 12,839 |
| 1990 | 47,206 | 28,579 | 23,100 | 1,827 | 38,100 | 1,747 | 0 | 8,608 | 18,831 | 16,649 |
| 1991 | 9,568 | 4,562 | 6,930 | 852 | 11,430 | 522 | 3,423 | 3,914 | 3,661 | 5,399 |
| 1992 | 30,265 | 20,699 | 10,427 | 264 | 17,197 | 251 | 10,686 | 4,035 | 3,358 | 7,908 |
| 1993 | 37,735 | 31,047 | 16,170 | 1,950 | 26,670 | 1,610 | 25,200 | 10,010 | 22,400 | 16,800 |
| 1994 | 56,803 | 44,987 | 23,100 | 2,650 | 38,100 | 2,300 | 36,000 | 15,060 | 35,000 | 18,000 |
| 1995 | 61,908 | 47,604 | 23,100 | 2,900 | 38,100 | 2,300 | 50,800 | 15,560 | 38,000 | 18,000 |
| 1996 | 65,308 | 50,232 | 23,100 | 3,100 | 38,100 | 2,300 | 50,800 | 17,280 | 41,000 | 18,000 |
| 1997 | 68,748 | 53,100 | 23,100 | 3,300 | 38,100 | 2,300 | 50,800 | 17,300 | 44,000 | 18,000 |
| 1998 | 72,228 | 53,101 | 23,100 | 2,600 | 38,100 | 2,300 | 50,800 | 17,300 | 51,004 | 18,000 |
| 1999 | 83,954 | 53,101 | 23,100 | 2,600 | 38,100 | 2,300 | 50,800 | 17,300 | 55,000 | 18,000 |
| 2000 | 96,000 | 54,200 | 23,100 | 3,000 | 38,100 | 2,300 | 50,800 | 17,300 | 60,000 | 20,000 |
| 2001 | 96,000 | 54,200 | 23,100 | 3,000 | 38,100 | 2,300 | 50,800 | 17,300 | 60,000 | 20,000 |
| 2002 | 96,000 | 54,200 | 23,100 | 3,000 | 38,100 | 2,300 | 50,800 | 17,300 | 60,000 | 20,000 |
| 2003 | 96,000 | 54,200 | 23,100 | 3,000 | 38,100 | 2,300 | 50,800 | 17,300 | 60,000 | 20,000 |
| 2004 | 96,000 | 54,200 | 23,100 | 3,000 | 38,100 | 2,300 | 50,800 | 17,300 | 60,000 | 20,000 |
| 2005 | 116,000 | 54,200 | 23,100 | 3,825 | 38,100 | 2,300 | 50,800 | 17,300 | 90,000 | 21,300 |
| 2006 | 116,000 | 54,200 | 23,100 | 3,825 | 38,100 | 2,300 | 50,800 | 17,300 | 90,000 | 21,300 |
| 2007 | 116,000 | 54,200 | 23,100 | 3,825 | 38,100 | 2,300 | 50,800 | 17,300 | 90,000 | 21,300 |
| 2008 | 116,000 | 54,200 | 23,100 | 3,825 | 38,100 | 2,300 | 50,800 | 17,300 | 90,000 | 21,300 |
| 2009 | 116,000 | 54,200 | 23,100 | 3,825 | 38,100 | 2,300 | 50,800 | 17,300 | 90,000 | 21,300 |
| 2010 | 136,000 | 54,200 | 23,100 | 4,750 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 22,500 |
| 2011 | 138,400 | 54,200 | 23,100 | 4,750 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 22,500 |
| 2012 | 138,400 | 54,200 | 23,100 | 4,750 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 22,500 |
| 2013 | 138,400 | 54,200 | 23,100 | 4,750 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 22,500 |
| 2014 | 138,400 | 54,200 | 23,100 | 4,750 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 22,500 |
| 2015 | 138,400 | 54,200 | 23,100 | 5,300 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 23,800 |
| 2016 | 138,400 | 54,200 | 23,100 | 5,300 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 23,800 |
| 2017 | 138,400 | 54,200 | 23,100 | 5,300 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 23,800 |
| 2018 | 138,400 | 54,200 | 23,100 | 5,300 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 23,800 |
| 2019 | 138,400 | 54,200 | 23,100 | 5,300 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 23,800 |
| 2020 | 138,400 | 54,200 | 23,100 | 5,700 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 25,000 |
| 2021 | 138,400 | 54,200 | 23,100 | 5,700 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 25,000 |
| 2022 | 138,400 | 54,200 | 23,100 | 5,700 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 25,000 |
| 2023 | 138,400 | 54,200 | 23,100 | 5,700 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 25,000 |
| 2024 | 138,400 | 54,200 | 23,100 | 5,700 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 25,000 |
| 2025 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 26,300 |
| 2026 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 26,300 |
| 2027 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 26,300 |
| 2028 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 26,300 |
| 2029 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 26,300 |
| 2030 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 27,500 |
| 2031 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 27,500 |
| 2032 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 27,500 |
| 2033 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 27,500 |
| 2034 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 27,500 |
| 2035 | 138,400 | 54,200 | 23,100 | 5,800 | 38,100 | 2,300 | 50,800 | 17,300 | 102,600 | 28,800 |
| Total | 5,793,399 | 2,719,439 | 1,237,559 | 220,557 | 2,028,897 | 107,452 | 2,180,984 | 769,979 | 3,927,165 | 1,117,338 |

c) Devil's Den Water District merged with Castaic Lake Water Agency effective January 1, 1992.

TABLE B-5B

# Annual Water Quantities Delivered to Each Contractor

(Acre-feet)



| | Southern California Area (continued) | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC&WCD (36) | Total (37) | South Bay Area Future Contractor (38) | Grand Total (39) |
| 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 | 7,382 | 0 | 0 | 0 | 0 | 0 | 294,457 |
| 1969 | 0 | 0 | 0 | 9,970 | 0 | 0 | 0 | 0 | 0 | 268,104 |
| 1970 | 0 | 0 | 0 | 11,739 | 0 | 0 | 70 | 70 | 0 | 369,459 |
| 1971 | 0 | 0 | 0 | 12,490 | 0 | 192 | 64 | 256 | 0 | 654,442 |
| 1972 | 0 | 71,938 | 0 | 88,028 | 0 | 186 | 505 | 691 | 0 | 1,037,770 |
| 1973 | 0 | 159,883 | 0 | 217,226 | 0 | 53 | 679 | 732 | 0 | 737,532 |
| 1974 | 0 | 277,717 | 0 | 323,334 | 0 | 127 | 648 | 775 | 0 | 878,947 |
| 1975 | 0 | 526,491 | 0 | 583,919 | 0 | 253 | 405 | 658 | 0 | 1,230,830 |
| 1976 | 0 | 618,451 | 0 | 697,468 | 0 | 527 | 382 | 909 | 0 | 1,380,124 |
| 1977 | 0 | 189,755 | 0 | 241,161 | 0 | 706 | 303 | 1,009 | 0 | 582,381 |
| 1978 | 0 | 507,565 | 0 | 601,691 | 0 | 579 | 278 | 857 | 0 | 1,458,733 |
| 1979 | 0 | 477,074 | 0 | 587,476 | 0 | 302 | 329 | 631 | 0 | 1,666,457 |
| 1980 | 0 | 531,727 | 0 | 653,625 | 0 | 267 | 295 | 562 | 0 | 1,530,256 |
| 1981 | 0 | 795,846 | 0 | 951,182 | 0 | 221 | 355 | 576 | 0 | 1,918,563 |
| 1982 | 0 | 691,192 | 0 | 830,771 | 0 | 334 | 305 | 639 | 0 | 1,750,123 |
| 1983 | 0 | 343,521 | 0 | 443,841 | 0 | 325 | 262 | 587 | 0 | 1,187,156 |
| 1984 | 0 | 454,218 | 0 | 566,207 | 108 | 177 | 272 | 557 | 0 | 1,588,008 |
| 1985 | 0 | 683,625 | 0 | 804,576 | 62 | 308 | 254 | 624 | 0 | 1,990,295 |
| 1986 | 0 | 708,840 | 0 | 836,368 | 328 | 313 | 317 | 958 | 0 | 1,999,155 |
| 1987 | 0 | 712,424 | 0 | 853,143 | 88 | 459 | 452 | 999 | 0 | 2,121,607 |
| 1988 | 0 | 902,564 | 0 | 1,047,522 | 303 | 385 | 523 | 1,211 | 0 | 2,376,673 |
| 1989 | 0 | 1,156,698 | 0 | 1,342,686 | 403 | 300 | 486 | 1,189 | 0 | 2,851,371 |
| 1990 | 0 | 1,396,423 | 4,836 | 1,585,906 | 494 | 380 | 574 | 1,448 | 0 | 2,582,177 |
| 1991 | 0 | 391,447 | 988 | 442,696 | 118 | 328 | 420 | 866 | 0 | 548,969 |
| 1992 | 0 | 707,311 | 0 | 812,401 | 1,100 | 543 | 485 | 2,128 | 0 | 1,437,530 |
| 1993 | 0 | 1,408,050 | 3,500 | 1,601,142 | 1,890 | 774 | 812 | 3,476 | 0 | 2,692,642 |
| 1994 | 0 | 2,011,500 | 5,000 | 2,288,500 | 2,700 | 1,132 | 1,200 | 5,032 | 0 | 3,855,047 |
| 1995 | 3,000 | 2,011,500 | 5,000 | 2,317,772 | 2,900 | 1,158 | 1,250 | 5,308 | 0 | 3,893,400 |
| 1996 | 7,200 | 2,011,500 | 5,000 | 2,332,920 | 3,200 | 1,187 | 1,304 | 5,691 | 0 | 3,957,866 |
| 1997 | 7,200 | 2,011,500 | 5,000 | 2,342,448 | 3,700 | 1,200 | 1,352 | 6,252 | 0 | 3,982,821 |
| 1998 | 5,570 | 2,011,500 | 20,000 | 2,365,603 | 3,700 | 1,200 | 1,400 | 6,300 | 0 | 4,023,114 |
| 1999 | 5,570 | 2,011,500 | 20,000 | 2,381,325 | 3,700 | 1,200 | 1,469 | 6,369 | 0 | 4,039,975 |
| 2000 | 6,350 | 2,011,500 | 20,000 | 2,402,650 | 5,500 | 1,200 | 1,522 | 8,222 | 0 | 4,064,328 |
| 2001 | 6,350 | 2,011,500 | 20,000 | 2,402,650 | 5,500 | 27,500 | 1,577 | 34,577 | 0 | 4,091,298 |
| 2002 | 6,350 | 2,011,500 | 20,000 | 2,402,650 | 5,500 | 27,500 | 1,632 | 34,632 | 0 | 4,091,873 |
| 2003 | 6,350 | 2,011,500 | 20,000 | 2,402,650 | 5,500 | 27,500 | 1,690 | 34,690 | 0 | 4,092,546 |
| 2004 | 6,350 | 2,011,500 | 20,000 | 2,402,650 | 5,500 | 27,500 | 1,766 | 34,766 | 0 | 4,093,222 |
| 2005 | 8,450 | 2,011,500 | 20,000 | 2,456,875 | 7,500 | 27,500 | 1,827 | 36,827 | 0 | 4,151,988 |
| 2006 | 8,450 | 2,011,500 | 20,000 | 2,456,875 | 7,500 | 27,500 | 1,890 | 36,890 | 0 | 4,152,501 |
| 2007 | 8,450 | 2,011,500 | 20,000 | 2,456,875 | 7,500 | 27,500 | 1,954 | 36,954 | 0 | 4,153,115 |
| 2008 | 8,450 | 2,011,500 | 20,000 | 2,456,875 | 7,500 | 27,500 | 2,020 | 37,020 | 0 | 4,153,831 |
| 2009 | 8,450 | 2,011,500 | 20,000 | 2,456,875 | 7,500 | 27,500 | 2,112 | 37,112 | 0 | 4,154,473 |
| 2010 | 10,550 | 2,011,500 | 20,000 | 2,493,700 | 9,600 | 27,500 | 2,183 | 39,283 | 0 | 4,194,269 |
| 2011 | 10,550 | 2,011,500 | 20,000 | 2,496,100 | 9,600 | 27,500 | 2,256 | 39,356 | 0 | 4,197,392 |
| 2012 | 10,550 | 2,011,500 | 20,000 | 2,496,100 | 9,600 | 27,500 | 2,332 | 39,432 | 0 | 4,198,018 |
| 2013 | 10,550 | 2,011,500 | 20,000 | 2,496,100 | 9,600 | 27,500 | 2,410 | 39,510 | 0 | 4,198,746 |
| 2014 | 10,550 | 2,011,500 | 20,000 | 2,496,100 | 9,600 | 27,500 | 2,449 | 39,549 | 0 | 4,199,435 |
| 2015 | 13,550 | 2,011,500 | 20,000 | 2,500,950 | 9,600 | 27,500 | 2,515 | 39,615 | 0 | 4,205,251 |
| 2016 | 13,550 | 2,011,500 | 20,000 | 2,500,950 | 9,600 | 27,500 | 2,580 | 39,680 | 0 | 4,205,916 |
| 2017 | 13,550 | 2,011,500 | 20,000 | 2,500,950 | 9,600 | 27,500 | 2,642 | 39,742 | 0 | 4,206,578 |
| 2018 | 13,550 | 2,011,500 | 20,000 | 2,500,950 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,207,236 |
| 2019 | 13,550 | 2,011,500 | 20,000 | 2,500,950 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,207,836 |
| 2020 | 16,650 | 2,011,500 | 20,000 | 2,505,650 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,213,136 |
| 2021 | 17,300 | 2,011,500 | 20,000 | 2,506,300 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,213,886 |
| 2022 | 17,300 | 2,011,500 | 20,000 | 2,506,300 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,213,886 |
| 2023 | 17,300 | 2,011,500 | 20,000 | 2,506,300 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,213,886 |
| 2024 | 17,300 | 2,011,500 | 20,000 | 2,506,300 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,213,886 |
| 2025 | 17,300 | 2,011,500 | 20,000 | 2,507,700 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,215,286 |
| 2026 | 17,300 | 2,011,500 | 20,000 | 2,507,700 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,215,286 |
| 2027 | 17,300 | 2,011,500 | 20,000 | 2,507,700 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,215,286 |
| 2028 | 17,300 | 2,011,500 | 20,000 | 2,507,700 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,215,286 |
| 2029 | 17,300 | 2,011,500 | 20,000 | 2,507,700 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,215,286 |
| 2030 | 17,300 | 2,011,500 | 20,000 | 2,508,900 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,216,486 |
| 2031 | 17,300 | 2,011,500 | 20,000 | 2,508,900 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,216,486 |
| 2032 | 17,300 | 2,011,500 | 20,000 | 2,508,900 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,216,486 |
| 2033 | 17,300 | 2,011,500 | 20,000 | 2,508,900 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,216,486 |
| 2034 | 17,300 | 2,011,500 | 20,000 | 2,508,900 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,216,486 |
| 2035 | 17,300 | 2,011,500 | 20,000 | 2,510,200 | 9,600 | 27,500 | 2,700 | 39,800 | 0 | 4,217,786 |
| Total | 499,190 | 98,195,760 | 789,324 | 119,587,043 | 339,394 | 978,816 | 103,407 | 1,421,617 | 0 | 211,739,326 |

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | North Bay Aqueduct | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Barker Slough Pumping Plant | | | | Cordelia Pumping Plant Solano County Water Agency | | | | Cordelia Pumping Plant Napa County FC&WCD | | | |
| Calendar Year | Initial Fill Water (1) | Operational Losses (2) | Water Supply Delivery (3) | Total (4) | Initial Fill Water (5) | Operational Losses (6) | Water Supply Delivery (7) | Total (8) | Initial Fill Water (9) | Operational Losses (10) | Water Supply Delivery (a (11) | Total (12) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | (10) | 1,214 | 1,228 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2,687 | 2,689 |
| 1970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 3,618 | 3,636 |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2,521 | 2,525 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (10) | 3,647 | 3,637 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 3,792 | 3,793 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 4,870 | 4,880 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 6,840 | 6,850 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 7,122 | 7,126 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 8,226 | 8,228 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (6) | 6,034 | 6,028 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 6,561 | 6,562 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (3) | 6,707 | 6,704 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 9,001 | 9,009 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (8) | 1,213 | 1,205 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (12) | 2,287 | 2,275 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (15) | 2,923 | 2,908 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 4,039 | 4,052 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (4) | 3,515 | 3,511 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7,693 | 7,693 |
| 1988 | 0 | 273 | 15,118 | 15,391 | 0 | (6) | 9,725 | 9,719 | 0 | (4) | 5,392 | 5,388 |
| 1989 | 0 | 758 | 23,451 | 24,209 | 0 | 0 | 17,246 | 17,246 | 0 | (4) | 6,195 | 6,191 |
| 1990 | 0 | 637 | 26,071 | 26,708 | 0 | 0 | 15,856 | 15,856 | 0 | 3 | 6,940 | 6,943 |
| 1991 | 0 | 661 | 8,352 | 9,013 | 0 | 124 | 3,855 | 3,979 | 0 | 192 | 1,380 | 1,572 |
| 1992 | 0 | 1,646 | 17,051 | 18,697 | 0 | 0 | 8,506 | 8,506 | 0 | 3 | 4,354 | 4,357 |
| 1993 | 0 | 51 | 24,234 | 24,285 | 0 | 5 | 11,574 | 11,579 | 0 | 5 | 5,943 | 5,948 |
| 1994 | 0 | 51 | 37,215 | 37,266 | 0 | 5 | 16,930 | 16,935 | 0 | 5 | 9,135 | 9,140 |
| 1995 | 0 | 51 | 44,020 | 44,071 | 0 | 5 | 17,340 | 17,345 | 0 | 5 | 9,780 | 9,785 |
| 1996 | 0 | 51 | 48,225 | 48,276 | 0 | 5 | 17,750 | 17,755 | 0 | 5 | 10,425 | 10,430 |
| 1997 | 0 | 51 | 49,315 | 49,366 | 0 | 5 | 18,150 | 18,155 | 0 | 5 | 11,065 | 11,070 |
| 1998 | 0 | 51 | 50,425 | 50,476 | 0 | 5 | 18,182 | 18,187 | 0 | 5 | 11,710 | 11,715 |
| 1999 | 0 | 51 | 51,495 | 51,546 | 0 | 5 | 18,393 | 18,398 | 0 | 5 | 12,330 | 12,335 |
| 2000 | 0 | 51 | 52,670 | 52,721 | 0 | 5 | 18,608 | 18,613 | 0 | 5 | 13,050 | 13,055 |
| 2001 | 0 | 51 | 53,285 | 53,336 | 0 | 5 | 18,608 | 18,613 | 0 | 5 | 13,665 | 13,670 |
| 2002 | 0 | 51 | 53,805 | 53,856 | 0 | 5 | 18,608 | 18,613 | 0 | 5 | 14,185 | 14,190 |
| 2003 | 0 | 51 | 54,420 | 54,471 | 0 | 5 | 18,608 | 18,613 | 0 | 5 | 14,800 | 14,805 |
| 2004 | 0 | 51 | 55,020 | 55,071 | 0 | 5 | 18,608 | 18,613 | 0 | 5 | 15,400 | 15,405 |
| 2005 | 0 | 51 | 57,500 | 57,551 | 0 | 5 | 19,488 | 19,493 | 0 | 5 | 16,000 | 16,005 |
| 2006 | 0 | 51 | 57,950 | 58,001 | 0 | 5 | 19,488 | 19,493 | 0 | 5 | 16,450 | 16,455 |
| 2007 | 0 | 51 | 58,500 | 58,551 | 0 | 5 | 19,488 | 19,493 | 0 | 5 | 17,000 | 17,005 |
| 2008 | 0 | 51 | 59,150 | 59,201 | 0 | 5 | 19,488 | 19,493 | 0 | 5 | 17,650 | 17,655 |
| 2009 | 0 | 51 | 59,700 | 59,751 | 0 | 5 | 19,488 | 19,493 | 0 | 5 | 18,200 | 18,205 |
| 2010 | 0 | 51 | 60,500 | 60,551 | 0 | 5 | 19,606 | 19,611 | 0 | 5 | 18,750 | 18,755 |
| 2011 | 0 | 51 | 61,150 | 61,201 | 0 | 5 | 19,606 | 19,611 | 0 | 5 | 19,400 | 19,405 |
| 2012 | 0 | 51 | 61,700 | 61,751 | 0 | 5 | 19,606 | 19,611 | 0 | 5 | 19,950 | 19,955 |
| 2013 | 0 | 51 | 62,350 | 62,401 | 0 | 5 | 19,606 | 19,611 | 0 | 5 | 20,600 | 20,605 |
| 2014 | 0 | 51 | 63,000 | 63,051 | 0 | 5 | 19,606 | 19,611 | 0 | 5 | 21,250 | 21,255 |
| 2015 | 0 | 51 | 63,900 | 63,951 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 21,900 | 21,905 |
| 2016 | 0 | 51 | 64,500 | 64,551 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 22,500 | 22,505 |
| 2017 | 0 | 51 | 65,100 | 65,151 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 23,100 | 23,105 |
| 2018 | 0 | 51 | 65,700 | 65,751 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 23,700 | 23,705 |
| 2019 | 0 | 51 | 66,300 | 66,351 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 24,300 | 24,305 |
| 2020 | 0 | 51 | 66,900 | 66,951 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 24,900 | 24,905 |
| 2021 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2022 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2023 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2024 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2025 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2026 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2027 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2028 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2029 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2030 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2031 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2032 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2033 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2034 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |
| 2035 | 0 | 51 | 67,000 | 67,051 | 0 | 5 | 19,724 | 19,729 | 0 | 5 | 25,000 | 25,005 |

a) From 1968 through 1987, deliveries are nonproject water pumped through an interim facility.

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | South Bay Aqueduct | | | | | | California Aqueduct | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | South Bay Pumping Plant | | | | | | North San Joaquin Division | | | | | | | |
| | | | | | | | Banks Pumping Plant | | | | | | | |
| | | | | | | | Transportation Water | | | | | | | |
| | | | | Deliveries | | | | | | Deliveries | | | | |
| Calendar Year | Initial Fill Water (13) | Operational Losses (14) | Reservoir Storage Changes (15) | Water Supply (b (16) | Recreation (17) | Total (18) | Initial Fill Water (19) | Operational Losses (20) | Reservoir Storage Changes (21) | Water Supply (22) | Recreation (23) | Total (24) | Conservation Water (25) | Total (26) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 9 | 272 | 0 | 8,906 | 0 | 9,187 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 71 | 185 | 0 | 12,645 | 0 | 12,901 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1964 | 171 | 152 | 0 | 20,911 | 0 | 21,234 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1965 | 93 | 729 | 0 | 34,026 | 0 | 34,848 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1966 | 0 | 1,746 | 0 | 54,913 | 0 | 56,659 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1967 | 0 | 1,677 | 0 | 56,763 | 0 | 58,440 | 5,746 | 1,183 | 0 | 11,538 | 0 | 18,467 | 2,957 | 21,424 |
| 1968 | 0 | 1,847 | 0 | 101,055 | 0 | 102,902 | 11,079 | 74,464 | 0 | 293,243 | 0 | 378,786 | 531,275 | 910,061 |
| 1969 | 3,449 | 2,668 | 0 | 69,712 | 0 | 75,829 | 7,336 | 44,287 | 0 | 265,417 | 0 | 317,040 | 531,185 | 848,225 |
| 1970 | 16,279 | 1,086 | (5,355) | 89,560 | 0 | 101,570 | 23,947 | 20,767 | (5,355) | 365,771 | 0 | 405,130 | (12,995) | 392,135 |
| 1971 | 0 | 1,815 | 8,854 | 98,584 | 0 | 109,253 | 23,207 | (10,754) | 8,854 | 651,665 | 8 | 672,980 | 7,708 | 680,688 |
| 1972 | 0 | 3,557 | 2,273 | 138,426 | 0 | 144,256 | 145,066 | 9,057 | (4,285) | 1,033,432 | 6,489 | 1,189,759 | 48,300 | 1,238,059 |
| 1973 | 0 | (33) | (1,510) | 94,078 | 0 | 92,535 | 214,941 | (4,951) | 2,902 | 733,008 | 1,155 | 947,055 | 55,846 | 1,002,901 |
| 1974 | 0 | 1,287 | (10,056) | 89,318 | 0 | 80,549 | 247,894 | (11,526) | (32,510) | 873,302 | 2,118 | 1,079,278 | 54,683 | 1,133,961 |
| 1975 | 0 | 320 | 8,550 | 93,604 | 0 | 102,474 | 110,149 | (8,092) | 16,101 | 1,223,332 | 3,377 | 1,344,867 | (102,625) | 1,242,242 |
| 1976 | 0 | 2,431 | 1,391 | 126,431 | 141 | 130,394 | 67,834 | 5,443 | (244,124) | 1,372,093 | 1,745 | 1,202,991 | (442,348) | 760,643 |
| 1977 | 0 | 2,866 | 2,685 | 107,704 | 112 | 113,367 | 0 | 39,897 | (157,543) | 573,146 | 1,111 | 456,611 | (13,507) | 443,104 |
| 1978 | 0 | 2,165 | (11,249) | 112,574 | 126 | 103,616 | 67,457 | (36,898) | 35,129 | 1,451,842 | 1,177 | 1,518,707 | 752,075 | 2,270,782 |
| 1979 | 0 | 2,401 | 1,069 | 122,190 | 89 | 125,749 | 17,397 | 60,958 | (32,307) | 1,659,265 | 1,398 | 1,706,711 | (112,053) | 1,594,658 |
| 1980 | 0 | 1,758 | (6,563) | 115,824 | 123 | 111,142 | 3,159 | 58,484 | (275,538) | 1,529,187 | 2,131 | 1,317,423 | 186,601 | 1,504,024 |
| 1981 | 0 | 2,627 | 13,742 | 129,507 | 121 | 145,997 | 46,060 | 85,350 | 40,536 | 1,908,986 | 4,974 | 2,085,906 | (931,878) | 1,154,028 |
| 1982 | 0 | 2,344 | (23,928) | 107,439 | 129 | 85,984 | 5,979 | 61,556 | 99,897 | 1,743,145 | 4,646 | 1,915,223 | 347,983 | 2,263,206 |
| 1983 | 0 | 2,151 | (22,886) | 94,656 | 132 | 74,053 | 6,071 | 47,022 | (310,477) | 1,184,282 | 7,853 | 934,751 | 835,771 | 1,770,522 |
| 1984 | 0 | 2,088 | 8,442 | 98,122 | 158 | 108,810 | 38,649 | 97,143 | (108,548) | 1,587,936 | 5,874 | 1,621,054 | 21,875 | 1,642,929 |
| 1985 | 0 | 2,817 | (1,607) | 122,088 | 152 | 123,450 | 0 | 110,469 | 137,783 | 1,985,632 | 5,452 | 2,239,336 | (110,569) | 2,128,767 |
| 1986 | 0 | 2,217 | 319 | 110,988 | 130 | 113,654 | 0 | 82,958 | 37,865 | 1,993,278 | 3,865 | 2,117,966 | 205,399 | 2,323,365 |
| 1987 | 0 | 2,625 | (584) | 136,796 | 137 | 138,974 | 0 | 89,721 | (19,167) | 2,118,867 | 7,672 | 2,197,093 | (458,725) | 1,738,368 |
| 1988 | 0 | 2,884 | 724 | 147,255 | 142 | 151,005 | 0 | 134,229 | (339,023) | 2,360,044 | 4,889 | 2,160,139 | (301,121) | 1,859,018 |
| 1989 | 0 | 2,673 | 3,296 | 142,269 | 152 | 148,390 | 0 | 170,723 | 317,292 | 2,829,107 | 8,135 | 3,325,257 | 409,832 | 3,735,089 |
| 1990 | 0 | 894 | 1,041 | 156,537 | 168 | 158,640 | 0 | 136,842 | (423,258) | 2,554,658 | 9,262 | 2,277,504 | (368,904) | 1,908,600 |
| 1991 | 0 | 2,637 | (4,532) | 50,259 | 150 | 48,514 | 0 | 108,791 | 283,937 | 539,751 | 4,912 | 937,391 | 215,999 | 1,153,390 |
| 1992 | 0 | 2,710 | 927 | 77,134 | 147 | 80,918 | 0 | 130,405 | (259,804) | 1,452,183 | 2,605 | 1,325,389 | (127,977) | 1,197,412 |
| 1993 | 0 | 3,230 | (2,116) | 124,180 | 281 | 125,575 | 0 | 101,313 | 7,117 | 2,664,932 | 5,747 | 2,779,109 | (10,687) | 2,768,422 |
| 1994 | 0 | 3,230 | (1,380) | 182,000 | 400 | 184,250 | 0 | 101,487 | (34,104) | 3,812,800 | 8,210 | 3,888,393 | 41,574 | 3,929,967 |
| 1995 | 0 | 3,230 | (1,470) | 184,000 | 400 | 186,160 | 0 | 101,487 | (48,514) | 3,844,072 | 8,210 | 3,905,255 | 113,471 | 4,018,726 |
| 1996 | 0 | 3,285 | 0 | 186,000 | 400 | 189,685 | 0 | 107,135 | (1,722) | 3,897,610 | 8,210 | 4,011,233 | (34,672) | 3,976,561 |
| 1997 | 0 | 3,359 | 0 | 188,000 | 400 | 191,759 | 0 | 106,847 | 13,995 | 3,927,254 | 8,210 | 4,056,306 | (71,337) | 3,984,969 |
| 1998 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,698 | 24,926 | 3,966,389 | 8,210 | 4,107,223 | 20,364 | 4,127,587 |
| 1999 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,076 | 9,169 | 3,982,111 | 8,210 | 4,107,566 | (16,709) | 4,090,857 |
| 2000 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,127 | (16,935) | 4,003,436 | 8,210 | 4,102,838 | 36,966 | 4,139,804 |
| 2001 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,127 | (1,139) | 4,003,436 | 8,210 | 4,118,634 | 4,568 | 4,123,202 |
| 2002 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,135 | 1 | 4,003,436 | 8,210 | 4,119,782 | 5,414 | 4,125,196 |
| 2003 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,142 | 349 | 4,003,436 | 8,210 | 4,120,137 | 11,168 | 4,131,305 |
| 2004 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,114 | 2,196 | 4,003,436 | 8,210 | 4,121,956 | (1,959) | 4,119,997 |
| 2005 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,114 | 4,105 | 4,057,661 | 8,210 | 4,178,090 | (7,613) | 4,170,477 |
| 2006 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,097 | 2,733 | 4,057,661 | 8,210 | 4,176,701 | (4,778) | 4,171,923 |
| 2007 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,097 | 1 | 4,057,661 | 8,210 | 4,173,969 | 5,415 | 4,179,384 |
| 2008 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,096 | 1,400 | 4,057,661 | 8,210 | 4,175,367 | 12,231 | 4,187,598 |
| 2009 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,037 | (6,528) | 4,057,661 | 8,210 | 4,167,380 | 6,299 | 4,173,679 |
| 2010 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,033 | 28,304 | 4,094,486 | 8,210 | 4,239,033 | (31,184) | 4,207,849 |
| 2011 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,996 | (17,744) | 4,096,886 | 8,210 | 4,195,348 | 28,436 | 4,223,784 |
| 2012 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,038 | 1,495 | 4,096,886 | 8,210 | 4,214,629 | 4,751 | 4,219,380 |
| 2013 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,029 | 2 | 4,096,886 | 8,210 | 4,213,127 | 5,414 | 4,218,541 |
| 2014 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,016 | 6,892 | 4,096,886 | 8,210 | 4,220,004 | 2,952 | 4,222,956 |
| 2015 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,967 | (9,504) | 4,101,736 | 8,210 | 4,208,409 | 12,548 | 4,220,957 |
| 2016 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,950 | (766) | 4,101,736 | 8,210 | 4,217,130 | 5,415 | 4,222,545 |
| 2017 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,954 | 623 | 4,101,736 | 8,210 | 4,218,523 | 5,416 | 4,223,939 |
| 2018 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,951 | (997) | 4,101,736 | 8,210 | 4,216,900 | 5,415 | 4,222,315 |
| 2019 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,949 | 4,727 | 4,101,736 | 8,210 | 4,222,622 | 1,275 | 4,223,897 |
| 2020 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,932 | (14,368) | 4,106,436 | 8,210 | 4,208,210 | 15,484 | 4,223,694 |
| 2021 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,878 | 562 | 4,107,086 | 8,210 | 4,223,736 | 4,326 | 4,228,062 |
| 2022 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,888 | (421) | 4,107,086 | 8,210 | 4,222,763 | 6,135 | 4,228,898 |
| 2023 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,888 | 1 | 4,107,086 | 8,210 | 4,223,185 | 5,414 | 4,228,599 |
| 2024 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,885 | 143 | 4,107,086 | 8,210 | 4,223,324 | 4,046 | 4,227,370 |
| 2025 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,923 | 5,691 | 4,108,486 | 8,210 | 4,230,310 | (660) | 4,229,650 |
| 2026 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,893 | (843) | 4,108,486 | 8,210 | 4,223,746 | 10,321 | 4,234,067 |
| 2027 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,906 | (96) | 4,108,486 | 8,210 | 4,224,506 | 7,791 | 4,232,297 |
| 2028 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,909 | (1,043) | 4,108,486 | 8,210 | 4,223,562 | 4,187 | 4,227,749 |
| 2029 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,916 | (177) | 4,108,486 | 8,210 | 4,224,435 | 11,638 | 4,236,073 |
| 2030 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,872 | (1,502) | 4,109,686 | 8,210 | 4,224,266 | (3,234) | 4,221,032 |
| 2031 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,857 | 0 | 4,109,686 | 8,210 | 4,225,753 | 5,414 | 4,231,167 |
| 2032 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,857 | 0 | 4,109,686 | 8,210 | 4,225,753 | 5,414 | 4,231,167 |
| 2033 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,863 | 3,017 | 4,109,686 | 8,210 | 4,228,776 | 3,036 | 4,231,812 |
| 2034 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 107,829 | (5,182) | 4,109,686 | 8,210 | 4,220,543 | 9,023 | 4,229,566 |
| 2035 | 0 | 3,340 | 0 | 188,000 | 400 | 191,740 | 0 | 108,097 | 5,959 | 4,110,986 | 8,210 | 4,233,252 | 87,060 | 4,320,312 |

b) From June 1962 through November 1967, deliveries were supplied by nonproject water.

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | San Luis Division | | | | | | South San Joaquin Division | | | | | |
| | Dos Amigos Pumping Plant | | | | | | Buena Vista Pumping Plant | | | | | |
| | | | | Deliveries | | | | | | Deliveries | | |
| Calendar Year | Initial Fill Water (27) | Operational Losses (28) | Reservoir Storage Changes (29) | Water Supply (30) | Recreation (31) | Total (32) | Initial Fill Water (33) | Operational Losses (34) | Reservoir Storage Changes (35) | Water Supply (36) | Recreation (37) | Total (38) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 11,079 | 25,126 | 0 | 189,104 | 0 | 225,309 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 3,887 | 9,922 | 0 | 192,689 | 0 | 206,498 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 7,668 | 1,901 | 0 | 270,300 | 0 | 279,869 | 4,779 | 1,012 | 0 | 3 | 0 | 5,794 |
| 1971 | 23,207 | (12,030) | 0 | 545,869 | 0 | 557,046 | 7,853 | 8,399 | 0 | 101,512 | 0 | 117,764 |
| 1972 | 145,066 | (6,635) | (6,558) | 886,840 | 6,481 | 1,025,194 | 100,274 | 20,044 | (6,558) | 223,626 | 6,481 | 343,867 |
| 1973 | 214,941 | (6,778) | 1,329 | 635,716 | 1,147 | 846,355 | 204,638 | 35,695 | 1,329 | 311,096 | 1,147 | 553,905 |
| 1974 | 247,894 | (16,765) | (15,295) | 780,513 | 2,108 | 998,455 | 237,554 | 19,672 | (15,295) | 388,949 | 2,108 | 632,988 |
| 1975 | 110,149 | (12,144) | (693) | 1,126,152 | 3,358 | 1,226,822 | 103,352 | 26,342 | (693) | 672,531 | 3,358 | 804,890 |
| 1976 | 67,834 | (456) | (152,171) | 1,241,550 | 1,581 | 1,158,338 | 61,122 | 29,428 | (152,171) | 785,055 | 1,581 | 725,015 |
| 1977 | 0 | 26,359 | (116,219) | 463,970 | 737 | 374,847 | 0 | 25,173 | (116,219) | 271,944 | 560 | 181,458 |
| 1978 | 67,457 | 1,905 | 79,308 | 1,335,362 | 680 | 1,484,712 | 65,027 | 17,751 | 121,904 | 762,043 | 674 | 967,399 |
| 1979 | 17,397 | 33,884 | (51,299) | 1,530,926 | 685 | 1,531,593 | 12,302 | 46,157 | (51,299) | 737,714 | 502 | 745,376 |
| 1980 | 3,159 | 34,391 | (272,825) | 1,407,663 | 1,514 | 1,173,902 | 0 | 49,025 | (134,009) | 778,059 | 1,262 | 694,337 |
| 1981 | 46,060 | 36,962 | 23,359 | 1,775,179 | 4,348 | 1,885,908 | 0 | 38,942 | 23,359 | 1,077,322 | 4,112 | 1,143,735 |
| 1982 | 5,979 | 57,146 | 116,086 | 1,631,868 | 4,205 | 1,815,284 | 0 | 29,059 | 117,174 | 990,863 | 4,045 | 1,141,141 |
| 1983 | 6,071 | 63,583 | (101,155) | 1,085,804 | 7,475 | 1,061,778 | 0 | 40,205 | (101,155) | 593,920 | 7,291 | 540,261 |
| 1984 | 38,649 | 109,263 | (112,744) | 1,484,114 | 5,391 | 1,524,673 | 0 | 38,487 | (114,984) | 781,955 | 5,244 | 710,702 |
| 1985 | 0 | 86,772 | 138,898 | 1,858,111 | 4,936 | 2,088,717 | 0 | 42,838 | 139,689 | 992,606 | 4,804 | 1,179,937 |
| 1986 | 0 | 49,378 | 37,546 | 1,877,183 | 3,426 | 1,967,533 | 0 | 45,343 | 37,546 | 1,014,294 | 3,285 | 1,100,468 |
| 1987 | 0 | 63,289 | (23,086) | 1,976,446 | 7,121 | 2,023,770 | 0 | 28,829 | (22,959) | 1,017,361 | 6,937 | 1,030,168 |
| 1988 | 0 | 72,680 | (25,372) | 2,208,377 | 4,490 | 2,260,175 | 0 | 38,804 | (25,372) | 1,235,447 | 4,360 | 1,253,239 |
| 1989 | 0 | 90,090 | (61,544) | 2,679,845 | 7,652 | 2,716,043 | 0 | 29,594 | (61,544) | 1,532,625 | 7,490 | 1,508,165 |
| 1990 | 0 | 115,074 | (14,836) | 2,394,999 | 8,922 | 2,504,159 | 0 | 46,865 | (14,836) | 1,769,991 | 8,879 | 1,810,899 |
| 1991 | 0 | 92,224 | 107,302 | 489,351 | 4,638 | 693,515 | 0 | 39,274 | 107,302 | 453,703 | 4,593 | 604,872 |
| 1992 | 0 | 144,992 | (104,358) | 1,372,810 | 2,079 | 1,415,523 | 0 | 26,207 | (47,346) | 921,254 | 1,995 | 902,110 |
| 1993 | 0 | 63,022 | 31,233 | 2,536,762 | 4,987 | 2,636,004 | 0 | 41,300 | 31,233 | 1,694,999 | 4,910 | 1,772,442 |
| 1994 | 0 | 63,196 | (10,724) | 3,625,100 | 7,120 | 3,684,692 | 0 | 41,300 | (10,724) | 2,422,580 | 7,010 | 2,460,166 |
| 1995 | 0 | 63,196 | (25,044) | 3,654,372 | 7,120 | 3,699,644 | 0 | 41,300 | (25,044) | 2,451,852 | 7,010 | 2,475,118 |
| 1996 | 0 | 62,416 | (1,722) | 3,705,910 | 7,120 | 3,773,724 | 0 | 40,520 | (1,722) | 2,467,000 | 7,010 | 2,512,808 |
| 1997 | 0 | 62,905 | 13,995 | 3,733,554 | 7,120 | 3,817,574 | 0 | 41,009 | 13,995 | 2,476,528 | 7,010 | 2,538,542 |
| 1998 | 0 | 63,305 | 24,926 | 3,772,689 | 7,120 | 3,868,040 | 0 | 41,409 | 24,926 | 2,577,903 | 7,010 | 2,651,248 |
| 1999 | 0 | 63,365 | 9,169 | 3,788,411 | 7,120 | 3,868,065 | 0 | 41,469 | 9,169 | 2,593,625 | 7,010 | 2,651,273 |
| 2000 | 0 | 63,492 | (16,935) | 3,809,736 | 7,120 | 3,863,413 | 0 | 41,596 | (16,935) | 2,622,246 | 7,010 | 2,653,917 |
| 2001 | 0 | 63,479 | (1,139) | 3,809,736 | 7,120 | 3,879,196 | 0 | 41,583 | (1,139) | 2,622,246 | 7,010 | 2,669,700 |
| 2002 | 0 | 63,494 | 1 | 3,809,736 | 7,120 | 3,880,351 | 0 | 41,598 | 1 | 2,622,246 | 7,010 | 2,670,855 |
| 2003 | 0 | 63,496 | 349 | 3,809,736 | 7,120 | 3,880,701 | 0 | 41,600 | 349 | 2,622,246 | 7,010 | 2,671,205 |
| 2004 | 0 | 63,488 | 2,196 | 3,809,736 | 7,120 | 3,882,540 | 0 | 41,592 | 2,196 | 2,622,246 | 7,010 | 2,673,044 |
| 2005 | 0 | 63,479 | 4,105 | 3,863,961 | 7,120 | 3,938,665 | 0 | 41,583 | 4,105 | 2,681,875 | 7,010 | 2,734,573 |
| 2006 | 0 | 63,493 | 2,733 | 3,863,961 | 7,120 | 3,937,307 | 0 | 41,597 | 2,733 | 2,681,875 | 7,010 | 2,733,215 |
| 2007 | 0 | 63,492 | 1 | 3,863,961 | 7,120 | 3,934,574 | 0 | 41,596 | 1 | 2,681,875 | 7,010 | 2,730,482 |
| 2008 | 0 | 63,492 | 1,400 | 3,863,961 | 7,120 | 3,935,973 | 0 | 41,596 | 1,400 | 2,681,875 | 7,010 | 2,731,881 |
| 2009 | 0 | 63,403 | (6,528) | 3,863,961 | 7,120 | 3,927,956 | 0 | 41,507 | (6,528) | 2,681,875 | 7,010 | 2,723,864 |
| 2010 | 0 | 63,556 | 28,304 | 3,900,786 | 7,120 | 3,999,766 | 0 | 41,660 | 28,304 | 2,718,700 | 7,010 | 2,795,674 |
| 2011 | 0 | 63,529 | (17,744) | 3,903,186 | 7,120 | 3,956,091 | 0 | 41,633 | (17,744) | 2,721,100 | 7,010 | 2,751,999 |
| 2012 | 0 | 63,569 | 1,495 | 3,903,186 | 7,120 | 3,975,370 | 0 | 41,673 | 1,495 | 2,721,100 | 7,010 | 2,771,278 |
| 2013 | 0 | 63,560 | 2 | 3,903,186 | 7,120 | 3,973,868 | 0 | 41,664 | 2 | 2,721,100 | 7,010 | 2,769,776 |
| 2014 | 0 | 63,538 | 6,892 | 3,903,186 | 7,120 | 3,980,736 | 0 | 41,642 | 6,892 | 2,721,100 | 7,010 | 2,776,644 |
| 2015 | 0 | 63,516 | (9,504) | 3,908,036 | 7,120 | 3,969,168 | 0 | 41,620 | (9,504) | 2,725,950 | 7,010 | 2,765,076 |
| 2016 | 0 | 63,510 | (766) | 3,908,036 | 7,120 | 3,977,900 | 0 | 41,614 | (766) | 2,725,950 | 7,010 | 2,773,808 |
| 2017 | 0 | 63,517 | 623 | 3,908,036 | 7,120 | 3,979,296 | 0 | 41,621 | 623 | 2,725,950 | 7,010 | 2,775,204 |
| 2018 | 0 | 63,518 | (997) | 3,908,036 | 7,120 | 3,977,677 | 0 | 41,622 | (997) | 2,725,950 | 7,010 | 2,773,585 |
| 2019 | 0 | 63,515 | 4,727 | 3,908,036 | 7,120 | 3,983,398 | 0 | 41,619 | 4,727 | 2,725,950 | 7,010 | 2,779,306 |
| 2020 | 0 | 63,458 | (14,368) | 3,912,736 | 7,120 | 3,968,946 | 0 | 41,562 | (14,368) | 2,730,650 | 7,010 | 2,764,854 |
| 2021 | 0 | 63,466 | 562 | 3,913,386 | 7,120 | 3,984,534 | 0 | 41,570 | 562 | 2,731,300 | 7,010 | 2,780,442 |
| 2022 | 0 | 63,474 | (421) | 3,913,386 | 7,120 | 3,983,559 | 0 | 41,578 | (421) | 2,731,300 | 7,010 | 2,779,467 |
| 2023 | 0 | 63,474 | 1 | 3,913,386 | 7,120 | 3,983,981 | 0 | 41,578 | 1 | 2,731,300 | 7,010 | 2,779,889 |
| 2024 | 0 | 63,471 | 143 | 3,913,386 | 7,120 | 3,984,120 | 0 | 41,575 | 143 | 2,731,300 | 7,010 | 2,780,028 |
| 2025 | 0 | 63,485 | 5,691 | 3,914,786 | 7,120 | 3,991,082 | 0 | 41,589 | 5,691 | 2,732,700 | 7,010 | 2,786,990 |
| 2026 | 0 | 63,489 | (843) | 3,914,786 | 7,120 | 3,984,552 | 0 | 41,593 | (843) | 2,732,700 | 7,010 | 2,780,460 |
| 2027 | 0 | 63,495 | (96) | 3,914,786 | 7,120 | 3,985,305 | 0 | 41,599 | (96) | 2,732,700 | 7,010 | 2,781,213 |
| 2028 | 0 | 63,494 | (1,043) | 3,914,786 | 7,120 | 3,984,357 | 0 | 41,598 | (1,043) | 2,732,700 | 7,010 | 2,780,265 |
| 2029 | 0 | 63,464 | (177) | 3,914,786 | 7,120 | 3,985,193 | 0 | 41,568 | (177) | 2,732,700 | 7,010 | 2,781,101 |
| 2030 | 0 | 63,436 | (1,502) | 3,915,986 | 7,120 | 3,985,040 | 0 | 41,540 | (1,502) | 2,733,900 | 7,010 | 2,780,948 |
| 2031 | 0 | 63,421 | 0 | 3,915,986 | 7,120 | 3,986,527 | 0 | 41,525 | 0 | 2,733,900 | 7,010 | 2,782,435 |
| 2032 | 0 | 63,421 | 0 | 3,915,986 | 7,120 | 3,986,527 | 0 | 41,525 | 0 | 2,733,900 | 7,010 | 2,782,435 |
| 2033 | 0 | 63,427 | 3,017 | 3,915,986 | 7,120 | 3,989,550 | 0 | 41,531 | 3,017 | 2,733,900 | 7,010 | 2,785,458 |
| 2034 | 0 | 63,395 | (5,182) | 3,915,986 | 7,120 | 3,981,319 | 0 | 41,499 | (5,182) | 2,733,900 | 7,010 | 2,777,227 |
| 2035 | 0 | 63,469 | 5,959 | 3,917,286 | 7,120 | 3,993,834 | 0 | 41,573 | 5,959 | 2,735,200 | 7,010 | 2,789,742 |

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | South San Joaquin Division (continued) | | | | | | | | | | | |
| | Teerink Pumping Plant | | | | | | Chrisman Pumping Plant | | | | | |
| | | | | Deliveries | | | | | | Deliveries | | |
| Calendar Year | Initial Fill Water (39) | Operational Losses (40) | Reservoir Storage Changes (41) | Water Supply (42) | Recreation (43) | Total (44) | Initial Fill Water (45) | Operational Losses (46) | Reservoir Storage Changes (47) | Water Supply (48) | Recreation (49) | Total (50) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 198 | 2 | 0 | 0 | 0 | 200 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 7,533 | (112) | 0 | 3,552 | 0 | 10,973 | 7,366 | (159) | 0 | 0 | 0 | 7,207 |
| 1972 | 100,274 | 12,765 | (6,558) | 84,955 | 6,481 | 197,917 | 100,274 | 13,160 | (6,558) | 78,891 | 6,481 | 192,248 |
| 1973 | 204,638 | 21,543 | 1,329 | 229,685 | 1,147 | 458,342 | 204,638 | 32,414 | 1,329 | 209,769 | 1,147 | 449,297 |
| 1974 | 237,554 | 11,843 | (15,295) | 336,198 | 2,108 | 572,408 | 237,554 | 17,655 | (15,295) | 318,198 | 2,108 | 560,220 |
| 1975 | 103,352 | 19,763 | (693) | 621,706 | 3,358 | 747,486 | 103,352 | 25,326 | (693) | 586,286 | 3,358 | 717,629 |
| 1976 | 61,122 | 18,552 | (152,171) | 740,486 | 1,581 | 669,570 | 61,122 | 21,468 | (152,171) | 700,935 | 1,581 | 632,935 |
| 1977 | 0 | 16,415 | (116,219) | 246,349 | 560 | 147,105 | 0 | 15,698 | (116,219) | 240,191 | 560 | 140,230 |
| 1978 | 65,027 | 28,820 | 121,904 | 631,121 | 674 | 847,546 | 65,027 | 26,705 | 121,904 | 599,973 | 674 | 814,283 |
| 1979 | 12,302 | 50,663 | (51,299) | 625,561 | 502 | 637,729 | 12,302 | 50,580 | (51,299) | 586,959 | 502 | 599,044 |
| 1980 | 0 | 48,825 | (134,009) | 696,405 | 1,262 | 612,483 | 0 | 58,085 | (134,009) | 658,588 | 1,262 | 583,926 |
| 1981 | 0 | 51,600 | 23,359 | 998,307 | 4,112 | 1,077,378 | 0 | 48,844 | 23,359 | 959,274 | 4,112 | 1,035,589 |
| 1982 | 0 | 44,353 | 117,332 | 878,486 | 4,045 | 1,044,216 | 0 | 33,541 | 117,277 | 830,704 | 4,045 | 985,567 |
| 1983 | 0 | 43,961 | (101,155) | 487,915 | 7,291 | 438,012 | 0 | 34,698 | (101,155) | 450,489 | 7,291 | 391,323 |
| 1984 | 0 | 45,999 | (115,088) | 632,262 | 5,244 | 568,417 | 0 | 33,132 | (115,092) | 582,414 | 5,244 | 505,698 |
| 1985 | 0 | 50,106 | 139,973 | 854,684 | 4,804 | 1,049,567 | 0 | 54,831 | 139,954 | 810,606 | 4,804 | 1,010,195 |
| 1986 | 0 | 47,369 | 37,546 | 882,300 | 3,285 | 970,500 | 0 | 50,047 | 37,546 | 839,839 | 3,285 | 930,717 |
| 1987 | 0 | 46,445 | (23,255) | 887,905 | 6,937 | 918,032 | 0 | 31,888 | 23,318 | 853,157 | 6,937 | 915,300 |
| 1988 | 0 | 53,815 | (25,372) | 1,088,894 | 4,360 | 1,121,697 | 0 | 39,775 | (25,372) | 1,046,900 | 4,360 | 1,065,663 |
| 1989 | 0 | 49,088 | (61,544) | 1,382,599 | 7,490 | 1,377,633 | 0 | 42,307 | (61,544) | 1,339,358 | 7,490 | 1,327,611 |
| 1990 | 0 | 66,868 | (14,836) | 1,627,246 | 8,879 | 1,688,157 | 0 | 56,663 | (14,836) | 1,590,893 | 8,879 | 1,641,599 |
| 1991 | 0 | 40,564 | 107,302 | 447,935 | 4,593 | 600,394 | 0 | 34,016 | 107,302 | 446,443 | 4,593 | 592,354 |
| 1992 | 0 | 30,110 | (47,567) | 843,952 | 1,995 | 828,490 | 0 | 32,821 | (47,621) | 819,658 | 1,995 | 806,853 |
| 1993 | 0 | 37,670 | 31,233 | 1,626,258 | 4,910 | 1,700,071 | 0 | 37,420 | 31,233 | 1,602,108 | 4,910 | 1,675,671 |
| 1994 | 0 | 37,670 | (10,724) | 2,324,380 | 7,010 | 2,358,336 | 0 | 37,420 | (10,724) | 2,289,880 | 7,010 | 2,323,586 |
| 1995 | 0 | 37,670 | (25,044) | 2,353,652 | 7,010 | 2,373,288 | 0 | 37,420 | (25,044) | 2,319,152 | 7,010 | 2,338,538 |
| 1996 | 0 | 36,890 | (1,722) | 2,368,800 | 7,010 | 2,410,978 | 0 | 36,640 | (1,722) | 2,334,300 | 7,010 | 2,376,228 |
| 1997 | 0 | 37,379 | 13,995 | 2,378,328 | 7,010 | 2,436,712 | 0 | 37,129 | 13,995 | 2,343,828 | 7,010 | 2,401,962 |
| 1998 | 0 | 37,779 | 24,926 | 2,418,028 | 7,010 | 2,487,743 | 0 | 37,529 | 24,926 | 2,372,953 | 7,010 | 2,442,418 |
| 1999 | 0 | 37,839 | 9,169 | 2,433,750 | 7,010 | 2,487,768 | 0 | 37,589 | 9,169 | 2,388,675 | 7,010 | 2,442,443 |
| 2000 | 0 | 37,966 | (16,935) | 2,462,371 | 7,010 | 2,490,412 | 0 | 37,716 | (16,935) | 2,417,296 | 7,010 | 2,445,087 |
| 2001 | 0 | 37,953 | (1,139) | 2,462,371 | 7,010 | 2,506,195 | 0 | 37,703 | (1,139) | 2,417,296 | 7,010 | 2,460,870 |
| 2002 | 0 | 37,968 | 1 | 2,462,371 | 7,010 | 2,507,350 | 0 | 37,718 | 1 | 2,417,296 | 7,010 | 2,462,025 |
| 2003 | 0 | 37,970 | 349 | 2,462,371 | 7,010 | 2,507,700 | 0 | 37,720 | 349 | 2,417,296 | 7,010 | 2,462,375 |
| 2004 | 0 | 37,962 | 2,196 | 2,462,371 | 7,010 | 2,509,539 | 0 | 37,712 | 2,196 | 2,417,296 | 7,010 | 2,464,214 |
| 2005 | 0 | 37,953 | 4,105 | 2,522,000 | 7,010 | 2,571,068 | 0 | 37,703 | 4,105 | 2,476,925 | 7,010 | 2,525,743 |
| 2006 | 0 | 37,967 | 2,733 | 2,522,000 | 7,010 | 2,569,710 | 0 | 37,717 | 2,733 | 2,476,925 | 7,010 | 2,524,385 |
| 2007 | 0 | 37,966 | 1 | 2,522,000 | 7,010 | 2,566,977 | 0 | 37,716 | 1 | 2,476,925 | 7,010 | 2,521,652 |
| 2008 | 0 | 37,966 | 1,400 | 2,522,000 | 7,010 | 2,568,376 | 0 | 37,716 | 1,400 | 2,476,925 | 7,010 | 2,523,051 |
| 2009 | 0 | 37,877 | (6,528) | 2,522,000 | 7,010 | 2,560,359 | 0 | 37,627 | (6,528) | 2,476,925 | 7,010 | 2,515,034 |
| 2010 | 0 | 38,030 | 28,304 | 2,558,825 | 7,010 | 2,632,169 | 0 | 37,780 | 28,304 | 2,513,750 | 7,010 | 2,586,844 |
| 2011 | 0 | 38,003 | (17,744) | 2,561,225 | 7,010 | 2,588,494 | 0 | 37,753 | (17,744) | 2,516,150 | 7,010 | 2,543,169 |
| 2012 | 0 | 38,043 | 1,495 | 2,561,225 | 7,010 | 2,607,773 | 0 | 37,793 | 1,495 | 2,516,150 | 7,010 | 2,562,448 |
| 2013 | 0 | 38,034 | 2 | 2,561,225 | 7,010 | 2,606,271 | 0 | 37,784 | 2 | 2,516,150 | 7,010 | 2,560,946 |
| 2014 | 0 | 38,012 | 6,892 | 2,561,225 | 7,010 | 2,613,139 | 0 | 37,762 | 6,892 | 2,516,150 | 7,010 | 2,567,814 |
| 2015 | 0 | 37,990 | (9,504) | 2,566,075 | 7,010 | 2,601,571 | 0 | 37,740 | (9,504) | 2,521,000 | 7,010 | 2,556,246 |
| 2016 | 0 | 37,984 | (766) | 2,566,075 | 7,010 | 2,610,303 | 0 | 37,734 | (766) | 2,521,000 | 7,010 | 2,564,978 |
| 2017 | 0 | 37,991 | 623 | 2,566,075 | 7,010 | 2,611,699 | 0 | 37,741 | 623 | 2,521,000 | 7,010 | 2,566,374 |
| 2018 | 0 | 37,992 | (997) | 2,566,075 | 7,010 | 2,610,080 | 0 | 37,742 | (997) | 2,521,000 | 7,010 | 2,564,755 |
| 2019 | 0 | 37,989 | 4,727 | 2,566,075 | 7,010 | 2,615,801 | 0 | 37,739 | 4,727 | 2,521,000 | 7,010 | 2,570,476 |
| 2020 | 0 | 37,932 | (14,368) | 2,570,775 | 7,010 | 2,601,349 | 0 | 37,682 | (14,368) | 2,525,700 | 7,010 | 2,556,024 |
| 2021 | 0 | 37,940 | 562 | 2,571,425 | 7,010 | 2,616,937 | 0 | 37,690 | 562 | 2,526,350 | 7,010 | 2,571,612 |
| 2022 | 0 | 37,948 | (421) | 2,571,425 | 7,010 | 2,615,962 | 0 | 37,698 | (421) | 2,526,350 | 7,010 | 2,570,637 |
| 2023 | 0 | 37,948 | 1 | 2,571,425 | 7,010 | 2,616,384 | 0 | 37,698 | 1 | 2,526,350 | 7,010 | 2,571,059 |
| 2024 | 0 | 37,945 | 143 | 2,571,425 | 7,010 | 2,616,523 | 0 | 37,695 | 143 | 2,526,350 | 7,010 | 2,571,198 |
| 2025 | 0 | 37,959 | 5,691 | 2,572,825 | 7,010 | 2,623,485 | 0 | 37,709 | 5,691 | 2,527,750 | 7,010 | 2,578,160 |
| 2026 | 0 | 37,963 | (843) | 2,572,825 | 7,010 | 2,616,955 | 0 | 37,713 | (843) | 2,527,750 | 7,010 | 2,571,630 |
| 2027 | 0 | 37,969 | (96) | 2,572,825 | 7,010 | 2,617,708 | 0 | 37,719 | (96) | 2,527,750 | 7,010 | 2,572,383 |
| 2028 | 0 | 37,968 | (1,043) | 2,572,825 | 7,010 | 2,616,760 | 0 | 37,718 | (1,043) | 2,527,750 | 7,010 | 2,571,435 |
| 2029 | 0 | 37,938 | (177) | 2,572,825 | 7,010 | 2,617,596 | 0 | 37,688 | (177) | 2,527,750 | 7,010 | 2,572,271 |
| 2030 | 0 | 37,910 | (1,502) | 2,574,025 | 7,010 | 2,617,443 | 0 | 37,660 | (1,502) | 2,528,950 | 7,010 | 2,572,118 |
| 2031 | 0 | 37,895 | 0 | 2,574,025 | 7,010 | 2,618,930 | 0 | 37,645 | 0 | 2,528,950 | 7,010 | 2,573,605 |
| 2032 | 0 | 37,895 | 0 | 2,574,025 | 7,010 | 2,618,930 | 0 | 37,645 | 0 | 2,528,950 | 7,010 | 2,573,605 |
| 2033 | 0 | 37,901 | 3,017 | 2,574,025 | 7,010 | 2,621,953 | 0 | 37,651 | 3,017 | 2,528,950 | 7,010 | 2,576,628 |
| 2034 | 0 | 37,869 | (5,182) | 2,574,025 | 7,010 | 2,613,722 | 0 | 37,619 | (5,182) | 2,528,950 | 7,010 | 2,568,397 |
| 2035 | 0 | 37,943 | 5,959 | 2,575,325 | 7,010 | 2,626,237 | 0 | 37,693 | 5,959 | 2,530,250 | 7,010 | 2,580,912 |

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Tehachapi Division | | | | | | Mojave Division | | | | | |
| | Edmonston Pumping Plant | | | | | | Alamo Powerplant | | | | | |
| | | | | Deliveries | | | | | | Deliveries | | |
| Calendar Year | Initial Fill Water (51) | Operational Losses (52) | Reservoir Storage Changes (53) | Water Supply (54) | Recreation (55) | Total (56) | Initial Fill Water (57) | Operational Losses (58) | Reservoir Storage Changes (59) | Water Supply (60) | Recreation (61) | Total (62) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 5,446 | 8 | 0 | 0 | 0 | 5,454 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 100,274 | 16,067 | (6,558) | 74,123 | 6,481 | 190,387 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 204,638 | 34,051 | 1,329 | 207,808 | 1,147 | 448,973 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 237,554 | 18,181 | (15,295) | 313,634 | 2,108 | 556,182 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 103,352 | 20,183 | (693) | 573,219 | 3,358 | 699,419 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 61,122 | 21,096 | (152,171) | 685,768 | 1,581 | 617,396 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 18,424 | (116,219) | 236,086 | 560 | 138,851 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 65,027 | 20,887 | 121,904 | 590,329 | 674 | 798,821 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 12,302 | 46,332 | (51,299) | 568,338 | 502 | 576,175 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 52,967 | (134,009) | 639,743 | 1,262 | 559,963 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 40,602 | 23,359 | 938,482 | 4,112 | 1,006,555 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 37,244 | 117,296 | 812,206 | 4,045 | 970,791 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 40,690 | (101,155) | 431,182 | 7,291 | 378,008 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 42,112 | (115,214) | 556,830 | 5,244 | 488,972 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 45,265 | 139,988 | 792,477 | 4,804 | 982,534 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 38,514 | 37,546 | 823,067 | 3,285 | 902,412 | 0 | 14,898 | 12,258 | 429,864 | 1,508 | 458,528 |
| 1987 | 0 | 28,213 | (23,258) | 841,322 | 6,937 | 853,214 | 0 | 11,365 | (13,727) | 407,870 | 1,239 | 406,747 |
| 1988 | 0 | 42,017 | (25,372) | 1,035,988 | 4,360 | 1,056,993 | 0 | 21,696 | 5,568 | 528,819 | 971 | 557,054 |
| 1989 | 0 | 32,270 | (61,544) | 1,328,041 | 7,490 | 1,306,257 | 0 | 4,686 | (20,826) | 716,360 | 1,407 | 701,627 |
| 1990 | 0 | 42,198 | (14,836) | 1,579,466 | 8,879 | 1,615,707 | 0 | 8,898 | (6,089) | 788,111 | 1,388 | 792,308 |
| 1991 | 0 | 33,999 | 107,302 | 441,220 | 4,593 | 587,114 | 0 | 17,908 | 35,455 | 177,311 | 394 | 231,068 |
| 1992 | 0 | 21,484 | (47,640) | 809,296 | 1,995 | 785,135 | 0 | 12,684 | (4,901) | 371,635 | 423 | 379,841 |
| 1993 | 0 | 35,870 | 31,233 | 1,592,252 | 4,910 | 1,664,265 | 0 | 20,820 | (13,654) | 853,265 | 1,141 | 861,572 |
| 1994 | 0 | 35,870 | (10,724) | 2,275,800 | 7,010 | 2,307,956 | 0 | 20,820 | (3,585) | 1,205,613 | 1,630 | 1,224,478 |
| 1995 | 0 | 35,870 | (25,044) | 2,305,072 | 7,010 | 2,322,908 | 0 | 20,820 | (12,009) | 1,207,268 | 1,630 | 1,217,709 |
| 1996 | 0 | 35,090 | (1,722) | 2,320,220 | 7,010 | 2,360,598 | 0 | 20,852 | (386) | 1,194,788 | 1,630 | 1,216,884 |
| 1997 | 0 | 35,579 | 13,995 | 2,329,748 | 7,010 | 2,386,332 | 0 | 20,928 | (30,144) | 1,176,448 | 1,630 | 1,168,862 |
| 1998 | 0 | 35,979 | 24,926 | 2,352,903 | 7,010 | 2,420,818 | 0 | 20,822 | (1,294) | 1,184,602 | 1,630 | 1,205,760 |
| 1999 | 0 | 36,039 | 9,169 | 2,368,625 | 7,010 | 2,420,843 | 0 | 20,846 | 17,550 | 1,200,324 | 1,630 | 1,240,350 |
| 2000 | 0 | 36,166 | (16,935) | 2,397,246 | 7,010 | 2,423,487 | 0 | 20,954 | (18,670) | 1,220,550 | 1,630 | 1,224,464 |
| 2001 | 0 | 36,153 | (1,139) | 2,397,246 | 7,010 | 2,439,270 | 0 | 20,954 | (765) | 1,220,550 | 1,630 | 1,242,369 |
| 2002 | 0 | 36,168 | 1 | 2,397,246 | 7,010 | 2,440,425 | 0 | 20,965 | 0 | 1,220,550 | 1,630 | 1,243,145 |
| 2003 | 0 | 36,170 | 349 | 2,397,246 | 7,010 | 2,440,775 | 0 | 20,965 | 349 | 1,220,550 | 1,630 | 1,243,494 |
| 2004 | 0 | 36,162 | 2,196 | 2,397,246 | 7,010 | 2,442,614 | 0 | 20,957 | 2,196 | 1,220,550 | 1,630 | 1,245,333 |
| 2005 | 0 | 36,153 | 4,105 | 2,456,875 | 7,010 | 2,504,143 | 0 | 20,942 | 4,467 | 1,274,775 | 1,630 | 1,301,814 |
| 2006 | 0 | 36,167 | 2,733 | 2,456,875 | 7,010 | 2,502,785 | 0 | 20,957 | 2,733 | 1,274,775 | 1,630 | 1,300,095 |
| 2007 | 0 | 36,166 | 1 | 2,456,875 | 7,010 | 2,500,052 | 0 | 20,956 | 1 | 1,274,775 | 1,630 | 1,297,362 |
| 2008 | 0 | 36,166 | 1,400 | 2,456,875 | 7,010 | 2,501,451 | 0 | 20,958 | 1,400 | 1,274,775 | 1,630 | 1,298,763 |
| 2009 | 0 | 36,077 | (6,528) | 2,456,875 | 7,010 | 2,493,434 | 0 | 20,869 | (6,528) | 1,274,775 | 1,630 | 1,290,746 |
| 2010 | 0 | 36,230 | 28,304 | 2,493,700 | 7,010 | 2,565,244 | 0 | 21,024 | 27,554 | 1,311,600 | 1,630 | 1,361,808 |
| 2011 | 0 | 36,203 | (17,744) | 2,496,100 | 7,010 | 2,521,569 | 0 | 21,017 | (16,996) | 1,314,000 | 1,630 | 1,319,651 |
| 2012 | 0 | 36,243 | 1,495 | 2,496,100 | 7,010 | 2,540,848 | 0 | 21,021 | 1,495 | 1,314,000 | 1,630 | 1,338,146 |
| 2013 | 0 | 36,234 | 2 | 2,496,100 | 7,010 | 2,539,346 | 0 | 21,012 | 2 | 1,314,000 | 1,630 | 1,336,644 |
| 2014 | 0 | 36,212 | 6,892 | 2,496,100 | 7,010 | 2,546,214 | 0 | 20,985 | 6,059 | 1,314,000 | 1,630 | 1,342,674 |
| 2015 | 0 | 36,190 | (9,504) | 2,500,950 | 7,010 | 2,534,646 | 0 | 20,963 | (11,398) | 1,318,850 | 1,630 | 1,330,045 |
| 2016 | 0 | 36,184 | (766) | 2,500,950 | 7,010 | 2,543,378 | 0 | 20,956 | 697 | 1,318,850 | 1,630 | 1,342,133 |
| 2017 | 0 | 36,191 | 623 | 2,500,950 | 7,010 | 2,544,774 | 0 | 20,957 | 249 | 1,318,850 | 1,630 | 1,341,686 |
| 2018 | 0 | 36,192 | (997) | 2,500,950 | 7,010 | 2,543,155 | 0 | 20,958 | (249) | 1,318,850 | 1,630 | 1,341,189 |
| 2019 | 0 | 36,189 | 4,727 | 2,500,950 | 7,010 | 2,548,876 | 0 | 20,962 | 6,129 | 1,318,850 | 1,630 | 1,347,571 |
| 2020 | 0 | 36,132 | (14,368) | 2,505,650 | 7,010 | 2,534,424 | 0 | 20,913 | (14,885) | 1,323,550 | 1,630 | 1,331,208 |
| 2021 | 0 | 36,140 | 562 | 2,506,300 | 7,010 | 2,550,012 | 0 | 20,928 | 562 | 1,324,200 | 1,630 | 1,347,320 |
| 2022 | 0 | 36,148 | (421) | 2,506,300 | 7,010 | 2,549,037 | 0 | 20,924 | (795) | 1,324,200 | 1,630 | 1,345,959 |
| 2023 | 0 | 36,148 | 1 | 2,506,300 | 7,010 | 2,549,459 | 0 | 20,924 | 1 | 1,324,200 | 1,630 | 1,346,755 |
| 2024 | 0 | 36,145 | 143 | 2,506,300 | 7,010 | 2,549,598 | 0 | 20,923 | 516 | 1,324,200 | 1,630 | 1,347,269 |
| 2025 | 0 | 36,159 | 5,691 | 2,507,700 | 7,010 | 2,556,560 | 0 | 20,945 | 4,843 | 1,325,600 | 1,630 | 1,353,018 |
| 2026 | 0 | 36,163 | (843) | 2,507,700 | 7,010 | 2,550,030 | 0 | 20,950 | (94) | 1,325,600 | 1,630 | 1,348,086 |
| 2027 | 0 | 36,169 | (96) | 2,507,700 | 7,010 | 2,550,783 | 0 | 20,955 | (844) | 1,325,600 | 1,630 | 1,347,341 |
| 2028 | 0 | 36,168 | (1,043) | 2,507,700 | 7,010 | 2,549,835 | 0 | 20,944 | 46 | 1,325,600 | 1,630 | 1,348,220 |
| 2029 | 0 | 36,138 | (177) | 2,507,700 | 7,010 | 2,550,671 | 0 | 20,916 | (162) | 1,325,600 | 1,630 | 1,347,984 |
| 2030 | 0 | 36,110 | (1,502) | 2,508,900 | 7,010 | 2,550,518 | 0 | 20,887 | (1,758) | 1,326,800 | 1,630 | 1,347,559 |
| 2031 | 0 | 36,095 | 0 | 2,508,900 | 7,010 | 2,552,005 | 0 | 20,872 | 0 | 1,326,800 | 1,630 | 1,349,302 |
| 2032 | 0 | 36,095 | 0 | 2,508,900 | 7,010 | 2,552,005 | 0 | 20,872 | 0 | 1,326,800 | 1,630 | 1,349,302 |
| 2033 | 0 | 36,101 | 3,017 | 2,508,900 | 7,010 | 2,555,028 | 0 | 20,879 | 2,643 | 1,326,800 | 1,630 | 1,351,952 |
| 2034 | 0 | 36,069 | (5,182) | 2,508,900 | 7,010 | 2,546,797 | 0 | 20,850 | (5,556) | 1,326,800 | 1,630 | 1,343,724 |
| 2035 | 0 | 36,143 | 5,959 | 2,510,200 | 7,010 | 2,559,312 | 0 | 20,964 | 12,616 | 1,328,100 | 1,630 | 1,363,310 |

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mojave Division (continued) | | | | | | | | | | | |
| | Pearblossom Pumping Plant | | | | | | Mojave Siphon Powerplant | | | | | |
| | | | | Deliveries | | | | | | Deliveries | | |
| Calendar Year | Initial Fill Water (63) | Operational Losses (64) | Reservoir Storage Changes (65) | Water Supply (66) | Recreation (67) | Total (68) | Initial Fill Water (69) | Operational Losses (70) | Reservoir Storage Changes (71) | Water Supply (72) | Recreation (73) | Total (74) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 21 | 0 | 0 | 0 | 0 | 21 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 35,243 | 5,282 | (153) | 1,794 | 0 | 42,166 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 80,177 | 21,522 | (2,700) | 52,201 | 72 | 151,272 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 76,694 | 10,847 | (11,149) | 102,839 | 44 | 179,275 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 10,000 | 2,364 | (8,397) | 190,351 | 70 | 194,388 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 4,168 | 7,040 | (16,055) | 236,713 | 152 | 232,018 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 11,398 | (17,534) | 102,326 | 580 | 96,770 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 19,922 | 5,696 | 69,130 | 374,845 | 498 | 470,091 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 12,302 | 6,836 | (32,518) | 362,114 | 502 | 349,236 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 16,200 | 6,159 | 401,214 | 781 | 424,354 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 4,992 | (36,278) | 574,573 | 933 | 544,220 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 5,251 | 55,232 | 401,037 | 1,919 | 463,439 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 11,745 | (26,847) | 231,188 | 1,180 | 217,266 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 18,228 | 23,230 | 252,066 | 1,494 | 295,018 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 25,292 | (2,815) | 350,758 | 1,076 | 374,311 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 31,039 | 12,258 | 394,156 | 1,508 | 438,961 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 27,319 | (14,928) | 367,531 | 1,239 | 381,161 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 0 | 32,209 | 5,568 | 492,551 | 971 | 531,299 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | 0 | 31,500 | (20,826) | 661,189 | 1,407 | 673,270 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 | 0 | 32,672 | (6,089) | 730,560 | 1,388 | 758,531 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1991 | 0 | 15,209 | 35,455 | 163,916 | 394 | 214,974 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 13,501 | (5,656) | 335,774 | 423 | 344,042 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1993 | 0 | 15,470 | (13,654) | 803,913 | 1,001 | 806,730 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 0 | 15,470 | (3,585) | 1,131,450 | 1,430 | 1,144,765 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1995 | 0 | 15,470 | (12,009) | 1,127,500 | 1,430 | 1,132,391 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1996 | 0 | 15,502 | (386) | 1,109,900 | 1,430 | 1,126,446 | 0 | 12,032 | (386) | 1,109,900 | 1,430 | 1,122,976 |
| 1997 | 0 | 15,578 | (30,144) | 1,088,100 | 1,430 | 1,074,964 | 0 | 12,108 | (30,144) | 1,088,100 | 1,430 | 1,071,494 |
| 1998 | 0 | 15,472 | (1,294) | 1,092,774 | 1,430 | 1,108,382 | 0 | 12,002 | (1,294) | 1,092,774 | 1,430 | 1,104,912 |
| 1999 | 0 | 15,496 | 17,550 | 1,096,770 | 1,430 | 1,131,246 | 0 | 12,026 | 17,550 | 1,096,770 | 1,430 | 1,127,776 |
| 2000 | 0 | 15,604 | (18,670) | 1,104,950 | 1,430 | 1,103,314 | 0 | 12,134 | (18,670) | 1,104,950 | 1,430 | 1,099,844 |
| 2001 | 0 | 15,604 | (765) | 1,104,950 | 1,430 | 1,121,219 | 0 | 12,134 | (765) | 1,104,950 | 1,430 | 1,117,749 |
| 2002 | 0 | 15,615 | 0 | 1,104,950 | 1,430 | 1,121,995 | 0 | 12,145 | 0 | 1,104,950 | 1,430 | 1,118,525 |
| 2003 | 0 | 15,615 | 349 | 1,104,950 | 1,430 | 1,122,344 | 0 | 12,145 | 349 | 1,104,950 | 1,430 | 1,118,874 |
| 2004 | 0 | 15,607 | 2,196 | 1,104,950 | 1,430 | 1,124,183 | 0 | 12,137 | 2,196 | 1,104,950 | 1,430 | 1,120,713 |
| 2005 | 0 | 15,592 | 4,467 | 1,139,175 | 1,430 | 1,160,664 | 0 | 12,122 | 4,467 | 1,139,175 | 1,430 | 1,157,194 |
| 2006 | 0 | 15,607 | 2,733 | 1,139,175 | 1,430 | 1,158,945 | 0 | 12,137 | 2,733 | 1,139,175 | 1,430 | 1,155,475 |
| 2007 | 0 | 15,606 | 1 | 1,139,175 | 1,430 | 1,156,212 | 0 | 12,136 | 1 | 1,139,175 | 1,430 | 1,152,742 |
| 2008 | 0 | 15,608 | 1,400 | 1,139,175 | 1,430 | 1,157,613 | 0 | 12,138 | 1,400 | 1,139,175 | 1,430 | 1,154,143 |
| 2009 | 0 | 15,519 | (6,528) | 1,139,175 | 1,430 | 1,149,596 | 0 | 12,049 | (6,528) | 1,139,175 | 1,430 | 1,146,126 |
| 2010 | 0 | 15,674 | 27,554 | 1,156,000 | 1,430 | 1,200,658 | 0 | 12,204 | 27,554 | 1,156,000 | 1,430 | 1,197,188 |
| 2011 | 0 | 15,667 | (16,996) | 1,156,000 | 1,430 | 1,156,101 | 0 | 12,197 | (16,996) | 1,156,000 | 1,430 | 1,152,631 |
| 2012 | 0 | 15,671 | 1,495 | 1,156,000 | 1,430 | 1,174,596 | 0 | 12,201 | 1,495 | 1,156,000 | 1,430 | 1,171,126 |
| 2013 | 0 | 15,662 | 2 | 1,156,000 | 1,430 | 1,173,094 | 0 | 12,192 | 2 | 1,156,000 | 1,430 | 1,169,624 |
| 2014 | 0 | 15,635 | 6,059 | 1,156,000 | 1,430 | 1,179,124 | 0 | 12,165 | 6,059 | 1,156,000 | 1,430 | 1,175,654 |
| 2015 | 0 | 15,613 | (11,398) | 1,160,850 | 1,430 | 1,166,495 | 0 | 12,143 | (11,398) | 1,160,850 | 1,430 | 1,163,025 |
| 2016 | 0 | 15,606 | 697 | 1,160,850 | 1,430 | 1,178,583 | 0 | 12,136 | 697 | 1,160,850 | 1,430 | 1,175,113 |
| 2017 | 0 | 15,607 | 249 | 1,160,850 | 1,430 | 1,178,136 | 0 | 12,137 | 249 | 1,160,850 | 1,430 | 1,174,666 |
| 2018 | 0 | 15,608 | (249) | 1,160,850 | 1,430 | 1,177,639 | 0 | 12,138 | (249) | 1,160,850 | 1,430 | 1,174,169 |
| 2019 | 0 | 15,612 | 6,129 | 1,160,850 | 1,430 | 1,184,021 | 0 | 12,142 | 6,129 | 1,160,850 | 1,430 | 1,180,551 |
| 2020 | 0 | 15,563 | (14,885) | 1,165,550 | 1,430 | 1,167,658 | 0 | 12,093 | (14,885) | 1,165,550 | 1,430 | 1,164,188 |
| 2021 | 0 | 15,578 | 562 | 1,166,200 | 1,430 | 1,183,770 | 0 | 12,108 | 562 | 1,166,200 | 1,430 | 1,180,300 |
| 2022 | 0 | 15,574 | (795) | 1,166,200 | 1,430 | 1,182,409 | 0 | 12,104 | (795) | 1,166,200 | 1,430 | 1,178,939 |
| 2023 | 0 | 15,574 | 1 | 1,166,200 | 1,430 | 1,183,205 | 0 | 12,104 | 1 | 1,166,200 | 1,430 | 1,179,735 |
| 2024 | 0 | 15,573 | 516 | 1,166,200 | 1,430 | 1,183,719 | 0 | 12,103 | 516 | 1,166,200 | 1,430 | 1,180,249 |
| 2025 | 0 | 15,595 | 4,843 | 1,167,600 | 1,430 | 1,189,468 | 0 | 12,125 | 4,843 | 1,167,600 | 1,430 | 1,185,998 |
| 2026 | 0 | 15,600 | (94) | 1,167,600 | 1,430 | 1,184,536 | 0 | 12,130 | (94) | 1,167,600 | 1,430 | 1,181,066 |
| 2027 | 0 | 15,605 | (844) | 1,167,600 | 1,430 | 1,183,791 | 0 | 12,135 | (844) | 1,167,600 | 1,430 | 1,180,321 |
| 2028 | 0 | 15,594 | 46 | 1,167,600 | 1,430 | 1,184,670 | 0 | 12,124 | 46 | 1,167,600 | 1,430 | 1,181,200 |
| 2029 | 0 | 15,566 | (162) | 1,167,600 | 1,430 | 1,184,434 | 0 | 12,096 | (162) | 1,167,600 | 1,430 | 1,180,964 |
| 2030 | 0 | 15,537 | (1,758) | 1,168,800 | 1,430 | 1,184,009 | 0 | 12,067 | (1,758) | 1,168,800 | 1,430 | 1,180,539 |
| 2031 | 0 | 15,522 | 0 | 1,168,800 | 1,430 | 1,185,752 | 0 | 12,052 | 0 | 1,168,800 | 1,430 | 1,182,282 |
| 2032 | 0 | 15,522 | 0 | 1,168,800 | 1,430 | 1,185,752 | 0 | 12,052 | 0 | 1,168,800 | 1,430 | 1,182,282 |
| 2033 | 0 | 15,529 | 2,643 | 1,168,800 | 1,430 | 1,188,402 | 0 | 12,059 | 2,643 | 1,168,800 | 1,430 | 1,184,932 |
| 2034 | 0 | 15,500 | (5,556) | 1,168,800 | 1,430 | 1,180,174 | 0 | 12,030 | (5,556) | 1,168,800 | 1,430 | 1,176,704 |
| 2035 | 0 | 15,614 | 12,616 | 1,170,100 | 1,430 | 1,199,760 | 0 | 12,144 | 12,616 | 1,170,100 | 1,430 | 1,196,290 |

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Santa Ana Division | | | | | | West Branch, California Aqueduct | | | | | |
| | Devil Canyon Powerplant | | | | | | Oso Pumping Plant | | | | | |
| | | | | Deliveries | | | | | | Deliveries | | |
| Calendar Year | Initial Fill Water (75) | Operational Losses (76) | Reservoir Storage Changes (77) | Water Supply (78) | Recreation (79) | Total (80) | Initial Fill Water (81) | Operational Losses (82) | Reservoir Storage Changes (83) | Water Supply (84) | Recreation (85) | Total (86) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 2,444 | 133 | 0 | 0 | 0 | 2,577 |
| 1972 | 37 | 0 | 0 | 1,275 | 0 | 1,312 | 63,883 | 6,557 | (6,405) | 71,991 | 6,481 | 142,507 |
| 1973 | 40,848 | 14,745 | 0 | 51,812 | 0 | 107,405 | 124,461 | 16,995 | 4,029 | 155,317 | 1,075 | 301,877 |
| 1974 | 74,666 | 8,367 | (4,925) | 102,198 | 0 | 180,306 | 160,860 | 12,702 | (4,146) | 209,172 | 2,064 | 380,652 |
| 1975 | 10,000 | 1,995 | (6,719) | 189,526 | 0 | 194,802 | 93,352 | 23,008 | 7,704 | 374,306 | 3,288 | 501,658 |
| 1976 | 4,168 | 5,180 | (9,182) | 235,711 | 23 | 235,900 | 56,954 | 15,845 | (136,116) | 420,708 | 1,429 | 358,820 |
| 1977 | 0 | 8,082 | (5,235) | 101,137 | 469 | 104,453 | 0 | 4,407 | (98,685) | 122,447 | (20) | 28,149 |
| 1978 | 14,820 | 3,754 | 21,686 | 373,636 | 481 | 414,377 | 45,105 | 9,061 | 52,774 | 171,139 | 176 | 278,255 |
| 1979 | 12,302 | 5,620 | (27,107) | 356,854 | 485 | 348,154 | 0 | 25,355 | (18,781) | 145,598 | 0 | 152,172 |
| 1980 | 0 | 9,468 | 12,714 | 395,975 | 742 | 418,899 | 0 | 24,576 | (140,168) | 165,931 | 481 | 50,820 |
| 1981 | 0 | 8,401 | (23,448) | 569,088 | 807 | 554,848 | 0 | 15,254 | 59,637 | 283,264 | 3,179 | 361,334 |
| 1982 | 0 | 6,012 | 44,469 | 399,799 | 1,798 | 452,078 | 0 | 23,824 | 61,685 | 360,878 | 2,126 | 448,513 |
| 1983 | 0 | 8,597 | 5,188 | 230,277 | 1,078 | 245,140 | 0 | 23,601 | (74,308) | 166,995 | 6,111 | 122,399 |
| 1984 | 0 | 12,861 | (850) | 250,938 | 1,414 | 264,363 | 0 | 12,461 | (138,146) | 272,101 | 3,750 | 150,166 |
| 1985 | 0 | 14,325 | (8,791) | 349,336 | 956 | 355,826 | 0 | 28,257 | 142,219 | 403,097 | 3,728 | 577,301 |
| 1986 | 0 | 9,646 | 8,339 | 392,650 | 1,378 | 412,013 | 0 | 23,816 | 25,288 | 393,203 | 1,777 | 444,084 |
| 1987 | 0 | 7,919 | (11,331) | 365,451 | 1,118 | 363,157 | 0 | 18,952 | (9,490) | 433,452 | 5,698 | 448,612 |
| 1988 | 0 | 11,090 | 2,238 | 490,536 | 861 | 504,725 | 0 | 20,461 | (30,940) | 507,169 | 3,389 | 500,079 |
| 1989 | 0 | 13,116 | (5,487) | 658,730 | 1,301 | 667,660 | 0 | 27,914 | (40,718) | 611,681 | 6,083 | 604,960 |
| 1990 | 0 | 13,439 | (4,622) | 728,723 | 1,281 | 738,821 | 0 | 33,666 | (8,747) | 791,355 | 7,491 | 823,765 |
| 1991 | 0 | 10,836 | 18,430 | 161,032 | 340 | 190,638 | 0 | 16,460 | 71,847 | 263,909 | 4,199 | 356,415 |
| 1992 | 0 | 9,007 | 20 | 326,354 | 371 | 335,752 | 0 | 8,812 | (42,748) | 437,661 | 1,572 | 405,297 |
| 1993 | 0 | 8,400 | (2,223) | 776,763 | 875 | 783,815 | 0 | 14,000 | 45,887 | 738,987 | 3,769 | 802,643 |
| 1994 | 0 | 8,400 | (5,997) | 1,092,800 | 1,250 | 1,096,453 | 0 | 14,000 | (6,139) | 1,070,187 | 5,380 | 1,083,428 |
| 1995 | 0 | 8,400 | (8,091) | 1,073,800 | 1,250 | 1,075,359 | 0 | 14,000 | (12,035) | 1,097,804 | 5,380 | 1,105,149 |
| 1996 | 0 | 8,448 | 2,054 | 1,056,000 | 1,250 | 1,067,752 | 0 | 14,188 | (1,336) | 1,125,432 | 5,380 | 1,143,664 |
| 1997 | 0 | 8,423 | (6,866) | 1,034,000 | 1,250 | 1,036,807 | 0 | 14,601 | 44,139 | 1,153,300 | 5,380 | 1,217,420 |
| 1998 | 0 | 8,420 | 126 | 1,039,374 | 1,250 | 1,049,170 | 0 | 15,107 | 26,220 | 1,168,301 | 5,380 | 1,215,008 |
| 1999 | 0 | 8,451 | (2,676) | 1,043,370 | 1,250 | 1,050,395 | 0 | 15,143 | (8,381) | 1,168,301 | 5,380 | 1,180,443 |
| 2000 | 0 | 8,424 | (432) | 1,051,150 | 1,250 | 1,060,392 | 0 | 15,162 | 1,735 | 1,176,696 | 5,380 | 1,198,973 |
| 2001 | 0 | 8,438 | (725) | 1,051,150 | 1,250 | 1,060,113 | 0 | 15,149 | (374) | 1,176,696 | 5,380 | 1,196,851 |
| 2002 | 0 | 8,446 | 0 | 1,051,150 | 1,250 | 1,060,846 | 0 | 15,153 | 1 | 1,176,696 | 5,380 | 1,197,230 |
| 2003 | 0 | 8,446 | 1,452 | 1,051,150 | 1,250 | 1,062,298 | 0 | 15,155 | 0 | 1,176,696 | 5,380 | 1,197,231 |
| 2004 | 0 | 8,431 | 3,008 | 1,051,150 | 1,250 | 1,063,839 | 0 | 15,155 | 0 | 1,176,696 | 5,380 | 1,197,231 |
| 2005 | 0 | 8,447 | 659 | 1,084,550 | 1,250 | 1,094,906 | 0 | 15,161 | (362) | 1,182,100 | 5,380 | 1,202,279 |
| 2006 | 0 | 8,454 | 1,258 | 1,084,550 | 1,250 | 1,095,512 | 0 | 15,160 | 0 | 1,182,100 | 5,380 | 1,202,640 |
| 2007 | 0 | 8,454 | 1 | 1,084,550 | 1,250 | 1,094,255 | 0 | 15,160 | 0 | 1,182,100 | 5,380 | 1,202,640 |
| 2008 | 0 | 8,462 | 0 | 1,084,550 | 1,250 | 1,094,262 | 0 | 15,158 | 0 | 1,182,100 | 5,380 | 1,202,638 |
| 2009 | 0 | 8,429 | (2,639) | 1,084,550 | 1,250 | 1,091,590 | 0 | 15,158 | 0 | 1,182,100 | 5,380 | 1,202,638 |
| 2010 | 0 | 8,430 | 812 | 1,100,450 | 1,250 | 1,110,942 | 0 | 15,156 | 750 | 1,182,100 | 5,380 | 1,203,386 |
| 2011 | 0 | 8,435 | (2,293) | 1,100,450 | 1,250 | 1,107,842 | 0 | 15,136 | (748) | 1,182,100 | 5,380 | 1,201,868 |
| 2012 | 0 | 8,431 | 1,088 | 1,100,450 | 1,250 | 1,111,219 | 0 | 15,172 | 0 | 1,182,100 | 5,380 | 1,202,652 |
| 2013 | 0 | 8,425 | 2 | 1,100,450 | 1,250 | 1,110,127 | 0 | 15,172 | 0 | 1,182,100 | 5,380 | 1,202,652 |
| 2014 | 0 | 8,423 | 2,523 | 1,100,450 | 1,250 | 1,112,646 | 0 | 15,177 | 833 | 1,182,100 | 5,380 | 1,203,490 |
| 2015 | 0 | 8,434 | (561) | 1,104,750 | 1,250 | 1,113,873 | 0 | 15,177 | 1,894 | 1,182,100 | 5,380 | 1,204,551 |
| 2016 | 0 | 8,432 | (529) | 1,104,750 | 1,250 | 1,113,903 | 0 | 15,178 | (1,463) | 1,182,100 | 5,380 | 1,201,195 |
| 2017 | 0 | 8,431 | 0 | 1,104,750 | 1,250 | 1,114,431 | 0 | 15,184 | 374 | 1,182,100 | 5,380 | 1,203,038 |
| 2018 | 0 | 8,431 | 0 | 1,104,750 | 1,250 | 1,114,431 | 0 | 15,184 | (748) | 1,182,100 | 5,380 | 1,201,916 |
| 2019 | 0 | 8,440 | 2,897 | 1,104,750 | 1,250 | 1,117,337 | 0 | 15,177 | (1,402) | 1,182,100 | 5,380 | 1,201,255 |
| 2020 | 0 | 8,421 | (1,968) | 1,109,050 | 1,250 | 1,116,753 | 0 | 15,169 | 517 | 1,182,100 | 5,380 | 1,203,166 |
| 2021 | 0 | 8,427 | 192 | 1,109,700 | 1,250 | 1,119,569 | 0 | 15,162 | 0 | 1,182,100 | 5,380 | 1,202,642 |
| 2022 | 0 | 8,416 | (2,343) | 1,109,700 | 1,250 | 1,117,023 | 0 | 15,174 | 374 | 1,182,100 | 5,380 | 1,203,028 |
| 2023 | 0 | 8,417 | 2 | 1,109,700 | 1,250 | 1,119,369 | 0 | 15,174 | 0 | 1,182,100 | 5,380 | 1,202,654 |
| 2024 | 0 | 8,422 | 1,228 | 1,109,700 | 1,250 | 1,120,600 | 0 | 15,172 | (373) | 1,182,100 | 5,380 | 1,202,279 |
| 2025 | 0 | 8,415 | 855 | 1,111,000 | 1,250 | 1,121,520 | 0 | 15,164 | 848 | 1,182,100 | 5,380 | 1,203,492 |
| 2026 | 0 | 8,422 | 249 | 1,111,000 | 1,250 | 1,120,921 | 0 | 15,163 | (749) | 1,182,100 | 5,380 | 1,201,894 |
| 2027 | 0 | 8,423 | 0 | 1,111,000 | 1,250 | 1,120,673 | 0 | 15,164 | 748 | 1,182,100 | 5,380 | 1,203,392 |
| 2028 | 0 | 8,422 | (1,905) | 1,111,000 | 1,250 | 1,118,767 | 0 | 15,174 | (1,089) | 1,182,100 | 5,380 | 1,201,565 |
| 2029 | 0 | 8,423 | 2,773 | 1,111,000 | 1,250 | 1,123,446 | 0 | 15,172 | (15) | 1,182,100 | 5,380 | 1,202,637 |
| 2030 | 0 | 8,445 | (964) | 1,112,200 | 1,250 | 1,120,931 | 0 | 15,173 | 256 | 1,182,100 | 5,380 | 1,202,909 |
| 2031 | 0 | 8,443 | 0 | 1,112,200 | 1,250 | 1,121,893 | 0 | 15,173 | 0 | 1,182,100 | 5,380 | 1,202,653 |
| 2032 | 0 | 8,443 | 0 | 1,112,200 | 1,250 | 1,121,893 | 0 | 15,173 | 0 | 1,182,100 | 5,380 | 1,202,653 |
| 2033 | 0 | 8,446 | (499) | 1,112,200 | 1,250 | 1,121,397 | 0 | 15,172 | 374 | 1,182,100 | 5,380 | 1,203,026 |
| 2034 | 0 | 8,420 | (2,221) | 1,112,200 | 1,250 | 1,119,649 | 0 | 15,169 | 374 | 1,182,100 | 5,380 | 1,203,023 |
| 2035 | 0 | 8,412 | (8,977) | 1,113,500 | 1,250 | 1,114,185 | 0 | 15,129 | (6,657) | 1,182,100 | 5,380 | 1,195,952 |

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | California Aqueduct (continued) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | West Branch, California Aqueduct (continued) | | | | | | | | | | | |
| | Warne Powerplant | | | | | | Castaic Powerplant | | | | | |
| | | | | Deliveries | | | | | | Deliveries | | |
| Calendar Year | Initial Fill Water (87) | Operational Losses (88) | Reservoir Storage Changes (89) | Water Supply (90) | Recreation (91) | Total (92) | Initial Fill Water (93) | Operational Losses (94) | Reservoir Storage Changes (95) | Water Supply (96) | Recreation (97) | Total (98) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 57,364 | 1,788 | (6,162) | 71,938 | 6,481 | 131,409 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 37,198 | 6,430 | 4,542 | 155,297 | 1,075 | 204,542 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 82,364 | 1,772 | (950) | 209,136 | 541 | 292,863 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 90,460 | 5,002 | (1,534) | 374,280 | 1,563 | 469,771 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 55,990 | (7,695) | (132,036) | 420,684 | 1,429 | 338,372 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (1,485) | (102,532) | 122,447 | (20) | 18,410 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 45,105 | (2,264) | 129,523 | 171,139 | 176 | 343,679 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (2,339) | (20,400) | 145,598 | 0 | 122,859 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 991 | (118,026) | 165,931 | 481 | 49,377 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | (44,416) | 47,244 | 283,264 | 2,704 | 288,796 |
| 1982 | 0 | 24,468 | 61,169 | 360,878 | 2,126 | 448,641 | 0 | (60,135) | 59,069 | 360,878 | 1,187 | 360,999 |
| 1983 | 0 | 20,780 | (74,308) | 166,995 | 6,111 | 119,578 | 0 | (33,418) | (46,904) | 166,995 | 2,618 | 89,291 |
| 1984 | 0 | 13,572 | (139,219) | 275,212 | 2,208 | 151,773 | 0 | (29,618) | (139,545) | 275,212 | 2,201 | 108,250 |
| 1985 | 0 | 29,286 | 141,492 | 403,097 | 874 | 574,749 | 0 | (4,622) | 135,007 | 403,097 | 844 | 534,326 |
| 1986 | 0 | 23,008 | 25,288 | 393,203 | 1,777 | 443,276 | 0 | (5,440) | 25,120 | 393,203 | 1,777 | 414,660 |
| 1987 | 0 | 22,871 | (9,464) | 433,452 | 5,698 | 452,557 | 0 | 1,467 | (6,069) | 433,452 | 2,734 | 431,584 |
| 1988 | 0 | 23,253 | (31,545) | 507,169 | 3,389 | 502,266 | 0 | 12,650 | (28,590) | 507,169 | 1,359 | 492,588 |
| 1989 | 0 | 27,131 | (40,718) | 611,681 | 6,083 | 604,177 | 0 | 634 | (40,214) | 611,681 | 3,161 | 575,262 |
| 1990 | 0 | 34,208 | (8,747) | 791,355 | 7,491 | 824,307 | 0 | (14,012) | (15,110) | 786,519 | 3,419 | 760,816 |
| 1991 | 0 | 16,908 | 71,847 | 263,909 | 4,199 | 356,863 | 0 | (871) | 91,055 | 262,921 | 2,283 | 355,388 |
| 1992 | 0 | 9,429 | (41,922) | 437,661 | 1,572 | 406,740 | 0 | (818) | (58,862) | 437,661 | 1,543 | 379,524 |
| 1993 | 0 | 12,090 | 45,887 | 738,984 | 3,769 | 800,730 | 0 | 6,000 | 51,887 | 735,484 | 1,634 | 795,005 |
| 1994 | 0 | 12,090 | (6,139) | 1,070,187 | 5,380 | 1,081,518 | 0 | 6,000 | (139) | 1,065,187 | 2,330 | 1,073,378 |
| 1995 | 0 | 12,090 | (12,035) | 1,097,804 | 5,380 | 1,103,239 | 0 | 6,000 | (6,035) | 1,092,804 | 2,330 | 1,095,099 |
| 1996 | 0 | 12,278 | (1,336) | 1,125,432 | 5,380 | 1,141,754 | 0 | 5,990 | (6,238) | 1,120,432 | 2,330 | 1,122,514 |
| 1997 | 0 | 12,691 | 44,139 | 1,153,300 | 5,380 | 1,215,510 | 0 | 6,406 | 44,139 | 1,148,300 | 2,330 | 1,201,175 |
| 1998 | 0 | 13,197 | 26,220 | 1,168,301 | 5,380 | 1,213,098 | 0 | 6,912 | 26,220 | 1,163,301 | 2,330 | 1,198,763 |
| 1999 | 0 | 13,233 | (8,381) | 1,168,301 | 5,380 | 1,178,533 | 0 | 6,948 | (8,381) | 1,163,301 | 2,330 | 1,164,198 |
| 2000 | 0 | 13,252 | 1,735 | 1,176,696 | 5,380 | 1,197,063 | 0 | 6,967 | 1,735 | 1,171,696 | 2,330 | 1,182,728 |
| 2001 | 0 | 13,239 | (374) | 1,176,696 | 5,380 | 1,194,941 | 0 | 6,954 | (374) | 1,171,696 | 2,330 | 1,180,606 |
| 2002 | 0 | 13,243 | 1 | 1,176,696 | 5,380 | 1,195,320 | 0 | 6,958 | 1 | 1,171,696 | 2,330 | 1,180,985 |
| 2003 | 0 | 13,245 | 0 | 1,176,696 | 5,380 | 1,195,321 | 0 | 6,960 | 0 | 1,171,696 | 2,330 | 1,180,986 |
| 2004 | 0 | 13,245 | 0 | 1,176,696 | 5,380 | 1,195,321 | 0 | 6,960 | 0 | 1,171,696 | 2,330 | 1,180,986 |
| 2005 | 0 | 13,251 | (362) | 1,182,100 | 5,380 | 1,200,369 | 0 | 6,966 | (362) | 1,177,100 | 2,330 | 1,186,034 |
| 2006 | 0 | 13,250 | 0 | 1,182,100 | 5,380 | 1,200,730 | 0 | 6,965 | 0 | 1,177,100 | 2,330 | 1,186,395 |
| 2007 | 0 | 13,250 | 0 | 1,182,100 | 5,380 | 1,200,730 | 0 | 6,965 | 0 | 1,177,100 | 2,330 | 1,186,395 |
| 2008 | 0 | 13,248 | 0 | 1,182,100 | 5,380 | 1,200,728 | 0 | 6,963 | 0 | 1,177,100 | 2,330 | 1,186,393 |
| 2009 | 0 | 13,248 | 0 | 1,182,100 | 5,380 | 1,200,728 | 0 | 6,963 | 0 | 1,177,100 | 2,330 | 1,186,393 |
| 2010 | 0 | 13,246 | 750 | 1,182,100 | 5,380 | 1,201,476 | 0 | 6,961 | 750 | 1,177,100 | 2,330 | 1,187,141 |
| 2011 | 0 | 13,226 | (748) | 1,182,100 | 5,380 | 1,199,958 | 0 | 6,941 | (748) | 1,177,100 | 2,330 | 1,185,623 |
| 2012 | 0 | 13,262 | 0 | 1,182,100 | 5,380 | 1,200,742 | 0 | 6,977 | 0 | 1,177,100 | 2,330 | 1,186,407 |
| 2013 | 0 | 13,262 | 0 | 1,182,100 | 5,380 | 1,200,742 | 0 | 6,977 | 0 | 1,177,100 | 2,330 | 1,186,407 |
| 2014 | 0 | 13,267 | 833 | 1,182,100 | 5,380 | 1,201,580 | 0 | 6,982 | 833 | 1,177,100 | 2,330 | 1,187,245 |
| 2015 | 0 | 13,267 | 1,894 | 1,182,100 | 5,380 | 1,202,641 | 0 | 6,982 | 1,894 | 1,177,100 | 2,330 | 1,188,306 |
| 2016 | 0 | 13,268 | (1,463) | 1,182,100 | 5,380 | 1,199,285 | 0 | 6,983 | (1,463) | 1,177,100 | 2,330 | 1,184,950 |
| 2017 | 0 | 13,274 | 374 | 1,182,100 | 5,380 | 1,201,128 | 0 | 6,989 | 374 | 1,177,100 | 2,330 | 1,186,793 |
| 2018 | 0 | 13,274 | (748) | 1,182,100 | 5,380 | 1,200,006 | 0 | 6,989 | (748) | 1,177,100 | 2,330 | 1,185,671 |
| 2019 | 0 | 13,267 | (1,402) | 1,182,100 | 5,380 | 1,199,345 | 0 | 6,982 | (1,402) | 1,177,100 | 2,330 | 1,185,010 |
| 2020 | 0 | 13,259 | 517 | 1,182,100 | 5,380 | 1,201,256 | 0 | 6,974 | 517 | 1,177,100 | 2,330 | 1,186,921 |
| 2021 | 0 | 13,252 | 0 | 1,182,100 | 5,380 | 1,200,732 | 0 | 6,967 | 0 | 1,177,100 | 2,330 | 1,186,397 |
| 2022 | 0 | 13,264 | 374 | 1,182,100 | 5,380 | 1,201,118 | 0 | 6,979 | 374 | 1,177,100 | 2,330 | 1,186,783 |
| 2023 | 0 | 13,264 | 0 | 1,182,100 | 5,380 | 1,200,744 | 0 | 6,979 | 0 | 1,177,100 | 2,330 | 1,186,409 |
| 2024 | 0 | 13,262 | (373) | 1,182,100 | 5,380 | 1,200,369 | 0 | 6,977 | (373) | 1,177,100 | 2,330 | 1,186,034 |
| 2025 | 0 | 13,254 | 848 | 1,182,100 | 5,380 | 1,201,582 | 0 | 6,969 | 848 | 1,177,100 | 2,330 | 1,187,247 |
| 2026 | 0 | 13,253 | (749) | 1,182,100 | 5,380 | 1,199,984 | 0 | 6,968 | (749) | 1,177,100 | 2,330 | 1,185,649 |
| 2027 | 0 | 13,254 | 748 | 1,182,100 | 5,380 | 1,201,482 | 0 | 6,969 | 748 | 1,177,100 | 2,330 | 1,187,147 |
| 2028 | 0 | 13,264 | (1,089) | 1,182,100 | 5,380 | 1,199,655 | 0 | 6,979 | (1,089) | 1,177,100 | 2,330 | 1,185,320 |
| 2029 | 0 | 13,262 | (15) | 1,182,100 | 5,380 | 1,200,727 | 0 | 6,977 | (15) | 1,177,100 | 2,330 | 1,186,392 |
| 2030 | 0 | 13,263 | 256 | 1,182,100 | 5,380 | 1,200,999 | 0 | 6,978 | 256 | 1,177,100 | 2,330 | 1,186,664 |
| 2031 | 0 | 13,263 | 0 | 1,182,100 | 5,380 | 1,200,743 | 0 | 6,978 | 0 | 1,177,100 | 2,330 | 1,186,408 |
| 2032 | 0 | 13,263 | 0 | 1,182,100 | 5,380 | 1,200,743 | 0 | 6,978 | 0 | 1,177,100 | 2,330 | 1,186,408 |
| 2033 | 0 | 13,262 | 374 | 1,182,100 | 5,380 | 1,201,116 | 0 | 6,977 | 374 | 1,177,100 | 2,330 | 1,186,781 |
| 2034 | 0 | 13,259 | 374 | 1,182,100 | 5,380 | 1,201,113 | 0 | 6,974 | 374 | 1,177,100 | 2,330 | 1,186,778 |
| 2035 | 0 | 13,219 | (6,657) | 1,182,100 | 5,380 | 1,194,042 | 0 | 6,934 | (6,657) | 1,177,100 | 2,330 | 1,179,707 |

TABLE B-6

# Annual Water Quantities Conveyed through Each Pumping and Power Recovery Plant of Project Transportation Facilities

(Acre-feet)



| | California Aqueduct (continued) | | | | | | |
|---|---|---|---|---|---|---|---|
| | Coastal Branch, California Aqueduct | | | | | | |
| | Las Perillas and Badger Hill Pumping Plants | | | | Devil's Den, Bluestone, and Polonio Pass Pumping Plants and San Luis Obispo Powerplant | | |
| Calendar Year | Initial Fill Water (99) | Operational Losses (100) | Water Supply Delivery (101) | Total (102) | Operational Losses (103) | Water Supply Delivery (104) | Total (105) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1967 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1968 | 210 | 873 | 79,039 | 80,122 | 0 | 0 | 0 |
| 1969 | 0 | 1,042 | 62,064 | 63,106 | 0 | 0 | 0 |
| 1970 | 0 | 638 | 83,649 | 84,287 | 0 | 0 | 0 |
| 1971 | 0 | 3,455 | 110,971 | 114,426 | 0 | 0 | 0 |
| 1972 | 0 | 1,745 | 121,755 | 123,500 | 0 | 0 | 0 |
| 1973 | 0 | 5,479 | 78,645 | 84,124 | 0 | 0 | 0 |
| 1974 | 0 | 7,344 | 78,174 | 85,518 | 0 | 0 | 0 |
| 1975 | 0 | 5,819 | 85,216 | 91,035 | 0 | 0 | 0 |
| 1976 | 0 | 6,562 | 90,058 | 96,620 | 0 | 0 | 0 |
| 1977 | 0 | 5,777 | 40,579 | 46,356 | 0 | 0 | 0 |
| 1978 | 0 | 9,085 | 92,604 | 101,689 | 0 | 0 | 0 |
| 1979 | 0 | 10,896 | 123,155 | 134,051 | 0 | 0 | 0 |
| 1980 | 0 | 9,449 | 111,379 | 120,828 | 0 | 0 | 0 |
| 1981 | 0 | 13,232 | 109,754 | 122,986 | 0 | 0 | 0 |
| 1982 | 0 | 7,984 | 95,776 | 103,760 | 0 | 0 | 0 |
| 1983 | 0 | 5,710 | 100,518 | 106,228 | 0 | 0 | 0 |
| 1984 | 0 | 5,740 | 126,387 | 132,127 | 0 | 0 | 0 |
| 1985 | 0 | 7,563 | 120,823 | 128,386 | 0 | 0 | 0 |
| 1986 | 0 | 8,562 | 131,599 | 140,161 | 0 | 0 | 0 |
| 1987 | 0 | 11,363 | 128,080 | 139,443 | 0 | 0 | 0 |
| 1988 | 0 | 12,831 | 120,969 | 133,800 | 0 | 0 | 0 |
| 1989 | 0 | 11,454 | 116,801 | 128,255 | 0 | 0 | 0 |
| 1990 | 0 | 13,022 | 109,802 | 122,824 | 0 | 0 | 0 |
| 1991 | 0 | 5,802 | 1,496 | 7,298 | 0 | 0 | 0 |
| 1992 | 0 | 7,894 | 79,645 | 87,539 | 0 | 0 | 0 |
| 1993 | 0 | 628 | 64,190 | 64,818 | 0 | 0 | 0 |
| 1994 | 0 | 802 | 91,700 | 92,502 | 0 | 0 | 0 |
| 1995 | 0 | 802 | 91,700 | 92,502 | 0 | 0 | 0 |
| 1996 | 0 | 802 | 128,090 | 128,892 | 212 | 42,730 | 42,942 |
| 1997 | 0 | 802 | 146,206 | 147,008 | 212 | 54,506 | 54,718 |
| 1998 | 0 | 802 | 201,186 | 201,988 | 212 | 70,486 | 70,698 |
| 1999 | 0 | 802 | 201,186 | 201,988 | 212 | 70,486 | 70,698 |
| 2000 | 0 | 802 | 193,890 | 194,692 | 212 | 70,486 | 70,698 |
| 2001 | 0 | 802 | 193,890 | 194,692 | 212 | 70,486 | 70,698 |
| 2002 | 0 | 802 | 193,890 | 194,692 | 212 | 70,486 | 70,698 |
| 2003 | 0 | 802 | 193,890 | 194,692 | 212 | 70,486 | 70,698 |
| 2004 | 0 | 802 | 193,890 | 194,692 | 212 | 70,486 | 70,698 |
| 2005 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2006 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2007 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2008 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2009 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2010 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2011 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2012 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2013 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2014 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2015 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2016 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2017 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2018 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2019 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2020 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2021 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2022 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2023 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2024 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2025 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2026 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2027 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2028 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2029 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2030 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2031 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2032 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2033 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2034 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |
| 2035 | 0 | 802 | 188,486 | 189,288 | 212 | 70,486 | 70,698 |

*Table B-7 follows.*

TABLE B-7

# Reconciliation of Capital Costs Allocated to Water Supply and Power Generation

(Thousands of dollars)

| Item | Project Costs Allocated to Water Supply and Power Generation | | | | | | | Capital Costs Allocated to Other Purposes (8) | Total State Water Project Capital Cost (9) |
|---|---|---|---|---|---|---|---|---|---|
| | Miscellaneous Income Credited to Construction (a (1) | Allowance for Future Price Escalation (b (2) | Costs of Construction of Delivery Structures (c (3) | Costs of Requested Excess Capacity and Future Enlargement (d (4) | Capital Cost Component of Delta Water Charge (e (f (g (5) | Capital Cost Component of Transportation Water Charge (h (6) | Water Supply and Power Total (7) | | |
| **Conservation Facilities** | | | | | | | | | |
| Upper Feather Division | | | | | | | | | |
| Frenchman Dam & Lake | 173 | 0 | 0 | 0 | 603 | 0 | 776 | 2,886 | 3,662 |
| Grizzly Valley Dam & Lake Davis | 29 | 0 | 0 | 0 | 38 | 0 | 67 | 7,364 | 7,431 |
| Antelope Dam & Lake | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5,523 | 5,523 |
| Abbey Bridge Dam & Reservoir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 519 | 519 |
| Dixie Refuge Dam & Reservoir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 236 | 236 |
| Total, Upper Feather Division | 202 | 0 | 0 | 0 | 641 | 0 | 843 | 16,528 | 17,371 |
| Oroville Division | | | | | | | | | |
| Multipurpose facilities | 2,477 | 6 | 180 | 0 | 365,969 | 0 | 368,632 | 88,270 | 456,902 |
| Specific power facilities | 408 | 0 | 0 | 0 | 105,985 | 0 | 106,393 | 1,013 | 107,406 |
| Total, Oroville Division | 2,885 | 6 | 180 | 0 | 471,954 | 0 | 475,025 | 89,283 | 564,308 |
| California Aqueduct | | | | | | | | | |
| North San Joaquin Division | 229 | 0 | 0 | 0 | 78,181 | 0 | 78,410 | 2,679 | 81,089 |
| San Luis Division | 0 | 0 | 0 | 0 | 101,115 | 0 | 101,115 | 4,335 | 105,450 |
| Total, California Aqueduct | 229 | 0 | 0 | 0 | 179,296 | 0 | 179,525 | 7,014 | 186,539 |
| Delta facilities | 34,551 | 7,623 | 0 | 0 | 322,182 | 0 | 364,356 | 51,529 | 415,885 |
| Planning and preoperation | 2,324 | 16,742 | 0 | 0 | 145,473 | 0 | 164,539 | 0 | 164,539 |
| *Total, conservation facilities* | 40,191 | 24,371 | 180 | 0 | 1,119,546 | 0 | 1,184,288 | 164,354 | 1,348,642 |
| **Transportation Facilities** | | | | | | | | | |
| Upper Feather Division | | | | | | | | | |
| Grizzly Valley Pipeline | 0 | 0 | 0 | 0 | 0 | 341 | 341 | 0 | 341 |
| North Bay Aqueduct | 113 | 35 | 685 | 0 | 0 | 94,405 | 95,238 | 0 | 95,238 |
| South Bay Aqueduct | 1,609 | 43 | 1,553 | 0 | 0 | 51,758 | 54,963 | 21,636 | 76,599 |
| California Aqueduct | | | | | | | | | |
| North San Joaquin Division | 317 | 192 | 25 | 0 | 0 | 174,638 | 175,172 | 6,548 | 181,720 |
| San Luis Division | 6,173 | 191 | 0 | 0 | 0 | 107,184 | 113,548 | 11,589 | 125,137 |
| South San Joaquin Division | 100 | 163 | 3,258 | 2,065 | 0 | 269,147 | 274,733 | 16,606 | 291,339 |
| Tehachapi Division | 87 | 69 | 4 | 5,229 | 0 | 293,112 | 298,501 | 18,043 | 316,544 |
| Mojave Division | 15,126 | 283 | 625 | 0 | 0 | 359,779 | 375,813 | 16,949 | 392,762 |
| Santa Ana Division | 13,559 | 894 | 3,317 | 9,710 | 0 | 195,875 | 223,355 | 13,501 | 236,856 |
| West Branch | 35,043 | 3,577 | 2,901 | 37 | 0 | 462,086 | 503,644 | 30,443 | 534,087 |
| Coastal Branch | 214 | 22,162 | 100 | 0 | 0 | 409,126 | 431,602 | 0 | 431,602 |
| Total, California Aqueduct | 70,619 | 27,531 | 10,230 | 17,041 | 0 | 2,270,947 | 2,396,368 | 113,679 | 2,510,047 |
| *Total transportation facilities* | 72,341 | 27,609 | 12,468 | 17,041 | 0 | 2,417,451 | 2,546,910 | 135,315 | 2,682,225 |
| East Branch Enlargement | 0 | 615 | 0 | 0 | 0 | 432,461 | 433,076 | 0 | 433,076 |
| San Joaquin drainage facilities | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 61,605 | 61,605 |
| Off-aqueduct power generation facilities | 0 | 0 | 0 | 0 | 0 | 441,130 | 441,130 | 0 | 441,130 |
| Land purchase-Kern Water Bank | 0 | 0 | 0 | 0 | 34,686 | 0 | 34,686 | 0 | 34,686 |
| Unassigned and Davis-Grunsky | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 137,689 | 137,689 |
| Subtotal | 112,532 | 52,595 | 12,648 | 17,041 | 1,154,232 | 3,291,042 | 4,640,090 | 498,963 | 5,139,053 |
| Less: 2006-2035 costs | 0 | 5,744 | 0 | 0 | 17,480 | 0 | 23,224 | 0 | 23,224 |
| *Total through 2005* | 112,532 | 46,851 | 12,648 | 17,041 | 1,136,752 | 3,291,042 | 4,616,866 | 498,963 | 5,115,829 |

a) Miscellaneous project receipts 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, 1992.
c) See Table B-8.
d) See Table B-9.
e) See Table B-13. A portion of these costs will be offset by power generation sales and credits.
f) The planning and preoperation costs of conservation facilities include $56,247,000 of planning costs financed from Systems Revenue and not included in Table 21-1.
g) See Table B-10. Projected costs for Mojave Division include $7,000,000 for small hydro.

TABLE B-8

# State Water Project Capital Costs of Requested Delivery Structures

(Dollars)

| *Project Service Area and Water Supply Contractor* | *Calendar Year Capital Costs (a* | | | | | | *Total* |
|---|---|---|---|---|---|---|---|
| | *1952–1990* (1) | *1991* (2) | *1992* (3) | *1993* (4) | *1994* (5) | *1995* (6) | (7) |
| **Feather River Area** | | | | | | | |
| County of Butte | 104,924 | 2,588 | 4,932 | 13,000 | 0 | 0 | 125,444 |
| Plumas County Flood Control and Water Conservation District | 0 | 0 | 0 | 11,000 | 0 | 0 | 11,000 |
| Thermalito Irrigation District (b | 43,939 | 0 | 0 | 0 | 0 | 0 | 43,939 |
| *Subtotal* | 148,863 | 2,588 | 4,932 | 24,000 | 0 | 0 | 180,383 |
| **North Bay Area** | | | | | | | |
| Napa County Flood Control and Water Conservation District | 13,590 | 0 | 0 | 16,000 | 0 | 0 | 29,590 |
| Solano County Water Agency | 651,786 | 983 | 2,300 | 1,000 | 0 | 0 | 656,069 |
| *Subtotal* | 665,376 | 983 | 2,300 | 17,000 | 0 | 0 | 685,659 |
| **South Bay Area** | | | | | | | |
| Alameda County Flood Control and Water Conservation District, Zone 7 | 224,357 | 1,482 | 2,086 | 15,000 | 0 | 0 | 242,925 |
| Alameda County Water District | 165,169 | 16,135 | 37,984 | 10,000 | 0 | 0 | 229,288 |
| Santa Clara Valley Water District | 0 | 421 | 3,584 | 36,000 | 0 | 0 | 40,005 |
| San Francisco Water Department (b | 742,707 | 280,613 | 16,155 | 1,000 | 0 | 0 | 1,040,475 |
| *Subtotal* | 1,132,233 | 298,651 | 59,809 | 62,000 | 0 | 0 | 1,552,693 |
| **San Joaquin Valley Area** | | | | | | | |
| Castaic Lake Water Agency | 77,557 | 0 | 0 | 0 | 0 | 0 | 77,557 |
| Dudley Ridge Water District | 289,395 | 17 | 0 | 0 | 0 | 0 | 289,412 |
| 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 | 2,709,182 | 0 | 0 | 0 | 0 | 0 | 2,709,182 |
| Oak Flat Water District | 13,753 | 0 | 0 | 0 | 0 | 0 | 13,753 |
| 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 |
| Veterans Administration Cemetery (b | 3,194 | 148 | 0 | 0 | 0 | 0 | 3,342 |
| *Subtotal* | 3,383,242 | 165 | 0 | 0 | 0 | 0 | 3,383,407 |
| **Southern California Area** | | | | | | | |
| Antelope Valley-East Kern Water Agency | 371,636 | 2,102 | 403 | 1,500 | 0 | 0 | 375,641 |
| Castaic Lake Water Agency | 346,978 | 2,732 | 2,035 | 6,000 | 0 | 0 | 357,745 |
| 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 | 70,469 | 644 | 43,806 | 30,000 | 0 | 0 | 144,919 |
| Palmdale Water District | 34,173 | 0 | 0 | 0 | 0 | 0 | 34,173 |
| San Bernardino Valley Municipal Water District | 792,582 | 0 | 0 | 10,000 | 0 | 0 | 802,582 |
| 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 |
| Metropolitan Water District of Southern California | 4,779,958 | 0 | 0 | 0 | 0 | 0 | 4,779,958 |
| Ventura County Flood Control District | 79,699 | 0 | 0 | 0 | 0 | 0 | 79,699 |
| *Subtotal* | 6,746,550 | 5,478 | 46,244 | 47,500 | 0 | 0 | 6,845,772 |
| *Total* | 12,076,264 | 307,865 | 113,285 | 150,500 | 0 | 0 | 12,647,914 |

a) Approximate only, not to be construed as invoice amounts.
b) Not an SWP water supply contractor.
c) Not an SWP water supply contractor but has contracted for water.

TABLE B-9

# Capital Costs of Requested Excess Peaking Capacity



| Calendar Year | Total Advance Payments and Credits for Excess Capacity (Dollars) (1) | Total Incremental Costs for Excess Capacity (Dollars) (2) | Overpayment (+) or Underpayment (-) (Dollars) (a (3) | Annual Surplus Money Investment Fund Interest Rate (Percentage) (b January–June (4) | July–December (5) | Net Overpayment or Underpayment with Interest (c (6) |
|---|---|---|---|---|---|---|
| | | | **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 |
| Total | 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 |
| Total | 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 |
| Total | 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 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 1980 Project Interest Rate of 4.584 percent.

TABLE B-9

# Capital Costs of Requested Excess Peaking Capacity

(Dollars)



| Reach Number | Annual Required Advance of Funds — Incremental Costs and Advance Payments by Calendar Year: 1965 (7) | 1966 (8) | 1967 (9) | 1968 (10) | 1969 (11) | 1970 (12) | 1971 (13) | 1972 (14) | 1973 (15) | 1974 (16) | 1975 (17) | 1976 (18) | 1981 (19) | Reach Total (20) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | **Metropolitan Water District of Southern California** *Incremental Costs* | | | | | | | | | | | | | |
| 8C | | 1,000 | 1,000 | | | | | | | | | | | 2,000 |
| 8D | | 43,500 | 43,500 | | | | | | | | | | | 87,000 |
| 9 | | 27,000 | 27,000 | 13,500 | | | | | | | | | | 67,500 |
| 10A | | 29,700 | 29,700 | 14,800 | | | | | | | | | | 74,200 |
| 11B | 10,100 | 18,300 | 18,300 | 9,200 | | | | | | | | | | 55,900 |
| 12D | 1,800 | | 19,300 | 25,800 | 12,900 | | | | | | | | | 59,800 |
| 12E | 1,800 | | 12,400 | 18,800 | 10,800 | | | | | | | | | 43,800 |
| 13B | | | 12,600 | 37,800 | 31,600 | | | | | | | | | 82,000 |
| 14A | 2,500 | 500 | 11,100 | 80,216 | 107,504 | 124,069 | 37,519 | 6,413 | 381 | 87 | | | | 370,289 |
| 14B | 1,200 | 1,800 | | 19,100 | 19,100 | 12,800 | | | | | | | | 54,000 |
| 14C | 1,800 | 900 | | 13,500 | 13,500 | 9,000 | | | | | | | | 38,700 |
| 15A | 700 | | 14,000 | 66,947 | 133,357 | 128,099 | 54,821 | 5,327 | 946 | 2,076 | | | | 406,273 |
| 16A | 700 | | 18,900 | 137,894 | 182,000 | 211,608 | 133,927 | 26,203 | 5,767 | 6,156 | | | | 723,155 |
| 17E | | 51,500 | 444,600 | 537,247 | 860,024 | 998,985 | 699,281 | 193,286 | 17,947 | 29,456 | 2,085 | | | 3,834,411 |
| 17F | 109,100 | 261,600 | 261,600 | 261,600 | 261,600 | 239,500 | | | | | | | | 1,395,000 |
| 25 | | | 964,270 | 1,650,947 | 1,426,925 | 673,041 | 221,100 | 256,165 | | | | | | 5,192,448 |
| 28J | | 304,612 | 13,706 | 296,668 | 65,966 | 230,169 | 1,209,586 | 2,017,134 | 235,900 | 4,900 | | | | 4,378,641 |
| Total | 129,700 | 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 | | | 16,865,117 |
| | *Current Adjustment* | | | | | | | | | | | | | |
| 8C through 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 |
| | 2. Interest credits-Amendment 2 (e | | | | | | | | | | | | | |
| | | | | | | | | | (1,532,433) | | | | (10,104,646) | (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 |
| | 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) | (14,233,829) | (12,210,525) | | | (10,461,314) | 2,524,535 |
| | **San Gabriel Valley Municipal Water District** *Incremental Costs* | | | | | | | | | | | | | |
| 25 | | | 25,730 | 44,053 | 38,075 | 17,959 | 5,900 | 6,835 | | | | | | 138,552 |
| | Total Unadjusted Incremental Costs for Past Payments | | | | | | | | | | | | | |
| | | | 25,730 | 44,053 | 38,075 | 17,959 | 5,900 | 6,835 | | | | | | 138,552 |
| | *Current Adjustments* | | | | | | | | | | | | | |
| | 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 | | | | | | | | | | | | | (h |
| | | | 0 | 184,422 | 49,052 | 44,911 | 61,588 | (20,263) | (180,465) | | | | (86,133) | 53,112 |
| | **Antelope Valley-East Kern Water Agency** *Incremental Costs* | | | | | | | | | | | | | |
| 29A | | | | 1,645 | 6,326 | 13,376 | 10,048 | 2,018 | 308 | 96 | | 190 | | 34,007 |
| 29F | | | | | | 1,700 | 1,700 | | | | | | | 3,400 |
| | Total Unadjusted Incremental Costs for Past Payments | | | | | | | | | | | | | |
| | | | | 1,645 | 6,326 | 15,076 | 11,748 | 2,018 | 308 | 96 | | 190 | | 37,407 |
| | *Current Adjustment* | | | | | | | | | | | | | |
| | 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 | | | | | | | | | | | | | (h |
| | | | | 85,495 | 52,625 | 101,648 | 34,062 | (12,794) | (205,354) | 0 | | 0 | (134,869) | (79,187)d) |

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 provisions of Amendment 5 of the contract.
h) Amounts 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 through Capital Cost Component of Transportation Charge

(Dollars)



| Calendar Year | Upper Feather Division (1) | North Bay Aqueduct Reach 1 (2) | North Bay Aqueduct Reach 2 (3) | North Bay Aqueduct Reach 3A (4) | North Bay Aqueduct Reach 3B (5) | North Bay Aqueduct Total (6) | South Bay Aqueduct Reach 1 (7) | South Bay Aqueduct Reach 2 (8) | South Bay Aqueduct Reach 4 (9) | South Bay Aqueduct Reach 5 (10) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1952 | 0 | 0 | 0 | 0 | 0 | 0 | 97 | 34 | 30 | 57 |
| 1953 | 0 | 0 | 0 | 0 | 0 | 0 | 477 | 166 | 144 | 297 |
| 1954 | 0 | 0 | 0 | 0 | 0 | 0 | 1,466 | 508 | 437 | 959 |
| 1955 | 0 | 0 | 0 | 0 | 0 | 0 | 1,944 | 674 | 560 | 1,266 |
| 1956 | 0 | 0 | 0 | 0 | 0 | 0 | 18,789 | 6,515 | 5,090 | 12,545 |
| 1957 | 0 | 13,290 | 3,391 | 0 | 9,953 | 26,634 | 45,090 | 15,639 | 12,285 | 33,218 |
| 1958 | 2 | 19,202 | 5,011 | 0 | 25,798 | 50,011 | 195,985 | 80,961 | 7,714 | 21,930 |
| 1959 | 14 | 7,517 | 2,118 | 0 | 17,653 | 27,288 | 496,140 | 148,516 | 24,945 | 17,118 |
| 1960 | 28 | 8,797 | 4,292 | 0 | 4,838 | 17,927 | 1,130,378 | 67,351 | 71,779 | 68,028 |
| 1961 | 10 | 1,551 | 10,318 | 0 | 2,526 | 14,395 | 3,273,247 | 180,596 | 307,885 | 74,398 |
| 1962 | 32 | 217 | (1,751) | 0 | 414 | (1,120) | 1,548,884 | 203,535 | 695,446 | 35,102 |
| 1963 | 51 | 2,510 | (1,063) | 0 | 983 | 2,430 | 480,716 | 69,182 | 2,284,291 | 206,587 |
| 1964 | 7,791 | 39,879 | 12,046 | 0 | 21,934 | 73,859 | 2,549,118 | 15,903 | 181,900 | 264,410 |
| 1965 | 3,139 | 72,793 | 17,900 | 0 | 170,361 | 261,054 | 807,505 | 153,454 | 85,425 | 447,830 |
| 1966 | (48) | 59,615 | 12,972 | 0 | 438,949 | 511,536 | 898,074 | 149,529 | 142,096 | 1,690,200 |
| 1967 | 47 | 47,257 | 11,597 | 0 | 1,551,023 | 1,609,877 | 607,614 | 50,423 | 293,304 | 3,496,284 |
| 1968 | 51,573 | 70,586 | 19,560 | 0 | 831,158 | 921,304 | 965,119 | 19,543 | 89,300 | 2,931,101 |
| 1969 | 234,232 | 63,650 | 23,628 | 0 | 46,428 | 133,706 | 455,173 | 9,618 | 3,860 | 896,727 |
| 1970 | 16,227 | 59,090 | 42,733 | 0 | 9,415 | 111,238 | 52,481 | 3,380 | 10,517 | 154,358 |
| 1971 | 27,204 | 20,819 | 31,516 | 0 | 8,480 | 60,815 | 24,505 | 4,645 | 5,035 | 20,395 |
| 1972 | 9 | 15,538 | 12,952 | 0 | 10,058 | 38,548 | 26,918 | 825 | 2,945 | 26,090 |
| 1973 | 25 | 18,488 | 29,018 | 0 | 39,878 | 87,384 | 24,468 | 4,010 | 6,016 | 12,708 |
| 1974 | 45 | 67,352 | 29,978 | 0 | 134,332 | 231,662 | 17,108 | 1,192 | 1,765 | 65,587 |
| 1975 | 21 | 62,855 | 73,112 | 0 | 45,091 | 181,058 | 57,619 | 561 | 1,165 | 7,291 |
| 1976 | 51 | 52,419 | 75,611 | 218 | 13,168 | 141,416 | 104,242 | 2,846 | 8,915 | 12,701 |
| 1977 | 28 | 53,274 | 65,662 | 2,240 | 23,138 | 144,314 | 176,062 | 3,625 | 3,225 | 16,158 |
| 1978 | 38 | 61,936 | 57,158 | 2,955 | 28,987 | 151,036 | 264,581 | 4,494 | 3,668 | 14,028 |
| 1979 | 23 | 316,620 | 91,367 | 3,953 | 62,240 | 474,180 | 111,106 | 17,151 | 8,515 | 31,725 |
| 1980 | 26 | 422,804 | 111,600 | 19,910 | 96,125 | 650,439 | 368,942 | 17,708 | 8,249 | 38,045 |
| 1981 | 34 | 430,990 | 147,295 | (10,753) | 43,149 | 610,681 | (145,507) | 3,589 | 6,520 | 12,431 |
| 1982 | 11 | 934,809 | 357,720 | (7,166) | 132,141 | 1,417,504 | (58,468) | 17,110 | 4,427 | 36,037 |
| 1983 | 19 | 1,091,091 | 1,076,627 | 2,627 | 517,214 | 2,687,559 | 419,518 | 73,118 | 34,721 | 71,033 |
| 1984 | 26 | 1,875,950 | 2,317,661 | 3,282 | 1,068,350 | 5,265,243 | 506,811 | 36,354 | 9,609 | 92,842 |
| 1985 | 29 | 2,248,491 | 7,849,886 | 27,815 | 3,415,897 | 13,542,089 | 29,711 | 2,168 | 4,018 | 26,752 |
| 1986 | 31 | 16,420,259 | 10,020,277 | 1,309,608 | 1,819,382 | 29,569,526 | 86,057 | 14,745 | 17,176 | 14,007 |
| 1987 | 32 | 11,873,772 | 7,214,307 | 1,628,901 | 1,671,275 | 22,388,255 | 130,195 | 16,285 | 29,310 | 33,908 |
| 1988 | 56 | 3,287,508 | 1,648,498 | 1,013,365 | 686,961 | 6,636,332 | 286,930 | 35,266 | 51,173 | 24,056 |
| 1989 | 63 | 1,061,257 | 953,749 | 293,464 | 377,916 | 2,686,386 | 151,298 | 18,897 | 39,567 | 13,336 |
| 1990 | 88 | 500,117 | 541,710 | 234,254 | 75,517 | 1,351,598 | 177,554 | 28,782 | 91,558 | 38,200 |
| 1991 | 77 | 82,243 | 20,576 | 88,467 | 74,198 | 265,484 | 130,031 | 16,776 | 27,686 | 17,049 |
| 1992 | 69 | 59,231 | 8,420 | 84,032 | 38,223 | 189,906 | 120,604 | 8,143 | 11,603 | 24,789 |
| 1993 | 0 | 159,000 | 2,000 | 0 | 44,910 | 205,910 | 5,521 | 4,743 | 4,112 | 4,312 |
| 1994 | 0 | 807,000 | 1,000 | 0 | 282,184 | 1,090,184 | 4,090 | 4,846 | 1,849 | 3,837 |
| 1995 | 0 | 562,000 | 1,000 | 0 | 1,931 | 564,931 | 3,496 | 4,266 | 2,242 | 3,707 |
| 1996 | 0 | 3,000 | 1,000 | 0 | 1,000 | 5,000 | 4,000 | 4,000 | 2,000 | 3,780 |
| 1997 | 0 | 3,000 | 1,000 | 0 | 1,000 | 5,000 | 4,000 | 2,000 | 2,000 | 2,016 |
| 1998 | 0 | 1,000 | 0 | 0 | 1,000 | 2,000 | 3,000 | 0 | 1,000 | 252 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 1,000 | 0 | 0 | 252 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 341,103 | 42,958,777 | 32,903,452 | 4,697,172 | 13,845,178 | 94,404,579 | 16,563,689 | 1,523,672 | 4,607,077 | 11,019,739 |

TABLE B-10

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through Capital Cost Component of Transportation Charge

(Dollars)



| | South Bay Aqueduct (continued) | | | | | California Aqueduct North San Joaquin Division | | | |
|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Reach 6 (11) | Reach 7 (12) | Reach 8 (13) | Reach 9 (14) | Total (15) | Reach 1 (16) | Reach 2A (17) | Reach 2B (18) | Subtotal (19) |
| 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 | 167,482 | 641,860 | 45,533 | 65,943 | 753,336 |
| 1977 | 270 | 1,310 | 8,651 | 24,938 | 234,239 | 274,381 | 20,283 | 22,568 | 317,232 |
| 1978 | 231 | 1,204 | 1,631 | 17,123 | 306,960 | 801,265 | 36,221 | 9,714 | 847,200 |
| 1979 | 1,367 | 1,721 | 2,134 | 7,322 | 181,041 | 1,051,792 | 59,695 | 26,106 | 1,137,593 |
| 1980 | 1,321 | 1,718 | 2,182 | 7,102 | 445,267 | 4,173,603 | 96,760 | 38,789 | 4,309,152 |
| 1981 | 308 | 1,461 | 1,397 | 5,070 | (114,731) | (503,289) | 1,487,444 | 191,320 | 1,175,475 |
| 1982 | 670 | 1,286 | 1,352 | 3,701 | 6,115 | 665,079 | 38,356 | 19,274 | 722,709 |
| 1983 | 377 | 5,233 | 7,446 | 21,341 | 632,787 | 679,002 | 77,066 | 250,189 | 1,006,257 |
| 1984 | 269 | 1,853 | 1,667 | 13,299 | 662,704 | 1,557,914 | 41,349 | 48,477 | 1,647,740 |
| 1985 | 376 | 1,547 | 2,028 | 6,158 | 72,758 | 666,253 | 22,058 | 63,633 | 751,944 |
| 1986 | 1,121 | 2,750 | 3,320 | 12,270 | 151,446 | 401,075 | 63,935 | 35,458 | 500,468 |
| 1987 | 1,555 | 3,163 | 3,681 | 23,116 | 241,213 | 816,208 | 92,997 | 43,219 | 952,424 |
| 1988 | 5,743 | 6,706 | 7,631 | 32,978 | 450,483 | 2,926,671 | (127,570) | (59,896) | 2,739,205 |
| 1989 | 3,261 | 4,517 | 5,475 | 16,214 | 252,565 | 7,053,636 | 358,037 | 174,698 | 7,586,371 |
| 1990 | 5,983 | 20,692 | 37,560 | 85,345 | 485,674 | 13,387,634 | 113,697 | 2,396,927 | 15,898,258 |
| 1991 | 2,994 | 5,992 | 8,544 | 24,228 | 233,300 | 13,645,525 | 130,269 | 78,429 | 13,854,223 |
| 1992 | 1,448 | 2,493 | 2,999 | 8,101 | 180,180 | 6,048,098 | 80,157 | 41,804 | 6,170,059 |
| 1993 | 1,052 | 1,874 | 3,174 | 5,695 | 30,483 | 3,437,480 | 15,864 | 4,847 | 3,458,191 |
| 1994 | 520 | 1,366 | 846 | 2,358 | 19,712 | 3,437,330 | 8,257 | 2,602 | 3,448,189 |
| 1995 | 656 | 57 | 1,750 | 2,306 | 18,480 | 2,295,042 | 8,577 | 2,759 | 2,306,378 |
| 1996 | 0 | 1,000 | 2,000 | 3,000 | 19,780 | 2,276,234 | 7,998 | 2,666 | 2,286,898 |
| 1997 | 0 | 1,000 | 2,000 | 3,000 | 16,016 | 9,332 | 7,998 | 2,666 | 19,996 |
| 1998 | 0 | 0 | 0 | 1,000 | 5,252 | 8,665 | 3,999 | 1,333 | 13,997 |
| 1999 | 0 | 0 | 0 | 1,000 | 2,252 | 3,333 | 1,333 | 667 | 5,333 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 543,645 | 3,862,417 | 4,887,833 | 8,749,945 | 51,758,017 | 110,639,810 | 41,340,469 | 22,657,506 | 174,637,785 |

TABLE B-10

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through Capital Cost Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | San Luis Division | | | | | | South San Joaquin Division | | |
| Calendar Year | Reach 3 (20) | Reach 4 (21) | Reach 5 (22) | Reach 6 (23) | Reach 7 (24) | Subtotal (25) | Reach 8C (26) | Reach 8D (27) | Reach 9 (28) |
| 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 | 212,285 | 4,982,844 | 3,363,650 |
| 1968 | 119,884 | 395,689 | 973,956 | 179,917 | 461,031 | 2,130,477 | 64,234 | 611,192 | 940,074 |
| 1969 | (6,065) | 126,946 | 98,492 | 107,486 | 160,668 | 487,527 | 58,960 | 116,146 | 85,130 |
| 1970 | 32,387 | (20,243) | 105,385 | (827,457) | 1,215,966 | 506,038 | 23,011 | 106,810 | 84,116 |
| 1971 | 99,945 | 230,624 | 305,227 | 26,995 | 341,010 | 1,003,801 | 8,813 | 33,099 | 23,088 |
| 1972 | 15,990 | 90,852 | 17,053 | 14,621 | 281,343 | 419,859 | 10,818 | 13,349 | 16,603 |
| 1973 | 6,753 | 103,707 | 41,549 | 13,810 | 41,427 | 207,246 | 5,145 | 11,089 | 13,249 |
| 1974 | 6,618 | 117,165 | 55,978 | 16,199 | 71,796 | 267,756 | 5,434 | 24,433 | 16,567 |
| 1975 | 18,921 | 107,275 | 23,671 | 8,797 | 152,574 | 311,238 | 5,424 | 15,960 | 12,966 |
| 1976 | 17,485 | 79,554 | 13,041 | 5,138 | 41,687 | 156,905 | 19,931 | 76,280 | 62,164 |
| 1977 | 35,707 | 84,669 | 9,412 | 4,028 | 9,655 | 143,471 | 21,096 | 70,005 | 97,952 |
| 1978 | 8,539 | 428,395 | 7,006 | 3,536 | 6,994 | 454,470 | 7,584 | 40,453 | 17,395 |
| 1979 | (35,394) | 543,225 | 19,463 | 9,485 | (242,253) | 294,526 | 10,474 | 6,181 | 6,227 |
| 1980 | 66,622 | 3,450,695 | 191,307 | 75,209 | 185,384 | 3,969,217 | 2,158 | 17,492 | 17,706 |
| 1981 | 29,063 | (2,245,599) | (40,600) | (14,268) | 855,592 | (1,415,812) | 1,145 | 9,667 | 9,527 |
| 1982 | 95,242 | (1,640,670) | 14,989 | 7,561 | 3,491,470 | 1,968,592 | 1,678 | 4,945 | 4,208 |
| 1983 | 71,935 | 19,960 | 6,781 | 4,661 | 1,785,162 | 1,888,499 | 7,532 | 10,483 | 9,149 |
| 1984 | 31,747 | 85,682 | 26,711 | 12,753 | 3,053,651 | 3,210,544 | 26,489 | 10,111 | 6,267 |
| 1985 | 50,691 | 46,485 | 11,465 | 6,027 | 571,106 | 685,774 | 6,891 | 8,583 | 6,720 |
| 1986 | 74,019 | 203,291 | 50,729 | 19,256 | 1,282,827 | 1,630,122 | 8,909 | 25,068 | 20,549 |
| 1987 | (6,044) | 127,112 | 42,869 | 17,460 | 520,919 | 702,316 | 13,124 | 20,314 | 57,441 |
| 1988 | (150,749) | 217,731 | (408,263) | (138,101) | 920,765 | 441,383 | 9,938 | (119,416) | (61,290) |
| 1989 | 44,075 | 628,431 | 239,638 | 83,572 | 598,783 | 1,594,499 | 7,091 | 98,562 | 282,907 |
| 1990 | 25,174 | 198,141 | 71,775 | 28,199 | 461,545 | 784,834 | 7,887 | 47,672 | 2,014,332 |
| 1991 | 4,910,798 | 257,676 | 78,630 | 30,284 | 493,484 | 5,770,872 | 7,077 | 48,881 | 37,771 |
| 1992 | (804,584) | 315,984 | 64,586 | 24,593 | 238,867 | (160,554) | 3,673 | 28,751 | 20,699 |
| 1993 | 9,060 | 29,485 | 15,699 | 5,564 | 8,500 | 68,308 | (55) | 5,267 | 5,681 |
| 1994 | 4,718 | 14,423 | 8,117 | 2,876 | 4,665 | 34,799 | 695 | 3,726 | 3,326 |
| 1995 | 4,157 | 13,368 | 7,153 | 3,122 | 4,658 | 32,458 | 323 | 3,261 | 3,069 |
| 1996 | 4,231 | 13,202 | 7,544 | 2,829 | 3,772 | 31,578 | 0 | 2,829 | 2,829 |
| 1997 | 4,231 | 13,202 | 7,544 | 2,829 | 3,772 | 31,578 | 0 | 2,829 | 2,829 |
| 1998 | 2,116 | 10,373 | 2,829 | 943 | 1,886 | 18,147 | 0 | 1,886 | 943 |
| 1999 | 705 | 3,772 | 943 | 943 | 943 | 7,306 | 0 | 943 | 943 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 18,987,835 | 28,284,455 | 21,774,589 | 5,592,092 | 32,545,020 | 107,183,991 | 796,985 | 12,620,775 | 10,684,643 |

TABLE B-10

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through Capital Cost Component of Transportation Charge

(Dollars)



| | *California Aqueduct (continued)* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *South San Joaquin Division (continued)* | | | | | | | | |
| *Calendar Year* | *Reach 10A (29)* | *Reach 11B (30)* | *Reach 12D (31)* | *Reach 12E (32)* | *Reach 13B (33)* | *Reach 14A (34)* | *Reach 14B (35)* | *Reach 14C (36)* | *Reach 15A (37)* |
| 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 | 507,519 | 59,753 | 42,776 | 434,574 |
| 1977 | 75,628 | 52,919 | 22,826 | 54,444 | 81,293 | 301,515 | 49,972 | 30,152 | 235,514 |
| 1978 | 48,754 | 16,469 | (2,816) | 27,331 | 43,126 | 348,674 | (653) | 1,500 | 297,817 |
| 1979 | 241 | 6,906 | 13,401 | 14,229 | 25,411 | 293,786 | 9,846 | 7,856 | 245,590 |
| 1980 | 18,165 | 18,813 | 15,608 | 27,498 | 34,190 | 1,676,267 | 29,169 | 23,023 | 1,719,775 |
| 1981 | 10,290 | 15,324 | 28,246 | 21,872 | 25,503 | (1,074,746) | 28,974 | 34,604 | (1,142,519) |
| 1982 | 4,998 | 4,720 | 6,062 | 5,698 | 13,728 | (765,128) | 7,425 | 28,895 | (824,559) |
| 1983 | 11,779 | 8,644 | 13,203 | 11,327 | 33,879 | 405,749 | 15,572 | 23,066 | 101,961 |
| 1984 | 7,532 | 29,138 | 93,958 | 52,372 | 22,731 | 59,527 | 80,334 | 66,263 | 64,128 |
| 1985 | 7,985 | 6,247 | 4,730 | 7,000 | 7,987 | (57,058) | 8,523 | 5,030 | 47,797 |
| 1986 | 22,370 | 16,817 | 16,558 | 25,328 | 20,512 | 142,172 | 26,414 | 14,214 | 155,244 |
| 1987 | 18,243 | 14,663 | 13,426 | 21,576 | 16,354 | 110,532 | 22,127 | 9,496 | 236,505 |
| 1988 | (159,576) | (73,942) | (151,345) | (52,073) | (119,730) | 151,142 | (75,516) | (75,073) | 137,062 |
| 1989 | 75,078 | 68,512 | 66,261 | 125,484 | 79,653 | 2,802,138 | 123,916 | 40,917 | 2,977,375 |
| 1990 | 35,682 | 28,380 | 25,935 | 44,336 | 40,201 | 407,853 | 42,435 | 19,769 | 369,388 |
| 1991 | 37,961 | 30,234 | 27,153 | 46,629 | 39,151 | 215,123 | 46,213 | 19,205 | 185,459 |
| 1992 | 21,315 | 18,209 | 16,386 | 27,301 | 24,526 | 254,326 | 27,574 | 10,363 | 215,301 |
| 1993 | 6,257 | 3,104 | 5,812 | 4,090 | 5,084 | 14,896 | 4,074 | 2,968 | 10,753 |
| 1994 | 3,732 | 2,011 | 3,417 | 1,482 | 2,241 | 8,221 | 2,221 | 2,271 | 5,857 |
| 1995 | 3,151 | 1,883 | 3,167 | 1,481 | 3,188 | 7,718 | 2,704 | 1,561 | 5,325 |
| 1996 | 3,772 | 1,886 | 2,829 | 1,886 | 2,829 | 7,544 | 1,886 | 1,886 | 5,658 |
| 1997 | 3,772 | 1,886 | 2,829 | 1,886 | 2,829 | 7,544 | 2,829 | 1,886 | 5,658 |
| 1998 | 1,886 | 943 | 943 | 943 | 943 | 6,601 | 943 | 943 | 4,715 |
| 1999 | 943 | 0 | 0 | 0 | 0 | 1,886 | 0 | 0 | 1,886 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 9,169,904 | 12,234,491 | 10,921,475 | 7,683,636 | 15,725,715 | 61,248,660 | 8,590,291 | 7,000,029 | 42,838,355 |

TABLE B-10

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through Capital Cost Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | South San Joaquin (continued) | | Tehachapi Division | | | Mojave Division | | | |
| Calendar Year | Reach 16A (38) | Subtotal (39) | Reach 17E (40) | Reach 17F (41) | Subtotal (42) | Reach 18A (43) | Reach 19 (44) | Reach 19C (45) | Reach 20A (46) |
| 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 | 30,089,234 | 26,239,390 | 12,398,708 | 38,638,098 | 1,312,022 | 903,880 | 24,103 | 645,078 |
| 1968 | 7,578,498 | 48,226,583 | 33,363,479 | 7,416,464 | 40,779,943 | 136,804 | 7,109,653 | 71,388 | 1,889,601 |
| 1969 | 13,136,056 | 45,702,910 | 40,368,425 | 6,883,206 | 47,251,631 | 213,805 | 2,465,641 | 7,423 | 5,939,151 |
| 1970 | 13,890,751 | 36,322,845 | 35,446,706 | 6,786,231 | 42,232,937 | 2,211,077 | 1,210,665 | 6,217 | 3,652,478 |
| 1971 | 7,903,937 | 14,885,415 | 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 | 3,096,609 | 3,090,140 | 36,207 | 3,126,347 | 23,931 | 75,638 | 2,539 | 88,416 |
| 1974 | 1,031,843 | 2,546,984 | 4,798,348 | 152,494 | 4,950,842 | 28,399 | 205,581 | 2,703 | 138,673 |
| 1975 | 489,545 | 1,289,211 | 2,144,178 | 411,404 | 2,555,582 | 44,774 | 70,652 | 5,066 | 68,157 |
| 1976 | 618,049 | 2,154,103 | 1,124,357 | 174,629 | 1,298,986 | 121,043 | 84,593 | 6,786 | 59,967 |
| 1977 | 580,209 | 1,673,525 | 655,047 | 31,512 | 686,559 | 261,400 | 133,767 | 7,521 | 117,878 |
| 1978 | 582,775 | 1,428,409 | 1,900,843 | 27,956 | 1,928,799 | 553,014 | 57,150 | 5,872 | 51,615 |
| 1979 | 542,554 | 1,182,702 | 2,099,385 | 61,381 | 2,160,766 | 633,284 | 339,536 | 10,831 | 37,085 |
| 1980 | 3,772,498 | 7,372,362 | 17,433,610 | 6,046 | 17,439,656 | 1,141,829 | 1,073,430 | 3,604 | 308,188 |
| 1981 | (2,526,431) | (4,558,544) | (3,849,053) | 6,903 | (3,842,150) | 1,226,508 | 845,669 | 4,498 | 48,603 |
| 1982 | (1,881,096) | (3,388,426) | 11,315,758 | 5,317 | 11,321,075 | 7,050,992 | 741,321 | 3,920 | 30,521 |
| 1983 | 145,222 | 797,566 | 8,827,373 | 7,322 | 8,834,695 | 11,037,158 | 61,202 | 2,596 | 37,390 |
| 1984 | 121,549 | 640,399 | 3,222,288 | 31,701 | 3,253,989 | 8,382,266 | 309,489 | 3,124 | 17,504 |
| 1985 | 71,876 | 132,311 | 1,910,128 | 10,029 | 1,920,157 | 5,268,796 | 170,934 | 3,885 | (2,126) |
| 1986 | 188,772 | 682,927 | 1,388,862 | 33,801 | 1,422,663 | 2,093,857 | 1,636,508 | 4,261 | 2,346,877 |
| 1987 | 205,957 | 759,758 | 690,433 | 14,161 | 704,594 | 1,352,385 | 822,305 | 4,684 | (580,396) |
| 1988 | 253,263 | (336,556) | 1,399,724 | (49,699) | 1,350,025 | 847,759 | (88,803) | 13,409 | (396,726) |
| 1989 | 5,992,295 | 12,740,189 | 594,215 | 65,909 | 660,124 | 383,377 | 231,915 | 50,946 | 1,794,906 |
| 1990 | 560,838 | 3,644,708 | 793,004 | 26,234 | 819,238 | 153,400 | (392,606) | 35,291 | (495,897) |
| 1991 | 597,939 | 1,338,796 | 631,963 | 30,880 | 662,843 | 179,223 | (113,941) | 80,379 | (193,026) |
| 1992 | 298,179 | 966,603 | 553,031 | 25,513 | 578,544 | 478,960 | 223,441 | 82,368 | 150,442 |
| 1993 | 15,861 | 83,792 | 17,896 | 2,779 | 20,675 | 1,646,894 | 3,370 | 0 | 1,849 |
| 1994 | 9,534 | 48,734 | 12,177 | 1,531 | 13,708 | 1,527 | 3,342 | 0 | 2,787 |
| 1995 | 9,414 | 46,245 | 10,855 | 1,123 | 11,978 | 974 | 2,814 | 0 | 1,789 |
| 1996 | 9,430 | 45,264 | 11,316 | 943 | 12,259 | 943 | 2,829 | 0 | 2,829 |
| 1997 | 9,430 | 46,207 | 11,316 | 943 | 12,259 | 943 | 2,829 | 0 | 2,829 |
| 1998 | 7,544 | 29,233 | 10,373 | 0 | 10,373 | 943 | 943 | 0 | 943 |
| 1999 | 1,886 | 6,487 | 3,772 | 0 | 3,772 | 943 | 0 | 0 | 0 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 69,631,917 | 269,146,876 | 239,073,466 | 54,438,802 | 293,512,268 | 49,305,143 | 22,778,726 | 499,904 | 17,823,033 |

TABLE B-10

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through Capital Cost Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mojave Division (continued) | | | | | | | Santa Ana Division | |
| Calendar Year | Reach 20B (47) | Reach 21 (48) | Reach 22A (49) | Reach 22B (50) | Reach 23 (51) | Reach 24 (52) | Subtotal (53) | Reach 25 (54) | Reach 26A (55) |
| 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 | 1,095,740 | 5,528,987 |
| 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 | 3,103,916 | 84,188 | 204,705 | 3,837,735 | 475,176 | 1,494,750 |
| 1977 | 120,160 | 71,389 | 49,445 | 1,654,122 | 60,112 | 232,230 | 2,708,024 | 76,255 | 776,085 |
| 1978 | 68,838 | 32,855 | 18,183 | 677,448 | 36,484 | 210,198 | 1,711,657 | 57,463 | 131,076 |
| 1979 | 36,225 | 18,948 | 10,675 | 560,506 | 10,634 | 103,615 | 1,761,339 | 29,960 | 80,482 |
| 1980 | 284,545 | 133,526 | 121,171 | 2,239,224 | 64,447 | 559,963 | 5,929,927 | 31,462 | 181,638 |
| 1981 | 32,194 | 13,211 | 6,458 | (774,874) | 160,853 | 203,929 | 1,767,049 | 5,861 | 68,934 |
| 1982 | 74,087 | 10,928 | 12,990 | 395,842 | 434,572 | 73,079 | 8,828,252 | 8,887 | 139,927 |
| 1983 | 55,818 | 23,930 | 9,098 | 424,785 | 2,198,900 | 51,334 | 13,902,211 | 4,155 | 514,813 |
| 1984 | 35,377 | 845,422 | 6,052 | (38,997) | 1,369,400 | 34,762 | 10,964,399 | 3,850 | 270,448 |
| 1985 | (278,992) | (523,357) | 1,984,973 | 492,616 | 973,830 | 49,530 | 8,140,089 | 5,265 | 91,233 |
| 1986 | (2,091,411) | (1,449,149) | 3,328,869 | (1,781,545) | 235,603 | 52,078 | 4,375,948 | 9,928 | 233,350 |
| 1987 | (1,570,005) | (1,416,235) | 67,841 | (437,700) | 161,570 | 93,979 | (1,501,572) | 4,954 | 270,639 |
| 1988 | (405,888) | (367,838) | 353,978 | 8,862,995 | 600,410 | 198,308 | 9,617,604 | 7,387 | 675,805 |
| 1989 | 1,898,563 | 2,208,236 | 541,691 | 5,152,027 | 1,579,168 | 445,234 | 14,286,063 | 8,579 | 190,150 |
| 1990 | (329,360) | (476,528) | (84,594) | 5,702,088 | 1,568,191 | 352,226 | 6,032,211 | 177,658 | 186,261 |
| 1991 | (111,636) | (176,560) | (36,637) | 12,586,877 | 3,949,049 | 106,186 | 16,269,914 | 201,804 | 283,861 |
| 1992 | 170,048 | 117,103 | 50,055 | 5,413,054 | 9,252,584 | 134,116 | 16,072,171 | 348,222 | (1,000,605) |
| 1993 | 1,854 | 24,922 | 1,211 | 1,377,637 | 17,763,954 | 2,026 | 20,823,717 | 1,360,192 | 4,491 |
| 1994 | 2,118 | (21,522) | 1,250 | 12,940 | 5,750,609 | 2,505 | 5,755,556 | 1,216,311 | 3,930 |
| 1995 | 1,937 | 1,475 | 1,006 | 12,605 | 1,237,802 | 2,514 | 1,262,916 | 9,625,063 | 3,841 |
| 1996 | 1,886 | 1,886 | 943 | 12,259 | 943 | 1,886 | 26,404 | 13,101,099 | 3,772 |
| 1997 | 1,886 | 1,886 | 943 | 13,202 | 943 | 1,886 | 27,347 | 4,472,649 | 3,772 |
| 1998 | 943 | 943 | 0 | 6,601 | 0 | 1,886 | 13,202 | 0 | 3,772 |
| 1999 | 0 | 0 | 0 | 1,886 | 0 | 943 | 3,772 | 0 | 943 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 17,052,806 | 8,587,879 | 12,766,921 | 120,952,863 | 51,465,022 | 50,720,943 | 351,953,240 | 55,283,032 | 39,654,522 |

TABLE B-10

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through Capital Cost Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Santa Ana Division (continued) | | | | West Branch | | | | |
| Calendar Year | Reach 28G (a (56) | Reach 28H (57) | Reach 28J (58) | Subtotal (59) | Reach 29A (60) | Reach 29F (61) | Reach 29G (62) | Reach 29H (63) | Reach 29J (64) |
| 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 | 1,537,880 | 11,960,791 | 21,542,747 | 41,666,145 | 1,871,831 | 426,932 | 985,512 | 18,787,722 | (23,015,734) |
| 1973 | 209,664 | 247,769 | 3,673,344 | 6,078,500 | 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 | 3,764,426 | 396,809 | 650,417 | 1,274,484 | 706,244 | 650,209 |
| 1977 | 127,106 | 89,036 | 323,091 | 1,391,573 | 419,901 | 3,018,637 | 2,152,961 | 196,012 | 1,135,148 |
| 1978 | 147,112 | 153,867 | 347,482 | 837,000 | 1,427,190 | 2,219,135 | 6,694,615 | 57,817 | 149,932 |
| 1979 | 29,723 | 19,225 | 225,947 | 385,337 | 940,013 | 2,168,382 | 19,813,742 | 597,858 | 331,313 |
| 1980 | 137,833 | 154,821 | 1,077,900 | 1,583,654 | 1,276,793 | 4,108,143 | 24,537,814 | 550,337 | 204,751 |
| 1981 | 28,804 | 22,647 | 61,323 | 187,569 | (711,933) | 2,699,859 | 19,806,507 | 94,795 | 28,838 |
| 1982 | 13,697 | 57,386 | 37,860 | 257,757 | (488,222) | 348,325 | 17,953,359 | 188,981 | 40,158 |
| 1983 | 16,051 | 88,515 | (269,781) | 353,753 | 85,883 | 179,938 | 7,081,245 | 215,277 | 21,801 |
| 1984 | 14,461 | 12,258 | 49,544 | 350,561 | 71,301 | 68,930 | 2,870,253 | 335,941 | 17,284 |
| 1985 | 17,008 | 10,954 | 49,394 | 173,854 | 134,003 | 24,204 | 2,124,995 | 95,971 | 21,231 |
| 1986 | 31,591 | 25,059 | 86,862 | 386,790 | 134,675 | 62,315 | 274,916 | 142,077 | 36,194 |
| 1987 | 17,946 | 8,651 | 48,965 | 351,155 | 22,418 | 454,828 | 719,579 | 194,455 | 28,225 |
| 1988 | 42,053 | 21,254 | 91,333 | 837,832 | 429,443 | 107,112 | 1,656,649 | 204,589 | 96,463 |
| 1989 | 33,043 | 15,522 | 63,294 | 310,588 | 246,787 | 421,082 | 595,082 | 263,948 | 106,060 |
| 1990 | 32,723 | 16,659 | 66,121 | 479,422 | 185,151 | 269,904 | 335,356 | 829,980 | 67,079 |
| 1991 | 147,442 | 20,194 | 79,047 | 732,348 | 191,388 | 59,885 | 378,796 | 1,100,266 | 67,681 |
| 1992 | 37,603 | 16,523 | 73,158 | (525,099) | 201,638 | 69,439 | 377,227 | 4,478,230 | 59,078 |
| 1993 | 1,854 | 1,876 | 3,185 | 1,371,598 | 5,649 | 1,401 | 1,928,973 | 1,025,274 | 1,239 |
| 1994 | 2,458 | 2,660 | 3,285 | 1,228,644 | 4,796 | 1,715 | 7,864,038 | 1,980 | 1,767 |
| 1995 | 2,808 | 1,880 | 2,837 | 9,636,429 | 4,230 | 1,591 | 1,870 | 2,521 | 1,392 |
| 1996 | 1,886 | 1,886 | 2,829 | 13,111,472 | 4,715 | 1,886 | 2,829 | 2,829 | 1,886 |
| 1997 | 1,886 | 1,886 | 2,829 | 4,483,022 | 4,715 | 1,886 | 2,829 | 2,829 | 1,886 |
| 1998 | 0 | 0 | 2,829 | 6,601 | 3,772 | 943 | 1,886 | 2,829 | 0 |
| 1999 | 0 | 0 | 0 | 943 | 943 | 0 | 943 | 0 | 0 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 23,968,664 | 23,448,932 | 53,520,286 | 195,875,436 | 34,081,785 | 29,995,304 | 129,072,452 | 59,358,376 | 74,854,503 |

a) Includes excess capacity costs (not shown in Table B-9) allocated to MWDSC in the following years and repaid under Article 24(c) of its contract: 1970 - $362,000; 1971 - $6,198,000; 1972 - $139,000.

TABLE B-10

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through Capital Cost Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | West Branch (continued) | | Coastal Branch | | | | | | |
| Calendar Year | Reach 30 (65) | Subtotal (66) | Reach 31A (67) | Reach 33A (68) | Reach 34 (69) | Reach 35 (70) | Subtotal (71) | Total (72) | Grand Total (73) |
| 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 | 187,465,580 | 194,146,365 |
| 1968 | 15,736,691 | 57,595,765 | 2,707,580 | 30,784 | 1,324 | 4,369 | 2,744,057 | 192,593,079 | 197,978,911 |
| 1969 | 16,228,175 | 34,690,908 | 423,797 | 26,549 | 907 | 2,905 | 454,158 | 182,530,023 | 184,473,490 |
| 1970 | 22,330,328 | 50,497,652 | 269,194 | 24,368 | 851 | 2,787 | 297,200 | 206,720,774 | 207,082,650 |
| 1971 | 16,890,503 | 40,115,145 | 164,446 | 32,230 | 1,315 | 3,804 | 201,795 | 158,414,033 | 158,624,739 |
| 1972 | 3,818,001 | 2,874,264 | 131,332 | 17,601 | 522 | 1,660 | 151,115 | 68,228,670 | 68,362,291 |
| 1973 | 13,426,222 | 25,999,878 | 182,493 | 16,154 | 542 | 1,758 | 200,947 | 45,110,823 | 45,263,853 |
| 1974 | 2,988,318 | 4,334,592 | 190,866 | 18,799 | 463 | 1,405 | 211,533 | 24,036,199 | 24,402,166 |
| 1975 | 1,808,235 | 4,782,778 | 64,582 | 36,012 | 2,255 | 6,656 | 109,505 | 21,065,768 | 21,318,838 |
| 1976 | 1,253,067 | 4,931,230 | 198,266 | 68,898 | 5,088 | 14,988 | 287,240 | 17,183,961 | 17,492,910 |
| 1977 | 345,023 | 7,267,682 | 918,473 | 81,305 | 1,834 | 5,387 | 1,006,999 | 15,195,065 | 15,573,646 |
| 1978 | 763,445 | 11,312,134 | 52,994 | 83,300 | 1,302 | 3,852 | 141,448 | 18,661,117 | 19,119,151 |
| 1979 | 282,145 | 24,133,453 | 38,182 | 108,951 | 1,505 | 4,433 | 153,071 | 31,208,787 | 31,864,031 |
| 1980 | 2,055,206 | 32,733,044 | 189,070 | 337,328 | 1,029 | 3,038 | 530,465 | 73,867,477 | 74,963,209 |
| 1981 | 275,379 | 22,193,445 | 19,809 | (214,440) | 1,254 | 3,703 | (189,674) | 15,317,358 | 15,813,342 |
| 1982 | 338,464 | 18,381,065 | (28,714) | (167,249) | 442 | 1,306 | (194,215) | 37,896,809 | 39,320,439 |
| 1983 | 556,120 | 8,140,264 | 75,848 | 9,227 | 654 | 1,929 | 87,658 | 35,010,903 | 38,331,268 |
| 1984 | 1,118,950 | 4,482,659 | 28,489 | 6,655 | 570 | 1,683 | 37,397 | 24,587,688 | 30,515,661 |
| 1985 | 276,457 | 2,676,861 | 31,439 | 16,374 | 1,452 | 4,283 | 53,548 | 14,534,538 | 28,149,414 |
| 1986 | 213,567 | 863,744 | 82,589 | 150,370 | 13,472 | 39,752 | 286,183 | 10,148,845 | 39,869,848 |
| 1987 | 162,858 | 1,582,363 | 58,550 | 975,376 | 87,488 | 258,147 | 1,379,561 | 4,930,599 | 27,560,099 |
| 1988 | 222,793 | 2,717,049 | 181,209 | 1,053,987 | 94,543 | 278,959 | 1,608,698 | 18,975,240 | 26,062,111 |
| 1989 | 164,269 | 1,797,228 | 109,369 | 817,950 | 73,372 | 216,493 | 1,217,184 | 40,192,246 | 43,131,260 |
| 1990 | 127,992 | 1,815,462 | 138,180 | 997,688 | 89,486 | 264,092 | 1,489,446 | 30,963,579 | 32,800,939 |
| 1991 | 200,055 | 1,998,071 | 142,299 | 1,512,661 | 117,131 | 345,428 | 2,117,519 | 42,744,586 | 43,243,447 |
| 1992 | 180,893 | 5,366,505 | 110,026 | 2,856,361 | 154,723 | 442,376 | 3,563,486 | 32,031,715 | 32,401,870 |
| 1993 | 12,122 | 2,974,658 | 10,354 | 30,704,171 | 3,165,855 | 1,749,040 | 35,629,420 | 64,430,359 | 64,666,752 |
| 1994 | 12,168 | 7,886,464 | 6,892 | 130,816,308 | 13,364,680 | 5,776,194 | 149,964,074 | 168,380,168 | 169,490,064 |
| 1995 | 12,470 | 24,074 | 6,527 | 90,031,163 | 38,568,587 | 19,154,614 | 147,760,891 | 161,081,369 | 161,664,780 |
| 1996 | 12,259 | 26,404 | 6,000 | 16,053,308 | 19,830,152 | 7,720,540 | 43,610,000 | 59,150,279 | 59,175,059 |
| 1997 | 8,487 | 22,632 | 6,000 | 820,308 | 157,152 | 193,540 | 1,177,000 | 5,820,041 | 5,841,057 |
| 1998 | 2,829 | 12,259 | 4,000 | 718,308 | 64,152 | 189,540 | 976,000 | 1,079,812 | 1,087,064 |
| 1999 | 943 | 2,829 | 1,000 | 718,308 | 64,152 | 189,540 | 973,000 | 1,005,442 | 1,007,694 |
| 2000 | 0 | 0 | 0 | 718,308 | 64,152 | 189,540 | 972,000 | 972,000 | 972,000 |
| Total | 134,723,834 | 462,086,254 | 16,259,758 | 279,774,286 | 75,958,691 | 37,133,481 | 409,126,216 | 2,263,522,066 | 2,410,025,765 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | | North Bay Aqueduct | | | | | South Bay Aqueduct | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Upper Feather Division (1) | Reach 1 (2) | Reach 2 (3) | Reach 3A (4) | Reach 3B (5) | Total (6) | Reach 1 (7) | Reach 2 (8) | Reach 4 (9) | Reach 5 (10) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 37,396 | 5,522 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 0 | 147,719 | 20,639 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 0 | 149,750 | 15,574 | 19,405 | 0 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 0 | 259,939 | 45,718 | 46,485 | 0 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 270,890 | 23,799 | 63,921 | 0 |
| 1967 | 0 | 0 | 0 | 0 | 0 | 0 | 438,050 | 32,798 | 108,127 | 0 |
| 1968 | 0 | 0 | 0 | 0 | 130 | 130 | 410,919 | 44,277 | 66,973 | 706 |
| 1969 | 0 | 0 | 0 | 0 | 80,875 | 80,875 | 487,377 | 48,339 | 75,644 | 706 |
| 1970 | 0 | 0 | 0 | 0 | 94,872 | 94,872 | 381,734 | 44,852 | 64,833 | 71,376 |
| 1971 | 54 | 0 | 0 | 0 | 45,579 | 45,579 | 357,850 | 25,666 | 50,344 | 38,735 |
| 1972 | 40 | 0 | 0 | 0 | 37,895 | 37,895 | 347,941 | 30,606 | 56,800 | 100,106 |
| 1973 | 1 | 0 | 0 | 0 | 32,993 | 32,993 | 386,897 | 36,172 | 58,288 | 28,810 |
| 1974 | 143 | 0 | 0 | 0 | 46,498 | 46,498 | 456,381 | 57,081 | 83,120 | 61,623 |
| 1975 | 1,069 | 0 | 0 | 0 | 37,707 | 37,707 | 624,989 | 46,111 | 81,361 | 36,682 |
| 1976 | 139 | 0 | 0 | 0 | 60,786 | 60,786 | 614,362 | 47,862 | 123,838 | 91,096 |
| 1977 | 892 | 0 | 0 | 0 | 78,400 | 78,400 | 511,065 | 48,926 | 104,280 | 102,083 |
| 1978 | 39 | 0 | 0 | 0 | 56,318 | 56,318 | 671,195 | 125,224 | 176,855 | 50,289 |
| 1979 | 3,235 | 0 | 0 | 0 | 73,852 | 73,852 | 650,826 | 76,849 | 212,826 | 91,380 |
| 1980 | 416 | 0 | 0 | 0 | 81,770 | 81,770 | 1,128,863 | 212,974 | 242,118 | 110,792 |
| 1981 | 3,847 | 0 | 0 | 0 | 100,786 | 100,786 | 882,792 | 130,138 | 167,134 | 204,803 |
| 1982 | 10,956 | 0 | 0 | 0 | 194,250 | 194,250 | 1,170,230 | 143,563 | 252,422 | 118,384 |
| 1983 | (422) | 0 | 0 | 0 | 80,619 | 80,619 | 1,267,934 | 85,177 | 377,369 | 153,183 |
| 1984 | 643 | 0 | 0 | 0 | 139,082 | 139,082 | 1,998,462 | 113,797 | 340,348 | 34,457 |
| 1985 | 2,599 | 0 | 0 | 0 | 259,561 | 259,561 | 2,044,693 | 207,479 | 427,930 | 247,387 |
| 1986 | 2,595 | 0 | 0 | 0 | 229,424 | 229,424 | 1,833,732 | 285,923 | 305,192 | 159,112 |
| 1987 | 2,595 | 0 | 0 | 0 | 309,138 | 309,138 | 2,099,166 | 163,733 | 400,604 | 282,455 |
| 1988 | 2,600 | 0 | 0 | 0 | 329,939 | 329,939 | 2,077,745 | 188,079 | 301,015 | 371,094 |
| 1989 | 2,672 | 488,535 | 184,014 | 240,459 | 385,022 | 1,298,030 | 2,165,489 | 166,072 | 320,425 | 494,235 |
| 1990 | 2,687 | 544,287 | 242,461 | 119,389 | 431,035 | 1,337,172 | 2,223,306 | 256,967 | 357,965 | 569,415 |
| 1991 | 2,730 | 625,076 | 291,765 | 177,685 | 433,568 | 1,528,094 | 1,835,307 | 168,638 | 106,093 | 98,649 |
| 1992 | 2,774 | 505,109 | 220,526 | 236,527 | 306,921 | 1,269,083 | 2,755,577 | 439,577 | 488,211 | 507,182 |
| 1993 | 2,912 | 742,584 | 235,220 | 369,340 | 318,744 | 1,665,888 | 6,039,914 | 705,516 | 543,818 | 421,248 |
| 1994 | 3,058 | 748,642 | 203,417 | 347,680 | 301,043 | 1,600,782 | 4,331,395 | 887,912 | 538,256 | 424,838 |
| 1995 | 3,211 | 781,691 | 216,381 | 365,633 | 311,448 | 1,675,153 | 3,024,922 | 574,449 | 556,387 | 479,417 |
| 1996 | 3,211 | 797,704 | 223,338 | 377,705 | 320,815 | 1,719,562 | 3,108,556 | 398,283 | 574,867 | 511,797 |
| 1997 | 3,211 | 802,708 | 225,043 | 379,999 | 322,856 | 1,730,606 | 3,128,940 | 400,997 | 579,103 | 517,935 |
| 1998 | 3,211 | 803,342 | 225,129 | 380,443 | 323,202 | 1,732,116 | 3,131,760 | 401,113 | 579,544 | 517,760 |
| 1999 | 3,211 | 803,481 | 225,161 | 380,587 | 323,142 | 1,732,371 | 3,131,972 | 401,145 | 579,411 | 517,583 |
| 2000 | 3,211 | 804,022 | 225,164 | 380,870 | 323,289 | 1,733,345 | 3,132,440 | 401,192 | 579,541 | 518,246 |
| 2001 | 3,211 | 805,284 | 225,493 | 381,465 | 323,807 | 1,736,049 | 3,137,218 | 401,781 | 580,400 | 519,762 |
| 2002 | 3,211 | 805,714 | 225,496 | 381,690 | 323,923 | 1,736,823 | 3,137,589 | 401,818 | 580,503 | 520,290 |
| 2003 | 3,211 | 805,938 | 225,497 | 381,807 | 323,983 | 1,737,225 | 3,137,782 | 401,838 | 580,558 | 520,567 |
| 2004 | 3,211 | 806,185 | 225,499 | 381,936 | 324,050 | 1,737,670 | 3,137,995 | 401,860 | 580,618 | 520,871 |
| 2005 | 3,211 | 806,707 | 225,503 | 382,208 | 324,191 | 1,738,609 | 3,138,445 | 401,904 | 580,744 | 521,508 |
| 2006 | 3,211 | 806,732 | 225,503 | 382,221 | 324,198 | 1,738,654 | 3,138,467 | 401,907 | 580,750 | 521,539 |
| 2007 | 3,211 | 806,905 | 225,504 | 382,311 | 324,243 | 1,738,963 | 3,138,616 | 401,921 | 580,792 | 521,752 |
| 2008 | 3,211 | 807,097 | 225,506 | 382,411 | 324,295 | 1,739,309 | 3,138,780 | 401,938 | 580,838 | 521,986 |
| 2009 | 3,211 | 807,248 | 225,507 | 382,490 | 324,336 | 1,739,581 | 3,138,912 | 401,951 | 580,875 | 522,173 |
| 2010 | 3,211 | 807,975 | 225,511 | 382,870 | 324,533 | 1,740,889 | 3,139,539 | 402,014 | 581,051 | 523,066 |
| 2011 | 3,211 | 807,822 | 225,510 | 382,790 | 324,491 | 1,740,613 | 3,139,408 | 402,001 | 581,014 | 522,876 |
| 2012 | 3,211 | 808,033 | 225,512 | 382,900 | 324,548 | 1,740,993 | 3,139,589 | 402,019 | 581,065 | 523,136 |
| 2013 | 3,211 | 808,232 | 225,513 | 383,004 | 324,603 | 1,741,352 | 3,139,761 | 402,036 | 581,114 | 523,381 |
| 2014 | 3,211 | 808,468 | 225,515 | 383,127 | 324,666 | 1,741,776 | 3,139,965 | 402,057 | 581,171 | 523,671 |
| 2015 | 3,211 | 808,383 | 225,515 | 383,082 | 324,644 | 1,741,624 | 3,139,890 | 402,049 | 581,150 | 523,565 |
| 2016 | 3,211 | 808,437 | 225,516 | 383,110 | 324,658 | 1,741,721 | 3,139,936 | 402,054 | 581,162 | 523,632 |
| 2017 | 3,211 | 809,173 | 225,520 | 383,495 | 324,857 | 1,743,045 | 3,140,572 | 402,118 | 581,342 | 524,540 |
| 2018 | 3,211 | 809,166 | 225,521 | 383,491 | 324,855 | 1,743,033 | 3,140,566 | 402,118 | 581,340 | 524,532 |
| 2019 | 3,211 | 809,201 | 225,521 | 383,509 | 324,865 | 1,743,096 | 3,140,596 | 402,120 | 581,348 | 524,572 |
| 2020 | 3,211 | 808,859 | 225,519 | 383,330 | 324,774 | 1,742,482 | 3,140,301 | 402,091 | 581,266 | 524,151 |
| 2021 | 3,211 | 808,947 | 225,520 | 383,376 | 324,798 | 1,742,641 | 3,140,377 | 402,098 | 581,286 | 524,260 |
| 2022 | 3,211 | 808,989 | 225,520 | 383,398 | 324,809 | 1,742,716 | 3,140,413 | 402,102 | 581,297 | 524,310 |
| 2023 | 3,211 | 808,985 | 225,520 | 383,396 | 324,808 | 1,742,709 | 3,140,410 | 402,101 | 581,296 | 524,306 |
| 2024 | 3,211 | 808,986 | 225,520 | 383,397 | 324,808 | 1,742,711 | 3,140,411 | 402,101 | 581,296 | 524,307 |
| 2025 | 3,211 | 809,005 | 225,520 | 383,406 | 324,814 | 1,742,745 | 3,140,427 | 402,103 | 581,301 | 524,330 |
| 2026 | 3,211 | 808,905 | 225,520 | 383,354 | 324,786 | 1,742,565 | 3,140,339 | 402,095 | 581,276 | 524,206 |
| 2027 | 3,211 | 808,907 | 225,520 | 383,355 | 324,786 | 1,742,568 | 3,140,340 | 402,095 | 581,277 | 524,209 |
| 2028 | 3,211 | 808,916 | 225,520 | 383,360 | 324,789 | 1,742,585 | 3,140,350 | 402,095 | 581,279 | 524,220 |
| 2029 | 3,211 | 808,919 | 225,520 | 383,361 | 324,789 | 1,742,589 | 3,140,352 | 402,096 | 581,279 | 524,222 |
| 2030 | 3,211 | 808,906 | 225,520 | 383,355 | 324,786 | 1,742,567 | 3,140,340 | 402,095 | 581,277 | 524,208 |
| 2031 | 3,211 | 808,942 | 225,520 | 383,374 | 324,796 | 1,742,632 | 3,140,372 | 402,097 | 581,285 | 524,253 |
| 2032 | 3,211 | 808,942 | 225,520 | 383,374 | 324,796 | 1,742,632 | 3,140,372 | 402,097 | 581,285 | 524,253 |
| 2033 | 3,211 | 808,958 | 225,520 | 383,382 | 324,801 | 1,742,661 | 3,140,386 | 402,099 | 581,289 | 524,273 |
| 2034 | 3,211 | 808,911 | 225,520 | 383,357 | 324,787 | 1,742,575 | 3,140,345 | 402,095 | 581,278 | 524,214 |
| 2035 | 3,211 | 808,994 | 225,520 | 383,400 | 324,810 | 1,742,724 | 3,140,415 | 402,101 | 581,296 | 524,307 |
| Total | 179,925 | 36,732,952 | 10,610,600 | 17,160,209 | 17,832,042 | 82,335,803 | 169,608,051 | 21,579,804 | 30,349,251 | 26,249,012 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | South Bay Aqueduct (continued) | | | | | California Aqueduct North San Joaquin Division | | | |
|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Reach 6 (11) | Reach 7 (12) | Reach 8 (13) | Reach 9 (14) | Total (15) | Reach 1 (16) | Reach 2A (17) | Reach 2B (18) | Subtotal (19) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 963,429 | 1,519,801 | 217,348 | 453,400 | 2,190,549 |
| 1977 | (240) | 2,228 | 8,391 | 89,579 | 866,312 | 1,917,994 | 292,380 | 196,564 | 2,406,938 |
| 1978 | (1,404) | 16,766 | (5,313) | 104,078 | 1,137,690 | 1,860,456 | 306,503 | 188,214 | 2,355,173 |
| 1979 | 1,269 | 29,294 | 7,351 | 106,835 | 1,176,630 | 1,848,109 | 231,339 | 145,205 | 2,224,653 |
| 1980 | 3,621 | 24,270 | 17,404 | 110,852 | 1,850,894 | 2,365,408 | 472,660 | 247,608 | 3,085,676 |
| 1981 | 4,038 | 20,110 | 17,587 | 98,150 | 1,524,752 | 2,651,889 | 435,443 | 154,250 | 3,241,582 |
| 1982 | 2,282 | 23,145 | 22,313 | 204,963 | 1,937,302 | 3,228,026 | 607,940 | 247,699 | 4,083,665 |
| 1983 | (2,017) | 49,269 | 46,270 | 218,460 | 2,195,645 | 4,272,437 | 810,279 | 275,534 | 5,358,250 |
| 1984 | 4,449 | 44,017 | 23,563 | 455,060 | 3,014,153 | 4,374,194 | 810,672 | 291,623 | 5,476,489 |
| 1985 | 13,097 | 74,565 | 57,920 | 238,066 | 3,311,137 | 5,135,068 | 811,987 | 278,258 | 6,225,313 |
| 1986 | 11,614 | 31,084 | 46,864 | 363,369 | 3,036,890 | 5,372,168 | 996,029 | 391,570 | 6,759,767 |
| 1987 | 15,273 | 25,182 | 37,949 | 416,375 | 3,440,737 | 5,154,922 | 999,103 | 380,646 | 6,534,671 |
| 1988 | 30,222 | 41,102 | 49,184 | 336,439 | 3,394,880 | 5,145,402 | 848,301 | 374,644 | 6,368,347 |
| 1989 | 10,490 | 48,802 | 111,755 | 185,475 | 3,502,743 | 5,563,649 | 854,689 | 894,849 | 7,313,187 |
| 1990 | 31,171 | 69,448 | 119,321 | 250,584 | 3,878,177 | 6,794,773 | 1,089,199 | 905,864 | 8,789,836 |
| 1991 | 22,497 | (12,333) | 99,709 | 271,253 | 2,589,813 | 6,969,091 | 1,134,380 | 655,014 | 8,758,485 |
| 1992 | 39,716 | 325,915 | 103,705 | 227,061 | 4,886,944 | 9,819,755 | 1,473,395 | 789,270 | 12,082,420 |
| 1993 | 73,782 | 191,684 | 87,173 | 391,853 | 8,454,988 | 10,352,651 | 1,594,990 | 456,514 | 12,404,155 |
| 1994 | 244,069 | 72,726 | 82,501 | 415,766 | 6,997,463 | 9,072,437 | 1,662,846 | 600,171 | 11,335,454 |
| 1995 | 258,241 | 63,025 | 76,644 | 403,157 | 5,436,242 | 9,272,115 | 1,704,004 | 618,857 | 11,594,976 |
| 1996 | 71,859 | 65,050 | 79,084 | 345,602 | 5,155,098 | 9,440,610 | 1,749,416 | 509,723 | 11,699,749 |
| 1997 | 72,407 | 65,553 | 79,702 | 348,258 | 5,192,895 | 9,499,389 | 1,763,086 | 513,712 | 11,776,187 |
| 1998 | 72,480 | 65,474 | 79,487 | 348,321 | 5,195,939 | 9,508,290 | 1,763,090 | 513,670 | 11,785,050 |
| 1999 | 72,491 | 65,482 | 79,498 | 348,370 | 5,195,952 | 9,509,228 | 1,759,273 | 512,524 | 11,781,025 |
| 2000 | 72,491 | 65,482 | 79,498 | 348,370 | 5,197,260 | 9,511,578 | 1,760,501 | 512,898 | 11,784,977 |
| 2001 | 72,597 | 65,578 | 79,613 | 348,879 | 5,205,828 | 9,529,206 | 1,763,196 | 513,685 | 11,806,087 |
| 2002 | 72,597 | 65,578 | 79,613 | 348,879 | 5,206,867 | 9,531,070 | 1,764,199 | 513,991 | 11,809,260 |
| 2003 | 72,597 | 65,578 | 79,613 | 348,879 | 5,207,412 | 9,532,045 | 1,764,720 | 514,151 | 11,810,916 |
| 2004 | 72,597 | 65,578 | 79,613 | 348,879 | 5,208,011 | 9,533,116 | 1,765,305 | 514,330 | 11,812,751 |
| 2005 | 72,597 | 65,578 | 79,613 | 348,879 | 5,209,268 | 9,535,376 | 1,766,485 | 514,691 | 11,816,552 |
| 2006 | 72,597 | 65,578 | 79,613 | 348,879 | 5,209,330 | 9,535,486 | 1,766,543 | 514,708 | 11,816,737 |
| 2007 | 72,597 | 65,578 | 79,613 | 348,879 | 5,209,748 | 9,536,234 | 1,766,942 | 514,829 | 11,818,005 |
| 2008 | 72,597 | 65,578 | 79,613 | 348,879 | 5,210,209 | 9,537,065 | 1,767,381 | 514,964 | 11,819,410 |
| 2009 | 72,597 | 65,578 | 79,613 | 348,879 | 5,210,578 | 9,537,722 | 1,767,748 | 515,077 | 11,820,547 |
| 2010 | 72,597 | 65,578 | 79,613 | 348,879 | 5,212,337 | 9,540,878 | 1,769,422 | 515,588 | 11,825,888 |
| 2011 | 72,597 | 65,578 | 79,613 | 348,879 | 5,211,966 | 9,540,213 | 1,769,052 | 515,475 | 11,824,740 |
| 2012 | 72,597 | 65,578 | 79,613 | 348,879 | 5,212,476 | 9,541,130 | 1,769,548 | 515,627 | 11,826,305 |
| 2013 | 72,597 | 65,578 | 79,613 | 348,879 | 5,212,959 | 9,541,995 | 1,770,016 | 515,769 | 11,827,780 |
| 2014 | 72,597 | 65,578 | 79,613 | 348,879 | 5,213,531 | 9,543,018 | 1,770,563 | 515,938 | 11,829,519 |
| 2015 | 72,597 | 65,578 | 79,613 | 348,879 | 5,213,321 | 9,542,645 | 1,770,364 | 515,876 | 11,828,885 |
| 2016 | 72,597 | 65,578 | 79,613 | 348,879 | 5,213,451 | 9,542,876 | 1,770,488 | 515,914 | 11,829,278 |
| 2017 | 72,597 | 65,578 | 79,613 | 348,879 | 5,215,239 | 9,546,074 | 1,772,209 | 516,440 | 11,834,723 |
| 2018 | 72,597 | 65,578 | 79,613 | 348,879 | 5,215,223 | 9,546,044 | 1,772,195 | 516,436 | 11,834,675 |
| 2019 | 72,597 | 65,578 | 79,613 | 348,879 | 5,215,303 | 9,546,189 | 1,772,272 | 516,459 | 11,834,920 |
| 2020 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,476 | 9,544,707 | 1,771,473 | 516,216 | 11,832,396 |
| 2021 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,688 | 9,545,089 | 1,771,676 | 516,278 | 11,833,043 |
| 2022 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,789 | 9,545,270 | 1,771,773 | 516,307 | 11,833,350 |
| 2023 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,780 | 9,545,253 | 1,771,765 | 516,305 | 11,833,323 |
| 2024 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,782 | 9,545,257 | 1,771,768 | 516,306 | 11,833,331 |
| 2025 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,828 | 9,545,340 | 1,771,809 | 516,319 | 11,833,468 |
| 2026 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,583 | 9,544,901 | 1,771,571 | 516,245 | 11,832,717 |
| 2027 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,588 | 9,544,912 | 1,771,577 | 516,247 | 11,832,736 |
| 2028 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,611 | 9,544,951 | 1,771,602 | 516,254 | 11,832,807 |
| 2029 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,616 | 9,544,966 | 1,771,604 | 516,255 | 11,832,825 |
| 2030 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,587 | 9,544,909 | 1,771,584 | 516,249 | 11,832,742 |
| 2031 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,674 | 9,545,067 | 1,771,661 | 516,273 | 11,833,001 |
| 2032 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,674 | 9,545,067 | 1,771,661 | 516,273 | 11,833,001 |
| 2033 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,714 | 9,545,137 | 1,771,699 | 516,284 | 11,833,120 |
| 2034 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,599 | 9,544,928 | 1,771,588 | 516,250 | 11,832,766 |
| 2035 | 72,597 | 65,578 | 79,613 | 348,879 | 5,214,786 | 9,545,284 | 1,771,715 | 516,289 | 11,833,288 |
| Total | 3,733,587 | 3,853,936 | 4,315,202 | 19,302,914 | 278,991,757 | 493,094,086 | 90,323,810 | 30,243,683 | 613,661,579 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | San Luis Division | | | | | | South San Joaquin Division | | |
| Calendar Year | Reach 3 (20) | Reach 4 (21) | Reach 5 (22) | Reach 6 (23) | Reach 7 (24) | Subtotal (25) | Reach 8C (26) | Reach 8D (27) | Reach 9 (28) |
| 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 | 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 | 883,956 | 220,832 | 90,305 | 174,835 | 1,424,866 | 39,348 | 133,933 | 123,424 |
| 1977 | 73,331 | 1,114,465 | 270,734 | 98,132 | 196,311 | 1,752,973 | 38,086 | 121,348 | 178,078 |
| 1978 | 45,867 | 898,992 | 203,261 | 106,938 | 203,079 | 1,458,137 | 45,552 | 178,805 | 129,928 |
| 1979 | 223,973 | 842,508 | 144,055 | 99,670 | 180,734 | 1,490,940 | 69,973 | 150,679 | 129,756 |
| 1980 | 243,507 | 1,176,613 | 222,942 | 127,625 | 281,860 | 2,052,547 | 57,726 | 274,848 | 185,155 |
| 1981 | 266,803 | 1,067,040 | 192,615 | 90,380 | 1,612,042 | 3,228,880 | 80,130 | 198,386 | 144,310 |
| 1982 | 282,217 | 1,254,529 | 212,263 | 115,985 | 1,452,762 | 3,317,756 | 60,239 | 272,545 | 236,343 |
| 1983 | 217,414 | 1,957,156 | 342,464 | 132,431 | 2,156,821 | 4,806,286 | 49,882 | 386,834 | 225,036 |
| 1984 | 241,184 | 2,227,658 | 335,407 | 163,942 | 2,111,507 | 5,079,698 | 42,186 | 459,342 | 301,459 |
| 1985 | 322,373 | 2,877,575 | 363,611 | 177,564 | 1,607,182 | 5,348,305 | 64,900 | 548,818 | 254,943 |
| 1986 | 430,680 | 2,984,802 | 479,726 | 253,891 | 613,806 | 4,762,905 | 93,911 | 504,243 | 612,629 |
| 1987 | 395,950 | 3,078,121 | 430,091 | 237,304 | 457,987 | 4,599,453 | 115,997 | 435,797 | 458,549 |
| 1988 | 398,754 | 3,047,624 | 474,797 | 236,216 | 653,284 | 4,810,675 | 97,902 | 393,970 | 431,895 |
| 1989 | 270,234 | 3,153,027 | 395,640 | 329,611 | 634,918 | 4,783,430 | 84,134 | 391,667 | 399,579 |
| 1990 | 422,554 | 4,031,856 | 523,492 | 445,761 | 704,609 | 6,128,272 | 111,305 | 443,088 | 524,443 |
| 1991 | 261,560 | 4,526,531 | 602,063 | 753,265 | 804,292 | 6,947,711 | 106,162 | 523,930 | 500,568 |
| 1992 | 272,982 | 4,092,335 | 930,249 | 444,666 | 906,209 | 6,646,441 | 117,155 | 526,622 | 463,601 |
| 1993 | 630,676 | 3,953,233 | 974,374 | 367,109 | 463,721 | 6,389,113 | 311,364 | 762,661 | 623,474 |
| 1994 | 689,238 | 3,923,322 | 1,248,763 | 345,901 | 471,883 | 6,679,107 | 309,289 | 758,723 | 620,501 |
| 1995 | 705,932 | 3,757,450 | 1,137,893 | 371,937 | 506,142 | 6,479,354 | 213,194 | 819,807 | 669,844 |
| 1996 | 697,593 | 3,818,418 | 850,341 | 387,714 | 527,170 | 6,281,236 | 219,632 | 848,141 | 693,476 |
| 1997 | 711,486 | 3,852,436 | 859,686 | 392,057 | 533,091 | 6,348,756 | 221,298 | 854,406 | 698,574 |
| 1998 | 711,756 | 3,857,247 | 859,577 | 392,153 | 533,342 | 6,354,075 | 221,515 | 854,731 | 698,621 |
| 1999 | 707,930 | 3,855,904 | 856,655 | 391,328 | 532,176 | 6,343,993 | 221,517 | 853,211 | 697,319 |
| 2000 | 709,232 | 3,859,055 | 857,955 | 391,743 | 532,701 | 6,350,686 | 221,531 | 853,897 | 697,959 |
| 2001 | 712,240 | 3,869,023 | 860,134 | 392,727 | 534,034 | 6,368,158 | 221,854 | 855,207 | 699,041 |
| 2002 | 713,303 | 3,871,536 | 861,184 | 393,063 | 534,457 | 6,373,543 | 221,865 | 855,760 | 699,557 |
| 2003 | 713,855 | 3,872,846 | 861,730 | 393,237 | 534,676 | 6,376,344 | 221,870 | 856,048 | 699,826 |
| 2004 | 714,477 | 3,874,294 | 862,340 | 393,431 | 534,923 | 6,379,465 | 221,876 | 856,369 | 700,127 |
| 2005 | 715,728 | 3,877,313 | 863,570 | 393,823 | 535,418 | 6,385,852 | 221,889 | 857,015 | 700,732 |
| 2006 | 715,788 | 3,877,458 | 863,631 | 393,844 | 535,442 | 6,386,163 | 221,891 | 857,048 | 700,762 |
| 2007 | 716,209 | 3,878,467 | 864,050 | 393,978 | 535,612 | 6,388,316 | 221,895 | 857,267 | 700,969 |
| 2008 | 716,677 | 3,879,580 | 864,511 | 394,125 | 535,798 | 6,390,691 | 221,900 | 857,512 | 701,196 |
| 2009 | 717,063 | 3,880,473 | 864,893 | 394,246 | 535,952 | 6,392,627 | 221,904 | 857,712 | 701,384 |
| 2010 | 718,839 | 3,884,700 | 866,632 | 394,802 | 536,652 | 6,401,625 | 221,922 | 858,627 | 702,241 |
| 2011 | 718,448 | 3,883,810 | 866,264 | 394,683 | 536,503 | 6,399,708 | 221,917 | 858,433 | 702,058 |
| 2012 | 718,973 | 3,885,039 | 866,776 | 394,847 | 536,710 | 6,402,345 | 221,923 | 858,702 | 702,312 |
| 2013 | 719,468 | 3,886,207 | 867,265 | 395,003 | 536,907 | 6,404,850 | 221,928 | 858,959 | 702,552 |
| 2014 | 720,049 | 3,887,583 | 867,836 | 395,186 | 537,138 | 6,407,792 | 221,934 | 859,259 | 702,833 |
| 2015 | 719,838 | 3,887,083 | 867,630 | 395,120 | 537,053 | 6,406,724 | 221,931 | 859,153 | 702,732 |
| 2016 | 719,969 | 3,887,392 | 867,758 | 395,160 | 537,105 | 6,407,384 | 221,932 | 859,219 | 702,796 |
| 2017 | 721,793 | 3,891,701 | 869,561 | 395,735 | 537,832 | 6,416,622 | 221,951 | 860,168 | 703,684 |
| 2018 | 721,779 | 3,891,661 | 869,545 | 395,730 | 537,825 | 6,416,540 | 221,951 | 860,159 | 703,676 |
| 2019 | 721,861 | 3,891,857 | 869,624 | 395,756 | 537,856 | 6,416,954 | 221,953 | 860,201 | 703,715 |
| 2020 | 721,015 | 3,889,862 | 868,793 | 395,491 | 537,523 | 6,412,684 | 221,944 | 859,763 | 703,305 |
| 2021 | 721,229 | 3,890,374 | 869,001 | 395,557 | 537,607 | 6,413,768 | 221,946 | 859,873 | 703,409 |
| 2022 | 721,331 | 3,890,616 | 869,104 | 395,590 | 537,648 | 6,414,289 | 221,947 | 859,928 | 703,459 |
| 2023 | 721,323 | 3,890,595 | 869,094 | 395,588 | 537,644 | 6,414,244 | 221,947 | 859,922 | 703,454 |
| 2024 | 721,326 | 3,890,601 | 869,097 | 395,588 | 537,645 | 6,414,257 | 221,947 | 859,924 | 703,455 |
| 2025 | 721,370 | 3,890,707 | 869,140 | 395,601 | 537,661 | 6,414,479 | 221,947 | 859,946 | 703,476 |
| 2026 | 721,118 | 3,890,119 | 868,892 | 395,522 | 537,562 | 6,413,213 | 221,944 | 859,816 | 703,355 |
| 2027 | 721,124 | 3,890,131 | 868,899 | 395,525 | 537,565 | 6,413,244 | 221,944 | 859,819 | 703,357 |
| 2028 | 721,149 | 3,890,186 | 868,924 | 395,532 | 537,576 | 6,413,367 | 221,945 | 859,833 | 703,370 |
| 2029 | 721,152 | 3,890,204 | 868,928 | 395,534 | 537,577 | 6,413,395 | 221,945 | 859,835 | 703,371 |
| 2030 | 721,132 | 3,890,132 | 868,903 | 395,526 | 537,566 | 6,413,259 | 221,944 | 859,822 | 703,360 |
| 2031 | 721,213 | 3,890,342 | 868,985 | 395,552 | 537,600 | 6,413,692 | 221,946 | 859,864 | 703,401 |
| 2032 | 721,213 | 3,890,342 | 868,985 | 395,552 | 537,600 | 6,413,692 | 221,946 | 859,864 | 703,401 |
| 2033 | 721,254 | 3,890,434 | 869,024 | 395,564 | 537,617 | 6,413,893 | 221,946 | 859,886 | 703,420 |
| 2034 | 721,137 | 3,890,157 | 868,911 | 395,528 | 537,570 | 6,413,303 | 221,944 | 859,826 | 703,364 |
| 2035 | 721,269 | 3,890,606 | 869,062 | 395,577 | 537,631 | 6,414,145 | 221,946 | 859,905 | 703,437 |
| Total | 36,050,812 | 210,780,797 | 45,716,801 | 21,254,898 | 38,948,610 | 352,751,918 | 11,261,330 | 43,956,063 | 36,167,029 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | *California Aqueduct (continued)* | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | *South San Joaquin Division (continued)* | | | | | | | | |
| *Calendar Year* | *Reach 10A (29)* | *Reach 11B (30)* | *Reach 12D (31)* | *Reach 12E (32)* | *Reach 13B (33)* | *Reach 14A (34)* | *Reach 14B (35)* | *Reach 14C (36)* | *Reach 15A (37)* |
| 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 | 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 | 1,124,051 | 177,086 | 114,133 | 1,037,799 |
| 1977 | 194,086 | 108,644 | 91,547 | 175,039 | 137,975 | 1,397,006 | 203,837 | 119,467 | 1,339,196 |
| 1978 | 168,634 | 106,702 | 72,585 | 170,578 | 151,120 | 1,254,043 | 139,662 | 132,224 | 1,265,813 |
| 1979 | 175,107 | 85,942 | 56,331 | 174,147 | 150,029 | 1,490,461 | 201,935 | 260,981 | 1,216,126 |
| 1980 | 284,207 | 120,896 | 123,120 | 167,249 | 164,749 | 1,988,704 | 189,132 | 238,607 | 1,437,678 |
| 1981 | 200,063 | 77,045 | 33,427 | 113,285 | 171,793 | 1,735,435 | 163,812 | 161,099 | 1,793,300 |
| 1982 | 268,306 | 160,136 | 144,320 | 226,910 | 226,762 | 1,813,305 | 197,532 | 16,221 | 1,954,952 |
| 1983 | 311,541 | 137,529 | 125,805 | 205,536 | 219,326 | 2,436,503 | 201,712 | 183,892 | 2,565,051 |
| 1984 | 397,253 | 164,516 | 109,487 | 188,739 | 245,950 | 3,309,790 | 329,449 | 204,174 | 3,214,118 |
| 1985 | 346,406 | 252,692 | 206,439 | 239,944 | 360,512 | 3,465,639 | 237,078 | 180,032 | 3,429,538 |
| 1986 | 440,664 | 267,543 | 261,501 | 363,306 | 350,791 | 3,775,606 | 320,849 | 360,055 | 3,568,093 |
| 1987 | 502,238 | 341,697 | 335,646 | 476,804 | 331,080 | 3,671,636 | 460,634 | 239,280 | 4,033,202 |
| 1988 | 547,030 | 299,380 | 230,605 | 383,278 | 324,382 | 3,462,517 | 408,747 | 311,720 | 3,772,090 |
| 1989 | 735,196 | 271,235 | 210,526 | 588,598 | 380,008 | 3,502,438 | 340,120 | 224,449 | 3,739,782 |
| 1990 | 659,577 | 368,286 | 231,088 | 487,220 | 682,460 | 4,003,449 | 439,373 | 211,162 | 4,362,576 |
| 1991 | 745,038 | 351,397 | 296,641 | 397,098 | 452,136 | 4,363,605 | 428,914 | 273,375 | 4,615,106 |
| 1992 | 636,533 | 352,399 | 304,052 | 436,120 | 440,238 | 4,832,457 | 651,094 | 493,959 | 4,533,749 |
| 1993 | 657,292 | 469,928 | 426,495 | 670,686 | 826,102 | 4,994,657 | 596,146 | 467,972 | 4,895,665 |
| 1994 | 706,857 | 467,295 | 425,984 | 668,415 | 987,537 | 4,663,545 | 583,207 | 404,473 | 4,519,842 |
| 1995 | 760,628 | 504,026 | 461,415 | 720,803 | 947,718 | 4,898,794 | 627,839 | 438,165 | 4,751,159 |
| 1996 | 713,776 | 521,437 | 478,812 | 745,290 | 791,165 | 4,991,884 | 649,814 | 453,591 | 4,833,365 |
| 1997 | 719,156 | 525,302 | 482,288 | 750,859 | 797,040 | 5,021,019 | 654,430 | 456,699 | 4,861,770 |
| 1998 | 719,198 | 525,471 | 482,129 | 751,251 | 797,238 | 5,025,437 | 654,615 | 456,879 | 4,866,059 |
| 1999 | 717,652 | 524,572 | 480,711 | 750,346 | 795,981 | 5,024,860 | 653,738 | 456,199 | 4,866,452 |
| 2000 | 718,340 | 524,952 | 481,326 | 750,742 | 796,542 | 5,027,314 | 654,387 | 456,673 | 4,867,890 |
| 2001 | 719,453 | 525,752 | 482,086 | 751,875 | 797,756 | 5,036,951 | 655,397 | 457,381 | 4,877,192 |
| 2002 | 720,008 | 526,058 | 482,582 | 752,195 | 798,208 | 5,038,906 | 655,919 | 457,761 | 4,878,334 |
| 2003 | 720,296 | 526,216 | 482,839 | 752,360 | 798,443 | 5,039,927 | 656,188 | 457,959 | 4,878,929 |
| 2004 | 720,619 | 526,395 | 483,127 | 752,546 | 798,706 | 5,041,051 | 656,490 | 458,179 | 4,879,588 |
| 2005 | 721,270 | 526,754 | 483,708 | 752,921 | 799,235 | 5,043,395 | 657,099 | 458,625 | 4,880,968 |
| 2006 | 721,302 | 526,771 | 483,737 | 752,938 | 799,262 | 5,043,511 | 657,129 | 458,647 | 4,881,035 |
| 2007 | 721,523 | 526,894 | 483,934 | 753,067 | 799,442 | 5,044,296 | 657,338 | 458,799 | 4,881,495 |
| 2008 | 721,769 | 527,028 | 484,153 | 753,208 | 799,642 | 5,045,162 | 657,567 | 458,968 | 4,882,003 |
| 2009 | 721,971 | 527,139 | 484,332 | 753,324 | 799,805 | 5,045,857 | 657,754 | 459,106 | 4,882,403 |
| 2010 | 722,889 | 527,646 | 485,153 | 753,852 | 800,555 | 5,049,140 | 658,614 | 459,734 | 4,884,333 |
| 2011 | 722,695 | 527,538 | 484,979 | 753,740 | 800,395 | 5,048,452 | 658,436 | 459,604 | 4,883,929 |
| 2012 | 722,966 | 527,688 | 485,221 | 753,896 | 800,616 | 5,049,407 | 658,688 | 459,787 | 4,884,489 |
| 2013 | 723,224 | 527,830 | 485,452 | 754,045 | 800,826 | 5,050,315 | 658,930 | 459,965 | 4,885,019 |
| 2014 | 723,526 | 527,997 | 485,722 | 754,220 | 801,074 | 5,051,384 | 659,213 | 460,172 | 4,885,644 |
| 2015 | 723,417 | 527,938 | 485,624 | 754,157 | 800,985 | 5,050,997 | 659,112 | 460,098 | 4,885,417 |
| 2016 | 723,484 | 527,974 | 485,685 | 754,195 | 801,040 | 5,051,237 | 659,174 | 460,143 | 4,885,557 |
| 2017 | 724,437 | 528,499 | 486,534 | 754,743 | 801,816 | 5,054,590 | 660,066 | 460,796 | 4,887,517 |
| 2018 | 724,429 | 528,494 | 486,527 | 754,739 | 801,809 | 5,054,559 | 660,059 | 460,791 | 4,887,500 |
| 2019 | 724,472 | 528,517 | 486,565 | 754,763 | 801,844 | 5,054,711 | 660,097 | 460,818 | 4,887,588 |
| 2020 | 724,031 | 528,276 | 486,173 | 754,511 | 801,486 | 5,053,159 | 659,688 | 460,519 | 4,886,681 |
| 2021 | 724,143 | 528,337 | 486,271 | 754,574 | 801,576 | 5,053,555 | 659,789 | 460,595 | 4,886,914 |
| 2022 | 724,195 | 528,366 | 486,320 | 754,605 | 801,619 | 5,053,745 | 659,841 | 460,630 | 4,887,025 |
| 2023 | 724,191 | 528,364 | 486,316 | 754,602 | 801,615 | 5,053,728 | 659,836 | 460,628 | 4,887,014 |
| 2024 | 724,192 | 528,364 | 486,317 | 754,603 | 801,616 | 5,053,733 | 659,837 | 460,628 | 4,887,016 |
| 2025 | 724,215 | 528,376 | 486,337 | 754,616 | 801,635 | 5,053,815 | 659,857 | 460,643 | 4,887,066 |
| 2026 | 724,084 | 528,305 | 486,220 | 754,541 | 801,528 | 5,053,359 | 659,735 | 460,556 | 4,886,800 |
| 2027 | 724,087 | 528,306 | 486,223 | 754,542 | 801,531 | 5,053,368 | 659,739 | 460,557 | 4,886,806 |
| 2028 | 724,100 | 528,313 | 486,234 | 754,550 | 801,542 | 5,053,412 | 659,750 | 460,567 | 4,886,830 |
| 2029 | 724,103 | 528,314 | 486,237 | 754,551 | 801,544 | 5,053,425 | 659,753 | 460,568 | 4,886,838 |
| 2030 | 724,090 | 528,307 | 486,225 | 754,544 | 801,534 | 5,053,369 | 659,740 | 460,558 | 4,886,804 |
| 2031 | 724,134 | 528,332 | 486,264 | 754,569 | 801,569 | 5,053,531 | 659,782 | 460,589 | 4,886,900 |
| 2032 | 724,134 | 528,332 | 486,264 | 754,569 | 801,569 | 5,053,531 | 659,782 | 460,589 | 4,886,900 |
| 2033 | 724,154 | 528,344 | 486,283 | 754,580 | 801,586 | 5,053,604 | 659,801 | 460,603 | 4,886,943 |
| 2034 | 724,094 | 528,309 | 486,228 | 754,546 | 801,537 | 5,053,387 | 659,744 | 460,562 | 4,886,816 |
| 2035 | 724,173 | 528,354 | 486,301 | 754,592 | 801,601 | 5,053,743 | 659,828 | 460,620 | 4,887,033 |
| Total | 38,690,242 | 26,695,033 | 24,072,952 | 37,895,945 | 40,625,985 | 268,610,677 | 33,946,310 | 23,960,295 | 260,982,369 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | South San Joaquin Division (continued) | | Tehachapi Division | | | Mojave Division | | | |
| Calendar Year | Reach 16A (38) | Subtotal (39) | Reach 17E (40) | Reach 17F (41) | Subtotal (42) | Reach 18A (43) | Reach 19 (44) | Reach 19C (45) | Reach 20A (46) |
| 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 | 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 | 28,127 | 1,452,909 | 36,699 | 135,675 | 0 | 130,711 |
| 1973 | 1,243,941 | 4,142,935 | 1,777,260 | 49,949 | 1,827,209 | 36,207 | 146,739 | 0 | 161,838 |
| 1974 | 1,343,972 | 4,369,772 | 2,298,091 | 16,259 | 2,314,350 | 30,525 | 90,404 | 0 | 115,571 |
| 1975 | 1,537,862 | 5,090,233 | 2,403,430 | 35,193 | 2,438,623 | 40,588 | 122,584 | 0 | 137,684 |
| 1976 | 1,727,428 | 5,001,677 | 2,776,194 | 126,653 | 2,902,847 | 118,610 | 201,215 | 0 | 182,927 |
| 1977 | 1,961,081 | 6,065,390 | 3,845,464 | 83,936 | 3,929,400 | 93,565 | 226,906 | 0 | 180,884 |
| 1978 | 1,922,950 | 5,738,596 | 2,954,313 | 42,637 | 2,996,950 | 91,815 | 200,759 | 0 | 215,673 |
| 1979 | 1,798,566 | 5,960,033 | 3,539,402 | 45,997 | 3,585,399 | 99,670 | 307,386 | 0 | 261,205 |
| 1980 | 2,231,541 | 7,463,612 | 4,749,456 | 54,806 | 4,804,262 | 116,487 | 446,175 | 0 | 290,719 |
| 1981 | 2,747,447 | 7,619,532 | 5,469,468 | 64,911 | 5,534,379 | 316,687 | 585,392 | 0 | 325,404 |
| 1982 | 2,992,016 | 8,569,587 | 6,403,826 | 56,774 | 6,460,600 | 451,289 | 644,752 | 0 | 279,511 |
| 1983 | 4,324,186 | 11,372,833 | 14,189,425 | 97,374 | 14,286,799 | 346,323 | 568,322 | 0 | 371,688 |
| 1984 | 5,072,910 | 14,039,373 | 18,425,415 | 77,216 | 18,502,631 | 267,573 | 563,525 | 0 | 413,691 |
| 1985 | 5,688,501 | 15,275,442 | 18,160,112 | 137,928 | 18,298,040 | 298,927 | 475,002 | 0 | 450,422 |
| 1986 | 5,770,352 | 16,689,543 | 19,232,233 | 109,885 | 19,342,118 | 706,097 | 349,704 | 0 | 346,809 |
| 1987 | 5,518,614 | 16,921,174 | 16,699,386 | 98,175 | 16,797,561 | 1,260,356 | 555,956 | 0 | 815,996 |
| 1988 | 5,182,927 | 15,846,443 | 17,860,345 | 138,258 | 17,998,603 | 1,237,297 | 565,930 | 0 | 583,804 |
| 1989 | 5,442,633 | 16,310,365 | 17,658,095 | 89,947 | 17,748,042 | 1,070,392 | 301,115 | 0 | 380,682 |
| 1990 | 6,395,823 | 18,919,850 | 19,560,797 | 99,455 | 19,660,252 | 1,298,531 | 243,670 | 0 | 468,264 |
| 1991 | 5,801,641 | 18,855,611 | 19,260,901 | 130,550 | 19,391,451 | 1,433,531 | 741,016 | 0 | 1,022,564 |
| 1992 | 6,631,643 | 20,419,622 | 18,270,367 | 258,943 | 18,529,310 | 1,252,225 | 799,422 | 0 | 746,190 |
| 1993 | 7,258,213 | 22,960,655 | 20,893,445 | 361,003 | 21,254,448 | 1,693,445 | 849,830 | 0 | 1,044,250 |
| 1994 | 6,814,551 | 21,930,219 | 19,739,800 | 456,185 | 20,195,985 | 1,848,683 | 1,184,529 | 0 | 1,217,864 |
| 1995 | 6,975,967 | 22,789,359 | 19,985,726 | 403,823 | 20,389,549 | 1,966,754 | 1,290,157 | 0 | 1,276,416 |
| 1996 | 7,098,369 | 23,038,752 | 20,109,495 | 343,691 | 20,453,186 | 1,759,296 | 1,051,254 | 0 | 1,052,783 |
| 1997 | 7,134,233 | 23,177,074 | 20,174,720 | 346,109 | 20,520,829 | 1,771,039 | 1,051,777 | 0 | 1,055,999 |
| 1998 | 7,139,936 | 23,193,080 | 20,185,368 | 346,347 | 20,531,715 | 1,773,125 | 1,053,452 | 0 | 1,057,360 |
| 1999 | 7,139,712 | 23,182,270 | 20,187,050 | 346,405 | 20,533,455 | 1,773,666 | 1,053,772 | 0 | 1,057,568 |
| 2000 | 7,143,337 | 23,194,890 | 20,191,213 | 346,557 | 20,537,770 | 1,774,809 | 1,059,304 | 0 | 1,061,121 |
| 2001 | 7,158,762 | 23,238,707 | 20,229,879 | 347,079 | 20,576,958 | 1,777,499 | 1,061,334 | 0 | 1,062,978 |
| 2002 | 7,161,646 | 23,248,799 | 20,233,181 | 347,199 | 20,580,380 | 1,778,403 | 1,065,701 | 0 | 1,065,787 |
| 2003 | 7,163,153 | 23,254,054 | 20,234,907 | 347,263 | 20,582,170 | 1,778,877 | 1,067,982 | 0 | 1,067,252 |
| 2004 | 7,164,811 | 23,259,884 | 20,236,803 | 347,334 | 20,584,137 | 1,779,395 | 1,070,491 | 0 | 1,068,863 |
| 2005 | 7,168,256 | 23,271,867 | 20,240,809 | 347,479 | 20,588,288 | 1,780,489 | 1,075,688 | 0 | 1,072,203 |
| 2006 | 7,168,425 | 23,272,458 | 20,241,002 | 347,487 | 20,588,489 | 1,780,541 | 1,075,949 | 0 | 1,072,371 |
| 2007 | 7,169,587 | 23,276,506 | 20,242,330 | 347,535 | 20,589,865 | 1,780,903 | 1,077,711 | 0 | 1,073,504 |
| 2008 | 7,170,868 | 23,280,976 | 20,243,798 | 347,589 | 20,591,387 | 1,781,305 | 1,079,647 | 0 | 1,074,749 |
| 2009 | 7,171,893 | 23,284,584 | 20,244,960 | 347,631 | 20,592,591 | 1,781,627 | 1,081,217 | 0 | 1,075,754 |
| 2010 | 7,176,716 | 23,301,422 | 20,250,550 | 347,835 | 20,598,385 | 1,783,152 | 1,088,541 | 0 | 1,080,460 |
| 2011 | 7,175,720 | 23,297,896 | 20,249,376 | 347,793 | 20,597,169 | 1,782,836 | 1,087,053 | 0 | 1,079,505 |
| 2012 | 7,177,123 | 23,302,818 | 20,250,994 | 347,852 | 20,598,846 | 1,783,277 | 1,089,162 | 0 | 1,080,860 |
| 2013 | 7,178,464 | 23,307,509 | 20,252,527 | 347,910 | 20,600,437 | 1,783,695 | 1,091,193 | 0 | 1,082,163 |
| 2014 | 7,180,039 | 23,313,017 | 20,254,338 | 347,976 | 20,602,314 | 1,784,191 | 1,093,571 | 0 | 1,083,692 |
| 2015 | 7,179,468 | 23,311,029 | 20,253,678 | 347,953 | 20,601,631 | 1,784,014 | 1,092,760 | 0 | 1,083,173 |
| 2016 | 7,179,822 | 23,312,258 | 20,254,087 | 347,968 | 20,602,055 | 1,784,124 | 1,093,282 | 0 | 1,083,507 |
| 2017 | 7,184,767 | 23,329,568 | 20,259,748 | 348,178 | 20,607,926 | 1,785,676 | 1,100,781 | 0 | 1,088,323 |
| 2018 | 7,184,723 | 23,329,416 | 20,259,696 | 348,176 | 20,607,872 | 1,785,661 | 1,100,707 | 0 | 1,088,277 |
| 2019 | 7,184,946 | 23,330,190 | 20,259,955 | 348,186 | 20,608,141 | 1,785,732 | 1,101,044 | 0 | 1,088,492 |
| 2020 | 7,182,661 | 23,322,197 | 20,257,330 | 348,088 | 20,605,418 | 1,785,014 | 1,097,563 | 0 | 1,086,254 |
| 2021 | 7,183,243 | 23,324,225 | 20,258,008 | 348,112 | 20,606,120 | 1,785,198 | 1,098,435 | 0 | 1,086,816 |
| 2022 | 7,183,521 | 23,325,201 | 20,258,328 | 348,125 | 20,606,453 | 1,785,284 | 1,098,871 | 0 | 1,087,097 |
| 2023 | 7,183,498 | 23,325,115 | 20,258,300 | 348,123 | 20,606,423 | 1,785,275 | 1,098,819 | 0 | 1,087,063 |
| 2024 | 7,183,504 | 23,325,136 | 20,258,306 | 348,123 | 20,606,429 | 1,785,276 | 1,098,826 | 0 | 1,087,067 |
| 2025 | 7,183,621 | 23,325,550 | 20,258,449 | 348,128 | 20,606,577 | 1,785,318 | 1,099,026 | 0 | 1,087,198 |
| 2026 | 7,182,950 | 23,323,193 | 20,257,677 | 348,101 | 20,605,778 | 1,785,107 | 1,098,002 | 0 | 1,086,538 |
| 2027 | 7,182,964 | 23,323,243 | 20,257,693 | 348,101 | 20,605,794 | 1,785,113 | 1,098,027 | 0 | 1,086,554 |
| 2028 | 7,183,027 | 23,323,473 | 20,257,762 | 348,105 | 20,605,867 | 1,785,131 | 1,098,125 | 0 | 1,086,615 |
| 2029 | 7,183,049 | 23,323,533 | 20,257,789 | 348,105 | 20,605,894 | 1,785,138 | 1,098,151 | 0 | 1,086,633 |
| 2030 | 7,182,963 | 23,323,260 | 20,257,688 | 348,101 | 20,605,789 | 1,785,110 | 1,097,994 | 0 | 1,086,532 |
| 2031 | 7,183,204 | 23,324,085 | 20,257,967 | 348,111 | 20,606,078 | 1,785,185 | 1,098,390 | 0 | 1,086,789 |
| 2032 | 7,183,204 | 23,324,085 | 20,257,967 | 348,111 | 20,606,078 | 1,785,185 | 1,098,390 | 0 | 1,086,789 |
| 2033 | 7,183,311 | 23,324,461 | 20,258,092 | 348,114 | 20,606,206 | 1,785,221 | 1,098,551 | 0 | 1,086,890 |
| 2034 | 7,182,996 | 23,323,353 | 20,257,722 | 348,103 | 20,605,825 | 1,785,120 | 1,098,073 | 0 | 1,086,584 |
| 2035 | 7,183,522 | 23,325,055 | 20,258,358 | 348,124 | 20,606,482 | 1,785,290 | 1,098,883 | 0 | 1,087,106 |
| Total | 384,387,954 | 1,231,252,184 | 1,087,249,104 | 16,969,291 | 1,104,218,395 | 87,388,573 | 55,033,664 | 0 | 54,566,036 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Mojave Division (continued) | | | | | | | Santa Ana Division | |
| Calendar Year | Reach 20B (47) | Reach 21 (48) | Reach 22A (49) | Reach 22B (50) | Reach 23 (51) | Reach 24 (52) | Subtotal (53) | Reach 25 (54) | Reach 26A (55) |
| 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 | 120,271 | 75,768 | 80,436 | 1,036,831 | 51,520 | 362,153 | 2,030,064 | 26 | 578 |
| 1973 | 148,631 | 60,641 | 66,539 | 1,283,816 | 65,475 | 353,262 | 2,323,148 | 20,541 | 679,328 |
| 1974 | 88,200 | 65,007 | 77,667 | 1,477,946 | 96,340 | 334,302 | 2,375,962 | 24,380 | 799,400 |
| 1975 | 118,898 | 135,462 | 77,825 | 1,630,554 | 111,141 | 419,450 | 2,794,186 | 29,337 | 885,021 |
| 1976 | 151,555 | 106,314 | 131,007 | 1,598,071 | 107,787 | 304,638 | 2,902,124 | 51,356 | 1,103,139 |
| 1977 | 112,589 | 98,757 | 86,279 | 1,882,080 | 71,228 | 48,359 | 2,800,647 | 62,584 | 1,412,740 |
| 1978 | 120,584 | 109,271 | 71,763 | 2,211,965 | 72,179 | 637,401 | 3,731,410 | 67,186 | 1,159,950 |
| 1979 | 194,104 | 203,078 | 121,586 | 2,104,832 | 76,960 | 202,566 | 3,571,387 | 84,462 | 1,235,189 |
| 1980 | 237,250 | 156,794 | 117,274 | 2,670,471 | 147,009 | 688,605 | 4,870,784 | 72,651 | 1,532,581 |
| 1981 | 292,377 | 181,234 | 119,732 | 3,024,914 | 134,904 | 45,405 | 5,026,049 | 35,665 | 1,571,000 |
| 1982 | 334,826 | 188,582 | 127,071 | 3,288,514 | 302,522 | 630,941 | 6,248,008 | 27,198 | 1,842,148 |
| 1983 | 329,798 | 222,001 | 141,847 | 3,926,911 | 223,167 | 390,062 | 6,520,119 | 19,170 | 1,679,906 |
| 1984 | 330,204 | 267,078 | 146,984 | 4,783,329 | 59,337 | 1,106,759 | 7,938,480 | 11,319 | 2,325,292 |
| 1985 | 388,307 | 799,502 | 125,775 | 5,333,323 | 261,135 | 811,327 | 8,943,720 | 17,764 | 2,708,035 |
| 1986 | 314,632 | 241,610 | 178,439 | 6,194,476 | 154,339 | 513,604 | 8,999,710 | 31,012 | 2,776,649 |
| 1987 | 355,524 | 296,655 | 235,098 | 5,676,123 | 150,089 | 729,593 | 10,075,390 | 19,362 | 2,846,642 |
| 1988 | 408,429 | 331,375 | 149,350 | 6,939,564 | 252,182 | 966,539 | 11,434,470 | 36,505 | 3,086,876 |
| 1989 | 356,640 | 207,036 | 137,182 | 5,940,347 | 305,419 | 1,240,039 | 9,938,852 | 30,978 | 3,172,235 |
| 1990 | 232,987 | 274,437 | 48,513 | 6,863,856 | 435,434 | 1,893,854 | 11,759,546 | 25,312 | 3,340,415 |
| 1991 | 606,858 | 487,923 | 233,472 | 7,555,630 | 248,936 | 1,577,345 | 13,907,275 | 31,725 | 3,897,206 |
| 1992 | 740,373 | 554,802 | 182,458 | 7,364,748 | 226,346 | 736,776 | 12,603,340 | (107,557) | 4,002,025 |
| 1993 | 783,921 | 565,124 | 689,967 | 8,501,885 | 841,923 | 1,053,535 | 16,023,880 | 308,646 | 5,686,311 |
| 1994 | 1,037,263 | 712,642 | 603,455 | 7,907,225 | 679,727 | 1,784,526 | 16,975,914 | 294,436 | 5,561,955 |
| 1995 | 990,000 | 713,682 | 390,597 | 8,285,064 | 443,345 | 1,220,987 | 16,577,002 | 271,131 | 5,984,808 |
| 1996 | 756,100 | 552,960 | 407,369 | 8,480,889 | 454,510 | 1,411,282 | 15,926,443 | 339,614 | 6,116,532 |
| 1997 | 757,050 | 554,464 | 408,342 | 8,513,517 | 455,386 | (687,110) | 13,880,464 | 126,410 | 6,151,972 |
| 1998 | 758,248 | 555,210 | 408,868 | 8,522,411 | 455,796 | 1,521,633 | 16,106,103 | 54,885 | 6,157,363 |
| 1999 | 758,416 | 555,260 | 409,016 | 8,524,595 | 456,150 | 3,736,976 | 18,325,419 | 54,892 | 6,158,027 |
| 2000 | 761,969 | 557,269 | 410,590 | 8,539,359 | 457,087 | (241,651) | 14,379,857 | 54,892 | 6,159,276 |
| 2001 | 763,392 | 558,257 | 411,326 | 8,556,357 | 457,611 | 1,692,548 | 16,341,302 | 54,971 | 6,166,586 |
| 2002 | 766,201 | 559,842 | 412,571 | 8,568,010 | 458,355 | 1,707,814 | 16,382,684 | 54,971 | 6,167,576 |
| 2003 | 767,666 | 560,670 | 413,221 | 8,574,093 | 458,743 | 1,591,183 | 16,279,687 | 54,971 | 6,168,093 |
| 2004 | 769,277 | 561,581 | 413,936 | 8,580,782 | 459,170 | 1,628,888 | 16,332,383 | 54,971 | 6,168,663 |
| 2005 | 772,617 | 563,470 | 415,418 | 8,594,690 | 460,072 | 2,169,957 | 16,904,604 | 54,971 | 6,169,865 |
| 2006 | 772,785 | 563,564 | 415,490 | 8,595,379 | 460,115 | 1,901,776 | 16,637,970 | 54,971 | 6,169,923 |
| 2007 | 773,918 | 564,203 | 415,994 | 8,600,075 | 460,414 | 1,734,885 | 16,481,607 | 54,971 | 6,170,321 |
| 2008 | 775,163 | 564,908 | 416,545 | 8,605,250 | 460,744 | 1,904,647 | 16,662,958 | 54,971 | 6,170,761 |
| 2009 | 776,168 | 565,476 | 416,991 | 8,609,417 | 461,006 | 1,271,290 | 16,038,946 | 54,971 | 6,171,110 |
| 2010 | 780,874 | 568,135 | 419,076 | 8,628,960 | 462,264 | 5,109,593 | 19,921,055 | 54,971 | 6,172,787 |
| 2011 | 779,919 | 567,595 | 418,654 | 8,624,983 | 462,000 | (53,087) | 14,749,458 | 54,971 | 6,172,436 |
| 2012 | 781,274 | 568,361 | 419,257 | 8,630,615 | 462,364 | 1,826,428 | 16,641,598 | 54,971 | 6,172,921 |
| 2013 | 782,577 | 569,097 | 419,832 | 8,636,027 | 462,709 | 1,780,124 | 16,607,417 | 54,971 | 6,173,380 |
| 2014 | 784,106 | 569,963 | 420,512 | 8,642,382 | 463,116 | 2,235,248 | 17,076,781 | 54,971 | 6,173,924 |
| 2015 | 783,587 | 569,670 | 420,284 | 8,640,187 | 462,968 | 394,656 | 15,231,299 | 54,971 | 6,173,725 |
| 2016 | 783,921 | 569,857 | 420,429 | 8,641,583 | 463,060 | 1,933,460 | 16,773,223 | 54,971 | 6,173,848 |
| 2017 | 788,737 | 572,579 | 422,566 | 8,661,576 | 464,334 | 1,828,480 | 16,713,052 | 54,971 | 6,175,547 |
| 2018 | 788,691 | 572,552 | 422,545 | 8,661,383 | 464,323 | 1,762,337 | 16,646,476 | 54,971 | 6,175,532 |
| 2019 | 788,906 | 572,674 | 422,641 | 8,662,275 | 464,381 | 2,224,962 | 17,111,107 | 54,971 | 6,175,609 |
| 2020 | 786,668 | 571,409 | 421,649 | 8,653,009 | 463,790 | 97,530 | 14,962,886 | 54,971 | 6,174,821 |
| 2021 | 787,230 | 571,726 | 421,897 | 8,655,348 | 463,943 | 1,833,526 | 16,704,119 | 54,971 | 6,175,025 |
| 2022 | 787,511 | 571,888 | 422,022 | 8,656,502 | 464,015 | 1,990,321 | 16,863,511 | 54,971 | 6,175,121 |
| 2023 | 787,477 | 571,867 | 422,007 | 8,656,370 | 464,008 | 1,786,856 | 16,659,742 | 54,971 | 6,175,113 |
| 2024 | 787,481 | 571,870 | 422,008 | 8,656,390 | 464,010 | 1,692,821 | 16,565,749 | 54,971 | 6,175,114 |
| 2025 | 787,612 | 571,943 | 422,067 | 8,656,915 | 464,042 | 2,314,774 | 17,188,895 | 54,971 | 6,175,158 |
| 2026 | 786,952 | 571,571 | 421,776 | 8,654,189 | 463,868 | 1,743,397 | 16,611,400 | 54,971 | 6,174,926 |
| 2027 | 786,968 | 571,578 | 421,782 | 8,654,249 | 463,871 | 1,678,448 | 16,546,590 | 54,971 | 6,174,931 |
| 2028 | 787,029 | 571,617 | 421,810 | 8,654,509 | 463,887 | 2,042,822 | 16,911,545 | 54,971 | 6,174,951 |
| 2029 | 787,047 | 571,626 | 421,816 | 8,654,583 | 463,893 | 1,399,928 | 16,268,815 | 54,971 | 6,174,960 |
| 2030 | 786,946 | 571,567 | 421,772 | 8,654,178 | 463,870 | 1,672,794 | 16,540,763 | 54,971 | 6,174,929 |
| 2031 | 787,203 | 571,713 | 421,885 | 8,655,219 | 463,933 | 1,775,477 | 16,645,794 | 54,971 | 6,175,013 |
| 2032 | 787,203 | 571,713 | 421,885 | 8,655,219 | 463,933 | 1,775,477 | 16,645,794 | 54,971 | 6,175,013 |
| 2033 | 787,304 | 571,770 | 421,930 | 8,655,643 | 463,961 | 2,187,675 | 17,058,945 | 54,971 | 6,175,050 |
| 2034 | 786,998 | 571,597 | 421,795 | 8,654,371 | 463,878 | 1,339,351 | 16,207,767 | 54,971 | 6,174,939 |
| 2035 | 787,520 | 571,892 | 422,026 | 8,656,539 | 464,021 | 4,632,835 | 19,506,112 | 54,971 | 6,175,130 |
| Total | 39,960,932 | 29,739,739 | 21,071,916 | 452,260,503 | 23,988,045 | 88,402,379 | 852,411,787 | 4,019,867 | 306,095,400 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Santa Ana Division (continued) | | | | West Branch | | | | |
| Calendar Year | Reach 28G (56) | Reach 28H (57) | Reach 28J (58) | Subtotal (59) | Reach 29A (60) | Reach 29F (61) | Reach 29G (62) | Reach 29H (63) | Reach 29J (64) |
| 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 | 109 | 30 | 0 | 743 | 719,255 | 159,249 | 199,145 | 234,196 | 88,198 |
| 1973 | 136,352 | 79 | 0 | 836,300 | 779,949 | 339,363 | 122,664 | 264,850 | 119,743 |
| 1974 | 155,262 | 34,693 | 854,637 | 1,868,372 | 883,312 | 158,366 | 112,458 | 350,160 | (4,525) |
| 1975 | 110,729 | 69,082 | 723,814 | 1,817,983 | 1,049,990 | 176,676 | 194,724 | 801,457 | 75,870 |
| 1976 | 138,575 | 100,400 | 635,853 | 2,029,323 | 1,220,429 | 215,588 | 202,591 | 624,614 | 98,268 |
| 1977 | 127,543 | 92,647 | 825,880 | 2,521,394 | 1,268,813 | 116,939 | 218,129 | 684,679 | 184 |
| 1978 | 166,919 | 68,363 | 835,082 | 2,297,500 | 1,174,708 | 342,479 | 267,308 | 415,641 | 17,764 |
| 1979 | 142,586 | 92,812 | 265,525 | 1,820,574 | 1,366,942 | 285,575 | 284,188 | 972,584 | 29,850 |
| 1980 | 158,340 | 129,897 | 1,120,131 | 3,013,600 | 1,698,257 | 224,472 | 455,619 | 874,259 | 288,303 |
| 1981 | 160,064 | 111,730 | 332,150 | 2,210,609 | 1,781,889 | 123,230 | 615,069 | 2,309,710 | 8,808 |
| 1982 | 207,789 | 137,018 | 1,549,321 | 3,763,474 | 1,943,555 | 193,487 | 713,830 | 2,250,579 | 416,726 |
| 1983 | 246,942 | 125,746 | 418,671 | 2,490,435 | 2,754,851 | 150,877 | 892,210 | 752,380 | 582,402 |
| 1984 | 240,497 | 190,925 | 770,807 | 3,538,840 | 3,460,644 | 80,998 | 2,356,785 | 543,275 | 718,155 |
| 1985 | 451,600 | 182,242 | 871,350 | 4,230,991 | 3,869,765 | 295,854 | 3,049,380 | 976,380 | 615,828 |
| 1986 | 439,048 | 256,526 | 987,311 | 4,490,546 | 3,784,949 | 457,986 | 2,897,411 | 1,488,494 | 1,029,535 |
| 1987 | 278,094 | 218,717 | 1,116,968 | 4,479,783 | 3,371,154 | 211,690 | 2,898,112 | 957,498 | 417,565 |
| 1988 | 272,041 | 200,865 | 1,187,037 | 4,783,324 | 3,460,511 | 265,393 | 3,020,080 | 889,237 | 456,934 |
| 1989 | 233,220 | 277,623 | 1,138,397 | 4,852,453 | 4,000,295 | 416,154 | 2,770,600 | 1,397,587 | 867,450 |
| 1990 | 437,913 | 308,095 | 1,543,812 | 5,655,547 | 4,032,767 | 415,133 | 3,219,526 | 3,169,718 | 750,936 |
| 1991 | 840,841 | 629,459 | 1,341,143 | 6,740,374 | 3,796,522 | 416,231 | 3,554,447 | 652,070 | 717,574 |
| 1992 | 423,663 | 5,380,605 | 1,111,572 | 10,810,308 | 4,172,758 | 456,083 | 3,854,629 | 997,584 | 902,919 |
| 1993 | 626,954 | 1,632,005 | 1,872,295 | 10,126,211 | 4,872,935 | 849,708 | 2,648,188 | 2,403,548 | 655,960 |
| 1994 | 566,172 | 634,787 | 1,841,744 | 8,899,094 | 4,626,262 | 832,845 | 2,553,075 | 2,451,115 | 754,973 |
| 1995 | 454,394 | 676,420 | 1,669,502 | 9,056,255 | 4,775,710 | 636,792 | 2,436,320 | 2,499,535 | 771,899 |
| 1996 | 468,265 | 509,217 | 2,516,362 | 9,949,990 | 4,888,842 | 656,229 | 2,418,474 | 3,590,756 | 693,957 |
| 1997 | 471,850 | 513,113 | 1,823,681 | 9,087,026 | 4,916,147 | 652,967 | 2,430,597 | 3,139,183 | 696,851 |
| 1998 | 472,047 | 513,353 | 2,345,936 | 9,543,584 | 4,920,211 | 654,493 | 2,432,881 | 3,145,868 | 696,955 |
| 1999 | 472,112 | 513,425 | 2,142,389 | 9,340,845 | 4,920,613 | 654,927 | 2,433,507 | 3,146,910 | 697,008 |
| 2000 | 472,112 | 513,425 | 2,338,952 | 9,538,657 | 4,921,775 | 660,869 | 2,435,264 | 3,167,603 | 697,008 |
| 2001 | 472,800 | 514,173 | 2,321,716 | 9,530,246 | 4,929,679 | 662,375 | 2,438,258 | 3,174,164 | 697,563 |
| 2002 | 472,800 | 514,173 | 2,403,974 | 9,613,494 | 4,930,602 | 667,111 | 2,439,651 | 3,190,378 | 697,563 |
| 2003 | 472,800 | 514,173 | 2,537,805 | 9,747,842 | 4,931,085 | 669,586 | 2,440,379 | 3,198,847 | 697,563 |
| 2004 | 472,800 | 514,173 | 2,684,825 | 9,895,432 | 4,931,613 | 672,306 | 2,441,179 | 3,208,163 | 697,563 |
| 2005 | 472,800 | 514,173 | 2,517,326 | 9,729,135 | 4,932,728 | 677,951 | 2,442,863 | 3,227,557 | 697,563 |
| 2006 | 472,800 | 514,173 | 2,572,761 | 9,784,628 | 4,932,781 | 678,229 | 2,442,944 | 3,228,533 | 697,563 |
| 2007 | 472,800 | 514,173 | 2,471,373 | 9,683,638 | 4,933,150 | 680,136 | 2,443,505 | 3,235,057 | 697,563 |
| 2008 | 472,800 | 514,173 | 2,482,738 | 9,695,443 | 4,933,559 | 682,239 | 2,444,124 | 3,242,259 | 697,563 |
| 2009 | 472,800 | 514,173 | 2,245,661 | 9,458,715 | 4,933,888 | 683,925 | 2,444,616 | 3,248,013 | 697,563 |
| 2010 | 472,800 | 514,173 | 2,610,540 | 9,825,271 | 4,935,441 | 691,835 | 2,446,967 | 3,275,105 | 697,563 |
| 2011 | 472,800 | 514,173 | 2,304,480 | 9,518,860 | 4,935,118 | 690,208 | 2,446,475 | 3,269,529 | 697,563 |
| 2012 | 472,800 | 514,173 | 2,641,869 | 9,856,734 | 4,935,568 | 692,506 | 2,447,156 | 3,277,384 | 697,563 |
| 2013 | 472,800 | 514,173 | 2,546,568 | 9,761,892 | 4,935,994 | 694,706 | 2,447,802 | 3,284,923 | 697,563 |
| 2014 | 472,800 | 514,173 | 2,812,340 | 10,028,208 | 4,936,501 | 697,294 | 2,448,567 | 3,293,793 | 697,563 |
| 2015 | 472,800 | 514,173 | 2,499,500 | 9,715,169 | 4,936,317 | 696,362 | 2,448,287 | 3,290,612 | 697,563 |
| 2016 | 472,800 | 514,173 | 2,504,924 | 9,720,716 | 4,936,430 | 696,941 | 2,448,460 | 3,292,523 | 697,563 |
| 2017 | 472,800 | 514,173 | 2,599,648 | 9,817,139 | 4,938,011 | 705,064 | 2,450,845 | 3,320,362 | 697,563 |
| 2018 | 472,800 | 514,173 | 2,599,238 | 9,816,714 | 4,937,997 | 704,991 | 2,450,824 | 3,320,093 | 697,563 |
| 2019 | 472,800 | 514,173 | 2,907,033 | 10,124,586 | 4,938,069 | 705,353 | 2,450,932 | 3,321,349 | 697,563 |
| 2020 | 472,800 | 514,173 | 2,377,113 | 9,593,878 | 4,937,338 | 701,605 | 2,449,828 | 3,308,539 | 697,563 |
| 2021 | 472,800 | 514,173 | 2,604,060 | 9,821,029 | 4,937,525 | 702,555 | 2,450,111 | 3,311,779 | 697,563 |
| 2022 | 472,800 | 514,173 | 2,342,709 | 9,559,774 | 4,937,612 | 703,015 | 2,450,245 | 3,313,366 | 697,563 |
| 2023 | 472,800 | 514,173 | 2,585,766 | 9,802,823 | 4,937,605 | 702,974 | 2,450,234 | 3,313,222 | 697,563 |
| 2024 | 472,800 | 514,173 | 2,713,431 | 9,930,489 | 4,937,606 | 702,982 | 2,450,236 | 3,313,245 | 697,563 |
| 2025 | 472,800 | 514,173 | 2,675,826 | 9,892,928 | 4,937,648 | 703,177 | 2,450,295 | 3,313,930 | 697,563 |
| 2026 | 472,800 | 514,173 | 2,608,029 | 9,824,899 | 4,937,434 | 702,080 | 2,449,969 | 3,310,135 | 697,563 |
| 2027 | 472,800 | 514,173 | 2,582,531 | 9,799,406 | 4,937,439 | 702,101 | 2,449,977 | 3,310,239 | 697,563 |
| 2028 | 472,800 | 514,173 | 2,386,017 | 9,602,912 | 4,937,457 | 702,203 | 2,450,007 | 3,310,563 | 697,563 |
| 2029 | 472,800 | 514,173 | 2,869,100 | 10,086,004 | 4,937,464 | 702,238 | 2,450,018 | 3,310,709 | 697,563 |
| 2030 | 472,800 | 514,173 | 2,484,433 | 9,701,306 | 4,937,438 | 702,097 | 2,449,976 | 3,310,221 | 697,563 |
| 2031 | 472,800 | 514,173 | 2,585,438 | 9,802,395 | 4,937,512 | 702,494 | 2,450,094 | 3,311,574 | 697,563 |
| 2032 | 472,800 | 514,173 | 2,585,438 | 9,802,395 | 4,937,512 | 702,494 | 2,450,094 | 3,311,574 | 697,563 |
| 2033 | 472,800 | 514,173 | 2,534,997 | 9,751,991 | 4,937,549 | 702,668 | 2,450,146 | 3,312,177 | 697,563 |
| 2034 | 472,800 | 514,173 | 2,352,350 | 9,569,233 | 4,937,446 | 702,149 | 2,449,990 | 3,310,398 | 697,563 |
| 2035 | 472,800 | 514,173 | 1,654,034 | 8,871,108 | 4,937,619 | 703,028 | 2,450,255 | 3,313,309 | 697,563 |
| Total | 25,920,033 | 32,109,354 | 122,385,913 | 490,530,567 | 262,188,545 | 35,389,631 | 137,352,520 | 160,035,094 | 38,277,803 |

TABLE B-11

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of Transportation Charge

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | West Branch (continued) | | Coastal Branch | | | | | | |
| Calendar Year | Reach 30 (65) | Subtotal (66) | Reach 31A (a (67) | Reach 33A (68) | Reach 34 (69) | Reach 35 (70) | Subtotal (71) | Total (72) | Grand Total (73) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 42,918 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 168,358 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 184,729 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 378,874 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 408,397 |
| 1967 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 634,505 |
| 1968 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,160,548 | 2,745,160 |
| 1969 | 0 | 0 | 509,728 | 0 | 0 | 0 | 509,728 | 3,324,718 | 4,074,939 |
| 1970 | 0 | 0 | 609,988 | 0 | 0 | 0 | 609,988 | 3,983,062 | 4,676,282 |
| 1971 | 0 | 0 | 699,052 | 0 | 0 | 0 | 699,052 | 5,614,013 | 6,185,714 |
| 1972 | 420,789 | 1,820,832 | 697,576 | 0 | 0 | 0 | 697,576 | 12,353,356 | 12,998,869 |
| 1973 | 621,431 | 2,248,000 | 641,626 | 0 | 0 | 0 | 641,626 | 14,590,688 | 15,194,233 |
| 1974 | 723,949 | 2,223,720 | 669,279 | 0 | 0 | 0 | 669,279 | 16,598,762 | 17,372,561 |
| 1975 | 841,991 | 3,140,708 | 806,429 | 0 | 0 | 0 | 806,429 | 19,569,999 | 20,517,423 |
| 1976 | (650,944) | 1,710,546 | 840,927 | 0 | 0 | 0 | 840,927 | 19,002,859 | 20,027,213 |
| 1977 | 634,581 | 2,923,325 | 872,169 | 0 | 0 | 0 | 872,169 | 23,272,236 | 24,217,840 |
| 1978 | 3,088,954 | 5,306,854 | 934,119 | 0 | 0 | 0 | 934,119 | 24,818,739 | 26,012,786 |
| 1979 | 958,068 | 3,897,207 | 871,688 | 0 | 0 | 0 | 871,688 | 23,421,881 | 24,675,598 |
| 1980 | 222,549 | 3,763,459 | 1,052,335 | 0 | 0 | 0 | 1,052,335 | 30,106,275 | 32,039,355 |
| 1981 | 1,094,200 | 5,932,906 | 1,037,207 | 0 | 0 | 0 | 1,037,207 | 33,831,144 | 35,460,529 |
| 1982 | 992,082 | 6,510,259 | 1,032,753 | 0 | 0 | 0 | 1,032,753 | 39,986,102 | 42,128,610 |
| 1983 | 3,134,827 | 8,267,547 | 1,160,984 | 0 | 0 | 0 | 1,160,984 | 54,263,253 | 56,539,095 |
| 1984 | 727,534 | 7,887,391 | 1,432,023 | 0 | 0 | 0 | 1,432,023 | 63,894,925 | 67,048,803 |
| 1985 | 1,775,929 | 10,583,136 | 1,858,499 | 0 | 0 | 0 | 1,858,499 | 70,763,446 | 74,336,743 |
| 1986 | 1,342,561 | 11,000,936 | 1,721,141 | 0 | 0 | 0 | 1,721,141 | 73,766,666 | 77,035,575 |
| 1987 | 1,401,658 | 9,257,677 | 1,696,277 | 0 | 0 | 0 | 1,696,277 | 70,361,986 | 74,114,456 |
| 1988 | 1,441,981 | 9,534,136 | 1,979,100 | 0 | 0 | 0 | 1,979,100 | 72,755,098 | 76,482,517 |
| 1989 | 1,494,309 | 10,946,395 | 1,781,113 | 0 | 0 | 0 | 1,781,113 | 73,673,837 | 78,477,282 |
| 1990 | 838,794 | 12,426,874 | 2,270,286 | 0 | 0 | 0 | 2,270,286 | 85,610,463 | 90,828,499 |
| 1991 | 212,118 | 9,348,962 | 2,356,614 | 0 | 0 | 0 | 2,356,614 | 86,306,483 | 90,427,120 |
| 1992 | 2,098,276 | 12,482,249 | 2,500,622 | 0 | 0 | 0 | 2,500,622 | 96,074,312 | 102,233,113 |
| 1993 | 2,123,351 | 13,553,690 | 4,123,866 | 0 | 0 | 0 | 4,123,866 | 106,836,018 | 116,959,806 |
| 1994 | 1,571,704 | 12,789,974 | 3,880,048 | 0 | 0 | 0 | 3,880,048 | 102,685,795 | 111,287,098 |
| 1995 | 1,331,467 | 12,451,723 | 3,742,366 | 0 | 0 | 0 | 3,742,366 | 103,080,584 | 110,195,190 |
| 1996 | 1,354,717 | 13,602,975 | 3,469,064 | 1,661,275 | 643,528 | 392,647 | 6,166,514 | 107,118,845 | 113,996,716 |
| 1997 | 4,621,574 | 16,457,319 | 3,493,501 | 1,428,066 | 325,965 | 315,140 | 5,562,672 | 106,810,327 | 113,737,039 |
| 1998 | 3,527,330 | 15,377,738 | 3,496,815 | 1,414,942 | 312,617 | 314,998 | 5,539,372 | 108,430,717 | 115,361,983 |
| 1999 | 1,288,960 | 13,141,925 | 3,496,723 | 1,415,251 | 312,658 | 315,030 | 5,539,662 | 108,188,594 | 115,120,128 |
| 2000 | 1,975,944 | 13,858,463 | 3,497,921 | 1,415,850 | 312,745 | 315,264 | 5,541,780 | 105,187,080 | 112,120,896 |
| 2001 | 1,836,049 | 13,738,088 | 3,503,059 | 1,418,004 | 313,210 | 315,748 | 5,550,021 | 107,149,567 | 114,094,655 |
| 2002 | 1,880,303 | 13,805,608 | 3,504,012 | 1,418,479 | 313,281 | 315,933 | 5,551,705 | 107,365,473 | 114,312,374 |
| 2003 | 1,889,890 | 13,827,350 | 3,504,509 | 1,418,729 | 313,316 | 316,032 | 5,552,586 | 107,430,949 | 114,378,797 |
| 2004 | 1,900,356 | 13,851,180 | 3,505,058 | 1,419,001 | 313,357 | 316,139 | 5,553,555 | 107,668,787 | 114,617,679 |
| 2005 | 1,894,640 | 13,873,302 | 3,506,207 | 1,419,580 | 313,442 | 316,363 | 5,555,592 | 108,125,192 | 115,076,280 |
| 2006 | 1,923,657 | 13,903,707 | 3,506,262 | 1,419,608 | 313,445 | 316,374 | 5,555,689 | 107,945,841 | 114,897,036 |
| 2007 | 1,930,993 | 13,920,404 | 3,506,645 | 1,419,797 | 313,475 | 316,448 | 5,556,365 | 107,714,706 | 114,666,628 |
| 2008 | 1,938,929 | 13,938,673 | 3,507,067 | 1,420,010 | 313,505 | 316,530 | 5,557,112 | 107,936,650 | 114,889,379 |
| 2009 | 1,945,395 | 13,953,400 | 3,507,407 | 1,420,181 | 313,529 | 316,596 | 5,557,713 | 107,099,123 | 114,052,493 |
| 2010 | 2,039,429 | 14,086,340 | 3,509,012 | 1,420,985 | 313,649 | 316,911 | 5,560,557 | 111,520,543 | 118,476,980 |
| 2011 | 1,904,822 | 13,943,715 | 3,508,675 | 1,420,817 | 313,623 | 316,844 | 5,559,959 | 105,891,505 | 112,847,295 |
| 2012 | 1,979,607 | 14,029,784 | 3,509,141 | 1,421,051 | 313,658 | 316,935 | 5,560,785 | 108,219,215 | 115,175,895 |
| 2013 | 1,988,095 | 14,049,083 | 3,509,584 | 1,421,274 | 313,690 | 317,021 | 5,561,569 | 108,120,537 | 115,078,059 |
| 2014 | 2,071,849 | 14,145,567 | 3,510,105 | 1,421,535 | 313,729 | 317,123 | 5,562,492 | 108,965,690 | 115,924,208 |
| 2015 | 2,160,684 | 14,229,825 | 3,509,915 | 1,421,437 | 313,714 | 317,089 | 5,562,155 | 106,886,717 | 113,844,873 |
| 2016 | 1,868,702 | 13,940,619 | 3,510,033 | 1,421,497 | 313,724 | 317,110 | 5,562,364 | 108,147,897 | 115,106,280 |
| 2017 | 2,063,643 | 14,175,488 | 3,511,667 | 1,422,316 | 313,843 | 317,429 | 5,565,255 | 108,459,773 | 115,421,268 |
| 2018 | 1,959,795 | 14,071,263 | 3,511,650 | 1,422,305 | 313,842 | 317,426 | 5,565,223 | 108,288,179 | 115,249,646 |
| 2019 | 1,899,939 | 14,013,205 | 3,511,726 | 1,422,343 | 313,847 | 317,441 | 5,565,357 | 109,004,460 | 115,966,070 |
| 2020 | 2,061,164 | 14,156,037 | 3,510,969 | 1,421,964 | 313,792 | 317,293 | 5,564,018 | 106,449,514 | 113,409,683 |
| 2021 | 2,017,435 | 14,116,968 | 3,511,163 | 1,422,063 | 313,805 | 317,333 | 5,564,364 | 108,383,636 | 115,344,176 |
| 2022 | 2,054,416 | 14,156,217 | 3,511,257 | 1,422,110 | 313,813 | 317,349 | 5,564,529 | 108,323,324 | 115,284,040 |
| 2023 | 2,020,147 | 14,121,745 | 3,511,248 | 1,422,104 | 313,813 | 317,347 | 5,564,512 | 108,327,927 | 115,288,627 |
| 2024 | 1,985,984 | 14,087,616 | 3,511,250 | 1,422,104 | 313,813 | 317,348 | 5,564,515 | 108,327,522 | 115,288,226 |
| 2025 | 2,097,434 | 14,200,047 | 3,511,291 | 1,422,126 | 313,815 | 317,357 | 5,564,589 | 109,026,533 | 115,987,317 |
| 2026 | 1,947,768 | 14,044,949 | 3,511,067 | 1,422,015 | 313,799 | 317,313 | 5,564,194 | 108,220,343 | 115,180,702 |
| 2027 | 2,083,706 | 14,181,025 | 3,511,072 | 1,422,019 | 313,799 | 317,314 | 5,564,204 | 108,266,242 | 115,226,609 |
| 2028 | 1,918,349 | 14,016,142 | 3,511,093 | 1,422,026 | 313,801 | 317,318 | 5,564,238 | 108,270,351 | 115,230,758 |
| 2029 | 2,015,778 | 14,113,770 | 3,511,098 | 1,422,031 | 313,802 | 317,318 | 5,564,249 | 108,208,485 | 115,168,901 |
| 2030 | 2,039,893 | 14,137,188 | 3,511,071 | 1,422,015 | 313,799 | 317,314 | 5,564,199 | 108,118,506 | 115,078,871 |
| 2031 | 2,018,196 | 14,117,433 | 3,511,152 | 1,422,058 | 313,805 | 317,329 | 5,564,344 | 108,306,822 | 115,267,339 |
| 2032 | 2,018,196 | 14,117,433 | 3,511,152 | 1,422,058 | 313,805 | 317,329 | 5,564,344 | 108,306,822 | 115,267,339 |
| 2033 | 2,052,821 | 14,152,924 | 3,511,188 | 1,422,076 | 313,809 | 317,334 | 5,564,407 | 108,705,947 | 115,666,533 |
| 2034 | 2,050,441 | 14,147,987 | 3,511,082 | 1,422,021 | 313,801 | 317,313 | 5,564,217 | 107,664,451 | 114,624,836 |
| 2035 | 1,409,231 | 13,511,005 | 3,511,256 | 1,422,114 | 313,814 | 317,350 | 5,564,534 | 109,631,729 | 116,592,450 |
| Total | 110,078,420 | 743,322,013 | 182,061,982 | 57,077,237 | 12,886,277 | 12,747,830 | 264,773,326 | 5,652,921,769 | 6,014,429,254 |

a) Includes certain costs to be assigned directly to Kern County Water Agency. Refer to Appendix B text discussion of Table B-16A under "Project Water Charges."

TABLE B-12

# Variable OMP&R Costs to Be Reimbursed through Variable OMP&R Component of Transportation Charge (a

(Dollars)



| | North Bay Aqueduct | | | | South Bay Aqueduct | California Aqueduct | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Reach 1 | Reach 3A | Reach 3B | | Reach 1 | Reach 1 | Reach 4 | Reach 14A | Reach 15A |
| Calendar Year | Barker Slough Pumping Plant (1) | Cordelia Pumping Plant (Solano) (2) | Cordelia Pumping Plant (Napa) (b (3) | Total (4) | South Bay & Del Valle Pumping Plants (c (5) | Banks Pumping Plant (6) | Dos Amigos Pumping Plant (7) | Buena Vista Pumping Plant (8) | Teerink Pumping Plant (9) |
| 1962 | 0 | 0 | 0 | 0 | 36,970 | 0 | 0 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 0 | 57,711 | 0 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 0 | 74,134 | 0 | 0 | 0 | 0 |
| 1965 | 0 | 0 | 0 | 0 | 142,609 | 0 | 0 | 0 | 0 |
| 1966 | 0 | 0 | 0 | 0 | 192,605 | 0 | 0 | 0 | 0 |
| 1967 | 0 | 0 | 0 | 0 | 223,117 | 13,881 | 0 | 0 | 0 |
| 1968 | 0 | 0 | 6,989 | 6,989 | 336,671 | 452,630 | 202,947 | 0 | 0 |
| 1969 | 0 | 0 | 8,551 | 8,551 | 257,579 | 293,741 | 135,425 | 0 | 0 |
| 1970 | 0 | 0 | 13,598 | 13,598 | 396,358 | 346,215 | 211,198 | 0 | 0 |
| 1971 | 0 | 0 | 10,609 | 10,609 | 381,662 | 574,015 | 225,188 | 138,001 | 17,664 |
| 1972 | 0 | 0 | 14,434 | 14,434 | 598,702 | 927,369 | 498,482 | 234,626 | 89,516 |
| 1973 | 0 | 0 | 14,449 | 14,449 | 493,490 | 685,014 | 379,305 | 303,105 | 275,021 |
| 1974 | 0 | 0 | 17,473 | 17,473 | 565,575 | 769,839 | 438,997 | 344,632 | 350,558 |
| 1975 | 0 | 0 | 14,779 | 14,779 | 349,758 | 1,330,133 | 514,241 | 542,726 | 585,744 |
| 1976 | 0 | 0 | 20,856 | 20,856 | 571,361 | 1,456,742 | 562,537 | 609,257 | 600,780 |
| 1977 | 0 | 0 | 22,635 | 22,635 | 512,996 | 801,033 | 211,120 | 166,598 | 173,208 |
| 1978 | 0 | 0 | 21,692 | 21,692 | 586,355 | 2,215,828 | 574,813 | 658,309 | 578,337 |
| 1979 | 0 | 0 | 16,237 | 16,237 | 605,136 | 3,431,968 | 973,702 | 760,080 | 724,534 |
| 1980 | 0 | 0 | 19,945 | 19,945 | 523,369 | 1,882,630 | 1,010,938 | 853,317 | 826,802 |
| 1981 | 0 | 0 | 23,841 | 23,841 | 567,692 | 3,920,954 | 1,897,018 | 1,289,727 | 1,269,451 |
| 1982 | 0 | 0 | 12,159 | 12,159 | 531,147 | 3,060,402 | 1,360,551 | 1,196,255 | 1,208,785 |
| 1983 | 0 | 0 | 2,335 | 2,335 | 124,260 | 866,082 | 372,224 | 362,477 | 337,756 |
| 1984 | 0 | 0 | 4,866 | 4,866 | 274,071 | 1,726,606 | 898,131 | 683,845 | 604,273 |
| 1985 | 0 | 0 | 10,186 | 10,186 | 451,019 | 3,203,309 | 1,615,438 | 1,397,512 | 1,397,110 |
| 1986 | 0 | 0 | 15,472 | 15,472 | 826,289 | 7,007,102 | 2,621,017 | 2,410,367 | 2,437,487 |
| 1987 | 0 | 0 | 27,222 | 27,222 | 895,814 | 7,311,240 | 2,531,225 | 2,240,488 | 2,223,201 |
| 1988 | 17,867 | 20,024 | 23,987 | 61,878 | 913,717 | 7,635,377 | 2,631,296 | 2,571,939 | 2,569,844 |
| 1989 | 26,413 | 45,485 | 6,589 | 78,487 | 1,084,717 | 9,806,755 | 4,017,939 | 3,980,189 | 3,990,355 |
| 1990 | 58,623 | 68,476 | 43,103 | 170,202 | 1,873,401 | 11,537,257 | 4,311,785 | 5,780,222 | 6,014,887 |
| 1991 | 22,100 | 33,340 | 3,301 | 58,741 | 438,716 | 3,186,483 | 892,865 | 975,052 | 1,030,505 |
| 1992 | 21,850 | 19,889 | 11,642 | 53,381 | 354,595 | 6,370,481 | 1,520,118 | 1,776,250 | 2,012,734 |
| 1993 | 51,972 | 40,943 | 33,571 | 126,486 | 973,636 | 10,438,086 | 4,808,020 | 5,131,451 | 5,931,458 |
| 1994 | 140,002 | 111,105 | 91,565 | 342,672 | 2,497,343 | 22,971,690 | 10,332,668 | 11,501,957 | 13,403,305 |
| 1995 | 277,576 | 133,409 | 114,829 | 525,814 | 2,958,783 | 28,223,476 | 12,083,009 | 13,606,508 | 15,880,731 |
| 1996 | 210,144 | 139,919 | 134,359 | 484,422 | 4,052,584 | 34,130,801 | 14,295,675 | 15,754,559 | 18,401,407 |
| 1997 | 206,936 | 139,209 | 136,930 | 483,075 | 3,895,874 | 34,618,819 | 13,794,961 | 15,066,516 | 17,592,585 |
| 1998 | 214,353 | 140,019 | 146,535 | 500,907 | 3,935,919 | 34,337,214 | 14,155,283 | 15,986,995 | 18,261,722 |
| 1999 | 222,018 | 143,529 | 156,163 | 521,710 | 3,980,261 | 31,617,371 | 13,967,983 | 16,197,027 | 18,504,731 |
| 2000 | 235,536 | 150,210 | 170,834 | 556,580 | 4,111,593 | 32,660,761 | 14,442,477 | 16,842,465 | 19,253,165 |
| 2001 | 239,626 | 150,884 | 179,774 | 570,284 | 4,130,055 | 32,950,575 | 14,563,498 | 17,024,213 | 19,469,447 |
| 2002 | 248,515 | 154,690 | 191,477 | 594,682 | 4,234,239 | 33,726,978 | 14,902,913 | 17,442,280 | 19,948,714 |
| 2003 | 255,073 | 156,680 | 202,479 | 614,232 | 4,288,677 | 34,115,260 | 15,073,701 | 17,649,570 | 20,185,442 |
| 2004 | 262,040 | 158,865 | 213,747 | 634,652 | 4,348,496 | 34,565,633 | 15,266,803 | 17,886,913 | 20,457,418 |
| 2005 | 283,913 | 174,007 | 228,814 | 686,734 | 4,474,882 | 35,951,538 | 15,880,423 | 18,789,664 | 21,521,265 |
| 2006 | 287,088 | 174,245 | 235,707 | 697,040 | 4,480,980 | 35,999,395 | 15,902,197 | 18,817,233 | 21,552,983 |
| 2007 | 293,036 | 175,873 | 246,016 | 714,925 | 4,522,849 | 36,307,852 | 16,039,831 | 18,986,858 | 21,747,567 |
| 2008 | 299,903 | 177,674 | 258,375 | 735,952 | 4,569,179 | 36,649,247 | 16,190,785 | 19,173,368 | 21,961,525 |
| 2009 | 305,694 | 179,102 | 268,704 | 753,500 | 4,605,873 | 36,872,344 | 16,285,487 | 19,276,579 | 22,076,563 |
| 2010 | 322,633 | 187,624 | 287,800 | 798,057 | 4,782,196 | 38,576,190 | 17,027,153 | 20,290,749 | 23,261,881 |
| 2011 | 324,270 | 186,172 | 296,440 | 806,882 | 4,745,173 | 38,143,975 | 16,852,581 | 20,037,211 | 22,963,274 |
| 2012 | 331,341 | 188,175 | 308,883 | 828,399 | 4,796,243 | 38,697,949 | 17,091,787 | 20,372,685 | 23,357,427 |
| 2013 | 338,843 | 190,073 | 323,695 | 852,611 | 4,844,616 | 39,063,473 | 17,251,893 | 20,571,076 | 23,585,098 |
| 2014 | 347,229 | 192,314 | 339,285 | 878,828 | 4,901,729 | 39,491,711 | 17,438,172 | 20,803,003 | 23,851,367 |
| 2015 | 351,887 | 193,319 | 350,053 | 895,259 | 4,880,879 | 39,272,780 | 17,343,757 | 20,670,862 | 23,696,314 |
| 2016 | 356,717 | 193,831 | 362,430 | 912,978 | 4,893,809 | 39,459,750 | 17,425,493 | 20,793,170 | 23,841,619 |
| 2017 | 374,093 | 200,905 | 387,845 | 962,843 | 5,072,439 | 40,827,639 | 18,023,975 | 21,540,622 | 24,700,620 |
| 2018 | 378,134 | 200,839 | 400,024 | 978,997 | 5,070,769 | 40,806,085 | 18,014,435 | 21,526,278 | 24,683,650 |
| 2019 | 383,168 | 201,163 | 413,247 | 997,578 | 5,078,936 | 40,862,722 | 18,037,743 | 21,555,122 | 24,716,394 |
| 2020 | 381,026 | 197,883 | 419,755 | 998,664 | 4,996,133 | 40,151,251 | 17,729,032 | 21,151,051 | 24,248,040 |
| 2021 | 383,468 | 198,730 | 423,675 | 1,005,873 | 5,017,523 | 40,462,957 | 17,865,465 | 21,355,884 | 24,491,375 |
| 2022 | 384,239 | 199,130 | 424,526 | 1,007,895 | 5,027,604 | 40,515,637 | 17,888,416 | 21,379,137 | 24,516,949 |
| 2023 | 384,171 | 199,095 | 424,451 | 1,007,717 | 5,026,710 | 40,532,155 | 17,896,058 | 21,393,698 | 24,534,968 |
| 2024 | 384,185 | 199,103 | 424,467 | 1,007,755 | 5,026,901 | 40,523,652 | 17,891,692 | 21,385,968 | 24,525,423 |
| 2025 | 384,530 | 199,280 | 424,849 | 1,008,659 | 5,031,424 | 40,580,966 | 17,915,792 | 21,422,117 | 24,568,258 |
| 2026 | 382,669 | 198,317 | 422,791 | 1,003,777 | 5,007,064 | 40,383,351 | 17,832,307 | 21,315,199 | 24,444,970 |
| 2027 | 382,708 | 198,337 | 422,834 | 1,003,879 | 5,007,573 | 40,390,741 | 17,834,933 | 21,319,054 | 24,449,491 |
| 2028 | 382,875 | 198,423 | 423,018 | 1,004,316 | 5,009,753 | 40,388,662 | 17,832,547 | 21,311,517 | 24,439,554 |
| 2029 | 382,940 | 198,457 | 423,091 | 1,004,488 | 5,010,615 | 40,390,699 | 17,835,377 | 21,315,175 | 24,443,851 |
| 2030 | 382,697 | 198,331 | 422,822 | 1,003,850 | 5,007,430 | 40,399,129 | 17,835,696 | 21,320,803 | 24,451,686 |
| 2031 | 383,369 | 198,679 | 423,565 | 1,005,613 | 5,016,228 | 40,476,930 | 17,872,391 | 21,370,334 | 24,509,474 |
| 2032 | 383,369 | 198,679 | 423,565 | 1,005,613 | 5,016,228 | 40,476,930 | 17,872,391 | 21,370,334 | 24,509,474 |
| 2033 | 383,670 | 198,836 | 423,898 | 1,006,404 | 5,020,171 | 40,501,501 | 17,882,180 | 21,381,723 | 24,522,288 |
| 2034 | 382,779 | 198,373 | 422,913 | 1,004,065 | 5,008,506 | 40,364,864 | 17,823,266 | 21,296,527 | 24,421,792 |
| 2035 | 384,311 | 199,168 | 424,607 | 1,008,086 | 5,028,559 | 40,377,314 | 17,845,341 | 21,306,734 | 24,428,583 |
| Total | 13,821,599 | 7,800,813 | 13,641,358 | 35,263,770 | 210,628,030 | 1,669,069,139 | 728,754,087 | 853,965,163 | 975,632,400 |

a) Includes extra peaking costs assigned directly to contractors. Refer to Appendix B text discussion of Table B-17 under "Project Water Charges."
b) Costs for the period 1968 through 1987 are for an interim facility.
c) The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedures.

TABLE B-12

# Variable OMP&R Costs to Be Reimbursed through Variable OMP&R Component of Transportation Charge (a

(Dollars)



| | California Aqueduct (continued) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Reach 16A | Reach 17E | Reach 18A | Reach 22B | Reach 23 | Reach 24 | Reach 26A | Reach 28J | Reach 29A |
| Calendar Year | Chrisman Pumping Plant (10) | Edmonston Pumping Plant (11) | Alamo Powerplant (12) | Pearblossom Pumping Plant (13) | Mojave Siphon Powerplant (14) | Silverwood Lake (d (15) | Devil Canyon Powerplant (16) | Lake Perris (d (17) | Oso Pumping Plant (18) |
| 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 | 23,387 | 0 | 4,216 | (3,024) | 0 | 93,212 |
| 1973 | 434,834 | 1,524,488 | 0 | 219,421 | 0 | 47,861 | (436,769) | 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 | 25,950 | (1,033,054) | 65,938 | 349,000 |
| 1976 | 1,222,413 | 4,235,934 | 0 | 869,201 | 0 | 122,336 | (1,459,978) | 104,257 | 245,397 |
| 1977 | 351,987 | 1,160,085 | 0 | 296,678 | 0 | 261,704 | (1,115,096) | 50,523 | 18,075 |
| 1978 | 1,034,893 | 3,636,671 | 0 | 1,551,015 | 0 | 0 | (3,038,194) | 0 | 69,043 |
| 1979 | 1,438,690 | 4,965,847 | 0 | 1,712,620 | 0 | 122,803 | (3,159,826) | 355,442 | 118,995 |
| 1980 | 1,634,049 | 5,416,333 | 0 | 1,733,275 | 0 | 154,695 | (3,318,152) | 0 | 36,761 |
| 1981 | 2,726,625 | 8,975,564 | 0 | 2,152,072 | 0 | 290,518 | (3,678,813) | 372,857 | 443,282 |
| 1982 | 2,416,093 | 8,325,450 | 0 | 1,489,997 | 0 | 0 | (2,734,735) | 0 | 539,246 |
| 1983 | 610,175 | 1,812,417 | 0 | 346,500 | 0 | 381,004 | (5,478,333) | 0 | 135,164 |
| 1984 | 1,131,707 | 3,450,039 | 0 | 627,100 | 0 | 0 | (7,325,752) | (10,364) | 237,006 |
| 1985 | 2,781,982 | 9,262,238 | 0 | 1,195,775 | 0 | 0 | (10,477,628) | (57,093) | 874,071 |
| 1986 | 5,011,171 | 16,995,600 | (1,013,756) | 2,364,991 | 0 | 0 | (11,484,996) | 0 | 1,271,720 |
| 1987 | 4,455,625 | 14,683,449 | (1,025,854) | 1,830,348 | 0 | 127,810 | (10,805,393) | 56,870 | 1,325,853 |
| 1988 | 5,147,228 | 16,895,130 | (744,374) | 2,386,714 | 0 | 0 | (14,495,967) | 0 | 1,425,495 |
| 1989 | 8,405,372 | 28,216,022 | (766,443) | 4,125,465 | 0 | 689,792 | (18,532,961) | 91,079 | 2,020,134 |
| 1990 | 13,618,589 | 48,328,631 | (834,580) | 6,505,724 | 0 | 89,504 | (20,909,320) | 148,530 | 2,855,157 |
| 1991 | 2,397,251 | 8,417,948 | (357,644) | 1,009,941 | 0 | 0 | (6,921,017) | 0 | 586,025 |
| 1992 | 3,615,674 | 10,286,193 | (33,343) | 2,099,610 | 0 | 0 | (8,569,403) | 0 | 1,653,978 |
| 1993 | 11,996,855 | 41,284,868 | (1,029,397) | 6,572,854 | 0 | 416,269 | (22,941,679) | 0 | 2,753,914 |
| 1994 | 27,840,568 | 97,398,295 | (1,746,764) | 13,229,740 | 0 | 0 | (26,426,121) | 0 | 6,811,571 |
| 1995 | 33,084,884 | 115,948,116 | (1,754,731) | 17,540,211 | 0 | 32,319 | (29,899,771) | 0 | 7,310,419 |
| 1996 | 38,501,528 | 135,269,205 | (4,173,243) | 20,022,503 | (8,146,084) | 266,266 | (30,083,365) | 0 | 8,534,336 |
| 1997 | 36,784,060 | 129,191,425 | (4,035,177) | 18,383,528 | (7,956,982) | 2,436,564 | (29,232,931) | 523,270 | 8,426,039 |
| 1998 | 38,056,676 | 133,382,767 | (4,171,483) | 19,139,914 | (8,598,529) | 149,212 | (29,456,828) | 0 | 8,616,488 |
| 1999 | 38,573,346 | 135,211,579 | (4,223,465) | 19,393,288 | (8,474,392) | 0 | (29,532,068) | 206,643 | 8,661,883 |
| 2000 | 40,165,310 | 140,847,717 | (4,213,753) | 19,887,542 | (8,143,139) | 1,999,242 | (29,880,273) | 35,072 | 9,046,585 |
| 2001 | 40,629,911 | 142,500,194 | (4,292,242) | 20,298,910 | (8,588,920) | 4,393 | (29,787,503) | 59,073 | 9,082,649 |
| 2002 | 41,649,677 | 146,111,578 | (4,295,776) | 20,816,431 | (8,584,915) | 0 | (29,812,732) | 0 | 9,298,789 |
| 2003 | 42,153,348 | 147,895,286 | (4,292,602) | 21,058,428 | (8,557,380) | 126,171 | (29,819,900) | 0 | 9,410,391 |
| 2004 | 42,732,192 | 149,946,276 | (4,295,384) | 21,352,430 | (8,605,239) | 94,237 | (29,809,089) | 0 | 9,532,949 |
| 2005 | 45,014,737 | 158,060,064 | (4,493,514) | 22,648,661 | (8,983,365) | 0 | (30,714,573) | 0 | 9,831,321 |
| 2006 | 45,081,854 | 158,297,178 | (4,492,036) | 22,679,581 | (8,944,246) | 0 | (30,725,229) | 0 | 9,846,671 |
| 2007 | 45,495,136 | 159,759,344 | (4,489,888) | 22,889,067 | (8,929,332) | 0 | (30,727,494) | 0 | 9,932,865 |
| 2008 | 45,950,811 | 161,373,952 | (4,490,979) | 23,119,683 | (8,947,438) | 0 | (30,723,110) | 0 | 10,028,232 |
| 2009 | 46,192,997 | 162,227,515 | (4,458,178) | 23,171,366 | (8,881,138) | 479,557 | (30,648,568) | 250,659 | 10,103,773 |
| 2010 | 48,738,148 | 171,279,574 | (4,587,168) | 24,525,893 | (8,573,263) | 0 | (31,326,803) | 0 | 10,466,364 |
| 2011 | 48,089,295 | 168,958,307 | (4,527,784) | 23,993,654 | (8,170,206) | 1,881,271 | (31,329,303) | 227,977 | 10,384,355 |
| 2012 | 48,934,345 | 171,961,862 | (4,594,602) | 24,604,513 | (8,491,895) | 0 | (31,344,692) | 0 | 10,495,648 |
| 2013 | 49,418,686 | 173,676,552 | (4,596,199) | 24,849,531 | (8,496,170) | 0 | (31,341,300) | 0 | 10,595,230 |
| 2014 | 49,987,345 | 175,694,303 | (4,601,016) | 25,136,702 | (8,593,812) | 0 | (31,316,534) | 0 | 10,712,387 |
| 2015 | 49,653,498 | 174,505,928 | (4,540,818) | 24,893,080 | (8,545,192) | 1,425,854 | (31,408,991) | 57,854 | 10,668,921 |
| 2016 | 49,965,783 | 175,616,801 | (4,585,444) | 25,190,565 | (8,677,291) | 0 | (31,403,133) | 54,723 | 10,684,037 |
| 2017 | 51,794,868 | 182,096,349 | (4,585,132) | 26,109,533 | (8,662,453) | 0 | (31,422,970) | 0 | 11,064,009 |
| 2018 | 51,758,269 | 181,965,661 | (4,588,112) | 26,095,549 | (8,660,775) | 34,102 | (31,422,821) | 0 | 11,054,245 |
| 2019 | 51,829,490 | 182,221,236 | (4,588,887) | 26,140,698 | (8,696,479) | 0 | (31,416,710) | 0 | 11,065,227 |
| 2020 | 50,827,860 | 178,665,377 | (4,573,304) | 25,499,265 | (8,821,068) | 1,738,776 | (31,401,397) | 209,094 | 10,906,922 |
| 2021 | 51,351,312 | 180,528,128 | (4,627,948) | 25,947,970 | (9,132,773) | 0 | (31,427,905) | 0 | 10,951,188 |
| 2022 | 51,405,147 | 180,718,328 | (4,610,605) | 25,947,595 | (9,060,932) | 0 | (31,374,665) | 250,816 | 10,971,770 |
| 2023 | 51,443,755 | 180,855,273 | (4,630,346) | 25,995,056 | (9,080,266) | 136 | (31,442,145) | 0 | 10,970,113 |
| 2024 | 51,423,616 | 180,783,796 | (4,628,240) | 25,980,051 | (9,080,713) | 96,367 | (31,440,953) | 0 | 10,967,175 |
| 2025 | 51,516,969 | 181,118,427 | (4,619,749) | 26,048,441 | (8,981,360) | 0 | (31,513,482) | 0 | 10,979,368 |
| 2026 | 51,252,463 | 180,178,101 | (4,625,790) | 25,917,824 | (8,925,611) | 46,280 | (31,526,878) | 0 | 10,923,124 |
| 2027 | 51,262,414 | 180,213,624 | (4,621,881) | 25,909,570 | (8,926,816) | 113,890 | (31,525,279) | 0 | 10,930,317 |
| 2028 | 51,240,957 | 180,137,148 | (4,614,403) | 25,896,841 | (8,950,424) | 0 | (31,460,897) | 203,100 | 10,925,683 |
| 2029 | 51,250,187 | 180,170,295 | (4,616,442) | 25,878,449 | (9,014,528) | 396,042 | (31,497,875) | 0 | 10,936,869 |
| 2030 | 51,266,859 | 180,229,272 | (4,646,751) | 25,915,120 | (9,085,147) | 107,022 | (31,487,320) | 102,619 | 10,930,308 |
| 2031 | 51,390,426 | 180,667,807 | (4,626,964) | 25,998,635 | (9,185,826) | 0 | (31,489,073) | 0 | 10,948,575 |
| 2032 | 51,390,426 | 180,667,807 | (4,626,964) | 25,998,635 | (9,185,826) | 0 | (31,489,073) | 0 | 10,948,575 |
| 2033 | 51,418,773 | 180,769,770 | (4,627,406) | 26,006,910 | (9,180,703) | 0 | (31,475,708) | 53,282 | 10,956,486 |
| 2034 | 51,201,969 | 179,997,437 | (4,608,883) | 25,837,393 | (9,102,692) | 449,554 | (31,434,453) | 236,490 | 10,932,469 |
| 2035 | 51,219,638 | 180,066,101 | (4,594,736) | 25,886,510 | (8,710,625) | 0 | (31,386,448) | 962,841 | 10,915,599 |
| Total | 2,041,255,708 | 7,161,530,873 | (189,420,180) | 1,031,841,168 | (350,333,945) | 14,709,896 | (1,452,802,970) | 4,664,101 | 444,158,995 |

d) These values represent a proportionate allocation of the total variable OMP&R costs of pumping and recovery plants (Table B-3) associated with net annual withdrawals fromstorage for Project Transportation Facilities. The allocation is determined annually by applying the following ratio, calculated from the data shown Table B-6: "Reservoir Storage Changes" (withdrawals, as a positive value) conveyed through each plant, in acre-feet, divided by "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 through Variable OMP&R Component of Transportation Charge (a

(Dollars)



| | California Aqueduct (continued) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Reach 29G | Reach 29H | Reach 29J | Reach 30 | Reach 31A | Reach 33A | | |
| Calendar Year | Warne Powerplant (19) | Pyramid Lake (d (20) | Castaic Powerplant (21) | Castaic Lake (d (22) | Las Perillas & Badger Hill Pumping Plants (23) | Devil's Den, Bluestone, & Polonio PPs San Luis Obispo Pwp (24) | Total (25) | Grand Total (26) |
| 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 | 118,676 | 0 | 0 | 774,253 | 1,117,913 |
| 1969 | 0 | 0 | 0 | 78,350 | 0 | 0 | 507,516 | 773,646 |
| 1970 | 0 | 0 | 0 | 136,429 | 0 | 0 | 693,842 | 1,103,798 |
| 1971 | 0 | 0 | 0 | 166,296 | 0 | 0 | 1,121,164 | 1,513,435 |
| 1972 | 3,578 | (193,058) | 72,639 | 237,638 | 0 | 0 | 2,648,786 | 3,261,922 |
| 1973 | 0 | 7,344 | (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) | 10,225 | 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 | (607,380) | (1,211,050) | 71,311 | 0 | 628,796 | 1,164,427 |
| 1978 | 0 | 1,061,100 | (1,542,479) | 0 | 179,925 | 0 | 6,979,261 | 7,587,308 |
| 1979 | 0 | 0 | (2,384,748) | (12,206) | 192,126 | 0 | 9,240,027 | 9,861,400 |
| 1980 | 0 | 456,892 | (984,154) | 10,716 | 168,458 | 0 | 9,882,560 | 10,425,874 |
| 1981 | 0 | 0 | (3,201,635) | 0 | 169,178 | 0 | 16,626,798 | 17,218,331 |
| 1982 | (783,626) | 0 | (3,463,971) | 0 | 168,390 | 0 | 12,782,837 | 13,326,143 |
| 1983 | (843,635) | 68,779 | (4,369,424) | (1,588,849) | 17,887 | 0 | (6,969,776) | (6,843,181) |
| 1984 | (1,991,601) | 0 | (1,820,263) | (1,674,550) | 113,728 | 0 | (3,350,095) | (3,071,158) |
| 1985 | (5,930,176) | 0 | (16,316,559) | 0 | 147,587 | 0 | (10,906,434) | (10,445,229) |
| 1986 | (5,579,301) | 0 | (11,072,448) | 0 | 298,277 | 0 | 11,267,231 | 12,108,992 |
| 1987 | (6,304,152) | 72,559 | (11,562,270) | (35,466) | 245,082 | 0 | 7,370,615 | 8,293,651 |
| 1988 | (6,993,235) | 56,622 | (12,292,638) | (186,528) | 215,561 | 0 | 6,822,464 | 7,798,059 |
| 1989 | (8,235,085) | 14,487 | (14,514,469) | 134,545 | 283,590 | 0 | 23,726,766 | 24,889,970 |
| 1990 | (11,011,065) | 0 | (20,116,507) | 249,533 | 386,599 | 0 | 46,954,946 | 48,998,549 |
| 1991 | (4,941,548) | 393,316 | (9,132,764) | 0 | 36,048 | 0 | (2,427,539) | (1,930,082) |
| 1992 | (4,128,674) | 0 | (8,333,537) | 29,743 | 151,779 | 0 | 8,451,603 | 8,859,579 |
| 1993 | (10,653,178) | 0 | (19,675,346) | 0 | 181,557 | 0 | 35,215,732 | 36,315,854 |
| 1994 | (16,942,487) | 0 | (29,610,773) | 0 | 479,732 | 0 | 129,243,381 | 132,083,396 |
| 1995 | (15,529,834) | 0 | (27,294,254) | 1,947 | 559,127 | 0 | 169,792,157 | 173,276,754 |
| 1996 | (17,007,293) | 0 | (27,827,386) | 436,188 | 849,338 | 1,163,101 | 200,387,536 | 204,924,542 |
| 1997 | (17,442,740) | 0 | (28,572,780) | 0 | 980,462 | 2,016,778 | 192,574,397 | 196,953,346 |
| 1998 | (17,679,397) | 0 | (28,940,681) | 0 | 1,362,719 | 2,706,833 | 197,308,905 | 201,745,731 |
| 1999 | (17,675,728) | 0 | (28,767,965) | 561,353 | 1,378,072 | 2,748,357 | 198,348,015 | 202,849,986 |
| 2000 | (17,862,958) | 0 | (29,159,891) | 0 | 1,371,907 | 2,871,335 | 210,163,564 | 214,831,737 |
| 2001 | (17,865,783) | 0 | (29,152,741) | 26,517 | 1,378,067 | 2,888,620 | 211,188,878 | 215,889,217 |
| 2002 | (17,870,794) | 0 | (29,154,671) | 0 | 1,412,830 | 2,986,178 | 218,577,480 | 223,406,401 |
| 2003 | (17,870,384) | 0 | (29,154,696) | 0 | 1,430,995 | 3,037,153 | 222,440,783 | 227,343,692 |
| 2004 | (17,870,360) | 0 | (29,154,696) | 0 | 1,450,954 | 3,093,166 | 226,644,203 | 231,627,351 |
| 2005 | (17,931,610) | 0 | (29,273,235) | 28,889 | 1,451,464 | 3,211,514 | 240,993,243 | 246,154,859 |
| 2006 | (17,932,941) | 0 | (29,281,464) | 0 | 1,453,443 | 3,217,224 | 241,471,843 | 246,649,863 |
| 2007 | (17,932,941) | 0 | (29,276,864) | 0 | 1,467,022 | 3,256,427 | 244,525,450 | 249,763,224 |
| 2008 | (17,932,725) | 0 | (29,276,813) | 0 | 1,482,050 | 3,299,811 | 247,858,399 | 253,163,530 |
| 2009 | (17,934,325) | 0 | (29,277,062) | 0 | 1,493,951 | 3,334,172 | 250,565,692 | 255,925,065 |
| 2010 | (17,932,456) | 0 | (29,276,532) | 0 | 1,551,143 | 3,499,275 | 267,520,148 | 273,100,401 |
| 2011 | (17,921,827) | 0 | (29,258,996) | 64,920 | 1,539,135 | 3,464,610 | 265,392,449 | 270,944,504 |
| 2012 | (17,934,780) | 0 | (29,277,021) | 0 | 1,555,701 | 3,512,430 | 268,941,357 | 274,565,999 |
| 2013 | (17,934,780) | 0 | (29,277,021) | 0 | 1,571,390 | 3,557,725 | 272,495,184 | 278,192,411 |
| 2014 | (17,931,667) | 0 | (29,276,348) | 0 | 1,589,915 | 3,611,205 | 276,596,733 | 282,377,290 |
| 2015 | (17,929,215) | 0 | (29,275,542) | 0 | 1,583,152 | 3,591,682 | 275,663,924 | 281,440,062 |
| 2016 | (17,920,243) | 0 | (29,243,061) | 132,579 | 1,587,346 | 3,603,790 | 276,526,484 | 282,333,271 |
| 2017 | (17,934,135) | 0 | (29,276,812) | 0 | 1,645,286 | 3,771,056 | 289,692,455 | 295,727,737 |
| 2018 | (17,927,558) | 0 | (29,259,671) | 71,220 | 1,644,745 | 3,769,492 | 289,564,794 | 295,614,560 |
| 2019 | (17,915,596) | 0 | (29,243,890) | 133,783 | 1,647,393 | 3,777,140 | 290,125,386 | 296,201,900 |
| 2020 | (17,932,174) | 0 | (29,276,545) | 0 | 1,620,536 | 3,699,604 | 284,442,320 | 290,437,117 |
| 2021 | (17,935,422) | 0 | (29,277,164) | 0 | 1,627,474 | 3,719,634 | 285,900,175 | 291,923,571 |
| 2022 | (17,932,586) | 0 | (29,276,708) | 0 | 1,630,744 | 3,729,074 | 286,698,117 | 292,733,616 |
| 2023 | (17,933,963) | 0 | (29,277,022) | 0 | 1,630,454 | 3,728,237 | 286,616,161 | 292,650,588 |
| 2024 | (17,930,238) | 0 | (29,268,268) | 35,091 | 1,630,516 | 3,728,416 | 286,623,351 | 292,658,007 |
| 2025 | (17,931,637) | 0 | (29,276,350) | 0 | 1,631,982 | 3,732,651 | 287,192,393 | 293,232,476 |
| 2026 | (17,926,838) | 0 | (29,259,683) | 70,073 | 1,624,082 | 3,709,839 | 285,432,813 | 291,443,654 |
| 2027 | (17,932,072) | 0 | (29,276,535) | 0 | 1,624,247 | 3,710,315 | 285,476,013 | 291,487,465 |
| 2028 | (17,921,302) | 0 | (29,251,365) | 101,959 | 1,624,954 | 3,712,357 | 285,616,888 | 291,630,957 |
| 2029 | (17,932,315) | 0 | (29,276,472) | 1,404 | 1,625,233 | 3,713,165 | 285,619,114 | 291,634,217 |
| 2030 | (17,933,575) | 0 | (29,276,757) | 0 | 1,624,200 | 3,710,183 | 285,463,347 | 291,474,627 |
| 2031 | (17,934,642) | 0 | (29,276,996) | 0 | 1,627,054 | 3,718,423 | 286,066,548 | 292,088,389 |
| 2032 | (17,934,642) | 0 | (29,276,996) | 0 | 1,627,054 | 3,718,423 | 286,066,548 | 292,088,389 |
| 2033 | (17,933,231) | 0 | (29,276,755) | 0 | 1,628,333 | 3,722,114 | 286,349,557 | 292,376,132 |
| 2034 | (17,933,719) | 0 | (29,276,778) | 0 | 1,624,550 | 3,711,191 | 285,540,977 | 291,553,548 |
| 2035 | (17,851,625) | 0 | (29,120,076) | 626,295 | 1,631,054 | 3,729,968 | 287,332,468 | 293,369,113 |
| Total | (814,786,236) | 2,040,473 | (1,372,363,202) | (182,255) | 65,452,492 | 135,482,668 | 10,948,668,375 | 11,194,560,175 |

TABLE B-13

# Capital and Operating Costs of Project Conservation Facilities to Be Reimbursed through Delta Water Charge

(Dollars)

| Calendar Year | Initial Project Conservation Facilities (Portions of Upper Feather Lakes, Oroville-Thermalito and California Aqueduct Facilities) | | | | | | Total |
|---|---|---|---|---|---|---|---|
| | | | | Application of Oroville Power Revenues to: | | | |
| | Capital Costs (a (1) | Capital Cost Credits (b (2) | Operating Costs (c (3) | Capital Costs (d (4) | Operating Costs (e (5) | Planning and Pre-operating Costs (a (f (6) | (7) |
| 1952 | 171,322 | 0 | 0 | 0 | 0 | 0 | 171,322 |
| 1953 | 312,190 | 0 | 0 | 0 | 0 | 0 | 312,190 |
| 1954 | 308,624 | 0 | 0 | 0 | 0 | 0 | 308,624 |
| 1955 | 194,645 | 0 | 0 | 0 | 0 | 0 | 194,645 |
| 1956 | 1,357,077 | 0 | 0 | 0 | 0 | 0 | 1,357,077 |
| 1957 | 6,210,709 | 0 | 0 | 0 | 0 | 0 | 6,210,709 |
| 1958 | 9,510,916 | 0 | 0 | 0 | 0 | 0 | 9,510,916 |
| 1959 | 11,390,586 | 0 | 0 | 0 | 0 | 0 | 11,390,586 |
| 1960 | 14,456,356 | (4,850,000) | 0 | 0 | 0 | 0 | 9,606,356 |
| 1961 | 18,682,616 | (431,527) | 0 | 0 | 0 | 0 | 18,251,089 |
| 1962 | 9,012,960 | (479,280) | 0 | 0 | 0 | 0 | 8,533,680 |
| 1963 | 72,965,728 | (478,743) | (14,000) | 0 | 0 | 0 | 72,472,985 |
| 1964 | 62,490,522 | (751,330) | (14,000) | 0 | 0 | 107,780 | 61,832,972 |
| 1965 | 70,913,845 | (763,541) | (14,000) | 0 | 0 | 551,850 | 70,688,154 |
| 1966 | 125,205,400 | (748,649) | (14,000) | 0 | 0 | 1,081,023 | 125,523,774 |
| 1967 | 94,296,914 | (812,145) | (13,446) | 0 | 0 | 1,189,212 | 94,660,535 |
| 1968 | 39,888,442 | (431,574) | 1,303,821 | (951,000) | 0 | 793,399 | 40,603,088 |
| 1969 | 5,279,786 | (259,015) | 2,890,772 | (11,007,000) | 0 | 601,867 | (2,493,590) |
| 1970 | 4,130,490 | (203,733) | 4,818,634 | (14,650,000) | (1,500,000) | 516,659 | (6,887,950) |
| 1971 | 3,877,493 | (193,631) | 6,026,480 | (14,650,000) | (1,500,000) | 408,754 | (6,030,904) |
| 1972 | 4,569,024 | (196,361) | 5,378,401 | (14,650,000) | (1,500,000) | 287,374 | (6,111,562) |
| 1973 | 3,985,415 | (136,997) | 6,083,392 | (14,650,000) | (1,500,000) | 203,384 | (6,014,806) |
| 1974 | 6,659,999 | (137,503) | 6,873,552 | (17,950,000) | (1,500,000) | 201,907 | (5,852,045) |
| 1975 | 8,084,449 | (234,567) | 7,622,422 | (14,650,000) | (1,500,000) | 146,188 | (531,508) |
| 1976 | 5,870,528 | (204,944) | 6,956,842 | (14,650,000) | (1,500,000) | 205,234 | (3,322,340) |
| 1977 | 21,285,846 | (150,214) | 10,413,891 | (14,650,000) | (1,500,000) | 857,419 | 16,256,942 |
| 1978 | 7,713,249 | (64,566) | 12,750,917 | (14,650,000) | (1,500,000) | 2,131,286 | 6,380,886 |
| 1979 | 9,030,800 | 0 | 9,435,703 | (14,650,000) | (1,500,000) | 2,131,884 | 4,448,387 |
| 1980 | 10,410,356 | 0 | 13,029,214 | (14,650,000) | (1,500,000) | 3,734,312 | 11,023,882 |
| 1981 | 11,165,837 | 0 | 9,996,450 | (14,650,000) | (1,500,000) | 4,599,246 | 9,611,533 |
| 1982 | 16,578,762 | 0 | 14,933,090 | (14,650,000) | (1,500,000) | 4,594,682 | 19,956,534 |
| 1983 | 11,939,936 | 0 | 21,673,623 | (34,705,000) | (8,735,000) | 3,751,993 | (6,074,448) |
| 1984 | 8,972,399 | 0 | 22,007,547 | (14,650,000) | (10,348,000) | 3,743,484 | 9,725,430 |
| 1985 | 10,276,614 | 0 | 23,060,003 | (14,650,000) | (8,079,000) | 3,675,801 | 14,283,418 |
| 1986 | 18,390,498 | 0 | 25,206,043 | (14,650,000) | (9,107,000) | 3,104,933 | 22,944,474 |
| 1987 | 28,637,195 | 0 | 22,736,571 | (14,650,000) | (9,451,000) | 3,542,427 | 30,815,193 |
| 1988 | 26,358,662 | 0 | 24,708,916 | (14,650,000) | (8,677,000) | 3,734,970 | 31,475,548 |
| 1989 | 7,079,701 | 0 | 25,836,983 | (14,650,000) | (8,104,000) | 4,264,867 | 14,427,551 |
| 1990 | 25,532,980 | 0 | 34,882,573 | (14,650,000) | (8,498,000) | 3,338,722 | 40,606,275 |
| 1991 | 34,535,260 | 0 | 31,107,480 | (14,650,000) | (9,486,000) | 3,688,745 | 45,195,485 |
| 1992 | 23,690,410 | 0 | 32,608,121 | (14,650,000) | (8,526,000) | 5,397,350 | 38,519,881 |
| 1993 | 44,765,678 | 0 | 44,166,863 | (14,650,000) | (8,768,000) | 11,980,800 | 77,495,341 |
| 1994 | 49,444,387 | 0 | 48,352,806 | (14,650,000) | (8,529,000) | 7,319,300 | 81,937,493 |
| 1995 | 32,276,944 | 0 | 49,849,919 | (14,650,000) | (8,787,000) | 6,146,000 | 64,835,863 |
| 1996 | 13,374,517 | 0 | 46,850,397 | (14,650,000) | (8,814,000) | 4,496,000 | 41,256,914 |
| 1997 | 8,313,953 | 0 | 46,240,942 | (14,650,000) | (8,814,000) | 4,496,000 | 35,586,895 |
| 1998 | 3,754,195 | 0 | 47,389,390 | (14,650,000) | (8,814,000) | 4,496,000 | 32,175,585 |
| 1999 | 3,735,312 | 0 | 47,294,744 | (14,650,000) | (8,814,000) | 4,496,000 | 32,062,056 |
| 2000 | 1,669,260 | 0 | 47,588,311 | (14,650,000) | (8,814,000) | 4,496,000 | 30,289,571 |
| 2001 | 0 | 0 | 42,586,456 | (14,650,000) | (8,814,000) | 3,496,000 | 22,618,456 |
| 2002 | 0 | 0 | 42,798,123 | (14,650,000) | (8,814,000) | 3,496,000 | 22,830,123 |
| 2003 | 0 | 0 | 42,987,407 | (14,650,000) | (8,814,000) | 3,496,000 | 23,019,407 |
| 2004 | 0 | 0 | 42,967,926 | (14,650,000) | (8,814,000) | 3,496,000 | 22,999,926 |
| 2005 | 0 | 0 | 43,144,219 | (14,650,000) | (8,814,000) | 3,496,000 | 23,176,219 |
| 2006 | 0 | 0 | 43,209,755 | (14,650,000) | (8,814,000) | 3,496,000 | 23,241,755 |
| 2007 | 0 | 0 | 43,448,784 | (14,650,000) | (8,814,000) | 3,496,000 | 23,480,784 |
| 2008 | 0 | 0 | 43,623,903 | (14,650,000) | (8,814,000) | 3,496,000 | 23,655,903 |
| 2009 | 0 | 0 | 43,672,796 | (14,650,000) | (8,814,000) | 3,496,000 | 23,704,796 |
| 2010 | 0 | 0 | 43,304,423 | (14,650,000) | (8,814,000) | 3,496,000 | 23,336,423 |
| 2011 | 0 | 0 | 42,707,182 | (14,650,000) | (8,814,000) | 0 | 19,243,182 |
| 2012 | 0 | 0 | 42,346,449 | (14,650,000) | (8,814,000) | 0 | 18,882,449 |
| 2013 | 0 | 0 | 42,449,954 | (14,650,000) | (8,814,000) | 0 | 18,985,954 |
| 2014 | 0 | 0 | 42,522,371 | (14,650,000) | (8,814,000) | 0 | 19,058,371 |
| 2015 | 0 | 0 | 42,687,329 | (14,650,000) | (8,814,000) | 0 | 19,223,329 |
| 2016 | 0 | 0 | 42,589,870 | (14,650,000) | (8,814,000) | 0 | 19,125,870 |
| 2017 | 0 | 0 | 42,940,394 | (14,650,000) | (8,814,000) | 0 | 19,476,394 |
| 2018 | 0 | 0 | 42,935,868 | (14,650,000) | (8,814,000) | 0 | 19,471,868 |
| 2019 | 0 | 0 | 42,847,410 | (14,650,000) | (8,814,000) | 0 | 19,383,410 |
| 2020 | 0 | 0 | 42,891,963 | (14,650,000) | (8,814,000) | 0 | 19,427,963 |
| 2021 | 0 | 0 | 42,741,835 | (14,650,000) | (8,814,000) | 0 | 19,277,835 |
| 2022 | 0 | 0 | 42,783,856 | (15,427,000) | (8,814,000) | 0 | 18,542,856 |
| 2023 | 0 | 0 | 42,765,305 | (15,427,000) | (8,814,000) | 0 | 18,524,305 |
| 2024 | 0 | 0 | 42,737,005 | (15,427,000) | (8,814,000) | 0 | 18,496,005 |
| 2025 | 0 | 0 | 42,591,332 | (15,427,000) | (8,814,000) | 0 | 18,350,332 |
| 2026 | 0 | 0 | 43,992,203 | (15,427,000) | (8,814,000) | 0 | 19,751,203 |
| 2027 | 0 | 0 | 43,942,817 | (15,427,000) | (8,814,000) | 0 | 19,701,817 |
| 2028 | 0 | 0 | 43,883,147 | (15,427,000) | (8,814,000) | 0 | 19,642,147 |
| 2029 | 0 | 0 | 43,975,437 | (15,427,000) | (8,814,000) | 0 | 19,734,437 |
| 2030 | 0 | 0 | 43,851,839 | (15,427,000) | (8,814,000) | 0 | 19,610,839 |
| 2031 | 0 | 0 | 44,022,096 | (15,427,000) | (8,814,000) | 0 | 19,781,096 |
| 2032 | 0 | 0 | 44,022,096 | (15,427,000) | (8,814,000) | 0 | 19,781,096 |
| 2033 | 0 | 0 | 43,987,543 | (15,427,000) | (8,814,000) | 0 | 19,746,543 |
| 2034 | 0 | 0 | 44,071,509 | (15,427,000) | (8,814,000) | 0 | 19,830,509 |
| 2035 | 0 | 0 | 44,806,596 | (15,427,000) | (8,814,000) | 0 | 20,565,596 |
| Total | 1,008,758,787 | (11,528,320) | 2,272,842,565 | (1,013,091,000) | (487,155,000) | 145,472,852 | 1,915,299,884 |

a) Reimbursed through the capital cost component of the Delta Water Charge.
b) Negotiated settlements as to the magnitude of SWP planning costs from 1952 through 1978.
c) Reimbursed through the minimum OMP&R component of the Delta Water Charge. Credits for Gianelli power generation are reflected in these net costs.
d) Revenues credited through the capital cost component of the Delta Water Charge.
e) Revenue credits through the minimum OMP&R component of the Delta Water Charge.
f) Under amendments of Articles 22(e) and 22(g), planning and pre-operating costs of additional Project Conservation Facilities incurred through the previous year (1992) are reflected in the Delta Water Charge.

TABLE B-14

# Capital Costs of Transportation Facilities Allocated to Each Contractor

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (a (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 1952 | 0 | 0 | 0 | 83 | 114 | 410 | 607 | 121 | 224 | 345 |
| 1953 | 0 | 0 | 0 | 324 | 479 | 1,808 | 2,611 | 336 | 619 | 955 |
| 1954 | 0 | 0 | 0 | 819 | 1,305 | 5,150 | 7,274 | 422 | 779 | 1,201 |
| 1955 | 0 | 0 | 0 | 976 | 1,570 | 6,297 | 8,843 | 211 | 388 | 599 |
| 1956 | 0 | 0 | 0 | 8,844 | 14,459 | 63,816 | 87,119 | 227 | 419 | 646 |
| 1957 | 15,199 | 11,435 | 26,634 | 21,563 | 35,239 | 649,598 | 706,400 | 290 | 535 | 825 |
| 1958 | 33,420 | 16,591 | 50,011 | 67,764 | 71,717 | 733,415 | 872,896 | 721 | 1,329 | 2,050 |
| 1959 | 20,697 | 6,591 | 27,288 | 154,254 | 143,731 | 493,049 | 791,034 | 25,853 | 53,921 | 79,774 |
| 1960 | 9,097 | 8,830 | 17,927 | 296,491 | 275,611 | 1,018,661 | 1,590,763 | 37,106 | 77,940 | 115,046 |
| 1961 | 6,950 | 7,445 | 14,395 | 853,505 | 802,675 | 1,914,709 | 3,570,889 | 15,637 | 31,207 | 46,844 |
| 1962 | (195) | (925) | (1,120) | 545,122 | 615,142 | 1,686,043 | 2,846,307 | 19,638 | 37,213 | 56,851 |
| 1963 | 1,320 | 1,110 | 2,430 | 657,426 | 1,281,271 | 3,243,839 | 5,182,536 | 73,102 | 136,561 | 209,663 |
| 1964 | 38,392 | 35,467 | 73,859 | 712,650 | 1,747,783 | 7,251,800 | 9,712,233 | 146,707 | 273,909 | 420,616 |
| 1965 | 198,833 | 62,221 | 261,054 | 360,779 | 606,026 | 3,414,457 | 4,381,262 | 261,448 | 486,412 | 747,860 |
| 1966 | 461,619 | 49,917 | 511,536 | 592,714 | 592,598 | 2,245,216 | 3,430,528 | 598,306 | 1,107,130 | 1,705,436 |
| 1967 | 1,569,498 | 40,379 | 1,609,877 | 796,993 | 803,951 | 2,401,863 | 4,002,807 | 947,498 | 1,751,608 | 2,699,106 |
| 1968 | 859,613 | 61,691 | 921,304 | 736,470 | 696,074 | 1,997,925 | 3,430,469 | 359,885 | 666,467 | 1,026,352 |
| 1969 | 74,389 | 59,317 | 133,706 | 269,698 | 293,274 | 764,952 | 1,327,924 | 84,313 | 157,235 | 241,548 |
| 1970 | 43,362 | 67,876 | 111,238 | 58,677 | 61,200 | 135,569 | 255,446 | 54,660 | 102,454 | 157,114 |
| 1971 | 26,764 | 34,051 | 60,815 | 12,086 | 18,227 | 84,089 | 114,402 | 37,649 | 71,701 | 109,350 |
| 1972 | 19,643 | 18,905 | 38,548 | 12,291 | 12,762 | 63,612 | 88,665 | 24,098 | 45,421 | 69,519 |
| 1973 | 56,510 | 30,874 | 87,384 | 10,494 | 12,137 | 39,380 | 62,011 | 27,479 | 51,710 | 79,189 |
| 1974 | 165,830 | 65,832 | 231,662 | 15,721 | 24,402 | 73,121 | 113,244 | 30,087 | 56,331 | 86,418 |
| 1975 | 91,825 | 89,233 | 181,058 | 16,730 | 15,807 | 41,394 | 73,931 | 25,395 | 50,761 | 76,156 |
| 1976 | 57,766 | 83,650 | 141,416 | 34,004 | 34,663 | 109,610 | 178,277 | 54,576 | 109,504 | 164,080 |
| 1977 | 64,167 | 80,147 | 144,314 | 46,229 | 45,116 | 133,374 | 224,719 | 130,013 | 243,030 | 373,043 |
| 1978 | 69,319 | 81,717 | 151,036 | 71,234 | 66,008 | 174,897 | 312,139 | 43,226 | 82,011 | 125,237 |
| 1979 | 191,272 | 282,908 | 474,180 | 45,469 | 42,942 | 110,667 | 199,078 | 51,321 | 97,291 | 148,612 |
| 1980 | 264,433 | 386,006 | 650,439 | 134,522 | 124,352 | 304,615 | 563,489 | 184,584 | 342,326 | 526,910 |
| 1981 | 227,598 | 383,083 | 610,681 | (33,766) | (29,882) | (65,711) | (129,359) | (73,474) | (133,372) | (206,846) |
| 1982 | 546,896 | 870,608 | 1,417,504 | 3,166 | 3,729 | 13,671 | 20,566 | (46,610) | (85,224) | (131,834) |
| 1983 | 1,254,499 | 1,433,060 | 2,687,559 | 134,898 | 127,860 | 328,433 | 591,191 | 27,831 | 52,480 | 80,311 |
| 1984 | 2,547,860 | 2,750,019 | 5,297,879 | 152,943 | 140,928 | 351,814 | 645,685 | 32,691 | 61,301 | 93,992 |
| 1985 | 7,142,648 | 6,443,613 | 13,586,261 | 18,267 | 17,771 | 49,369 | 85,407 | 18,144 | 35,994 | 54,138 |
| 1986 | 10,565,976 | 16,926,654 | 27,492,630 | 32,146 | 31,687 | 88,364 | 152,197 | 84,038 | 178,419 | 262,457 |
| 1987 | 7,980,495 | 12,599,438 | 20,579,933 | 51,736 | 50,231 | 143,975 | 245,942 | 426,372 | 938,438 | 1,364,810 |
| 1988 | 2,313,001 | 4,340,774 | 6,653,775 | 115,049 | 111,254 | 299,207 | 525,510 | 479,625 | 1,048,927 | 1,528,552 |
| 1989 | 1,230,016 | 1,627,239 | 2,857,255 | 115,926 | 110,313 | 279,774 | 506,013 | 406,253 | 876,819 | 1,283,072 |
| 1990 | 450,008 | 919,612 | 1,369,620 | 198,696 | 201,059 | 567,649 | 967,404 | 525,027 | 1,123,935 | 1,648,962 |
| 1991 | 106,502 | 158,982 | 265,484 | 171,755 | 162,128 | 411,534 | 745,417 | 744,306 | 1,576,343 | 2,320,649 |
| 1992 | 59,031 | 130,875 | 189,906 | 92,892 | 86,875 | 215,984 | 395,751 | 1,165,781 | 2,412,348 | 3,578,129 |
| 1993 | 92,850 | 113,060 | 205,910 | 36,717 | 35,149 | 89,756 | 161,622 | 11,909,533 | 27,420,261 | 39,329,794 |
| 1994 | 521,988 | 568,196 | 1,090,184 | 35,827 | 33,436 | 82,192 | 151,455 | 50,342,890 | 116,924,280 | 167,267,170 |
| 1995 | 169,049 | 395,882 | 564,931 | 24,734 | 23,241 | 57,892 | 105,867 | 44,634,119 | 139,979,760 | 184,613,879 |
| 1996 | 2,274 | 2,726 | 5,000 | 24,476 | 23,254 | 58,625 | 106,355 | 11,943,148 | 35,014,889 | 46,958,037 |
| 1997 | 2,274 | 2,726 | 5,000 | 2,126 | 2,823 | 9,892 | 14,841 | 362,962 | 813,701 | 1,176,663 |
| 1998 | 1,297 | 703 | 2,000 | 992 | 944 | 3,253 | 5,189 | 303,099 | 670,637 | 973,736 |
| 1999 | 0 | 0 | 0 | 294 | 269 | 1,646 | 2,209 | 302,669 | 669,846 | 972,515 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 302,489 | 669,511 | 972,000 |
| Total | 39,553,985 | 51,248,518 | 90,802,503 | 7,712,806 | 9,573,704 | 32,150,655 | 49,437,165 | 127,125,802 | 336,285,729 | 463,411,531 |

a) Costs from Table B-10 allocated to Solano County Water Agency are reduced herein by $2,102,700 in 1986 and $1,823,500 in 1987 under provisions of Amendment No. 10 to its water supply contract.

TABLE B-14

# Capital Costs of Transportation Facilities Allocated to Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (b (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Municipal and Industrial (c (15) | Agri-cultural (16) | County of Kings (17) | Oak Flat Water District (18) | Tulare Lake Basin Water Storage District (19) | Total (20) |
| 1952 | 389 | 19 | 59 | 938 | 120 | 9,127 | 19 | 13 | 784 | 11,468 |
| 1953 | 1,076 | 53 | 161 | 2,888 | 344 | 27,381 | 56 | 33 | 2,158 | 34,150 |
| 1954 | 1,350 | 67 | 200 | 3,374 | 416 | 32,371 | 70 | 42 | 2,719 | 40,609 |
| 1955 | 676 | 36 | 100 | 1,498 | 198 | 14,718 | 36 | 22 | 1,371 | 18,655 |
| 1956 | 727 | 33 | 107 | 2,703 | 272 | 24,257 | 34 | 26 | 1,416 | 29,575 |
| 1957 | 932 | 38 | 139 | 6,047 | 495 | 49,932 | 38 | 30 | 1,707 | 59,358 |
| 1958 | 2,308 | 100 | 345 | 14,372 | 1,154 | 119,049 | 103 | 61 | 4,367 | 141,859 |
| 1959 | 7,384 | 363 | 2,517 | 26,219 | 2,597 | 253,890 | 372 | 381 | 14,757 | 308,480 |
| 1960 | 12,940 | 629 | 3,666 | 34,053 | 4,155 | 352,167 | 644 | 498 | 25,696 | 434,448 |
| 1961 | 21,849 | 1,063 | 3,957 | 51,406 | 6,500 | 538,710 | 1,087 | 599 | 43,376 | 668,547 |
| 1962 | 49,320 | 2,410 | 7,866 | 94,932 | 13,836 | 1,017,145 | 2,466 | 1,879 | 98,141 | 1,287,995 |
| 1963 | 208,758 | 10,686 | 32,171 | 364,014 | 55,715 | 3,934,637 | 10,933 | 5,990 | 425,330 | 5,048,234 |
| 1964 | 328,285 | 16,961 | 64,891 | 600,151 | 88,904 | 6,636,279 | 17,349 | 11,942 | 672,011 | 8,436,773 |
| 1965 | 538,215 | 27,481 | 117,998 | 1,098,999 | 152,931 | 11,999,894 | 28,115 | 21,802 | 1,095,126 | 15,080,561 |
| 1966 | 1,107,759 | 52,587 | 279,171 | 2,218,832 | 339,222 | 24,857,488 | 53,788 | 38,891 | 2,173,090 | 31,120,828 |
| 1967 | 852,537 | 39,539 | 445,560 | 2,012,745 | 286,990 | 23,629,027 | 40,444 | 34,775 | 1,653,428 | 28,995,045 |
| 1968 | 198,739 | 9,739 | 166,266 | 1,104,133 | 70,088 | 11,544,940 | 9,962 | 12,237 | 396,074 | 13,512,178 |
| 1969 | 94,436 | 4,794 | 35,472 | 616,518 | 27,216 | 6,416,146 | 4,902 | 7,302 | 191,574 | 7,398,360 |
| 1970 | 54,345 | 2,719 | 21,684 | 414,660 | 15,521 | 4,145,045 | 2,783 | 3,999 | 109,471 | 4,770,227 |
| 1971 | 25,462 | 1,290 | 12,094 | 190,552 | 7,112 | 1,622,275 | 1,320 | 540 | 51,620 | 1,912,265 |
| 1972 | 11,589 | 589 | 8,354 | 82,884 | 3,409 | 723,623 | 601 | 343 | 23,526 | 854,918 |
| 1973 | 6,657 | 336 | 10,202 | 39,975 | 1,976 | 458,532 | 341 | 220 | 13,449 | 531,688 |
| 1974 | 9,478 | 469 | 11,044 | 45,421 | 2,767 | 483,865 | 478 | 326 | 18,981 | 572,829 |
| 1975 | 13,328 | 678 | 5,245 | 36,469 | 3,710 | 382,745 | 692 | 426 | 27,049 | 470,342 |
| 1976 | 17,507 | 837 | 12,616 | 53,085 | 5,621 | 654,024 | 856 | 1,152 | 34,454 | 780,152 |
| 1977 | 9,671 | 437 | 47,790 | 36,478 | 3,753 | 886,672 | 445 | 494 | 18,496 | 1,004,236 |
| 1978 | 23,499 | (30,407) | 6,178 | 54,218 | 6,579 | 575,170 | 1,208 | 1,402 | 47,447 | 685,294 |
| 1979 | 25,051 | 1,295 | 5,665 | 53,867 | 6,609 | 559,748 | 1,324 | 1,862 | 51,294 | 706,715 |
| 1980 | 144,981 | (4,617) | 31,161 | 321,889 | 38,126 | 3,211,810 | 7,682 | 7,144 | 297,216 | 4,055,392 |
| 1981 | (3,772) | (15,378) | 443 | (41,966) | (789) | (354,928) | (208) | 1,751 | (7,927) | (422,774) |
| 1982 | 47,748 | 2,475 | 5,654 | 78,749 | 12,535 | 599,991 | 2,525 | 1,178 | 97,907 | 848,762 |
| 1983 | 51,543 | (35,338) | 11,504 | 108,298 | 13,609 | 1,044,760 | 2,723 | 1,269 | 105,582 | 1,303,950 |
| 1984 | 86,295 | 4,472 | 14,291 | 155,209 | 22,760 | 1,619,921 | 4,568 | 2,676 | 176,913 | 2,087,105 |
| 1985 | 25,453 | 1,313 | 5,381 | 46,706 | 6,754 | 477,685 | 1,343 | 1,151 | 52,071 | 617,857 |
| 1986 | 38,392 | (41,062) | 9,887 | 71,888 | 10,345 | 797,855 | 2,013 | 781 | 78,312 | 968,411 |
| 1987 | 29,532 | 1,514 | 7,357 | 57,267 | 8,190 | 634,100 | 1,548 | 1,526 | 60,222 | 801,256 |
| 1988 | 52,534 | 2,840 | 16,973 | 70,640 | 12,095 | 905,630 | 2,904 | 4,669 | 110,127 | 1,178,412 |
| 1989 | 160,392 | 8,235 | 29,435 | 360,618 | 44,134 | 3,937,581 | 8,421 | 12,412 | 327,277 | 4,888,505 |
| 1990 | 288,507 | 14,936 | 50,003 | 544,118 | 86,182 | 5,976,509 | 15,277 | 22,572 | 591,201 | 7,589,305 |
| 1991 | 340,879 | 17,654 | 58,021 | 562,629 | 89,512 | 6,233,132 | 18,056 | 23,032 | 698,664 | 8,041,579 |
| 1992 | 103,195 | 5,331 | 20,939 | 176,162 | 27,252 | 1,960,895 | 5,452 | 10,248 | 211,237 | 2,520,711 |
| 1993 | 60,391 | 3,130 | 9,530 | 98,255 | 15,837 | 1,059,289 | 3,203 | 5,773 | 123,840 | 1,379,248 |
| 1994 | 59,596 | 3,091 | 9,236 | 96,413 | 15,597 | 1,036,681 | 3,161 | 5,759 | 122,246 | 1,351,780 |
| 1995 | 40,042 | 2,076 | 6,300 | 64,975 | 10,492 | 722,017 | 2,123 | 3,850 | 82,117 | 933,992 |
| 1996 | 39,680 | 2,058 | 6,219 | 64,402 | 10,398 | 719,835 | 2,106 | 3,818 | 81,381 | 929,897 |
| 1997 | 966 | 47 | 446 | 2,255 | 298 | 26,961 | 50 | 30 | 1,927 | 32,980 |
| 1998 | 602 | 31 | 294 | 1,336 | 178 | 16,467 | 31 | 21 | 1,199 | 20,159 |
| 1999 | 241 | 12 | 88 | 492 | 71 | 5,916 | 13 | 8 | 476 | 7,317 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 5,191,464 | 117,661 | 1,594,680 | 12,101,766 | 1,531,786 | 132,580,964 | 263,457 | 256,955 | 10,410,900 | 164,049,633 |

b) Costs from Table B-10 allocated to Empire West Side Irrigation District are reduced herein by $31,588 in 1978; $12,129 in 1980; $15,173 in 1981; $38,004 in 1983; and $43,033 in 1986 in accordance with letters of agreement with the district.

c) Costs related to maximum annual entitlement of 15,000 acre-feet under Amendment No. 18 of the water supply contract with Kern County Water Agency.

TABLE B-14

# Capital Costs of Transportation Facilities Allocated to Each Contractor

(Dollars)



| Calendar Year | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Antelope Valley-East Kern Water Agency (21)* | *Castaic Lake Water Agency (d (22)* | *Coachella Valley Water District (23)* | *Crestline-Lake Arrowhead Water Agency (24)* | *Desert Water Agency (25)* | *Littlerock Creek Irrigation District (26)* | *Mojave Water Agency (27)* | *Palmdale Water District (28)* | *San Bernardino Valley Municipal Water District (29)* | *San Gabriel Valley Municipal Water District (30)* |
| 1952 | 3,157 | 1,044 | 850 | 252 | 1,405 | 72 | 1,695 | 418 | 6,079 | 1,547 |
| 1953 | 10,024 | 3,326 | 2,667 | 800 | 4,401 | 221 | 5,322 | 1,327 | 19,058 | 4,855 |
| 1954 | 12,741 | 4,194 | 3,464 | 1,032 | 5,714 | 286 | 6,911 | 1,692 | 24,608 | 6,289 |
| 1955 | 5,411 | 1,879 | 1,376 | 398 | 2,266 | 115 | 2,753 | 713 | 9,227 | 2,376 |
| 1956 | 9,773 | 3,588 | 2,197 | 615 | 3,621 | 192 | 4,449 | 1,268 | 13,136 | 3,437 |
| 1957 | 26,304 | 9,255 | 6,342 | 1,818 | 10,462 | 541 | 12,769 | 3,451 | 40,646 | 10,536 |
| 1958 | 49,201 | 17,599 | 11,582 | 3,291 | 19,099 | 990 | 23,359 | 6,416 | 72,709 | 18,896 |
| 1959 | 70,246 | 29,741 | 15,870 | 4,614 | 26,170 | 1,346 | 31,757 | 9,029 | 98,594 | 25,519 |
| 1960 | 84,550 | 38,759 | 22,068 | 6,794 | 36,393 | 1,548 | 43,258 | 10,770 | 147,170 | 37,468 |
| 1961 | 126,540 | 54,258 | 34,617 | 12,534 | 57,086 | 2,250 | 63,709 | 16,436 | 236,163 | 57,706 |
| 1962 | 198,556 | 85,350 | 43,721 | 13,859 | 72,100 | 3,347 | 84,710 | 24,943 | 253,432 | 64,329 |
| 1963 | 580,138 | 255,252 | 116,797 | 33,149 | 192,624 | 9,829 | 234,926 | 73,257 | 610,278 | 160,623 |
| 1964 | 1,094,365 | 501,857 | 209,460 | 55,448 | 345,447 | 18,442 | 429,607 | 137,768 | 1,026,065 | 276,115 |
| 1965 | 1,908,076 | 947,523 | 385,531 | 103,756 | 635,821 | 32,818 | 786,986 | 244,589 | 1,913,091 | 512,861 |
| 1966 | 3,960,301 | 2,150,974 | 812,657 | 215,858 | 1,340,233 | 69,326 | 1,664,584 | 517,268 | 3,943,586 | 1,062,420 |
| 1967 | 4,976,539 | 4,100,533 | 1,077,423 | 296,069 | 1,776,895 | 88,302 | 2,182,238 | 653,250 | 5,821,682 | 1,550,237 |
| 1968 | 5,924,471 | 3,998,943 | 1,350,742 | 368,157 | 2,227,645 | 107,350 | 2,738,008 | 783,940 | 7,982,824 | 2,122,941 |
| 1969 | 5,822,708 | 3,079,427 | 1,690,259 | 539,852 | 2,787,631 | 121,302 | 3,256,507 | 865,454 | 10,898,186 | 2,769,647 |
| 1970 | 5,032,961 | 3,277,780 | 2,050,790 | 695,344 | 3,382,250 | 106,383 | 3,872,369 | 736,777 | 13,795,811 | 3,457,106 |
| 1971 | 2,577,508 | 2,146,955 | 1,071,521 | 338,583 | 1,767,179 | 48,337 | 2,087,224 | 347,057 | 8,137,052 | 1,987,119 |
| 1972 | 973,434 | 283,255 | 331,757 | 92,077 | 547,138 | 19,134 | 668,550 | 134,359 | 2,691,133 | 697,957 |
| 1973 | 354,409 | 914,305 | 158,582 | 82,223 | 261,558 | 6,304 | 238,095 | 46,103 | 1,760,569 | 403,583 |
| 1974 | 451,451 | 280,865 | 259,176 | 74,112 | 427,434 | 8,143 | 518,452 | 59,144 | 1,617,393 | 425,927 |
| 1975 | 253,437 | 246,493 | 193,631 | 52,820 | 319,338 | 4,954 | 392,109 | 33,995 | 1,533,663 | 407,917 |
| 1976 | 237,537 | 255,240 | 136,750 | 37,235 | 225,528 | 4,245 | 277,805 | 31,001 | 962,276 | 255,900 |
| 1977 | 199,550 | 372,505 | 91,384 | 25,857 | 150,713 | 3,755 | 183,607 | 26,835 | 591,447 | 155,535 |
| 1978 | 302,110 | 470,179 | 78,574 | 22,228 | 129,585 | 5,233 | 157,814 | 38,655 | 428,988 | 111,769 |
| 1979 | 358,559 | 938,984 | 81,968 | 21,835 | 135,178 | 5,978 | 167,263 | 44,519 | 404,284 | 108,604 |
| 1980 | 1,869,024 | 1,777,296 | 424,041 | 113,270 | 699,331 | 32,461 | 864,671 | 241,087 | 2,042,591 | 548,586 |
| 1981 | (154,554) | 612,146 | (46,286) | (8,498) | (76,337) | (2,506) | (101,021) | (19,066) | (137,396) | (41,777) |
| 1982 | 1,556,906 | 854,058 | 297,554 | 79,174 | 490,718 | 26,205 | 610,610 | 196,459 | 1,423,109 | 388,895 |
| 1983 | 2,072,169 | 528,630 | 397,314 | 117,176 | 655,246 | 34,848 | 805,613 | 261,082 | 2,150,527 | 588,495 |
| 1984 | 1,524,695 | 296,069 | 300,229 | 86,353 | 495,136 | 27,380 | 611,116 | 189,358 | 1,568,804 | 429,492 |
| 1985 | 880,527 | 156,652 | 209,015 | 60,520 | 344,711 | 12,560 | 424,558 | 104,234 | 1,085,565 | 296,700 |
| 1986 | 789,156 | 105,266 | 128,589 | 34,770 | 212,067 | 7,825 | 263,322 | 86,382 | 652,921 | 177,600 |
| 1987 | 307,355 | 108,503 | (31,122) | (5,746) | (51,326) | (2,032) | (67,175) | 11,765 | (59,438) | (18,464) |
| 1988 | 230,911 | 173,003 | 279,862 | 77,160 | 461,545 | 1,429 | 570,252 | 17,756 | 1,469,030 | 398,324 |
| 1989 | 1,281,193 | 446,436 | 510,843 | 145,233 | 842,475 | 31,461 | 1,036,717 | 194,001 | 2,600,152 | 705,170 |
| 1990 | 634,650 | 359,322 | 250,260 | 78,328 | 412,723 | 7,710 | 500,920 | 66,979 | 1,441,618 | 388,882 |
| 1991 | 751,723 | 366,840 | 480,400 | 151,614 | 792,273 | 10,389 | 965,791 | 81,330 | 2,761,378 | 753,609 |
| 1992 | 445,455 | 272,019 | 259,921 | 135,169 | 428,662 | 6,864 | 472,798 | 49,274 | 2,294,875 | 627,533 |
| 1993 | 327,765 | 145,955 | 156,542 | 170,366 | 258,169 | 5,543 | 204,702 | 41,139 | 3,216,755 | 881,118 |
| 1994 | 105,678 | 325,888 | 37,668 | 51,879 | 62,117 | 1,725 | 39,556 | 13,393 | 1,099,943 | 300,494 |
| 1995 | 72,178 | 32,396 | 17,505 | 13,563 | 28,868 | 1,216 | 28,042 | 9,109 | 1,679,296 | 450,722 |
| 1996 | 71,630 | 32,167 | 13,399 | 3,414 | 22,098 | 1,209 | 27,861 | 9,044 | 2,019,355 | 540,449 |
| 1997 | 5,048 | 2,925 | 1,456 | 393 | 2,404 | 96 | 2,971 | 682 | 676,190 | 180,825 |
| 1998 | 3,207 | 1,862 | 842 | 234 | 1,388 | 58 | 1,704 | 424 | 4,662 | 1,240 |
| 1999 | 1,082 | 565 | 258 | 71 | 427 | 17 | 515 | 138 | 1,459 | 384 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 48,379,855 | 31,068,061 | 13,930,046 | 4,405,053 | 22,973,609 | 875,201 | 27,400,359 | 6,405,004 | 93,030,546 | 24,297,496 |

d) Costs from Table B-10 allocated to Castaic Lake Water Agency are reduced herein by $14,088 in 1978 in accordance with a letter of agreement with the district.

TABLE B-14

# Capital Costs of Transportation Facilities Allocated to Each Contractor

(Dollars)



| | Southern California Area (continued) | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (31) | Metropolitan Water District of Southern California (e (32) | Ventura County Flood Control District (33) | Total (34) | City of Yuba City (35) | County of Butte (36) | Plumas County FC&WCD (37) | Total (38) | South Bay Area Future Contractor (39) | Grand Total (40) |
| 1952 | 963 | 69,021 | 371 | 86,874 | 0 | 0 | 0 | 0 | 59 | 99,353 |
| 1953 | 3,011 | 217,635 | 1,186 | 273,833 | 0 | 0 | 0 | 0 | 263 | 311,812 |
| 1954 | 3,903 | 279,966 | 1,492 | 352,292 | 0 | 0 | 0 | 0 | 767 | 402,143 |
| 1955 | 1,473 | 111,618 | 671 | 140,276 | 0 | 0 | 0 | 0 | 969 | 169,342 |
| 1956 | 2,123 | 179,340 | 1,299 | 225,038 | 0 | 0 | 0 | 0 | 9,173 | 351,551 |
| 1957 | 6,526 | 516,047 | 3,365 | 648,062 | 0 | 0 | 0 | 0 | 23,173 | 1,464,452 |
| 1958 | 11,701 | 945,682 | 6,392 | 1,186,917 | 0 | 0 | 2 | 2 | 32,888 | 2,286,623 |
| 1959 | 15,817 | 1,364,307 | 9,893 | 1,702,903 | 0 | 0 | 14 | 14 | 57,919 | 2,967,412 |
| 1960 | 23,309 | 1,914,533 | 12,799 | 2,379,419 | 0 | 0 | 28 | 28 | 123,202 | 4,660,833 |
| 1961 | 36,154 | 3,212,117 | 18,768 | 3,928,338 | 0 | 0 | 10 | 10 | 316,221 | 8,545,244 |
| 1962 | 40,012 | 3,543,478 | 29,068 | 4,456,905 | 0 | 0 | 32 | 32 | 228,201 | 8,875,171 |
| 1963 | 99,266 | 11,185,924 | 86,806 | 13,638,869 | 0 | 0 | 51 | 51 | 528,495 | 24,610,278 |
| 1964 | 170,010 | 18,065,460 | 164,709 | 22,494,753 | 0 | 0 | 7,791 | 7,791 | 590,035 | 41,736,060 |
| 1965 | 316,082 | 33,763,578 | 307,475 | 41,858,187 | 0 | 0 | 3,139 | 3,139 | 332,680 | 62,664,743 |
| 1966 | 654,195 | 74,485,021 | 681,899 | 91,558,322 | 0 | 0 | (48) | (48) | 783,728 | 129,110,330 |
| 1967 | 958,408 | 130,599,410 | 1,279,076 | 155,360,062 | 0 | 0 | 47 | 47 | 1,479,421 | 194,146,365 |
| 1968 | 1,314,842 | 147,502,292 | 1,360,688 | 177,782,843 | 0 | 0 | 51,573 | 51,573 | 1,254,192 | 197,978,911 |
| 1969 | 1,726,890 | 140,096,647 | 1,085,028 | 174,739,538 | 0 | 0 | 234,232 | 234,232 | 398,182 | 184,473,490 |
| 1970 | 2,160,120 | 161,983,071 | 1,147,608 | 201,698,370 | 0 | 0 | 16,227 | 16,227 | 74,028 | 207,082,650 |
| 1971 | 1,237,575 | 133,903,313 | 738,824 | 156,388,247 | 0 | 0 | 27,204 | 27,204 | 12,456 | 158,624,739 |
| 1972 | 434,505 | 43,931,762 | 66,878 | 50,871,939 | 0 | 0 | 9 | 9 | 13,183 | 51,936,781 |
| 1973 | 256,715 | 39,722,992 | 290,020 | 44,495,458 | 0 | 0 | 25 | 25 | 8,098 | 45,263,853 |
| 1974 | 264,348 | 18,896,593 | 86,361 | 23,369,399 | 0 | 0 | 45 | 45 | 28,569 | 24,402,166 |
| 1975 | 253,840 | 16,732,933 | 83,976 | 20,509,106 | 0 | 0 | 21 | 21 | 8,224 | 21,318,838 |
| 1976 | 158,851 | 13,545,457 | 84,624 | 16,212,449 | 0 | 0 | 51 | 51 | 16,485 | 17,492,910 |
| 1977 | 96,516 | 11,797,207 | 111,213 | 13,806,124 | 0 | 0 | 28 | 28 | 21,182 | 15,573,646 |
| 1978 | 69,151 | 15,781,693 | 174,876 | 17,770,855 | 0 | 0 | 38 | 38 | 28,876 | 19,073,475 |
| 1979 | 66,968 | 27,631,258 | 343,358 | 30,308,756 | 0 | 0 | 23 | 23 | 26,667 | 31,864,031 |
| 1980 | 338,118 | 59,503,595 | 641,585 | 69,095,656 | 0 | 0 | 26 | 26 | 59,168 | 74,951,080 |
| 1981 | (25,264) | 15,729,040 | 224,715 | 15,953,196 | 0 | 0 | 34 | 34 | (6,763) | 15,798,169 |
| 1982 | 239,161 | 30,675,103 | 313,661 | 37,151,613 | 0 | 0 | 11 | 11 | 13,817 | 39,320,439 |
| 1983 | 361,980 | 25,395,826 | 190,121 | 33,559,027 | 0 | 0 | 19 | 19 | 70,456 | 38,292,513 |
| 1984 | 264,066 | 16,444,121 | 103,269 | 22,340,088 | 0 | 0 | 26 | 26 | 83,234 | 30,548,009 |
| 1985 | 182,434 | 10,020,683 | 55,538 | 13,833,697 | 0 | 0 | 29 | 29 | 15,669 | 28,193,058 |
| 1986 | 109,339 | 6,255,184 | 34,916 | 8,857,337 | 0 | 0 | 31 | 31 | 16,296 | 37,749,359 |
| 1987 | (11,029) | 2,507,981 | 37,040 | 2,726,312 | 0 | 0 | 32 | 32 | 29,963 | 25,748,248 |
| 1988 | 245,521 | 12,159,554 | 56,755 | 16,141,102 | 0 | 0 | 56 | 56 | 49,364 | 26,076,771 |
| 1989 | 434,074 | 25,335,418 | 156,795 | 33,719,968 | 0 | 0 | 63 | 63 | 46,351 | 43,301,227 |
| 1990 | 239,586 | 16,653,669 | 119,788 | 21,154,435 | 0 | 0 | 88 | 88 | 87,283 | 32,817,097 |
| 1991 | 463,341 | 24,102,564 | 120,538 | 31,801,790 | 0 | 0 | 77 | 77 | 67,856 | 43,242,852 |
| 1992 | 385,377 | 20,186,252 | 88,204 | 25,652,403 | 0 | 0 | 69 | 69 | 41,490 | 32,378,459 |
| 1993 | 542,318 | 21,202,639 | 50,564 | 27,203,575 | 0 | 0 | 0 | 0 | 14,964 | 68,295,113 |
| 1994 | 185,409 | 14,500,763 | 118,457 | 16,842,970 | 0 | 0 | 0 | 0 | 14,353 | 186,717,912 |
| 1995 | 283,105 | 9,635,623 | 10,683 | 12,262,306 | 0 | 0 | 0 | 0 | 10,160 | 198,491,135 |
| 1996 | 340,462 | 11,399,761 | 10,626 | 14,491,475 | 0 | 0 | 0 | 0 | 10,171 | 62,500,935 |
| 1997 | 113,983 | 3,625,300 | 870 | 4,613,143 | 0 | 0 | 0 | 0 | 1,571 | 5,844,198 |
| 1998 | 770 | 68,733 | 554 | 85,678 | 0 | 0 | 0 | 0 | 432 | 1,087,194 |
| 1999 | 239 | 20,166 | 171 | 25,492 | 0 | 0 | 0 | 0 | 184 | 1,007,717 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 972,000 |
| Total | 15,076,264 | 1,377,400,330 | 10,513,573 | 1,675,755,397 | 0 | 0 | 341,103 | 341,103 | 7,023,355 | 2,450,820,687 |

e) Costs from Table B-10 allocated to MWDSC are reduced herein by $16,425,510 in 1972 under provisions of Amendment No. 7 to its water contract.

TABLE B-15

# Capital Cost Component of Transportation Charge for Each Contractor (a(b

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 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 | 105,192 | 105,854 | 366,552 | 577,598 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 123,718 | 171,212 | 532,023 | 826,953 | 8,922 | 17,665 | 26,587 |
| 1965 | 0 | 0 | 0 | 156,271 | 260,368 | 901,943 | 1,318,582 | 14,706 | 28,502 | 43,208 |
| 1966 | 18,096 | 0 | 18,096 | 172,750 | 291,282 | 1,076,118 | 1,540,150 | 24,019 | 45,891 | 69,910 |
| 1967 | 41,644 | 0 | 41,644 | 199,825 | 321,511 | 1,190,648 | 1,711,984 | 42,370 | 79,917 | 122,287 |
| 1968 | 121,705 | 0 | 121,705 | 236,230 | 362,521 | 1,313,169 | 1,911,920 | 56,709 | 106,553 | 163,262 |
| 1969 | 165,555 | 0 | 165,555 | 269,871 | 398,028 | 1,415,085 | 2,082,984 | 60,482 | 113,642 | 174,124 |
| 1970 | 169,349 | 0 | 169,349 | 282,190 | 412,989 | 1,454,105 | 2,149,284 | 62,500 | 117,451 | 179,951 |
| 1971 | 171,561 | 0 | 171,561 | 284,870 | 416,110 | 1,461,021 | 2,162,001 | 63,838 | 120,002 | 183,840 |
| 1972 | 172,926 | 0 | 172,926 | 332,088 | 417,040 | 1,465,310 | 2,214,438 | 64,873 | 122,025 | 186,898 |
| 1973 | 173,928 | 31,433 | 205,361 | 332,715 | 417,691 | 1,468,555 | 2,218,961 | 65,395 | 123,037 | 188,432 |
| 1974 | 176,811 | 33,008 | 209,819 | 333,250 | 418,310 | 1,470,564 | 2,222,124 | 65,813 | 123,861 | 189,674 |
| 1975 | 185,270 | 36,366 | 221,636 | 334,052 | 419,555 | 1,474,294 | 2,227,901 | 66,320 | 124,838 | 191,158 |
| 1976 | 189,954 | 40,918 | 230,872 | 334,905 | 420,361 | 1,476,406 | 2,231,672 | 173,735 | 323,206 | 496,941 |
| 1977 | 192,901 | 45,185 | 238,086 | 336,640 | 422,130 | 1,481,997 | 2,240,767 | 176,519 | 328,792 | 505,311 |
| 1978 | 196,174 | 49,273 | 245,447 | 338,998 | 424,431 | 1,488,800 | 2,252,229 | 183,151 | 341,189 | 524,340 |
| 1979 | 199,710 | 53,442 | 253,152 | 342,632 | 427,798 | 1,497,722 | 2,268,152 | 185,356 | 345,373 | 530,729 |
| 1980 | 209,467 | 67,873 | 277,340 | 344,951 | 429,989 | 1,503,367 | 2,278,307 | 187,974 | 350,336 | 538,310 |
| 1981 | 222,956 | 87,563 | 310,519 | 351,813 | 436,332 | 1,518,906 | 2,307,051 | 197,390 | 367,798 | 565,188 |
| 1982 | 234,566 | 107,105 | 341,671 | 350,091 | 434,808 | 1,515,554 | 2,300,453 | 193,642 | 360,994 | 554,636 |
| 1983 | 262,464 | 151,515 | 413,979 | 350,253 | 434,998 | 1,516,251 | 2,301,502 | 191,264 | 356,647 | 547,911 |
| 1984 | 326,457 | 224,617 | 551,074 | 357,134 | 441,520 | 1,533,005 | 2,331,659 | 192,684 | 359,324 | 552,008 |
| 1985 | 456,425 | 364,898 | 821,323 | 364,936 | 448,709 | 1,550,951 | 2,364,596 | 194,352 | 362,451 | 556,803 |
| 1986 | 820,777 | 693,592 | 1,514,369 | 365,867 | 449,616 | 1,553,470 | 2,368,953 | 195,277 | 364,287 | 559,564 |
| 1987 | 1,362,679 | 1,561,716 | 2,924,395 | 367,516 | 451,241 | 1,558,002 | 2,376,759 | 199,587 | 373,438 | 573,025 |
| 1988 | 1,774,313 | 2,211,596 | 3,985,909 | 370,185 | 453,832 | 1,565,428 | 2,389,445 | 221,580 | 421,843 | 643,423 |
| 1989 | 1,894,334 | 2,436,838 | 4,331,172 | 376,154 | 459,605 | 1,580,954 | 2,416,713 | 246,467 | 476,271 | 722,738 |
| 1990 | 1,958,563 | 2,521,808 | 4,480,371 | 382,208 | 465,365 | 1,595,563 | 2,443,136 | 267,681 | 522,057 | 789,738 |
| 1991 | 1,982,218 | 2,570,148 | 4,552,366 | 392,652 | 475,934 | 1,625,402 | 2,493,988 | 295,279 | 581,137 | 876,416 |
| 1992 | 1,987,856 | 2,578,564 | 4,566,420 | 401,744 | 484,516 | 1,647,186 | 2,533,446 | 334,679 | 664,579 | 999,258 |
| 1993 | 1,991,004 | 2,585,543 | 4,576,547 | 406,698 | 489,148 | 1,658,703 | 2,554,549 | 396,845 | 793,219 | 1,190,064 |
| 1994 | 1,995,993 | 2,591,619 | 4,587,612 | 408,671 | 491,037 | 1,663,527 | 2,563,235 | 1,036,878 | 2,266,818 | 3,303,696 |
| 1995 | 2,024,276 | 2,622,405 | 4,646,681 | 410,612 | 492,849 | 1,667,980 | 2,571,441 | 3,764,611 | 8,602,138 | 12,366,749 |
| 1996 | 2,033,515 | 2,644,042 | 4,677,557 | 411,964 | 494,119 | 1,671,144 | 2,577,227 | 6,204,010 | 16,252,483 | 22,456,493 |
| 1997 | 2,033,641 | 2,644,192 | 4,677,833 | 413,314 | 495,402 | 1,674,378 | 2,583,094 | 6,862,721 | 18,183,690 | 25,046,411 |
| 1998 | 2,033,768 | 2,644,344 | 4,678,112 | 413,432 | 495,559 | 1,674,929 | 2,583,920 | 6,882,933 | 18,229,003 | 25,111,936 |
| 1999 | 2,033,841 | 2,644,383 | 4,678,224 | 413,488 | 495,612 | 1,675,112 | 2,584,212 | 6,899,985 | 18,266,731 | 25,166,716 |
| 2000 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,917,196 | 18,304,822 | 25,222,018 |
| 2001 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2002 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2003 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2004 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2005 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2006 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2007 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2008 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2009 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2010 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2011 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2012 | 2,033,841 | 2,644,383 | 4,678,224 | 413,505 | 495,627 | 1,675,205 | 2,584,337 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2013 | 2,033,841 | 2,644,383 | 4,678,224 | 302,374 | 389,774 | 1,308,653 | 2,000,801 | 6,934,594 | 18,343,330 | 25,277,924 |
| 2014 | 2,033,841 | 2,644,383 | 4,678,224 | 267,043 | 324,415 | 1,143,182 | 1,734,640 | 6,925,672 | 18,325,665 | 25,251,337 |
| 2015 | 2,033,841 | 2,644,383 | 4,678,224 | 229,040 | 235,259 | 773,262 | 1,237,561 | 6,919,888 | 18,314,828 | 25,234,716 |
| 2016 | 2,015,744 | 2,644,383 | 4,660,127 | 209,943 | 204,345 | 599,088 | 1,013,376 | 6,910,575 | 18,297,440 | 25,208,015 |
| 2017 | 1,992,197 | 2,644,383 | 4,636,580 | 178,786 | 174,116 | 484,557 | 837,459 | 6,892,224 | 18,263,413 | 25,155,637 |
| 2018 | 1,912,136 | 2,644,383 | 4,556,519 | 137,169 | 133,106 | 362,036 | 632,311 | 6,877,885 | 18,236,777 | 25,114,662 |
| 2019 | 1,868,286 | 2,644,383 | 4,512,669 | 98,954 | 97,599 | 260,121 | 456,674 | 6,874,112 | 18,229,688 | 25,103,800 |
| 2020 | 1,864,491 | 2,644,383 | 4,508,874 | 85,043 | 82,639 | 221,100 | 388,782 | 6,872,094 | 18,225,879 | 25,097,973 |
| 2021 | 1,862,279 | 2,644,383 | 4,506,662 | 82,033 | 79,517 | 214,184 | 375,734 | 6,870,756 | 18,223,328 | 25,094,084 |
| 2022 | 1,860,914 | 2,644,383 | 4,505,297 | 81,417 | 78,587 | 209,895 | 369,899 | 6,869,721 | 18,221,305 | 25,091,026 |
| 2023 | 1,859,912 | 2,612,951 | 4,472,863 | 80,790 | 77,936 | 206,650 | 365,376 | 6,869,200 | 18,220,293 | 25,089,493 |
| 2024 | 1,857,030 | 2,611,376 | 4,468,406 | 80,255 | 77,317 | 204,641 | 362,213 | 6,868,781 | 18,219,469 | 25,088,250 |
| 2025 | 1,848,570 | 2,608,017 | 4,456,587 | 79,453 | 76,072 | 200,911 | 356,436 | 6,868,274 | 18,218,492 | 25,086,766 |
| 2026 | 1,843,886 | 2,603,466 | 4,447,352 | 78,599 | 75,266 | 198,800 | 352,665 | 6,760,859 | 18,020,124 | 24,780,983 |
| 2027 | 1,840,940 | 2,599,199 | 4,440,139 | 76,865 | 73,498 | 193,208 | 343,571 | 6,758,075 | 18,014,538 | 24,772,613 |
| 2028 | 1,837,666 | 2,595,110 | 4,432,776 | 74,506 | 71,196 | 186,405 | 332,107 | 6,751,443 | 18,002,141 | 24,753,584 |
| 2029 | 1,834,130 | 2,590,942 | 4,425,072 | 70,873 | 67,829 | 177,483 | 316,185 | 6,749,238 | 17,997,957 | 24,747,195 |
| 2030 | 1,824,373 | 2,576,510 | 4,400,883 | 68,553 | 65,639 | 171,838 | 306,030 | 6,746,620 | 17,992,995 | 24,739,615 |
| 2031 | 1,810,885 | 2,556,820 | 4,367,705 | 61,691 | 59,295 | 156,299 | 277,285 | 6,737,204 | 17,975,532 | 24,712,736 |
| 2032 | 1,799,275 | 2,537,279 | 4,336,554 | 63,414 | 60,820 | 159,651 | 283,885 | 6,740,952 | 17,982,336 | 24,723,288 |
| 2033 | 1,771,377 | 2,492,868 | 4,264,245 | 63,252 | 60,629 | 158,954 | 282,835 | 6,743,330 | 17,986,683 | 24,730,013 |
| 2034 | 1,707,384 | 2,419,767 | 4,127,151 | 56,371 | 54,107 | 142,200 | 252,678 | 6,741,910 | 17,984,006 | 24,725,916 |
| 2035 | 1,577,416 | 2,279,486 | 3,856,902 | 48,569 | 46,918 | 124,254 | 219,741 | 6,740,242 | 17,980,879 | 24,721,121 |
| Total | 99,145,044 | 128,148,586 | 227,293,630 | 20,120,438 | 24,536,412 | 83,119,161 | 127,776,011 | 283,436,520 | 746,319,068 | 1,029,755,588 |

a) Unadjusted for prior overpayments or underpayments of charges.
b) Determined at the current Project Interest Rate of 4.620 percent per annum.

TABLE B-15

# Capital Cost Component of Transportation Charge for Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Municipal and Industrial (c (15) | Agri-cultural (16) | County of Kings (17) | Oak Flat Water District (18) | Tulare Lake Basin Water Storage District (19) | Total (20) |
| 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 | 2,729 | 0 | 0 | 0 | 0 | 0 | 0 | 2,729 |
| 1965 | 0 | 0 | 6,039 | 64,393 | 9,300 | 0 | 0 | 0 | 0 | 79,732 |
| 1966 | 0 | 0 | 12,058 | 120,454 | 17,101 | 0 | 0 | 0 | 0 | 149,613 |
| 1967 | 0 | 0 | 26,299 | 233,638 | 34,405 | 0 | 0 | 0 | 0 | 294,342 |
| 1968 | 73,800 | 2,379 | 49,027 | 336,310 | 49,045 | 408,901 | 8,518 | 4,661 | 63,039 | 995,680 |
| 1969 | 73,929 | 7,137 | 57,509 | 392,633 | 52,620 | 839,739 | 9,026 | 5,066 | 238,519 | 1,676,178 |
| 1970 | 81,025 | 7,137 | 59,318 | 424,082 | 54,008 | 1,021,376 | 9,276 | 5,269 | 176,509 | 1,838,000 |
| 1971 | 92,379 | 7,137 | 60,424 | 445,234 | 54,800 | 1,356,570 | 9,418 | 5,674 | 187,831 | 2,219,467 |
| 1972 | 103,217 | 7,137 | 61,041 | 454,954 | 55,163 | 2,031,345 | 9,486 | 10,874 | 579,445 | 3,312,662 |
| 1973 | 113,538 | 7,137 | 61,467 | 459,182 | 55,337 | 2,342,847 | 9,516 | 6,282 | 224,121 | 3,279,427 |
| 1974 | 172,320 | 7,137 | 61,988 | 461,221 | 55,438 | 2,623,637 | 9,534 | 7,034 | 372,002 | 3,770,311 |
| 1975 | 209,298 | 7,137 | 62,551 | 463,538 | 55,579 | 3,142,398 | 9,558 | 7,247 | 443,887 | 4,401,193 |
| 1976 | 159,578 | 7,137 | 62,819 | 465,399 | 55,768 | 3,387,476 | 9,593 | 8,185 | 317,547 | 4,473,502 |
| 1977 | 156,890 | 7,137 | 63,462 | 468,106 | 56,055 | 3,711,701 | 9,637 | 7,498 | 303,617 | 4,784,103 |
| 1978 | 167,727 | 7,137 | 65,900 | 469,967 | 56,246 | 4,125,867 | 9,660 | 7,903 | 325,745 | 5,236,152 |
| 1979 | 198,919 | 7,137 | 66,215 | 472,733 | 56,582 | 4,530,381 | 9,721 | 8,106 | 366,609 | 5,716,403 |
| 1980 | 211,594 | 7,137 | 66,504 | 475,481 | 56,919 | 4,943,670 | 9,789 | 11,551 | 368,971 | 6,151,616 |
| 1981 | 211,594 | 7,137 | 68,094 | 491,901 | 58,864 | 5,410,484 | 10,181 | 8,714 | 391,099 | 6,658,068 |
| 1982 | 211,594 | 7,137 | 68,116 | 489,760 | 58,823 | 5,841,322 | 10,170 | 9,119 | 412,713 | 7,108,754 |
| 1983 | 221,400 | 7,137 | 68,405 | 493,777 | 59,463 | 6,331,829 | 10,299 | 9,322 | 49,134 | 7,250,766 |
| 1984 | 232,754 | 7,137 | 68,992 | 499,301 | 60,157 | 6,642,453 | 10,438 | 9,727 | 322,199 | 7,853,158 |
| 1985 | 243,592 | 7,137 | 69,721 | 507,219 | 61,318 | 7,073,291 | 10,671 | 9,930 | 234,397 | 8,217,276 |
| 1986 | 254,429 | 7,137 | 69,995 | 509,601 | 61,663 | 7,500,620 | 10,739 | 10,335 | 500,195 | 8,924,714 |
| 1987 | 265,267 | 7,137 | 70,502 | 513,288 | 62,193 | 7,935,845 | 10,843 | 10,538 | 521,809 | 9,397,422 |
| 1988 | 276,105 | 7,137 | 70,882 | 516,242 | 62,616 | 8,342,114 | 10,923 | 10,943 | 543,422 | 9,840,384 |
| 1989 | 286,943 | 7,137 | 71,762 | 519,907 | 63,243 | 8,635,189 | 11,073 | 11,349 | 565,550 | 10,172,153 |
| 1990 | 297,780 | 7,137 | 73,299 | 538,738 | 65,548 | 8,939,671 | 11,513 | 11,551 | 609,806 | 10,555,043 |
| 1991 | 297,780 | 7,137 | 75,928 | 567,340 | 70,078 | 8,939,671 | 12,316 | 11,551 | 609,806 | 10,591,607 |
| 1992 | 297,780 | 7,137 | 78,999 | 597,122 | 74,816 | 8,939,671 | 13,272 | 11,551 | 609,806 | 10,630,154 |
| 1993 | 297,780 | 7,137 | 80,116 | 606,516 | 76,270 | 8,939,671 | 13,563 | 11,551 | 609,806 | 10,642,410 |
| 1994 | 297,780 | 7,137 | 80,628 | 611,797 | 77,121 | 8,939,671 | 13,735 | 11,551 | 609,806 | 10,649,226 |
| 1995 | 297,780 | 7,137 | 81,128 | 617,021 | 77,966 | 8,939,671 | 13,906 | 11,551 | 609,806 | 10,655,966 |
| 1996 | 297,780 | 7,137 | 81,473 | 620,572 | 78,539 | 8,939,671 | 14,022 | 11,551 | 609,806 | 10,660,551 |
| 1997 | 297,780 | 7,137 | 81,816 | 624,124 | 79,113 | 8,939,671 | 14,138 | 11,551 | 609,806 | 10,665,136 |
| 1998 | 297,780 | 7,137 | 81,841 | 624,249 | 79,129 | 8,939,671 | 14,141 | 11,551 | 609,806 | 10,665,305 |
| 1999 | 297,780 | 7,137 | 81,857 | 624,324 | 79,139 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,408 |
| 2000 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2001 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2002 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2003 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2004 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2005 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2006 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2007 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2008 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2009 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2010 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2011 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2012 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2013 | 297,780 | 7,137 | 81,862 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,665,445 |
| 2014 | 297,780 | 7,137 | 79,133 | 624,352 | 79,143 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,662,716 |
| 2015 | 297,780 | 7,137 | 75,823 | 559,959 | 69,843 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,585,713 |
| 2016 | 297,780 | 7,137 | 69,804 | 503,899 | 62,042 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,515,833 |
| 2017 | 297,780 | 7,137 | 55,563 | 390,714 | 44,738 | 8,939,671 | 14,143 | 11,551 | 609,806 | 10,371,103 |
| 2018 | 297,780 | 7,137 | 32,835 | 288,042 | 30,098 | 8,939,671 | 5,625 | 11,551 | 609,806 | 10,222,545 |
| 2019 | 297,780 | 7,137 | 24,353 | 231,720 | 26,523 | 8,939,671 | 5,117 | 11,551 | 609,806 | 10,153,658 |
| 2020 | 297,780 | 7,137 | 22,544 | 200,271 | 25,135 | 8,939,671 | 4,867 | 11,551 | 609,806 | 10,118,762 |
| 2021 | 297,780 | 7,137 | 21,438 | 179,118 | 24,343 | 8,939,671 | 4,725 | 11,551 | 609,806 | 10,095,569 |
| 2022 | 297,780 | 7,137 | 20,821 | 169,398 | 23,980 | 8,939,671 | 4,658 | 11,551 | 609,806 | 10,084,802 |
| 2023 | 297,780 | 7,137 | 20,395 | 165,170 | 23,806 | 8,939,671 | 4,627 | 11,551 | 609,806 | 10,079,943 |
| 2024 | 297,780 | 7,137 | 19,874 | 163,131 | 23,706 | 8,939,671 | 4,610 | 11,551 | 609,806 | 10,077,266 |
| 2025 | 297,780 | 7,137 | 19,311 | 160,814 | 23,565 | 8,939,671 | 4,585 | 11,551 | 609,806 | 10,074,220 |
| 2026 | 297,780 | 7,137 | 19,043 | 158,954 | 23,375 | 8,939,671 | 4,550 | 11,551 | 609,806 | 10,071,867 |
| 2027 | 297,780 | 7,137 | 18,400 | 156,246 | 23,089 | 8,939,671 | 4,506 | 11,551 | 609,806 | 10,068,186 |
| 2028 | 297,780 | 7,137 | 15,962 | 154,385 | 22,897 | 8,939,671 | 4,484 | 11,551 | 609,806 | 10,063,673 |
| 2029 | 297,780 | 7,137 | 15,647 | 151,619 | 22,562 | 8,939,671 | 4,422 | 11,551 | 609,806 | 10,060,195 |
| 2030 | 297,780 | 7,137 | 15,358 | 148,872 | 22,224 | 8,939,671 | 4,354 | 11,551 | 609,806 | 10,056,753 |
| 2031 | 297,780 | 7,137 | 13,768 | 132,452 | 20,280 | 8,939,671 | 3,963 | 11,551 | 609,806 | 10,036,408 |
| 2032 | 297,780 | 7,137 | 13,746 | 134,592 | 20,320 | 8,939,671 | 3,973 | 11,551 | 609,806 | 10,038,576 |
| 2033 | 297,780 | 7,137 | 13,457 | 130,575 | 19,680 | 8,939,671 | 3,844 | 11,551 | 609,806 | 10,033,501 |
| 2034 | 297,780 | 7,137 | 12,870 | 125,051 | 18,986 | 8,939,671 | 3,705 | 11,551 | 609,806 | 10,026,557 |
| 2035 | 297,780 | 7,137 | 12,141 | 117,134 | 17,825 | 8,939,671 | 3,472 | 11,551 | 609,806 | 10,016,517 |
| Total | 17,715,772 | 480,558 | 4,027,258 | 30,567,520 | 3,856,587 | 509,403,921 | 687,479 | 716,673 | 35,559,436 | 603,015,204 |

c) Charges under Amendment No. 18 of the water supply contract with Kern County Water Agency.

TABLE B-15

# Capital Cost Component of Transportation Charge for Each Contractor

(Dollars)



| Calendar Year | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Antelope Valley-East Kern Water Agency (21)* | *Castaic Lake Water Agency (22)* | *Coachella Valley Water District (23)* | *Crestline-Lake Arrowhead Water Agency (24)* | *Desert Water Agency (25)* | *Littlerock Creek Irrigation District (26)* | *Mojave Water Agency (27)* | *Palmdale Water District (28)* | *San Bernardino Valley Municipal Water District (29)* | *San Gabriel Valley Municipal Water District (30)* |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 33,380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51,822 | 0 |
| 1964 | 62,973 | 27,495 | 14,452 | 4,378 | 37,225 | 1,145 | 28,487 | 8,220 | 82,953 | 35,048 |
| 1965 | 118,798 | 53,095 | 25,137 | 7,206 | 40,837 | 2,086 | 50,402 | 15,247 | 135,293 | 35,403 |
| 1966 | 216,130 | 101,429 | 44,803 | 12,499 | 73,271 | 3,760 | 90,547 | 27,724 | 232,882 | 61,564 |
| 1967 | 418,148 | 211,152 | 86,258 | 23,510 | 141,637 | 7,296 | 175,459 | 54,110 | 434,047 | 115,759 |
| 1968 | 672,006 | 420,323 | 141,218 | 38,613 | 232,278 | 11,801 | 286,776 | 87,433 | 731,016 | 194,838 |
| 1969 | 974,218 | 624,313 | 210,120 | 57,393 | 345,912 | 17,277 | 426,444 | 127,422 | 1,138,226 | 303,131 |
| 1970 | 1,271,239 | 781,397 | 296,342 | 84,931 | 488,112 | 23,465 | 592,562 | 171,570 | 1,694,152 | 444,413 |
| 1971 | 1,527,974 | 948,599 | 400,954 | 120,401 | 660,643 | 28,891 | 790,094 | 209,154 | 2,397,887 | 620,763 |
| 1972 | 1,659,455 | 1,058,117 | 455,613 | 137,672 | 750,788 | 31,357 | 896,565 | 226,857 | 2,812,965 | 722,127 |
| 1973 | 1,709,111 | 1,072,566 | 472,537 | 142,369 | 778,698 | 32,333 | 930,668 | 233,711 | 2,950,242 | 757,731 |
| 1974 | 1,727,190 | 1,119,205 | 480,626 | 146,564 | 792,040 | 32,655 | 942,814 | 236,063 | 3,040,050 | 778,318 |
| 1975 | 1,750,218 | 1,133,532 | 493,847 | 150,344 | 813,844 | 33,070 | 969,261 | 239,080 | 3,122,555 | 800,045 |
| 1976 | 1,763,146 | 1,146,106 | 503,724 | 153,039 | 830,134 | 33,323 | 989,262 | 240,814 | 3,200,788 | 820,853 |
| 1977 | 1,775,263 | 1,159,126 | 510,700 | 154,938 | 841,638 | 33,539 | 1,003,433 | 242,395 | 3,249,874 | 833,907 |
| 1978 | 1,785,443 | 1,178,128 | 515,361 | 156,257 | 849,326 | 33,731 | 1,012,799 | 243,764 | 3,280,045 | 841,841 |
| 1979 | 1,800,853 | 1,202,112 | 519,369 | 157,391 | 855,936 | 33,998 | 1,020,850 | 245,736 | 3,301,928 | 847,542 |
| 1980 | 1,819,144 | 1,250,011 | 523,551 | 158,505 | 862,832 | 34,303 | 1,029,382 | 248,007 | 3,322,550 | 853,082 |
| 1981 | 1,914,484 | 1,340,672 | 545,181 | 164,283 | 898,505 | 35,958 | 1,073,489 | 260,305 | 3,426,745 | 881,066 |
| 1982 | 1,906,600 | 1,371,898 | 542,820 | 163,849 | 894,611 | 35,831 | 1,068,336 | 259,332 | 3,419,736 | 878,935 |
| 1983 | 1,986,019 | 1,415,464 | 557,999 | 167,888 | 919,643 | 37,167 | 1,099,484 | 269,354 | 3,492,330 | 898,773 |
| 1984 | 2,091,722 | 1,442,430 | 578,266 | 173,865 | 953,068 | 38,945 | 1,140,579 | 282,672 | 3,602,030 | 928,792 |
| 1985 | 2,169,498 | 1,457,533 | 593,581 | 178,270 | 978,325 | 40,342 | 1,171,752 | 292,331 | 3,682,056 | 950,701 |
| 1986 | 2,214,415 | 1,465,524 | 604,243 | 181,357 | 995,909 | 40,982 | 1,193,410 | 297,648 | 3,737,432 | 965,836 |
| 1987 | 2,254,889 | 1,470,923 | 610,838 | 183,140 | 1,006,786 | 41,384 | 1,206,915 | 302,079 | 3,770,918 | 974,944 |
| 1988 | 2,270,742 | 1,476,519 | 609,233 | 182,844 | 1,004,138 | 41,279 | 1,203,450 | 302,685 | 3,767,852 | 973,992 |
| 1989 | 2,282,724 | 1,485,496 | 623,755 | 186,848 | 1,028,088 | 41,353 | 1,233,040 | 303,607 | 3,844,080 | 994,661 |
| 1990 | 2,349,625 | 1,508,808 | 650,430 | 194,432 | 1,072,080 | 42,996 | 1,287,175 | 313,737 | 3,979,854 | 1,031,483 |
| 1991 | 2,382,986 | 1,527,696 | 663,585 | 198,549 | 1,093,775 | 43,401 | 1,313,506 | 317,258 | 4,055,634 | 1,051,925 |
| 1992 | 2,422,778 | 1,547,114 | 689,014 | 206,575 | 1,135,713 | 43,951 | 1,364,630 | 321,563 | 4,201,805 | 1,091,817 |
| 1993 | 2,446,532 | 1,561,620 | 702,875 | 213,783 | 1,158,572 | 44,317 | 1,389,842 | 324,191 | 4,324,181 | 1,125,280 |
| 1994 | 2,464,146 | 1,569,464 | 711,288 | 222,938 | 1,172,446 | 44,615 | 1,400,843 | 326,401 | 4,497,053 | 1,172,633 |
| 1995 | 2,469,872 | 1,587,121 | 713,329 | 225,749 | 1,175,812 | 44,708 | 1,402,986 | 327,127 | 4,556,651 | 1,188,915 |
| 1996 | 2,473,817 | 1,588,892 | 714,285 | 226,490 | 1,177,390 | 44,775 | 1,404,519 | 327,625 | 4,648,430 | 1,213,548 |
| 1997 | 2,477,768 | 1,590,666 | 715,024 | 226,679 | 1,178,608 | 44,842 | 1,406,055 | 328,124 | 4,759,806 | 1,243,356 |
| 1998 | 2,478,049 | 1,590,829 | 715,105 | 226,701 | 1,178,742 | 44,847 | 1,406,221 | 328,162 | 4,797,461 | 1,253,426 |
| 1999 | 2,478,229 | 1,590,934 | 715,153 | 226,714 | 1,178,820 | 44,850 | 1,406,317 | 328,186 | 4,797,723 | 1,253,495 |
| 2000 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2001 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2002 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2003 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2004 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2005 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2006 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2007 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2008 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2009 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2010 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2011 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2012 | 2,478,291 | 1,590,966 | 715,167 | 226,718 | 1,178,845 | 44,851 | 1,406,346 | 328,193 | 4,797,806 | 1,253,517 |
| 2013 | 2,444,911 | 1,590,966 | 715,167 | 226,718 | 1,165,455 | 44,851 | 1,406,346 | 328,193 | 4,745,984 | 1,240,393 |
| 2014 | 2,415,317 | 1,563,471 | 700,715 | 222,340 | 1,155,629 | 43,706 | 1,377,858 | 319,974 | 4,714,853 | 1,232,199 |
| 2015 | 2,359,493 | 1,537,871 | 690,030 | 219,512 | 1,138,007 | 42,765 | 1,355,944 | 312,946 | 4,662,513 | 1,218,114 |
| 2016 | 2,262,160 | 1,489,537 | 670,364 | 214,219 | 1,105,574 | 41,091 | 1,315,799 | 300,469 | 4,564,925 | 1,191,953 |
| 2017 | 2,060,142 | 1,379,814 | 628,910 | 203,208 | 1,037,207 | 37,555 | 1,230,887 | 274,083 | 4,363,759 | 1,137,758 |
| 2018 | 1,806,285 | 1,170,643 | 573,950 | 188,105 | 946,566 | 33,050 | 1,119,569 | 240,760 | 4,066,790 | 1,058,679 |
| 2019 | 1,504,073 | 966,653 | 505,047 | 169,325 | 832,932 | 27,574 | 979,901 | 200,771 | 3,659,580 | 950,386 |
| 2020 | 1,207,052 | 809,569 | 418,826 | 141,787 | 690,733 | 21,387 | 813,784 | 156,623 | 3,103,655 | 809,104 |
| 2021 | 950,316 | 642,367 | 314,213 | 106,317 | 518,202 | 15,960 | 616,252 | 119,040 | 2,399,919 | 632,754 |
| 2022 | 818,836 | 532,849 | 259,554 | 89,045 | 428,057 | 13,494 | 509,781 | 101,336 | 1,984,841 | 531,390 |
| 2023 | 769,180 | 518,400 | 242,631 | 84,348 | 400,147 | 12,518 | 475,677 | 94,482 | 1,847,564 | 495,786 |
| 2024 | 751,101 | 471,761 | 234,542 | 80,154 | 386,804 | 12,197 | 463,532 | 92,131 | 1,757,756 | 475,199 |
| 2025 | 728,072 | 457,433 | 221,321 | 76,374 | 365,001 | 11,781 | 437,085 | 89,114 | 1,675,252 | 453,472 |
| 2026 | 715,144 | 444,860 | 211,443 | 73,679 | 348,711 | 11,529 | 417,083 | 87,380 | 1,597,018 | 432,664 |
| 2027 | 703,027 | 431,840 | 204,468 | 71,780 | 337,206 | 11,312 | 402,912 | 85,798 | 1,547,932 | 419,611 |
| 2028 | 692,848 | 412,838 | 199,806 | 70,461 | 329,518 | 11,120 | 393,546 | 84,429 | 1,517,762 | 411,677 |
| 2029 | 677,437 | 388,854 | 195,798 | 69,327 | 322,908 | 10,854 | 385,496 | 82,458 | 1,495,879 | 405,975 |
| 2030 | 659,147 | 340,955 | 191,617 | 68,213 | 316,013 | 10,549 | 376,964 | 80,187 | 1,475,256 | 400,435 |
| 2031 | 563,806 | 250,294 | 169,986 | 62,435 | 280,339 | 8,893 | 332,856 | 67,889 | 1,371,062 | 372,451 |
| 2032 | 571,690 | 219,068 | 172,347 | 62,869 | 284,233 | 9,021 | 338,010 | 68,861 | 1,378,070 | 374,582 |
| 2033 | 492,271 | 175,502 | 157,169 | 58,830 | 259,201 | 7,684 | 306,862 | 58,840 | 1,305,476 | 354,745 |
| 2034 | 386,568 | 148,536 | 136,901 | 52,853 | 225,777 | 5,906 | 265,767 | 45,522 | 1,195,776 | 324,725 |
| 2035 | 308,792 | 133,433 | 121,586 | 48,448 | 200,519 | 4,509 | 234,593 | 35,862 | 1,115,750 | 302,816 |
| Total | 122,685,035 | 78,836,381 | 35,184,178 | 11,064,645 | 57,995,906 | 2,222,942 | 69,247,356 | 16,263,351 | 232,459,902 | 60,662,532 |

TABLE B-15

# Capital Cost Component of Transportation Charge for Each Contractor

(Dollars)



| | Southern California Area (continued) | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (31) | Metropolitan Water District of Southern California (32) | Ventura County Flood Control District (33) | Total (34) | City of Yuba City (35) | County of Butte (36) | Plumas County FC&WCD (37) | Total (38) | South Bay Area Future Contractor (39) | Grand Total (40) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 0 | 692,054 | 0 | 777,256 | 0 | 0 | 0 | 0 | 43,197 | 1,398,051 |
| 1964 | 21,774 | 1,262,657 | 9,394 | 1,596,201 | 0 | 0 | 0 | 0 | 70,156 | 2,522,626 |
| 1965 | 21,903 | 2,184,191 | 17,795 | 2,707,393 | 0 | 0 | 405 | 405 | 100,254 | 4,249,574 |
| 1966 | 38,026 | 3,906,499 | 33,480 | 4,842,614 | 0 | 0 | 565 | 565 | 117,224 | 6,738,172 |
| 1967 | 71,397 | 7,706,041 | 68,264 | 9,513,078 | 0 | 0 | 563 | 563 | 157,203 | 11,841,101 |
| 1968 | 120,287 | 14,368,023 | 133,511 | 17,438,123 | 0 | 0 | 565 | 565 | 232,669 | 20,863,924 |
| 1969 | 187,358 | 21,892,236 | 202,921 | 26,506,971 | 0 | 0 | 3,196 | 3,196 | 296,646 | 30,905,654 |
| 1970 | 275,448 | 29,038,681 | 258,269 | 35,420,581 | 0 | 0 | 15,144 | 15,144 | 316,958 | 40,089,267 |
| 1971 | 385,637 | 37,301,569 | 316,809 | 45,709,375 | 0 | 0 | 15,972 | 15,972 | 320,734 | 50,782,950 |
| 1972 | 448,767 | 44,132,087 | 354,497 | 53,686,867 | 0 | 0 | 17,360 | 17,360 | 321,370 | 59,912,521 |
| 1973 | 470,931 | 46,373,082 | 357,909 | 56,281,888 | 0 | 0 | 17,360 | 17,360 | 322,042 | 62,513,471 |
| 1974 | 484,027 | 48,399,384 | 372,703 | 58,551,639 | 0 | 0 | 17,362 | 17,362 | 322,455 | 65,283,384 |
| 1975 | 497,511 | 49,363,315 | 377,108 | 59,743,730 | 0 | 0 | 17,364 | 17,364 | 323,913 | 67,126,895 |
| 1976 | 510,460 | 50,216,876 | 381,392 | 60,789,917 | 0 | 0 | 17,365 | 17,365 | 324,332 | 68,564,601 |
| 1977 | 518,563 | 50,907,840 | 385,709 | 61,616,925 | 0 | 0 | 17,368 | 17,368 | 325,173 | 69,727,733 |
| 1978 | 523,486 | 51,509,626 | 391,382 | 62,321,189 | 0 | 0 | 17,369 | 17,369 | 326,253 | 70,922,979 |
| 1979 | 527,014 | 52,314,663 | 400,302 | 63,227,694 | 0 | 0 | 17,371 | 17,371 | 327,726 | 72,341,227 |
| 1980 | 530,430 | 53,724,156 | 417,817 | 64,773,770 | 0 | 0 | 17,372 | 17,372 | 329,087 | 74,365,802 |
| 1981 | 547,678 | 56,759,483 | 450,545 | 68,298,394 | 0 | 0 | 17,374 | 17,374 | 332,105 | 78,488,699 |
| 1982 | 546,389 | 57,561,834 | 462,008 | 69,112,179 | 0 | 0 | 17,375 | 17,375 | 331,760 | 79,766,828 |
| 1983 | 558,589 | 59,126,596 | 478,008 | 71,007,314 | 0 | 0 | 17,376 | 17,376 | 332,465 | 81,871,313 |
| 1984 | 577,054 | 60,422,058 | 487,706 | 72,719,187 | 0 | 0 | 17,377 | 17,377 | 336,059 | 84,360,522 |
| 1985 | 590,524 | 61,260,886 | 492,974 | 73,858,773 | 0 | 0 | 17,378 | 17,378 | 340,305 | 86,176,454 |
| 1986 | 599,830 | 61,772,049 | 495,807 | 74,564,442 | 0 | 0 | 17,380 | 17,380 | 341,104 | 88,290,526 |
| 1987 | 605,438 | 62,092,861 | 497,598 | 75,018,713 | 0 | 0 | 17,381 | 17,381 | 341,940 | 90,649,635 |
| 1988 | 604,869 | 62,222,223 | 499,509 | 75,159,335 | 0 | 0 | 17,383 | 17,383 | 343,485 | 92,379,364 |
| 1989 | 617,609 | 62,853,180 | 502,454 | 75,996,895 | 0 | 0 | 17,386 | 17,386 | 346,047 | 94,003,104 |
| 1990 | 640,275 | 64,176,140 | 510,641 | 77,757,676 | 0 | 0 | 17,389 | 17,389 | 348,467 | 96,391,820 |
| 1991 | 652,869 | 65,051,549 | 516,938 | 78,869,671 | 0 | 0 | 17,394 | 17,394 | 353,055 | 97,754,497 |
| 1992 | 677,396 | 66,327,400 | 523,318 | 80,553,074 | 0 | 0 | 17,398 | 17,398 | 356,647 | 99,656,397 |
| 1993 | 697,946 | 67,403,843 | 528,022 | 81,921,004 | 0 | 0 | 17,401 | 17,401 | 358,859 | 101,260,834 |
| 1994 | 727,091 | 68,543,299 | 530,739 | 83,382,956 | 0 | 0 | 17,401 | 17,401 | 359,664 | 104,863,790 |
| 1995 | 737,137 | 69,328,996 | 537,158 | 84,295,561 | 0 | 0 | 17,401 | 17,401 | 360,441 | 114,914,240 |
| 1996 | 752,610 | 69,855,613 | 537,742 | 84,965,736 | 0 | 0 | 17,401 | 17,401 | 360,997 | 125,715,962 |
| 1997 | 771,387 | 70,484,354 | 538,328 | 85,764,997 | 0 | 0 | 17,401 | 17,401 | 361,558 | 129,116,430 |
| 1998 | 777,735 | 70,686,239 | 538,376 | 86,021,893 | 0 | 0 | 17,401 | 17,401 | 361,645 | 129,440,212 |
| 1999 | 777,778 | 70,690,105 | 538,407 | 86,026,711 | 0 | 0 | 17,401 | 17,401 | 361,669 | 129,500,341 |
| 2000 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,557,266 |
| 2001 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2002 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2003 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2004 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2005 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2006 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2007 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2008 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2009 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2010 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2011 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2012 | 777,792 | 70,691,252 | 538,417 | 86,028,161 | 0 | 0 | 17,401 | 17,401 | 361,680 | 129,613,172 |
| 2013 | 769,625 | 69,999,198 | 538,417 | 85,216,224 | 0 | 0 | 17,401 | 17,401 | 318,483 | 128,174,502 |
| 2014 | 764,561 | 69,428,595 | 529,023 | 84,468,241 | 0 | 0 | 17,401 | 17,401 | 291,524 | 127,104,083 |
| 2015 | 755,889 | 68,507,061 | 520,621 | 83,320,766 | 0 | 0 | 16,996 | 16,996 | 261,426 | 125,335,402 |
| 2016 | 739,765 | 66,784,753 | 504,937 | 81,185,546 | 0 | 0 | 16,836 | 16,636 | 244,456 | 122,844,189 |
| 2017 | 706,394 | 62,985,211 | 470,153 | 76,515,081 | 0 | 0 | 16,838 | 16,838 | 204,477 | 117,737,175 |
| 2018 | 657,505 | 56,323,229 | 404,906 | 68,590,037 | 0 | 0 | 16,836 | 16,836 | 129,011 | 109,261,921 |
| 2019 | 590,434 | 48,799,016 | 335,496 | 59,521,188 | 0 | 0 | 14,205 | 14,205 | 65,033 | 99,827,227 |
| 2020 | 502,344 | 41,652,571 | 280,148 | 50,607,583 | 0 | 0 | 2,257 | 2,257 | 44,722 | 90,768,953 |
| 2021 | 392,154 | 33,389,683 | 221,608 | 40,318,785 | 0 | 0 | 1,429 | 1,429 | 40,946 | 80,433,209 |
| 2022 | 329,025 | 26,559,165 | 183,920 | 32,341,293 | 0 | 0 | 41 | 41 | 40,310 | 72,432,668 |
| 2023 | 306,860 | 24,318,170 | 180,508 | 29,746,271 | 0 | 0 | 41 | 41 | 39,638 | 69,793,625 |
| 2024 | 293,765 | 22,291,868 | 165,714 | 27,476,524 | 0 | 0 | 40 | 40 | 39,225 | 67,511,924 |
| 2025 | 280,280 | 21,327,937 | 161,309 | 26,284,431 | 0 | 0 | 37 | 37 | 37,767 | 66,296,244 |
| 2026 | 267,332 | 20,474,376 | 157,025 | 25,238,244 | 0 | 0 | 36 | 36 | 37,348 | 64,928,495 |
| 2027 | 259,229 | 19,783,412 | 152,708 | 24,411,235 | 0 | 0 | 34 | 34 | 36,507 | 64,072,285 |
| 2028 | 254,305 | 19,181,626 | 147,035 | 23,706,971 | 0 | 0 | 32 | 32 | 35,426 | 63,324,569 |
| 2029 | 250,778 | 18,376,589 | 138,114 | 22,800,467 | 0 | 0 | 30 | 30 | 33,953 | 62,383,097 |
| 2030 | 247,362 | 16,967,096 | 120,599 | 21,254,393 | 0 | 0 | 29 | 29 | 32,593 | 60,790,296 |
| 2031 | 230,114 | 13,931,769 | 87,872 | 17,729,766 | 0 | 0 | 28 | 28 | 29,575 | 57,153,503 |
| 2032 | 231,403 | 13,129,418 | 76,409 | 16,915,981 | 0 | 0 | 26 | 26 | 29,920 | 56,328,230 |
| 2033 | 219,203 | 11,564,656 | 60,409 | 15,020,848 | 0 | 0 | 26 | 26 | 29,215 | 54,360,683 |
| 2034 | 200,738 | 10,269,194 | 50,710 | 13,308,973 | 0 | 0 | 25 | 25 | 25,621 | 52,466,921 |
| 2035 | 187,268 | 9,430,366 | 45,443 | 12,169,385 | 0 | 0 | 23 | 23 | 21,375 | 51,005,064 |
| Total | 37,640,852 | 3,476,372,923 | 26,678,045 | 4,227,314,048 | 0 | 0 | 869,959 | 869,959 | 17,976,055 | 6,234,000,495 |

TABLE B-16A

# Minimum OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 123,665 | 335,225 | 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 | 74,011 | 136,541 | 210,552 |
| 1972 | 37,895 | 0 | 37,895 | 122,407 | 117,483 | 334,366 | 574,256 | 79,195 | 146,107 | 225,302 |
| 1973 | 32,993 | 0 | 32,993 | 122,738 | 116,785 | 325,727 | 565,250 | 75,714 | 139,685 | 215,399 |
| 1974 | 46,498 | 0 | 46,498 | 154,434 | 146,929 | 403,081 | 704,444 | 76,531 | 141,190 | 217,721 |
| 1975 | 37,707 | 0 | 37,707 | 189,176 | 182,087 | 513,823 | 885,086 | 92,605 | 170,845 | 263,450 |
| 1976 | 60,786 | 0 | 60,786 | 203,063 | 193,436 | 524,814 | 921,313 | 94,933 | 175,142 | 270,075 |
| 1977 | 78,400 | 0 | 78,400 | 179,911 | 169,103 | 500,192 | 849,206 | 102,969 | 189,966 | 292,935 |
| 1978 | 56,318 | 0 | 56,318 | 239,301 | 228,854 | 647,829 | 1,115,984 | 104,061 | 191,982 | 296,043 |
| 1979 | 73,852 | 0 | 73,852 | 236,986 | 232,103 | 666,744 | 1,135,833 | 100,749 | 185,873 | 286,622 |
| 1980 | 81,770 | 0 | 81,770 | 389,583 | 372,191 | 1,010,846 | 1,772,620 | 125,147 | 230,882 | 356,029 |
| 1981 | 100,786 | 0 | 100,786 | 316,994 | 301,893 | 833,364 | 1,452,251 | 138,619 | 255,733 | 394,352 |
| 1982 | 194,250 | 0 | 194,250 | 394,390 | 376,867 | 1,119,102 | 1,890,359 | 142,666 | 263,202 | 405,868 |
| 1983 | 80,619 | 0 | 80,619 | 442,016 | 432,597 | 1,280,104 | 2,154,717 | 171,181 | 315,811 | 486,992 |
| 1984 | 106,446 | 0 | 106,446 | 591,136 | 565,624 | 1,817,399 | 2,974,159 | 200,552 | 369,995 | 570,547 |
| 1985 | 215,389 | 0 | 215,389 | 679,106 | 659,266 | 1,849,208 | 3,187,580 | 246,202 | 454,211 | 700,413 |
| 1986 | 203,620 | 0 | 203,620 | 614,521 | 584,218 | 1,786,797 | 2,985,536 | 233,614 | 430,990 | 664,604 |
| 1987 | 293,960 | 0 | 293,960 | 681,768 | 647,113 | 1,988,041 | 3,316,922 | 229,768 | 462,478 | 692,246 |
| 1988 | 312,496 | 0 | 312,496 | 677,891 | 656,290 | 1,913,574 | 3,247,755 | 258,999 | 561,345 | 820,344 |
| 1989 | 421,438 | 705,723 | 1,127,161 | 715,426 | 708,907 | 1,894,864 | 3,319,197 | 243,263 | 665,648 | 908,911 |
| 1990 | 658,339 | 660,811 | 1,319,150 | 781,984 | 779,874 | 2,131,684 | 3,693,542 | 309,958 | 676,542 | 986,500 |
| 1991 | 720,423 | 807,671 | 1,528,094 | 557,644 | 539,974 | 1,566,218 | 2,663,836 | 321,494 | 708,887 | 1,030,381 |
| 1992 | 532,866 | 736,217 | 1,269,083 | 990,089 | 1,035,870 | 2,716,165 | 4,742,124 | 350,084 | 755,452 | 1,105,536 |
| 1993 | 616,734 | 1,049,154 | 1,665,888 | 1,800,938 | 1,743,686 | 4,564,051 | 8,108,675 | 509,492 | 939,952 | 1,449,444 |
| 1994 | 588,509 | 1,012,273 | 1,600,782 | 1,468,112 | 1,421,193 | 3,819,394 | 6,708,699 | 480,975 | 887,341 | 1,368,316 |
| 1995 | 613,135 | 1,062,018 | 1,675,153 | 1,117,404 | 1,098,095 | 3,038,093 | 5,253,592 | 467,789 | 863,017 | 1,330,806 |
| 1996 | 629,651 | 1,089,911 | 1,719,562 | 1,079,169 | 1,050,392 | 2,867,561 | 4,997,122 | 1,254,607 | 2,697,471 | 3,952,078 |
| 1997 | 633,746 | 1,096,860 | 1,730,606 | 1,086,741 | 1,057,798 | 2,888,073 | 5,032,612 | 1,112,922 | 2,303,794 | 3,416,716 |
| 1998 | 634,303 | 1,097,813 | 1,732,116 | 1,087,562 | 1,058,488 | 2,889,768 | 5,035,818 | 1,105,418 | 2,285,904 | 3,391,322 |
| 1999 | 634,295 | 1,098,076 | 1,732,371 | 1,087,576 | 1,058,504 | 2,889,845 | 5,035,925 | 1,105,446 | 2,285,981 | 3,391,427 |
| 2000 | 634,594 | 1,098,751 | 1,733,345 | 1,087,836 | 1,058,745 | 2,890,438 | 5,037,019 | 1,105,910 | 2,286,978 | 3,392,888 |
| 2001 | 635,591 | 1,100,458 | 1,736,049 | 1,089,619 | 1,060,467 | 2,895,100 | 5,045,186 | 1,107,632 | 2,290,528 | 3,398,160 |
| 2002 | 635,828 | 1,100,995 | 1,736,823 | 1,089,825 | 1,060,658 | 2,895,572 | 5,046,055 | 1,107,999 | 2,291,322 | 3,399,321 |
| 2003 | 635,952 | 1,101,273 | 1,737,225 | 1,089,934 | 1,060,759 | 2,895,816 | 5,046,509 | 1,108,192 | 2,291,737 | 3,399,929 |
| 2004 | 636,088 | 1,101,582 | 1,737,670 | 1,090,052 | 1,060,870 | 2,896,088 | 5,047,010 | 1,108,405 | 2,292,193 | 3,400,598 |
| 2005 | 636,377 | 1,102,232 | 1,738,609 | 1,090,302 | 1,061,101 | 2,896,658 | 5,048,061 | 1,108,852 | 2,293,149 | 3,402,001 |
| 2006 | 636,391 | 1,102,263 | 1,738,654 | 1,090,314 | 1,061,111 | 2,896,687 | 5,048,112 | 1,108,872 | 2,293,195 | 3,402,067 |
| 2007 | 636,484 | 1,102,479 | 1,738,963 | 1,090,397 | 1,061,188 | 2,896,876 | 5,048,461 | 1,109,020 | 2,293,510 | 3,402,530 |
| 2008 | 636,591 | 1,102,718 | 1,739,309 | 1,090,489 | 1,061,274 | 2,897,084 | 5,048,847 | 1,109,185 | 2,293,862 | 3,403,047 |
| 2009 | 636,675 | 1,102,906 | 1,739,581 | 1,090,562 | 1,061,341 | 2,897,251 | 5,049,154 | 1,109,316 | 2,294,145 | 3,403,461 |
| 2010 | 637,076 | 1,103,813 | 1,740,889 | 1,090,912 | 1,061,665 | 2,898,047 | 5,050,624 | 1,109,937 | 2,295,485 | 3,405,422 |
| 2011 | 636,991 | 1,103,622 | 1,740,613 | 1,090,838 | 1,061,598 | 2,897,879 | 5,050,315 | 1,109,805 | 2,295,202 | 3,405,007 |
| 2012 | 637,107 | 1,103,886 | 1,740,993 | 1,090,940 | 1,061,691 | 2,898,110 | 5,050,741 | 1,109,988 | 2,295,590 | 3,405,578 |
| 2013 | 637,219 | 1,104,133 | 1,741,352 | 1,091,035 | 1,061,779 | 2,898,329 | 5,051,143 | 1,110,162 | 2,295,961 | 3,406,123 |
| 2014 | 637,349 | 1,104,427 | 1,741,776 | 1,091,149 | 1,061,885 | 2,898,589 | 5,051,623 | 1,110,364 | 2,296,394 | 3,406,758 |
| 2015 | 637,303 | 1,104,321 | 1,741,624 | 1,091,107 | 1,061,846 | 2,898,493 | 5,051,446 | 1,110,290 | 2,296,237 | 3,406,527 |
| 2016 | 637,332 | 1,104,389 | 1,741,721 | 1,091,131 | 1,061,870 | 2,898,553 | 5,051,554 | 1,110,333 | 2,296,335 | 3,406,668 |
| 2017 | 637,738 | 1,105,307 | 1,743,045 | 1,091,488 | 1,062,199 | 2,899,361 | 5,053,048 | 1,110,970 | 2,297,696 | 3,408,666 |
| 2018 | 637,735 | 1,105,298 | 1,743,033 | 1,091,484 | 1,062,197 | 2,899,353 | 5,053,034 | 1,110,960 | 2,297,681 | 3,408,641 |
| 2019 | 637,755 | 1,105,341 | 1,743,096 | 1,091,501 | 1,062,210 | 2,899,390 | 5,053,101 | 1,110,990 | 2,297,743 | 3,408,733 |
| 2020 | 637,567 | 1,104,915 | 1,742,482 | 1,091,336 | 1,062,058 | 2,899,016 | 5,052,410 | 1,110,697 | 2,297,114 | 3,407,811 |
| 2021 | 637,616 | 1,105,025 | 1,742,641 | 1,091,378 | 1,062,098 | 2,899,112 | 5,052,588 | 1,110,771 | 2,297,276 | 3,408,047 |
| 2022 | 637,639 | 1,105,077 | 1,742,716 | 1,091,398 | 1,062,116 | 2,899,157 | 5,052,671 | 1,110,809 | 2,297,353 | 3,408,162 |
| 2023 | 637,637 | 1,105,072 | 1,742,709 | 1,091,396 | 1,062,114 | 2,899,155 | 5,052,665 | 1,110,806 | 2,297,345 | 3,408,151 |
| 2024 | 637,637 | 1,105,074 | 1,742,711 | 1,091,397 | 1,062,114 | 2,899,155 | 5,052,666 | 1,110,807 | 2,297,346 | 3,408,153 |
| 2025 | 637,648 | 1,105,097 | 1,742,745 | 1,091,406 | 1,062,123 | 2,899,175 | 5,052,704 | 1,110,824 | 2,297,381 | 3,408,205 |
| 2026 | 637,592 | 1,104,973 | 1,742,565 | 1,091,357 | 1,062,078 | 2,899,066 | 5,052,501 | 1,110,736 | 2,297,197 | 3,407,933 |
| 2027 | 637,593 | 1,104,975 | 1,742,568 | 1,091,359 | 1,062,079 | 2,899,066 | 5,052,504 | 1,110,738 | 2,297,202 | 3,407,940 |
| 2028 | 637,598 | 1,104,987 | 1,742,585 | 1,091,362 | 1,062,082 | 2,899,078 | 5,052,522 | 1,110,746 | 2,297,217 | 3,407,963 |
| 2029 | 637,599 | 1,104,990 | 1,742,589 | 1,091,363 | 1,062,084 | 2,899,081 | 5,052,528 | 1,110,749 | 2,297,222 | 3,407,971 |
| 2030 | 637,592 | 1,104,975 | 1,742,567 | 1,091,359 | 1,062,079 | 2,899,065 | 5,052,503 | 1,110,737 | 2,297,199 | 3,407,936 |
| 2031 | 637,613 | 1,105,019 | 1,742,632 | 1,091,375 | 1,062,096 | 2,899,106 | 5,052,577 | 1,110,769 | 2,297,265 | 3,408,034 |
| 2032 | 637,613 | 1,105,019 | 1,742,632 | 1,091,375 | 1,062,096 | 2,899,106 | 5,052,577 | 1,110,769 | 2,297,265 | 3,408,034 |
| 2033 | 637,622 | 1,105,039 | 1,742,661 | 1,091,383 | 1,062,103 | 2,899,125 | 5,052,611 | 1,110,785 | 2,297,296 | 3,408,081 |
| 2034 | 637,595 | 1,104,980 | 1,742,575 | 1,091,360 | 1,062,080 | 2,899,074 | 5,052,514 | 1,110,742 | 2,297,206 | 3,407,948 |
| 2035 | 637,641 | 1,105,083 | 1,742,724 | 1,091,398 | 1,062,115 | 2,899,156 | 5,052,669 | 1,110,809 | 2,297,356 | 3,408,165 |
| Total | 31,854,658 | 50,157,021 | 82,011,679 | 58,169,588 | 56,602,834 | 155,356,628 | 270,129,050 | 49,917,540 | 102,808,220 | 152,725,760 |

TABLE B-16A

# Minimum OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Agricultural (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 37,806 | 1,963 | 5,639 | 60,702 | 678,085 | 2,007 | 2,073 | 77,592 | 865,867 |
| 1969 | 45,479 | 2,237 | 30,159 | 80,553 | 1,197,126 | 2,286 | 2,086 | 90,772 | 1,450,698 |
| 1970 | 46,969 | 2,292 | 35,450 | 96,672 | 1,381,493 | 2,345 | 2,158 | 93,407 | 1,660,786 |
| 1971 | 47,997 | 2,315 | 35,365 | 106,654 | 1,643,161 | 2,366 | 2,288 | 94,874 | 1,935,020 |
| 1972 | 49,867 | 2,414 | 37,845 | 122,312 | 1,729,170 | 2,470 | 2,254 | 98,776 | 2,045,108 |
| 1973 | 50,005 | 2,386 | 36,180 | 125,553 | 1,719,871 | 2,439 | 2,310 | 98,329 | 2,037,073 |
| 1974 | 52,816 | 2,557 | 36,571 | 135,661 | 1,823,063 | 2,615 | 2,529 | 104,610 | 2,160,422 |
| 1975 | 66,962 | 3,242 | 44,250 | 162,739 | 2,235,242 | 3,317 | 3,191 | 132,663 | 2,651,606 |
| 1976 | 66,504 | 3,327 | 45,365 | 159,304 | 2,215,996 | 3,404 | 2,919 | 133,940 | 2,630,759 |
| 1977 | 75,670 | 3,814 | 49,203 | 189,781 | 2,523,621 | 3,904 | 3,716 | 152,989 | 3,002,698 |
| 1978 | 70,688 | 3,504 | 49,725 | 174,899 | 2,427,160 | 3,583 | 3,644 | 141,673 | 2,874,876 |
| 1979 | 68,878 | 3,437 | 48,143 | 173,678 | 2,378,303 | 3,514 | 3,492 | 138,493 | 2,817,938 |
| 1980 | 95,903 | 4,724 | 59,801 | 235,749 | 3,149,510 | 4,830 | 4,778 | 191,591 | 3,746,886 |
| 1981 | 118,527 | 5,970 | 66,238 | 266,285 | 3,439,643 | 6,103 | 5,191 | 239,484 | 4,147,441 |
| 1982 | 135,683 | 6,791 | 68,172 | 315,514 | 3,896,853 | 6,943 | 6,455 | 273,278 | 4,709,689 |
| 1983 | 186,114 | 9,303 | 81,797 | 429,194 | 5,067,126 | 9,511 | 8,553 | 374,607 | 6,166,205 |
| 1984 | 194,203 | 9,654 | 95,835 | 471,842 | 5,638,527 | 9,872 | 8,724 | 389,827 | 6,818,484 |
| 1985 | 213,787 | 10,587 | 117,647 | 515,748 | 6,344,401 | 10,827 | 9,998 | 428,316 | 7,651,311 |
| 1986 | 212,367 | 10,555 | 111,630 | 542,231 | 6,493,294 | 10,796 | 10,715 | 426,251 | 7,817,839 |
| 1987 | 204,749 | 10,222 | 109,793 | 531,991 | 6,376,296 | 10,458 | 10,357 | 411,918 | 7,665,784 |
| 1988 | 204,498 | 10,250 | 123,763 | 520,452 | 6,431,009 | 10,484 | 10,079 | 412,201 | 7,722,736 |
| 1989 | 220,278 | 11,072 | 116,242 | 557,951 | 6,684,764 | 11,322 | 10,789 | 444,625 | 8,057,043 |
| 1990 | 271,119 | 13,663 | 148,113 | 663,934 | 8,113,558 | 13,974 | 13,256 | 547,996 | 9,785,613 |
| 1991 | 286,441 | 14,383 | 153,625 | 685,210 | 8,466,424 | 14,710 | 13,625 | 577,899 | 10,212,317 |
| 1992 | 338,389 | 17,078 | 167,286 | 773,298 | 9,579,410 | 17,468 | 18,979 | 684,467 | 11,596,375 |
| 1993 | 346,785 | 17,293 | 243,461 | 828,018 | 11,008,079 | 17,686 | 20,081 | 697,202 | 13,178,605 |
| 1994 | 333,770 | 16,620 | 229,833 | 800,427 | 10,573,665 | 17,001 | 18,060 | 670,569 | 12,659,945 |
| 1995 | 334,084 | 16,579 | 223,532 | 813,242 | 10,609,827 | 16,958 | 18,466 | 670,048 | 12,702,736 |
| 1996 | 332,905 | 16,493 | 210,738 | 812,948 | 10,428,675 | 16,870 | 18,826 | 667,088 | 12,504,543 |
| 1997 | 335,574 | 16,625 | 226,343 | 818,907 | 10,388,117 | 17,004 | 18,948 | 672,445 | 12,493,963 |
| 1998 | 335,830 | 16,638 | 226,549 | 819,458 | 10,395,913 | 17,018 | 18,963 | 672,964 | 12,503,333 |
| 1999 | 335,550 | 16,625 | 226,504 | 818,772 | 10,388,827 | 17,005 | 18,958 | 672,417 | 12,494,658 |
| 2000 | 335,750 | 16,636 | 226,590 | 819,260 | 10,394,613 | 17,016 | 18,964 | 672,815 | 12,501,644 |
| 2001 | 336,455 | 16,670 | 226,957 | 820,890 | 10,414,392 | 17,052 | 18,998 | 674,238 | 12,525,652 |
| 2002 | 336,617 | 16,678 | 227,031 | 821,283 | 10,419,036 | 17,060 | 19,003 | 674,560 | 12,531,268 |
| 2003 | 336,700 | 16,682 | 227,066 | 821,489 | 10,421,454 | 17,063 | 19,006 | 674,727 | 12,534,187 |
| 2004 | 336,794 | 16,687 | 227,109 | 821,716 | 10,424,142 | 17,067 | 19,009 | 674,911 | 12,537,435 |
| 2005 | 336,986 | 16,697 | 227,195 | 822,183 | 10,429,664 | 17,077 | 19,015 | 675,293 | 12,544,110 |
| 2006 | 336,996 | 16,697 | 227,201 | 822,204 | 10,429,932 | 17,077 | 19,015 | 675,312 | 12,544,434 |
| 2007 | 337,060 | 16,700 | 227,230 | 822,359 | 10,431,789 | 17,082 | 19,017 | 675,443 | 12,546,680 |
| 2008 | 337,130 | 16,704 | 227,262 | 822,533 | 10,433,840 | 17,085 | 19,018 | 675,583 | 12,549,155 |
| 2009 | 337,188 | 16,706 | 227,287 | 822,677 | 10,435,509 | 17,087 | 19,021 | 675,700 | 12,551,175 |
| 2010 | 337,460 | 16,718 | 227,408 | 823,332 | 10,443,275 | 17,100 | 19,029 | 676,235 | 12,560,557 |
| 2011 | 337,403 | 16,716 | 227,381 | 823,192 | 10,441,624 | 17,097 | 19,027 | 676,121 | 12,558,561 |
| 2012 | 337,481 | 16,722 | 227,417 | 823,384 | 10,443,898 | 17,101 | 19,029 | 676,278 | 12,561,310 |
| 2013 | 337,557 | 16,724 | 227,450 | 823,567 | 10,446,058 | 17,105 | 19,032 | 676,428 | 12,563,921 |
| 2014 | 337,645 | 16,728 | 227,489 | 823,784 | 10,448,593 | 17,111 | 19,034 | 676,602 | 12,566,986 |
| 2015 | 337,614 | 16,726 | 227,476 | 823,703 | 10,447,673 | 17,108 | 19,034 | 676,539 | 12,565,873 |
| 2016 | 337,631 | 16,726 | 227,486 | 823,749 | 10,448,243 | 17,110 | 19,034 | 676,578 | 12,566,557 |
| 2017 | 337,911 | 16,742 | 227,608 | 824,423 | 10,456,209 | 17,123 | 19,042 | 677,131 | 12,576,189 |
| 2018 | 337,907 | 16,742 | 227,608 | 824,418 | 10,456,136 | 17,123 | 19,042 | 677,125 | 12,576,101 |
| 2019 | 337,919 | 16,742 | 227,614 | 824,451 | 10,456,496 | 17,123 | 19,043 | 677,149 | 12,576,537 |
| 2020 | 337,792 | 16,734 | 227,554 | 824,138 | 10,452,810 | 17,117 | 19,038 | 676,893 | 12,572,076 |
| 2021 | 337,826 | 16,736 | 227,571 | 824,218 | 10,453,747 | 17,118 | 19,040 | 676,960 | 12,573,216 |
| 2022 | 337,839 | 16,738 | 227,575 | 824,255 | 10,454,198 | 17,120 | 19,040 | 676,991 | 12,573,756 |
| 2023 | 337,838 | 16,738 | 227,576 | 824,252 | 10,454,157 | 17,120 | 19,040 | 676,989 | 12,573,710 |
| 2024 | 337,838 | 16,738 | 227,575 | 824,253 | 10,454,171 | 17,120 | 19,040 | 676,989 | 12,573,724 |
| 2025 | 337,845 | 16,738 | 227,581 | 824,270 | 10,454,362 | 17,121 | 19,040 | 677,002 | 12,573,959 |
| 2026 | 337,808 | 16,734 | 227,563 | 824,174 | 10,453,271 | 17,118 | 19,040 | 676,925 | 12,572,633 |
| 2027 | 337,808 | 16,735 | 227,563 | 824,176 | 10,453,297 | 17,118 | 19,040 | 676,927 | 12,572,664 |
| 2028 | 337,811 | 16,736 | 227,564 | 824,188 | 10,453,404 | 17,118 | 19,040 | 676,936 | 12,572,797 |
| 2029 | 337,812 | 16,736 | 227,564 | 824,190 | 10,453,427 | 17,118 | 19,040 | 676,938 | 12,572,825 |
| 2030 | 337,808 | 16,735 | 227,562 | 824,178 | 10,453,307 | 17,118 | 19,040 | 676,929 | 12,572,677 |
| 2031 | 337,821 | 16,736 | 227,571 | 824,214 | 10,453,683 | 17,118 | 19,040 | 676,953 | 12,573,136 |
| 2032 | 337,821 | 16,736 | 227,571 | 824,214 | 10,453,683 | 17,118 | 19,040 | 676,953 | 12,573,136 |
| 2033 | 337,829 | 16,737 | 227,572 | 824,228 | 10,453,859 | 17,119 | 19,040 | 676,967 | 12,573,351 |
| 2034 | 337,810 | 16,735 | 227,563 | 824,181 | 10,453,346 | 17,118 | 19,040 | 676,932 | 12,572,725 |
| 2035 | 337,835 | 16,738 | 227,575 | 824,245 | 10,454,095 | 17,120 | 19,040 | 676,981 | 12,573,629 |
| Total | 17,865,542 | 886,536 | 11,647,762 | 43,451,650 | 551,407,602 | 906,756 | 981,511 | 35,829,344 | 662,976,703 |

TABLE B-16A

# Minimum OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| Calendar Year | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *Antelope Valley-East Kern Water Agency (20)* | *Castaic Lake Water Agency (21)* | *Coachella Valley Water District (22)* | *Crestline-Lake Arrowhead Water Agency (23)* | *Desert Water Agency (24)* | *Littlerock Creek Irrigation District (25)* | *Mojave Water Agency (26)* | *Palmdale Water District (27)* | *San Bernardino Valley Municipal Water District (28)* | *San Gabriel Valley Municipal Water District (29)* |
| 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 | 65,073 | 28,084 | 11,697 | 2,958 | 19,290 | 1,088 | 24,380 | 8,171 | 52,314 | 14,399 |
| 1969 | 86,340 | 70,345 | 15,522 | 3,924 | 25,595 | 1,444 | 32,346 | 10,843 | 69,418 | 19,106 |
| 1970 | 107,806 | 84,580 | 19,391 | 4,902 | 31,979 | 1,802 | 40,392 | 13,540 | 86,726 | 23,866 |
| 1971 | 178,822 | 105,978 | 32,230 | 8,152 | 53,149 | 2,991 | 66,998 | 22,459 | 144,137 | 39,636 |
| 1972 | 363,554 | 202,628 | 106,741 | 30,966 | 176,039 | 6,603 | 213,029 | 48,104 | 548,122 | 144,113 |
| 1973 | 404,662 | 222,767 | 121,341 | 34,673 | 200,118 | 7,347 | 243,320 | 53,976 | 724,532 | 190,155 |
| 1974 | 434,864 | 235,526 | 130,629 | 37,060 | 215,431 | 7,678 | 262,736 | 56,382 | 786,108 | 207,020 |
| 1975 | 504,790 | 289,504 | 151,033 | 43,179 | 249,085 | 9,082 | 303,109 | 65,579 | 905,424 | 238,842 |
| 1976 | 559,011 | 262,418 | 160,688 | 44,454 | 265,002 | 10,030 | 325,512 | 73,253 | 964,525 | 256,572 |
| 1977 | 675,631 | 335,806 | 184,833 | 47,750 | 304,832 | 11,888 | 381,208 | 87,370 | 1,069,549 | 289,821 |
| 1978 | 600,343 | 376,950 | 187,027 | 54,153 | 308,449 | 10,711 | 373,191 | 78,304 | 1,148,279 | 300,751 |
| 1979 | 661,123 | 349,073 | 196,264 | 52,212 | 323,679 | 12,125 | 401,467 | 87,126 | 1,125,451 | 302,509 |
| 1980 | 858,071 | 415,945 | 253,097 | 71,923 | 417,412 | 15,433 | 508,394 | 112,859 | 1,518,448 | 401,234 |
| 1981 | 999,530 | 510,631 | 284,453 | 73,380 | 469,114 | 18,015 | 587,002 | 131,750 | 1,544,955 | 419,638 |
| 1982 | 1,140,246 | 564,678 | 324,473 | 90,545 | 535,122 | 20,407 | 656,353 | 149,554 | 1,891,140 | 503,344 |
| 1983 | 1,753,076 | 822,123 | 452,537 | 119,957 | 746,320 | 30,792 | 927,100 | 226,884 | 2,387,798 | 643,556 |
| 1984 | 2,104,263 | 942,744 | 548,532 | 150,143 | 904,643 | 36,785 | 1,111,625 | 271,006 | 3,017,585 | 803,154 |
| 1985 | 2,191,317 | 1,070,207 | 590,780 | 159,378 | 974,311 | 39,530 | 1,203,974 | 281,441 | 3,257,662 | 868,279 |
| 1986 | 2,320,007 | 1,106,823 | 620,233 | 163,090 | 1,022,887 | 40,185 | 1,271,970 | 296,994 | 3,325,821 | 895,081 |
| 1987 | 2,319,582 | 1,016,240 | 618,028 | 164,641 | 1,019,252 | 40,983 | 1,262,836 | 301,938 | 3,354,388 | 901,240 |
| 1988 | 2,318,759 | 1,048,865 | 653,014 | 176,595 | 1,076,949 | 40,878 | 1,329,379 | 300,494 | 3,603,615 | 965,352 |
| 1989 | 2,279,708 | 1,086,362 | 613,105 | 169,608 | 1,011,139 | 39,566 | 1,240,880 | 293,006 | 3,490,490 | 929,938 |
| 1990 | 2,613,349 | 1,265,738 | 704,234 | 200,100 | 1,161,428 | 45,154 | 1,414,900 | 333,681 | 4,065,388 | 1,073,163 |
| 1991 | 2,754,033 | 1,193,764 | 771,257 | 212,536 | 1,271,959 | 49,417 | 1,561,441 | 361,601 | 4,389,585 | 1,161,508 |
| 1992 | 2,835,752 | 1,592,887 | 771,234 | 204,018 | 1,271,915 | 50,860 | 1,579,661 | 371,163 | 4,215,908 | 1,133,841 |
| 1993 | 3,181,851 | 1,829,267 | 888,987 | 241,477 | 1,466,118 | 56,978 | 1,812,372 | 416,882 | 5,189,999 | 1,392,957 |
| 1994 | 3,138,045 | 1,736,672 | 880,723 | 245,448 | 1,452,494 | 57,346 | 1,780,798 | 416,800 | 5,237,647 | 1,394,029 |
| 1995 | 3,218,708 | 1,736,661 | 893,720 | 241,399 | 1,473,927 | 58,712 | 1,821,232 | 427,057 | 5,220,199 | 1,400,223 |
| 1996 | 3,147,904 | 1,755,638 | 876,676 | 239,063 | 1,445,817 | 56,399 | 1,781,896 | 412,771 | 5,207,534 | 1,393,382 |
| 1997 | 3,163,949 | 1,867,881 | 859,113 | 213,803 | 1,416,834 | 56,678 | 1,790,042 | 414,822 | 4,738,772 | 1,300,665 |
| 1998 | 3,166,353 | 1,837,271 | 882,504 | 241,640 | 1,455,427 | 56,724 | 1,791,615 | 415,151 | 5,225,874 | 1,395,018 |
| 1999 | 3,165,729 | 1,771,505 | 905,163 | 269,358 | 1,492,819 | 56,713 | 1,791,532 | 415,076 | 5,718,615 | 1,491,141 |
| 2000 | 3,168,131 | 1,793,049 | 865,463 | 219,840 | 1,427,318 | 56,770 | 1,793,733 | 415,454 | 4,838,733 | 1,319,884 |
| 2001 | 3,174,192 | 1,792,091 | 886,958 | 244,473 | 1,462,776 | 56,877 | 1,797,193 | 416,248 | 5,277,643 | 1,406,188 |
| 2002 | 3,176,098 | 1,794,529 | 887,960 | 244,884 | 1,464,424 | 56,923 | 1,798,934 | 416,551 | 5,285,063 | 1,407,953 |
| 2003 | 3,177,096 | 1,795,401 | 887,203 | 243,541 | 1,463,183 | 56,946 | 1,799,847 | 416,711 | 5,261,220 | 1,403,466 |
| 2004 | 3,178,197 | 1,796,363 | 888,078 | 244,135 | 1,464,620 | 56,972 | 1,800,846 | 416,880 | 5,271,919 | 1,405,737 |
| 2005 | 3,180,472 | 1,797,555 | 894,627 | 251,169 | 1,475,430 | 57,020 | 1,802,925 | 417,241 | 5,397,074 | 1,430,534 |
| 2006 | 3,180,585 | 1,798,472 | 891,932 | 247,826 | 1,470,979 | 57,024 | 1,803,026 | 417,259 | 5,337,656 | 1,418,958 |
| 2007 | 3,181,355 | 1,799,143 | 890,563 | 245,827 | 1,468,717 | 57,043 | 1,803,729 | 417,379 | 5,302,157 | 1,412,164 |
| 2008 | 3,182,197 | 1,799,882 | 892,678 | 248,051 | 1,472,207 | 57,064 | 1,804,499 | 417,514 | 5,341,698 | 1,420,021 |
| 2009 | 3,182,880 | 1,800,477 | 886,490 | 240,203 | 1,461,995 | 57,081 | 1,805,126 | 417,624 | 5,202,263 | 1,392,928 |
| 2010 | 3,186,079 | 1,805,137 | 927,231 | 288,606 | 1,529,217 | 57,153 | 1,808,048 | 418,129 | 6,062,765 | 1,561,340 |
| 2011 | 3,185,419 | 1,800,799 | 874,046 | 223,919 | 1,441,468 | 57,138 | 1,807,448 | 418,022 | 4,913,048 | 1,336,931 |
| 2012 | 3,186,345 | 1,803,543 | 893,713 | 247,546 | 1,473,915 | 57,159 | 1,808,290 | 418,170 | 5,333,057 | 1,419,027 |
| 2013 | 3,187,232 | 1,804,320 | 893,630 | 247,068 | 1,473,778 | 57,177 | 1,809,101 | 418,309 | 5,324,625 | 1,417,528 |
| 2014 | 3,188,271 | 1,807,397 | 898,756 | 252,884 | 1,482,232 | 57,203 | 1,810,056 | 418,474 | 5,428,055 | 1,437,882 |
| 2015 | 3,187,908 | 1,809,771 | 879,736 | 229,806 | 1,450,853 | 57,193 | 1,809,723 | 418,418 | 5,017,887 | 1,357,799 |
| 2016 | 3,188,132 | 1,801,362 | 895,602 | 249,092 | 1,477,037 | 57,200 | 1,809,932 | 418,454 | 5,360,649 | 1,424,708 |
| 2017 | 3,191,412 | 1,809,017 | 895,981 | 248,153 | 1,477,652 | 57,275 | 1,812,924 | 418,971 | 5,344,201 | 1,422,045 |
| 2018 | 3,191,382 | 1,805,963 | 895,286 | 247,321 | 1,476,510 | 57,275 | 1,812,891 | 418,965 | 5,329,421 | 1,419,159 |
| 2019 | 3,191,529 | 1,804,298 | 900,093 | 253,128 | 1,484,439 | 57,278 | 1,813,028 | 418,988 | 5,432,635 | 1,439,317 |
| 2020 | 3,190,012 | 1,808,116 | 877,621 | 226,329 | 1,447,367 | 57,243 | 1,811,640 | 418,747 | 4,956,229 | 1,346,121 |
| 2021 | 3,190,396 | 1,807,065 | 895,576 | 248,100 | 1,476,993 | 57,252 | 1,811,990 | 418,810 | 5,343,177 | 1,421,677 |
| 2022 | 3,190,583 | 1,808,259 | 897,268 | 250,085 | 1,479,779 | 57,257 | 1,812,163 | 418,839 | 5,378,451 | 1,428,589 |
| 2023 | 3,190,564 | 1,807,245 | 895,171 | 247,537 | 1,476,325 | 57,257 | 1,812,143 | 418,835 | 5,333,150 | 1,419,751 |
| 2024 | 3,190,566 | 1,806,248 | 894,210 | 246,361 | 1,474,737 | 57,257 | 1,812,145 | 418,837 | 5,312,238 | 1,415,670 |
| 2025 | 3,190,650 | 1,809,560 | 900,624 | 254,153 | 1,485,313 | 57,258 | 1,812,228 | 418,851 | 5,450,762 | 1,442,707 |
| 2026 | 3,190,201 | 1,804,909 | 894,569 | 246,951 | 1,475,330 | 57,247 | 1,811,816 | 418,779 | 5,322,729 | 1,417,656 |
| 2027 | 3,190,213 | 1,808,894 | 893,907 | 246,138 | 1,474,240 | 57,247 | 1,811,826 | 418,779 | 5,308,302 | 1,414,842 |
| 2028 | 3,190,256 | 1,804,079 | 897,658 | 250,704 | 1,480,427 | 57,249 | 1,811,864 | 418,786 | 5,389,442 | 1,430,679 |
| 2029 | 3,190,268 | 1,806,938 | 891,076 | 242,659 | 1,469,566 | 57,249 | 1,811,876 | 418,788 | 5,246,466 | 1,402,786 |
| 2030 | 3,190,206 | 1,807,610 | 893,846 | 246,067 | 1,474,136 | 57,247 | 1,811,816 | 418,779 | 5,307,026 | 1,414,593 |
| 2031 | 3,190,372 | 1,807,074 | 894,973 | 247,371 | 1,475,997 | 57,252 | 1,811,974 | 418,806 | 5,330,218 | 1,419,147 |
| 2032 | 3,190,372 | 1,807,074 | 894,973 | 247,371 | 1,475,997 | 57,252 | 1,811,974 | 418,806 | 5,330,218 | 1,419,147 |
| 2033 | 3,190,443 | 1,808,128 | 899,229 | 252,540 | 1,483,016 | 57,254 | 1,812,034 | 418,819 | 5,422,050 | 1,437,073 |
| 2034 | 3,190,231 | 1,807,930 | 890,443 | 241,896 | 1,468,519 | 57,247 | 1,811,845 | 418,783 | 5,232,919 | 1,400,139 |
| 2035 | 3,190,576 | 1,789,368 | 924,344 | 283,158 | 1,524,453 | 57,257 | 1,812,164 | 418,839 | 5,966,229 | 1,543,261 |
| Total | 168,023,072 | 92,652,627 | 46,870,773 | 12,907,377 | 77,299,480 | 3,008,140 | 94,995,487 | 22,010,681 | 275,917,383 | 73,520,940 |

TABLE B-16A

# Minimum OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| | Southern California Area (continued) | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC & WCD (36) | Total (37) | South Bay Area Future Contractor (38) | Grand Total (39) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 1,218,521 | 0 | 0 | 0 | 0 | 46,945 | 2,745,160 |
| 1969 | 11,706 | 1,295,613 | 12,610 | 1,654,812 | 0 | 0 | 0 | 0 | 52,963 | 4,074,939 |
| 1970 | 14,621 | 1,624,573 | 15,745 | 2,069,923 | 0 | 0 | 0 | 0 | 69,745 | 4,676,282 |
| 1971 | 24,302 | 2,716,582 | 26,120 | 3,421,556 | 0 | 0 | 54 | 54 | 55,532 | 6,185,714 |
| 1972 | 89,132 | 8,038,457 | 68,368 | 10,035,856 | 0 | 0 | 40 | 40 | 80,412 | 12,998,869 |
| 1973 | 117,781 | 9,890,314 | 78,312 | 12,289,298 | 0 | 0 | 1 | 1 | 54,219 | 15,194,233 |
| 1974 | 128,166 | 11,581,499 | 83,451 | 14,166,550 | 0 | 0 | 143 | 143 | 76,783 | 17,372,561 |
| 1975 | 147,900 | 13,584,540 | 101,892 | 16,593,959 | 0 | 0 | 1,069 | 1,069 | 84,546 | 20,517,423 |
| 1976 | 158,663 | 12,862,497 | 94,799 | 16,037,424 | 0 | 0 | 139 | 139 | 106,717 | 20,027,213 |
| 1977 | 178,791 | 16,205,614 | 121,985 | 19,895,078 | 0 | 0 | 892 | 892 | 98,631 | 24,217,840 |
| 1978 | 186,386 | 17,811,759 | 132,438 | 21,568,741 | 0 | 0 | 39 | 39 | 100,785 | 26,012,786 |
| 1979 | 186,685 | 16,414,295 | 126,757 | 20,238,766 | 0 | 0 | 3,235 | 3,235 | 119,352 | 24,675,598 |
| 1980 | 248,407 | 20,927,493 | 154,101 | 25,902,817 | 0 | 0 | 416 | 416 | 178,817 | 32,039,355 |
| 1981 | 258,691 | 23,693,159 | 186,314 | 29,176,632 | 0 | 0 | 3,847 | 3,847 | 185,220 | 35,460,529 |
| 1982 | 311,339 | 28,334,525 | 211,610 | 34,733,336 | 0 | 0 | 10,956 | 10,956 | 184,152 | 42,128,610 |
| 1983 | 396,921 | 38,598,600 | 322,790 | 47,428,454 | 0 | 0 | (422) | (422) | 222,530 | 56,539,095 |
| 1984 | 496,665 | 45,551,198 | 381,623 | 56,319,966 | 0 | 0 | 643 | 643 | 225,922 | 67,016,167 |
| 1985 | 536,359 | 50,598,413 | 421,801 | 62,193,452 | 0 | 0 | 2,599 | 2,599 | 341,827 | 74,292,571 |
| 1986 | 552,298 | 52,996,918 | 443,568 | 65,055,875 | 0 | 0 | 2,595 | 2,595 | 279,702 | 77,009,771 |
| 1987 | 556,549 | 49,864,815 | 402,934 | 61,823,426 | 0 | 0 | 2,595 | 2,595 | 342,928 | 74,137,861 |
| 1988 | 596,472 | 51,557,540 | 408,918 | 64,076,830 | 0 | 0 | 2,600 | 2,600 | 365,833 | 76,548,594 |
| 1989 | 575,254 | 52,529,034 | 430,166 | 64,688,256 | 0 | 0 | 2,672 | 2,672 | 420,032 | 78,523,272 |
| 1990 | 664,489 | 60,622,363 | 490,250 | 74,654,237 | 0 | 0 | 2,687 | 2,687 | 473,451 | 90,915,180 |
| 1991 | 718,537 | 59,974,202 | 463,494 | 74,883,334 | 0 | 0 | 2,730 | 2,730 | 222,202 | 90,542,894 |
| 1992 | 700,480 | 67,826,963 | 509,942 | 83,064,624 | 0 | 0 | 2,774 | 2,774 | 562,186 | 102,342,702 |
| 1993 | 860,091 | 73,876,326 | 554,647 | 91,767,952 | 0 | 0 | 2,912 | 2,912 | 786,330 | 116,959,806 |
| 1994 | 862,023 | 70,541,638 | 528,267 | 88,271,930 | 0 | 0 | 3,058 | 3,058 | 674,368 | 111,287,098 |
| 1995 | 865,161 | 70,763,817 | 532,135 | 88,652,951 | 0 | 0 | 3,211 | 3,211 | 576,741 | 110,195,190 |
| 1996 | 861,176 | 72,538,275 | 544,440 | 90,260,971 | 0 | 0 | 3,211 | 3,211 | 559,229 | 113,996,716 |
| 1997 | 801,139 | 73,301,175 | 571,024 | 90,495,897 | 0 | 0 | 3,211 | 3,211 | 564,034 | 113,737,039 |
| 1998 | 863,233 | 74,239,092 | 562,031 | 92,131,933 | 0 | 0 | 3,211 | 3,211 | 564,250 | 115,361,983 |
| 1999 | 926,224 | 73,351,773 | 542,692 | 91,898,340 | 0 | 0 | 3,211 | 3,211 | 564,196 | 115,120,128 |
| 2000 | 813,945 | 71,626,895 | 549,064 | 88,888,279 | 0 | 0 | 3,211 | 3,211 | 564,510 | 112,120,896 |
| 2001 | 870,406 | 72,886,843 | 548,849 | 90,820,737 | 0 | 0 | 3,211 | 3,211 | 565,660 | 114,094,655 |
| 2002 | 871,518 | 73,075,349 | 549,600 | 91,029,786 | 0 | 0 | 3,211 | 3,211 | 565,910 | 114,312,374 |
| 2003 | 868,556 | 73,168,648 | 549,876 | 91,091,694 | 0 | 0 | 3,211 | 3,211 | 566,042 | 114,378,797 |
| 2004 | 870,019 | 73,381,630 | 550,174 | 91,325,570 | 0 | 0 | 3,211 | 3,211 | 566,185 | 114,617,679 |
| 2005 | 886,215 | 73,632,972 | 550,567 | 91,773,801 | 0 | 0 | 3,211 | 3,211 | 566,487 | 115,076,280 |
| 2006 | 878,630 | 73,540,869 | 550,839 | 91,594,055 | 0 | 0 | 3,211 | 3,211 | 566,503 | 114,897,036 |
| 2007 | 874,154 | 73,356,899 | 551,050 | 91,360,180 | 0 | 0 | 3,211 | 3,211 | 566,603 | 114,666,628 |
| 2008 | 879,284 | 73,512,719 | 551,282 | 91,579,096 | 0 | 0 | 3,211 | 3,211 | 566,714 | 114,889,379 |
| 2009 | 861,516 | 72,879,056 | 551,469 | 90,739,108 | 0 | 0 | 3,211 | 3,211 | 566,803 | 114,052,493 |
| 2010 | 971,800 | 75,980,652 | 552,893 | 95,149,050 | 0 | 0 | 3,211 | 3,211 | 567,227 | 118,476,980 |
| 2011 | 824,762 | 72,087,844 | 551,607 | 89,522,451 | 0 | 0 | 3,211 | 3,211 | 567,137 | 112,847,295 |
| 2012 | 878,534 | 73,775,071 | 552,432 | 91,846,802 | 0 | 0 | 3,211 | 3,211 | 567,260 | 115,175,895 |
| 2013 | 877,534 | 73,681,957 | 552,672 | 91,744,931 | 0 | 0 | 3,211 | 3,211 | 567,378 | 115,078,059 |
| 2014 | 890,847 | 74,360,687 | 553,596 | 92,586,340 | 0 | 0 | 3,211 | 3,211 | 567,514 | 115,924,208 |
| 2015 | 838,380 | 72,896,965 | 554,290 | 90,508,729 | 0 | 0 | 3,211 | 3,211 | 567,463 | 113,844,873 |
| 2016 | 882,217 | 73,652,871 | 551,818 | 91,769,074 | 0 | 0 | 3,211 | 3,211 | 567,495 | 115,106,280 |
| 2017 | 880,396 | 73,957,028 | 554,128 | 92,069,183 | 0 | 0 | 3,211 | 3,211 | 567,926 | 115,421,268 |
| 2018 | 878,505 | 73,811,795 | 553,230 | 91,897,703 | 0 | 0 | 3,211 | 3,211 | 567,923 | 115,249,646 |
| 2019 | 891,710 | 74,374,267 | 552,741 | 92,613,451 | 0 | 0 | 3,211 | 3,211 | 567,941 | 115,966,070 |
| 2020 | 830,678 | 72,540,009 | 553,839 | 90,063,951 | 0 | 0 | 3,211 | 3,211 | 567,742 | 113,409,683 |
| 2021 | 880,181 | 73,891,927 | 553,536 | 91,996,680 | 0 | 0 | 3,211 | 3,211 | 567,793 | 115,344,176 |
| 2022 | 884,703 | 73,775,840 | 553,890 | 91,935,706 | 0 | 0 | 3,211 | 3,211 | 567,818 | 115,284,040 |
| 2023 | 878,909 | 73,849,888 | 553,591 | 91,940,366 | 0 | 0 | 3,211 | 3,211 | 567,815 | 115,288,627 |
| 2024 | 876,236 | 73,882,143 | 553,297 | 91,939,945 | 0 | 0 | 3,211 | 3,211 | 567,816 | 115,288,226 |
| 2025 | 893,953 | 74,368,333 | 554,274 | 92,638,666 | 0 | 0 | 3,211 | 3,211 | 567,827 | 115,987,317 |
| 2026 | 877,548 | 73,763,456 | 552,901 | 91,834,092 | 0 | 0 | 3,211 | 3,211 | 567,767 | 115,180,702 |
| 2027 | 875,706 | 73,825,787 | 554,072 | 91,879,953 | 0 | 0 | 3,211 | 3,211 | 567,769 | 115,226,609 |
| 2028 | 886,079 | 73,714,026 | 552,656 | 91,883,905 | 0 | 0 | 3,211 | 3,211 | 567,775 | 115,230,758 |
| 2029 | 867,802 | 73,863,028 | 553,499 | 91,822,001 | 0 | 0 | 3,211 | 3,211 | 567,776 | 115,168,901 |
| 2030 | 875,542 | 73,681,645 | 553,695 | 91,732,208 | 0 | 0 | 3,211 | 3,211 | 567,769 | 115,078,871 |
| 2031 | 878,520 | 73,834,719 | 553,536 | 91,919,959 | 0 | 0 | 3,211 | 3,211 | 567,790 | 115,267,339 |
| 2032 | 878,520 | 73,834,719 | 553,536 | 91,919,959 | 0 | 0 | 3,211 | 3,211 | 567,790 | 115,267,339 |
| 2033 | 890,265 | 74,094,119 | 553,850 | 92,318,820 | 0 | 0 | 3,211 | 3,211 | 567,798 | 115,666,533 |
| 2034 | 866,069 | 73,338,282 | 553,789 | 91,278,092 | 0 | 0 | 3,211 | 3,211 | 567,771 | 114,624,836 |
| 2035 | 959,846 | 74,226,403 | 548,337 | 93,244,235 | 0 | 0 | 3,211 | 3,211 | 567,817 | 116,592,450 |
| Total | 45,493,945 | 3,874,811,147 | 29,419,203 | 4,816,930,255 | 0 | 0 | 179,925 | 179,925 | 29,796,435 | 6,014,749,807 |

TABLE B-16B

# Minimum OMP&R Component of Transportation Charge for Each Contractor for Off-Aqueduct Power Facilities

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 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 | 10,070 | 0 | 10,070 | 47,473 | 31,446 | 863,937 | 942,856 | 0 | 0 | 0 |
| 1984 | 29,957 | 0 | 29,957 | 157,280 | 77,388 | 2,040,188 | 2,274,856 | 0 | 0 | 0 |
| 1985 | 54,709 | 0 | 54,709 | 458,427 | 582,679 | 2,696,449 | 3,737,555 | 0 | 0 | 0 |
| 1986 | 45,886 | 0 | 45,886 | 312,937 | 365,147 | 2,595,766 | 3,273,850 | 0 | 0 | 0 |
| 1987 | 90,385 | 0 | 90,385 | 622,029 | 674,111 | 2,306,079 | 3,602,219 | 0 | 0 | 0 |
| 1988 | 113,458 | 113,340 | 226,798 | 617,183 | 799,591 | 2,101,745 | 3,518,519 | 0 | 0 | 0 |
| 1989 | 64,584 | 138,240 | 202,824 | 407,353 | 396,069 | 1,389,347 | 2,192,769 | 0 | 0 | 0 |
| 1990 | 74,540 | 159,551 | 234,091 | 470,149 | 457,126 | 1,603,525 | 2,530,800 | 0 | 0 | 0 |
| 1991 | 36,558 | 101,276 | 137,834 | 369,525 | 496,627 | 1,107,279 | 1,973,431 | 0 | 172,438 | 172,438 |
| 1992 | 90,325 | 155,745 | 246,070 | 466,239 | 587,107 | 1,256,257 | 2,309,603 | 0 | 252 | 252 |
| 1993 | 77,250 | 156,198 | 233,448 | 512,478 | 558,331 | 1,321,654 | 2,392,463 | 0 | 0 | 0 |
| 1994 | 86,133 | 169,139 | 255,272 | 559,013 | 586,964 | 1,397,533 | 2,543,510 | 0 | 0 | 0 |
| 1995 | 91,151 | 185,589 | 276,740 | 580,200 | 580,199 | 1,381,428 | 2,541,827 | 0 | 0 | 0 |
| 1996 | 100,629 | 204,145 | 304,774 | 629,514 | 600,899 | 1,430,712 | 2,661,125 | 155,453 | 1,492,813 | 1,648,266 |
| 1997 | 105,413 | 204,799 | 310,212 | 649,534 | 593,053 | 1,412,031 | 2,654,618 | 305,628 | 1,769,430 | 2,075,058 |
| 1998 | 107,341 | 198,574 | 305,915 | 624,982 | 570,637 | 1,358,658 | 2,554,277 | 915,782 | 1,666,211 | 2,581,993 |
| 1999 | 107,349 | 190,790 | 298,139 | 593,602 | 541,986 | 1,290,440 | 2,426,028 | 869,801 | 1,582,552 | 2,452,353 |
| 2000 | 102,066 | 173,391 | 275,457 | 533,250 | 486,880 | 1,159,238 | 2,179,368 | 781,366 | 1,421,650 | 2,203,016 |
| 2001 | 105,561 | 171,259 | 276,820 | 526,691 | 480,892 | 1,144,981 | 2,152,564 | 771,756 | 1,404,164 | 2,175,920 |
| 2002 | 104,456 | 163,255 | 267,711 | 502,073 | 458,415 | 1,091,464 | 2,051,952 | 735,684 | 1,338,534 | 2,074,218 |
| 2003 | 103,738 | 155,393 | 259,131 | 477,899 | 436,343 | 1,038,911 | 1,953,153 | 700,261 | 1,274,084 | 1,974,345 |
| 2004 | 101,226 | 145,724 | 246,950 | 448,159 | 409,189 | 974,260 | 1,831,608 | 656,684 | 1,194,799 | 1,851,483 |
| 2005 | 92,594 | 134,375 | 226,969 | 394,569 | 360,258 | 857,758 | 1,612,585 | 578,159 | 1,051,924 | 1,630,083 |
| 2006 | 92,875 | 131,096 | 223,971 | 384,939 | 351,467 | 836,826 | 1,573,232 | 564,049 | 1,026,253 | 1,590,302 |
| 2007 | 89,857 | 122,734 | 212,591 | 360,384 | 329,047 | 783,444 | 1,472,875 | 528,069 | 960,789 | 1,488,858 |
| 2008 | 85,874 | 112,974 | 198,848 | 331,726 | 302,880 | 721,143 | 1,355,749 | 486,076 | 884,385 | 1,370,461 |
| 2009 | 81,958 | 104,562 | 186,520 | 307,030 | 280,331 | 667,454 | 1,254,815 | 449,888 | 818,543 | 1,268,431 |
| 2010 | 73,824 | 91,975 | 165,799 | 268,448 | 245,105 | 583,583 | 1,097,136 | 393,354 | 715,686 | 1,109,040 |
| 2011 | 72,564 | 87,374 | 159,938 | 255,023 | 232,847 | 554,396 | 1,042,266 | 373,683 | 679,893 | 1,053,576 |
| 2012 | 66,759 | 78,168 | 144,927 | 228,153 | 208,313 | 495,983 | 932,449 | 334,310 | 608,257 | 942,567 |
| 2013 | 19,005 | 21,552 | 40,557 | 62,903 | 57,433 | 136,746 | 257,082 | 92,171 | 167,701 | 259,872 |
| 2014 | 32,594 | 35,830 | 68,424 | 104,578 | 95,485 | 227,343 | 427,406 | 153,238 | 278,806 | 432,044 |
| 2015 | 14,307 | 15,352 | 29,659 | 44,543 | 40,668 | 96,831 | 182,042 | 65,267 | 118,750 | 184,017 |
| 2016 | 7,241 | 7,563 | 14,804 | 21,941 | 20,034 | 47,700 | 89,675 | 32,151 | 58,497 | 90,648 |
| 2017 | 3,371 | 3,429 | 6,800 | 9,948 | 9,084 | 21,627 | 40,659 | 14,578 | 26,523 | 41,101 |
| 2018 | 3,457 | 3,428 | 6,885 | 9,944 | 9,081 | 21,619 | 40,644 | 14,572 | 26,513 | 41,085 |
| 2019 | 3,556 | 3,439 | 6,995 | 9,977 | 9,109 | 21,689 | 40,775 | 14,619 | 26,599 | 41,218 |
| 2020 | 3,650 | 3,446 | 7,096 | 9,995 | 9,127 | 21,730 | 40,852 | 14,646 | 26,649 | 41,295 |
| 2021 | 3,658 | 3,439 | 7,097 | 9,977 | 9,109 | 21,689 | 40,775 | 14,620 | 26,598 | 41,218 |
| 2022 | 3,667 | 3,447 | 7,114 | 10,001 | 9,132 | 21,742 | 40,875 | 14,654 | 26,663 | 41,317 |
| 2023 | 3,678 | 3,457 | 7,135 | 10,030 | 9,158 | 21,805 | 40,993 | 14,697 | 26,741 | 41,438 |
| 2024 | 7,601 | 7,145 | 14,746 | 20,730 | 18,928 | 45,065 | 84,723 | 30,375 | 55,267 | 85,642 |
| 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 | 2,564,875 | 3,761,193 | 6,326,068 | 13,420,829 | 13,377,675 | 39,168,055 | 65,966,559 | 10,075,591 | 20,927,964 | 31,003,555 |

TABLE B-16B

# Minimum OMP&R Component of Transportation Charge for Each Contractor for Off-Aqueduct Power Facilities

(Dollars)



| | San Joaquin Valley Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | Kern County Water Agency | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Municipal and Industrial (13) | Agricultural (14) | County of Kings (15) | Oak Flat Water District (16) | Tulare Lake Basin Water Storage District (17) | Total (18) |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 159,191 | 0 | 34,366 | 2,964,185 | 13,174 | 9,673 | 3,733 | 3,184,322 |
| 1984 | 389,518 | 0 | 816,103 | 9,095,509 | 26,774 | 33,576 | 49,601 | 10,411,081 |
| 1985 | 527,952 | 59,324 | 1,053,957 | 11,978,046 | 38,810 | 42,297 | 1,253,257 | 14,953,643 |
| 1986 | 552,171 | 12,858 | 885,988 | 11,788,715 | 40,659 | 38,275 | 872,009 | 14,190,675 |
| 1987 | 450,941 | 24,936 | 1,192,388 | 10,448,063 | 39,134 | 37,538 | 911,938 | 13,104,938 |
| 1988 | 427,210 | 30,932 | 1,133,020 | 9,927,859 | 35,605 | 26,785 | 853,333 | 12,434,744 |
| 1989 | 331,852 | 17,226 | 619,401 | 7,540,901 | 22,979 | 24,306 | 754,007 | 9,310,672 |
| 1990 | 383,009 | 19,882 | 714,886 | 8,703,387 | 26,521 | 28,053 | 870,243 | 10,745,981 |
| 1991 | 13,559 | 3,233 | 664,043 | 147,745 | 0 | 1,406 | 31,888 | 861,874 |
| 1992 | 261,513 | 15,164 | 745,443 | 6,262,495 | 19,651 | 16,646 | 522,042 | 7,842,954 |
| 1993 | 289,889 | 15,072 | 723,410 | 6,005,923 | 20,096 | 19,531 | 595,352 | 7,669,273 |
| 1994 | 300,401 | 15,619 | 749,639 | 6,223,722 | 20,825 | 20,240 | 616,941 | 7,947,387 |
| 1995 | 296,939 | 15,439 | 741,000 | 6,151,998 | 20,585 | 20,007 | 609,832 | 7,855,800 |
| 1996 | 307,533 | 15,990 | 767,437 | 6,371,481 | 21,319 | 20,720 | 631,589 | 8,136,069 |
| 1997 | 303,518 | 15,781 | 757,415 | 6,288,285 | 21,041 | 20,449 | 623,342 | 8,029,831 |
| 1998 | 292,045 | 15,184 | 735,971 | 6,491,571 | 20,246 | 19,677 | 599,780 | 8,174,474 |
| 1999 | 277,382 | 14,421 | 699,018 | 6,165,633 | 19,229 | 18,689 | 569,665 | 7,764,037 |
| 2000 | 249,179 | 12,956 | 627,947 | 5,538,757 | 17,274 | 16,788 | 511,747 | 6,974,648 |
| 2001 | 246,115 | 12,796 | 620,224 | 5,470,635 | 17,062 | 16,582 | 505,452 | 6,888,866 |
| 2002 | 234,611 | 12,199 | 591,234 | 5,214,937 | 16,264 | 15,807 | 481,827 | 6,566,879 |
| 2003 | 223,315 | 11,611 | 562,767 | 4,963,840 | 15,481 | 15,046 | 458,628 | 6,250,688 |
| 2004 | 209,418 | 10,889 | 527,746 | 4,654,943 | 14,517 | 14,110 | 430,087 | 5,861,710 |
| 2005 | 184,376 | 9,586 | 464,639 | 4,098,306 | 12,782 | 12,423 | 378,657 | 5,160,769 |
| 2006 | 179,877 | 9,352 | 453,299 | 3,998,292 | 12,470 | 12,119 | 369,418 | 5,034,827 |
| 2007 | 168,402 | 8,756 | 424,383 | 3,743,241 | 11,674 | 11,346 | 345,853 | 4,713,655 |
| 2008 | 155,010 | 8,060 | 390,635 | 3,445,572 | 10,746 | 10,444 | 318,349 | 4,338,816 |
| 2009 | 143,470 | 7,460 | 361,553 | 3,189,051 | 9,946 | 9,667 | 294,648 | 4,015,795 |
| 2010 | 125,442 | 6,522 | 316,120 | 2,788,316 | 8,696 | 8,452 | 257,623 | 3,511,171 |
| 2011 | 119,168 | 6,196 | 300,311 | 2,648,868 | 8,261 | 8,029 | 244,739 | 3,335,572 |
| 2012 | 106,612 | 5,543 | 268,669 | 2,369,773 | 7,391 | 7,183 | 218,953 | 2,984,124 |
| 2013 | 29,394 | 1,528 | 74,074 | 653,362 | 2,037 | 1,980 | 60,367 | 822,742 |
| 2014 | 48,868 | 2,540 | 123,150 | 1,086,232 | 3,388 | 3,292 | 100,361 | 1,367,831 |
| 2015 | 20,814 | 1,082 | 52,452 | 462,650 | 1,443 | 1,402 | 42,746 | 582,589 |
| 2016 | 10,253 | 533 | 25,838 | 227,906 | 711 | 690 | 21,057 | 286,988 |
| 2017 | 4,649 | 242 | 11,715 | 103,334 | 322 | 314 | 9,547 | 130,123 |
| 2018 | 4,647 | 242 | 11,711 | 103,295 | 322 | 313 | 9,544 | 130,074 |
| 2019 | 4,662 | 243 | 11,749 | 103,629 | 323 | 314 | 9,574 | 130,494 |
| 2020 | 4,671 | 243 | 11,770 | 103,824 | 324 | 315 | 9,592 | 130,739 |
| 2021 | 4,663 | 242 | 11,749 | 103,628 | 323 | 314 | 9,575 | 130,494 |
| 2022 | 4,674 | 243 | 11,777 | 103,880 | 324 | 315 | 9,598 | 130,811 |
| 2023 | 4,687 | 244 | 11,811 | 104,183 | 325 | 316 | 9,625 | 131,191 |
| 2024 | 9,687 | 504 | 24,411 | 215,318 | 671 | 653 | 19,894 | 271,138 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2031 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2032 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2033 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2034 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2035 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 8,061,287 | 420,873 | 19,325,219 | 178,051,290 | 579,725 | 566,082 | 15,496,013 | 222,500,489 |

TABLE B-16B

# Minimum OMP&R Component of Transportation Charge for Each Contractor for Off-Aqueduct Power Facilities

(Dollars)



| | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Antelope Valley-East Kern Water Agency (19) | Castaic Lake Water Agency (20) | Coachella Valley Water District (21) | Crestline-Lake Arrowhead Water Agency (22) | Desert Water Agency (23) | Littlerock Creek Irrigation District (24) | Mojave Water Agency (25) | Palmdale Water District (26) | San Bernardino Valley Municipal Water District (27) | San Gabriel Valley Municipal Water District (28) |
| 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 | 1,083,881 | 411,247 | 565,798 | 35,432 | 894,572 | 1,250 | 0 | 0 | 233,134 | 28,548 |
| 1984 | 2,499,848 | 1,122,640 | 1,427,428 | 102,114 | 2,263,172 | 77 | 0 | 0 | 502,967 | 693,074 |
| 1985 | 3,775,658 | 1,572,025 | 2,032,672 | 170,137 | 3,230,452 | 0 | 0 | 131,200 | 884,188 | 601,582 |
| 1986 | 3,159,858 | 1,694,487 | 2,097,407 | 173,460 | 3,340,188 | 15,872 | 0 | 301,486 | 739,563 | 1,088,902 |
| 1987 | 3,167,759 | 1,694,698 | 1,991,841 | 190,149 | 3,230,424 | 95,994 | 1,786 | 258,719 | 1,951,799 | 1,091,691 |
| 1988 | 2,688,189 | 1,767,924 | 1,926,823 | 187,160 | 3,172,187 | 33,051 | 840 | 139,620 | 1,995,304 | 834,845 |
| 1989 | 2,357,669 | 1,373,513 | 1,326,863 | 132,076 | 2,218,516 | 50,948 | 13,206 | 493,424 | 1,257,332 | 792,087 |
| 1990 | 2,721,121 | 1,585,250 | 1,531,409 | 152,436 | 2,560,517 | 58,802 | 15,242 | 569,489 | 1,451,159 | 914,193 |
| 1991 | 1,089,536 | 551,995 | 1,062,506 | 130,628 | 1,752,446 | 67,[illegible]5 | 491,856 | 507,355 | 561,304 | 827,774 |
| 1992 | 3,046,355 | 1,702,670 | 1,201,394 | 23,913 | 1,985,296 | 33,903 | 1,293,977 | 431,238 | 519,836 | 937,071 |
| 1993 | 2,400,070 | 1,616,376 | 1,216,448 | 146,696 | 2,006,350 | 102,401 | 1,895,763 | 636,666 | 1,685,123 | 1,263,842 |
| 1994 | 2,620,697 | 1,706,380 | 1,260,562 | 144,609 | 2,079,109 | 106,114 | 1,964,511 | 694,817 | 1,909,942 | 982,256 |
| 1995 | 2,823,307 | 1,814,753 | 1,246,034 | 156,429 | 2,055,148 | 104,891 | 2,740,197 | 709,612 | 2,049,754 | 970,936 |
| 1996 | 3,084,622 | 2,012,659 | 1,290,489 | 173,183 | 2,128,468 | 108,634 | 2,837,958 | 816,168 | 2,290,478 | 1,005,576 |
| 1997 | 3,204,701 | 2,129,804 | 1,273,638 | 181,949 | 2,100,676 | 107,215 | 2,800,901 | 806,443 | 2,425,977 | 992,446 |
| 1998 | 3,239,658 | 2,049,349 | 1,225,497 | 137,935 | 2,021,274 | 103,162 | 2,695,032 | 775,961 | 2,705,854 | 954,933 |
| 1999 | 3,576,538 | 1,946,452 | 1,163,965 | 131,010 | 1,919,786 | 97,983 | 2,559,716 | 737,000 | 2,771,346 | 906,986 |
| 2000 | 3,673,899 | 2,041,599 | 1,045,621 | 135,796 | 1,724,597 | 88,020 | 2,299,463 | 662,068 | 2,715,901 | 905,300 |
| 2001 | 3,628,714 | 2,016,488 | 1,032,762 | 134,125 | 1,703,386 | 86,938 | 2,271,182 | 653,924 | 2,682,498 | 894,166 |
| 2002 | 3,459,108 | 1,922,237 | 984,490 | 127,856 | 1,623,770 | 82,874 | 2,165,026 | 623,360 | 2,557,118 | 852,373 |
| 2003 | 3,292,554 | 1,829,682 | 937,088 | 121,700 | 1,545,586 | 78,884 | 2,060,781 | 593,346 | 2,433,994 | 811,331 |
| 2004 | 3,087,659 | 1,715,823 | 878,773 | 114,126 | 1,449,405 | 73,975 | 1,932,540 | 556,422 | 2,282,528 | 760,842 |
| 2005 | 3,284,780 | 1,646,521 | 773,690 | 128,111 | 1,276,085 | 65,130 | 1,701,447 | 489,885 | 3,014,376 | 713,402 |
| 2006 | 3,204,617 | 1,606,340 | 754,809 | 124,985 | 1,244,944 | 63,540 | 1,659,925 | 477,930 | 2,940,813 | 695,993 |
| 2007 | 3,000,195 | 1,503,871 | 706,660 | 117,012 | 1,165,529 | 59,487 | 1,554,039 | 447,443 | 2,753,218 | 651,595 |
| 2008 | 2,761,614 | 1,384,281 | 650,464 | 107,707 | 1,072,844 | 54,756 | 1,430,459 | 411,862 | 2,534,277 | 599,779 |
| 2009 | 2,556,014 | 1,281,222 | 602,038 | 99,688 | 992,972 | 50,680 | 1,323,962 | 381,199 | 2,345,602 | 555,126 |
| 2010 | 2,620,141 | 1,120,224 | 526,386 | 108,240 | 868,195 | 44,311 | 1,157,594 | 333,297 | 2,337,975 | 512,714 |
| 2011 | 2,533,029 | 1,064,200 | 500,060 | 102,827 | 824,775 | 42,095 | 1,099,701 | 316,628 | 2,221,049 | 487,072 |
| 2012 | 2,266,139 | 952,072 | 447,373 | 91,992 | 737,874 | 37,660 | 983,832 | 283,267 | 1,987,031 | 435,752 |
| 2013 | 624,789 | 262,492 | 123,343 | 25,363 | 203,437 | 10,383 | 271,249 | 78,098 | 547,837 | 120,140 |
| 2014 | 1,038,729 | 436,401 | 205,062 | 42,166 | 338,219 | 17,262 | 450,959 | 129,841 | 910,794 | 199,736 |
| 2015 | 442,418 | 185,872 | 87,341 | 20,039 | 144,055 | 7,352 | 192,073 | 55,302 | 387,928 | 89,987 |
| 2016 | 217,939 | 91,562 | 43,025 | 9,871 | 70,963 | 3,622 | 94,617 | 27,242 | 191,096 | 44,328 |
| 2017 | 98,815 | 41,516 | 19,507 | 4,476 | 32,175 | 1,642 | 42,901 | 12,351 | 86,645 | 20,099 |
| 2018 | 98,778 | 41,500 | 19,500 | 4,474 | 32,163 | 1,641 | 42,884 | 12,348 | 86,612 | 20,091 |
| 2019 | 99,098 | 41,633 | 19,564 | 4,488 | 32,267 | 1,647 | 43,022 | 12,388 | 86,891 | 20,157 |
| 2020 | 99,284 | 41,711 | 19,600 | 4,837 | 32,327 | 1,650 | 43,103 | 12,411 | 87,055 | 21,212 |
| 2021 | 99,097 | 41,633 | 19,564 | 4,827 | 32,267 | 1,647 | 43,022 | 12,387 | 86,891 | 21,173 |
| 2022 | 99,337 | 41,734 | 19,611 | 4,839 | 32,345 | 1,651 | 43,127 | 12,417 | 87,102 | 21,224 |
| 2023 | 99,627 | 41,856 | 19,667 | 4,854 | 32,439 | 1,655 | 43,253 | 12,453 | 87,356 | 21,285 |
| 2024 | 205,902 | 86,506 | 40,648 | 10,030 | 67,044 | 3,422 | 89,391 | 25,738 | 180,542 | 43,992 |
| 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 | 89,131,743 | 48,191,198 | 34,317,420 | 4,023,745 | 56,238,244 | 1,969,886 | 42,350,537 | 14,642,805 | 61,568,189 | 24,405,611 |

TABLE B-16B

# Minimum OMP&R Component of Transportation Charge for Each Contractor for Off-Aqueduct Power Facilities

(Dollars)



| | Southern California Area (continued) | | | | Feather River Area | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (29) | Metropolitan Water District of Southern California (30) | Ventura County Flood Control District (31) | Total (32) | City of Yuba City (33) | County of Butte (34) | Plumas County FC&WCD (35) | Total (36) | Total State Water Project (a (37) |
| 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 | 12,791,358 | 0 | 16,045,220 | 0 | 0 | 0 | 0 | 20,182,468 |
| 1984 | 0 | 39,229,567 | 0 | 47,840,887 | 0 | 0 | 0 | 0 | 60,556,781 |
| 1985 | 0 | 77,446,522 | 0 | 89,844,436 | 0 | 0 | 0 | 0 | 108,590,343 |
| 1986 | 0 | 77,581,287 | 0 | 90,192,510 | 0 | 0 | 0 | 0 | 107,702,921 |
| 1987 | 0 | 68,939,195 | 0 | 82,614,055 | 0 | 0 | 0 | 0 | 99,411,597 |
| 1988 | 0 | 79,972,830 | 0 | 92,718,773 | 0 | 0 | 0 | 0 | 108,898,834 |
| 1989 | 0 | 68,311,548 | 0 | 78,327,182 | 0 | 0 | 0 | 0 | 90,033,447 |
| 1990 | 0 | 78,842,278 | 0 | 90,401,896 | 0 | 0 | 0 | 0 | 103,912,768 |
| 1991 | 0 | 56,340,680 | 137,394 | 63,521,139 | 0 | 0 | 0 | 0 | 66,666,716 |
| 1992 | 0 | 81,824,374 | 27,347 | 93,027,374 | 0 | 0 | 0 | 0 | 103,426,253 |
| 1993 | 0 | 100,935,832 | 238,817 | 114,144,384 | 0 | 0 | 0 | 0 | 124,439,568 |
| 1994 | 0 | 104,525,835 | 247,477 | 118,242,309 | 0 | 0 | 0 | 0 | 128,988,478 |
| 1995 | 161,823 | 103,195,857 | 244,625 | 118,273,366 | 0 | 0 | 0 | 0 | 128,947,733 |
| 1996 | 402,230 | 106,747,677 | 253,353 | 123,151,495 | 0 | 0 | 0 | 0 | 135,901,729 |
| 1997 | 396,978 | 105,225,629 | 250,045 | 121,896,402 | 0 | 0 | 0 | 0 | 134,966,121 |
| 1998 | 295,498 | 101,248,278 | 962,373 | 118,414,804 | 0 | 0 | 0 | 0 | 132,031,463 |
| 1999 | 280,662 | 96,164,653 | 914,053 | 113,170,150 | 0 | 0 | 0 | 0 | 126,110,707 |
| 2000 | 287,433 | 86,387,347 | 821,119 | 102,788,163 | 0 | 0 | 0 | 0 | 114,420,652 |
| 2001 | 283,898 | 85,324,859 | 811,020 | 101,523,960 | 0 | 0 | 0 | 0 | 113,018,130 |
| 2002 | 270,628 | 81,336,762 | 773,113 | 96,778,715 | 0 | 0 | 0 | 0 | 107,739,475 |
| 2003 | 257,598 | 77,420,447 | 735,888 | 92,118,879 | 0 | 0 | 0 | 0 | 102,556,196 |
| 2004 | 241,568 | 72,602,605 | 690,094 | 86,386,360 | 0 | 0 | 0 | 0 | 96,178,111 |
| 2005 | 283,016 | 63,920,810 | 607,573 | 77,904,826 | 0 | 0 | 0 | 0 | 86,535,232 |
| 2006 | 276,109 | 62,360,895 | 592,745 | 76,003,645 | 0 | 0 | 0 | 0 | 84,425,977 |
| 2007 | 258,497 | 58,382,895 | 554,934 | 71,155,375 | 0 | 0 | 0 | 0 | 79,043,354 |
| 2008 | 237,941 | 53,740,175 | 510,805 | 65,496,964 | 0 | 0 | 0 | 0 | 72,760,838 |
| 2009 | 220,226 | 49,739,262 | 472,776 | 60,620,767 | 0 | 0 | 0 | 0 | 67,346,328 |
| 2010 | 240,405 | 43,489,043 | 413,367 | 53,771,892 | 0 | 0 | 0 | 0 | 59,655,038 |
| 2011 | 228,383 | 41,314,085 | 392,694 | 51,126,598 | 0 | 0 | 0 | 0 | 56,717,950 |
| 2012 | 204,320 | 36,961,081 | 351,318 | 45,739,711 | 0 | 0 | 0 | 0 | 50,743,778 |
| 2013 | 56,332 | 10,190,404 | 96,861 | 12,610,728 | 0 | 0 | 0 | 0 | 13,990,981 |
| 2014 | 93,653 | 16,941,830 | 161,033 | 20,965,685 | 0 | 0 | 0 | 0 | 23,261,390 |
| 2015 | 51,232 | 7,215,896 | 68,588 | 8,948,083 | 0 | 0 | 0 | 0 | 9,926,390 |
| 2016 | 25,238 | 3,554,610 | 33,787 | 4,407,900 | 0 | 0 | 0 | 0 | 4,890,015 |
| 2017 | 11,443 | 1,611,693 | 15,319 | 1,998,582 | 0 | 0 | 0 | 0 | 2,217,265 |
| 2018 | 11,438 | 1,611,085 | 15,313 | 1,997,827 | 0 | 0 | 0 | 0 | 2,216,515 |
| 2019 | 11,475 | 1,616,290 | 15,363 | 2,004,283 | 0 | 0 | 0 | 0 | 2,223,765 |
| 2020 | 14,127 | 1,619,324 | 15,392 | 2,012,033 | 0 | 0 | 0 | 0 | 2,232,015 |
| 2021 | 14,651 | 1,616,284 | 15,363 | 2,008,806 | 0 | 0 | 0 | 0 | 2,228,390 |
| 2022 | 14,687 | 1,620,205 | 15,400 | 2,013,679 | 0 | 0 | 0 | 0 | 2,233,796 |
| 2023 | 14,730 | 1,624,920 | 15,445 | 2,019,540 | 0 | 0 | 0 | 0 | 2,240,297 |
| 2024 | 30,442 | 3,358,295 | 31,921 | 4,173,873 | 0 | 0 | 0 | 0 | 4,630,122 |
| 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 | 5,176,661 | 2,224,884,502 | 11,502,715 | 2,618,403,256 | 0 | 0 | 0 | 0 | 2,944,199,927 |

a) Costs allocated to contractors from 1989 through 1992 are reduced by credits for Off-Aqueduct Power Facility costs allocated to the pumping of non-SWP entitlement water prior to 1993.

TABLE B-17

# Unit Variable OMP&R Component of Transportation Charge

(Dollars per acre-foot)



| | North Bay Aqueduct | | | | | | South Bay Aqueduct | | California Aqueduct | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reach 1 Barker Slough Pumping Plant | | Reach 3A Cordelia Pumping Plant Solano County WA | | Reach 3B Cordelia Pumping Plant Napa County FC&WCD (a | | Reach 1 South Bay and Del Valle Pumping Plants (b | | Reach 1 Banks Pumping Plant | |
| Calendar Year | Unit Rate (1) | Cumulative Unit Rate (2) | Unit Rate (3) | Cumulative Unit Rate (4) | Unit Rate (5) | Cumulative Unit Rate (6) | Unit Rate (7) | Cumulative Unit Rate (8) | Unit Rate (9) | Cumulative Unit Rate (10) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 4.1511341 | 4.1511341 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 0 | 0 | 0 | 4.5639383 | 4.5639383 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 0 | 0 | 0 | 3.5452154 | 3.5452154 | 0 | 0 |
| 1965 | 0 | 0 | 0 | 0 | 0 | 0 | 4.1911773 | 4.1911773 | 0 | 0 |
| 1966 | 0 | 0 | 0 | 0 | 0 | 0 | 3.5074573 | 3.5074573 | 0 | 0 |
| 1967 | 0 | 0 | 0 | 0 | 0 | 0 | 3.9306767 | 5.1337448 | 1.2030681 | 1.2030681 |
| 1968 | 0 | 0 | 0 | 0 | 5.7570016 | 5.7570016 | 3.3315620 | 4.8750942 | 1.5435322 | 1.5435322 |
| 1969 | 0 | 0 | 0 | 0 | 3.1823595 | 3.1823595 | 3.6949019 | 4.8016170 | 1.1067151 | 1.1067151 |
| 1970 | 0 | 0 | 0 | 0 | 3.7584301 | 3.7584301 | 4.4256141 | 5.3721490 | 0.9465349 | 0.9465349 |
| 1971 | 0 | 0 | 0 | 0 | 4.2082507 | 4.2082507 | 3.8714396 | 4.7522833 | 0.8808437 | 0.8808437 |
| 1972 | 0 | 0 | 0 | 0 | 3.9577735 | 3.9577735 | 4.3250690 | 5.2281686 | 0.9030996 | 0.9030996 |
| 1973 | 0 | 0 | 0 | 0 | 3.8103903 | 3.8103903 | 5.2455409 | 6.1841800 | 0.9386391 | 0.9386391 |
| 1974 | 0 | 0 | 0 | 0 | 3.5878850 | 3.5878850 | 6.3321503 | 7.2293909 | 0.8972406 | 0.8972406 |
| 1975 | 0 | 0 | 0 | 0 | 2.1606725 | 2.1606725 | 3.7365711 | 4.8327731 | 1.0962020 | 1.0962020 |
| 1976 | 0 | 0 | 0 | 0 | 2.9283909 | 2.9283909 | 4.5191527 | 5.7132795 | 1.1941268 | 1.1941268 |
| 1977 | 0 | 0 | 0 | 0 | 2.7516411 | 2.7516411 | 4.7630172 | 6.5309908 | 1.7679736 | 1.7679736 |
| 1978 | 0 | 0 | 0 | 0 | 3.5949619 | 3.5949619 | 5.2086183 | 6.8200209 | 1.6114026 | 1.6114026 |
| 1979 | 0 | 0 | 0 | 0 | 2.4747752 | 2.4747752 | 4.9524184 | 7.0889234 | 2.1365050 | 2.1365050 |
| 1980 | 0 | 0 | 0 | 0 | 2.9737588 | 2.9737588 | 4.5186576 | 5.8865852 | 1.3679276 | 1.3679276 |
| 1981 | 0 | 0 | 0 | 0 | 2.6487057 | 2.6487057 | 4.3834851 | 6.4772202 | 2.0937351 | 2.0937351 |
| 1982 | 0 | 0 | 0 | 0 | 10.0239077 | 10.0239077 | 4.9779475 | 6.7284782 | 1.7505307 | 1.7505307 |
| 1983 | 0 | 0 | 0 | 0 | 1.0209882 | 1.0209882 | 1.3122465 | 2.1157080 | 0.8034615 | 0.8034615 |
| 1984 | 0 | 0 | 0 | 0 | 1.6647280 | 1.6647280 | 2.7638756 | 3.9589160 | 1.1950404 | 1.1950404 |
| 1985 | 0 | 0 | 0 | 0 | 2.5219114 | 2.5219114 | 3.6775932 | 5.2979619 | 1.6203687 | 1.6203687 |
| 1986 | 0 | 0 | 0 | 0 | 4.3967036 | 4.3967036 | 7.4448499 | 10.9602095 | 3.5153596 | 3.5153596 |
| 1987 | 0 | 0 | 0 | 0 | 3.5385415 | 3.5385415 | 6.5424647 | 10.0457377 | 3.5032730 | 3.5032730 |
| 1988 | 1.1818362 | 1.1818362 | 2.0488432 | 3.2306794 | 4.2833828 | 5.4652190 | 6.1966928 | 9.4753378 | 3.2786450 | 3.2786450 |
| 1989 | 1.2532859 | 1.2532859 | 2.5525919 | 3.8058778 | 0.8148730 | 2.0681589 | 7.6237339 | 11.1671100 | 3.5433761 | 3.5433761 |
| 1990 | 2.2485904 | 2.2485904 | 4.3186176 | 6.5672080 | 6.2015850 | 8.4501754 | 11.9649412 | 16.5188956 | 4.5539544 | 4.5539544 |
| 1991 | 2.6460728 | 2.6460728 | 8.6485084 | 11.2945812 | 2.3920290 | 5.0381018 | 8.7291032 | 14.8505629 | 6.1214597 | 6.1214597 |
| 1992 | 1.3511842 | 1.3511842 | 2.2639727 | 3.6151569 | 2.7470505 | 4.0982347 | 4.6254941 | 9.3084005 | 4.6829064 | 4.6829064 |
| 1993 | 2.1445902 | 2.1445902 | 3.5374978 | 5.6820880 | 5.6488306 | 7.7934208 | 7.8405218 | 11.7688956 | 3.9283738 | 3.9283738 |
| 1994 | 3.7619777 | 3.7619777 | 6.5626108 | 10.3245885 | 10.0235359 | 13.7855136 | 13.7216648 | 19.7465520 | 6.0248872 | 6.0248872 |
| 1995 | 6.3056792 | 6.3056792 | 7.6937140 | 13.9993932 | 11.7412065 | 18.0468857 | 16.0803424 | 23.4230946 | 7.3427522 | 7.3427522 |
| 1996 | 4.3575739 | 4.3575739 | 7.8827606 | 12.2403345 | 12.8881535 | 17.2457274 | 21.7880860 | 30.5501959 | 8.7621099 | 8.7621099 |
| 1997 | 4.1962081 | 4.1962081 | 7.6699174 | 11.8661255 | 12.3750565 | 16.5712646 | 20.7227340 | 29.6059369 | 8.8832029 | 8.8832029 |
| 1998 | 4.2509271 | 4.2509271 | 7.7009680 | 11.9518951 | 12.5136635 | 16.7645906 | 20.9357394 | 29.5958862 | 8.6601468 | 8.6601468 |
| 1999 | 4.3114477 | 4.3114477 | 7.8034578 | 12.1149055 | 12.6652879 | 16.9767356 | 21.1716011 | 29.1335605 | 7.9619594 | 7.9619594 |
| 2000 | 4.4719195 | 4.4719195 | 8.0723345 | 12.5442540 | 13.0907280 | 17.5626475 | 21.8701755 | 30.0665818 | 8.1964063 | 8.1964063 |
| 2001 | 4.4970630 | 4.4970630 | 8.1085555 | 12.6056185 | 13.1557995 | 17.6528625 | 21.9683777 | 30.2012936 | 8.2329159 | 8.2329159 |
| 2002 | 4.6188087 | 4.6188087 | 8.3130911 | 12.9318998 | 13.4985548 | 18.1173635 | 22.5225479 | 30.9470557 | 8.4245078 | 8.4245078 |
| 2003 | 4.6871187 | 4.6871187 | 8.4200344 | 13.1071531 | 13.6810135 | 18.3681322 | 22.8121117 | 31.3359552 | 8.5238435 | 8.5238435 |
| 2004 | 4.7626318 | 4.7626318 | 8.5374570 | 13.3000888 | 13.8796753 | 18.6423071 | 23.1302979 | 31.7660410 | 8.6357431 | 8.6357431 |
| 2005 | 4.9376174 | 4.9376174 | 8.9289306 | 13.8665480 | 14.3008750 | 19.2384924 | 23.8025638 | 32.6635174 | 8.8609536 | 8.8609536 |
| 2006 | 4.9540638 | 4.9540638 | 8.9411433 | 13.8952071 | 14.3286930 | 19.2827568 | 23.8350000 | 32.7069573 | 8.8719573 | 8.8719573 |
| 2007 | 5.0091624 | 5.0091624 | 9.0246819 | 14.0338443 | 14.4715294 | 19.4806918 | 24.0577074 | 33.0056831 | 8.9479757 | 8.9479757 |
| 2008 | 5.0702113 | 5.0702113 | 9.1170977 | 14.1873090 | 14.6388102 | 19.7090215 | 24.3041436 | 33.3362552 | 9.0321116 | 9.0321116 |
| 2009 | 5.1205025 | 5.1205025 | 9.1903736 | 14.3108761 | 14.7639560 | 19.8844585 | 24.4993245 | 33.6010607 | 9.1017362 | 9.1017362 |
| 2010 | 5.3327769 | 5.3327769 | 9.5697236 | 14.9025005 | 15.3493333 | 20.6821102 | 25.4372128 | 34.8587104 | 9.4214976 | 9.4214976 |
| 2011 | 5.3028618 | 5.3028618 | 9.4956646 | 14.7985264 | 15.2804124 | 20.5832742 | 25.2402819 | 34.5912619 | 9.3509800 | 9.3509800 |
| 2012 | 5.3701945 | 5.3701945 | 9.5978272 | 14.9680217 | 15.4828571 | 20.8530516 | 25.5119309 | 34.9576292 | 9.4456983 | 9.4456983 |
| 2013 | 5.4345309 | 5.4345309 | 9.6946343 | 15.1291652 | 15.7133495 | 21.1478804 | 25.7692340 | 35.3041522 | 9.5349182 | 9.5349182 |
| 2014 | 5.5115714 | 5.5115714 | 9.8089360 | 15.3205074 | 15.9663529 | 21.4779243 | 26.0730266 | 35.7124725 | 9.6394459 | 9.6394459 |
| 2015 | 5.5068388 | 5.5068388 | 9.8012067 | 15.3080455 | 15.9841553 | 21.4909941 | 25.9621223 | 35.5634755 | 9.6013532 | 9.6013532 |
| 2016 | 5.5304961 | 5.5304961 | 9.8271649 | 15.3576610 | 16.1080000 | 21.6384961 | 26.0308989 | 35.6558292 | 9.6249303 | 9.6249303 |
| 2017 | 5.7464363 | 5.7464363 | 10.1858142 | 15.9322505 | 16.7898268 | 22.5362631 | 26.9810585 | 36.9348047 | 9.9537462 | 9.9537462 |
| 2018 | 5.7554642 | 5.7554642 | 10.1824681 | 15.9379323 | 16.8786498 | 22.6341140 | 26.9721755 | 36.9230856 | 9.9509101 | 9.9509101 |
| 2019 | 5.7793062 | 5.7793062 | 10.1988947 | 15.9782009 | 17.0060494 | 22.7853556 | 27.0156170 | 36.9813227 | 9.9657057 | 9.9657057 |
| 2020 | 5.6954559 | 5.6954559 | 10.0325999 | 15.7280558 | 16.8576305 | 22.5530864 | 26.5751755 | 36.3883858 | 9.8132103 | 9.8132103 |
| 2021 | 5.7234030 | 5.7234030 | 10.0755425 | 15.7989455 | 16.9470000 | 22.6704030 | 26.6889521 | 36.5409389 | 9.8519868 | 9.8519868 |
| 2022 | 5.7349104 | 5.7349104 | 10.0958223 | 15.8307327 | 16.9810400 | 22.7159504 | 26.7425745 | 36.6130187 | 9.8704442 | 9.8704442 |
| 2023 | 5.7338955 | 5.7338955 | 10.0940479 | 15.8279434 | 16.9780400 | 22.7119355 | 26.7378191 | 36.6066568 | 9.8688377 | 9.8688377 |
| 2024 | 5.7341045 | 5.7341045 | 10.0944535 | 15.8285580 | 16.9786800 | 22.7127845 | 26.7388351 | 36.6082072 | 9.8693721 | 9.8693721 |
| 2025 | 5.7392537 | 5.7392537 | 10.1034273 | 15.8426810 | 16.9939600 | 22.7332137 | 26.7628936 | 36.6402465 | 9.8773529 | 9.8773529 |
| 2026 | 5.7114776 | 5.7114776 | 10.0546035 | 15.7660811 | 16.9116400 | 22.6231176 | 26.6333191 | 36.4651859 | 9.8318668 | 9.8318668 |
| 2027 | 5.7120597 | 5.7120597 | 10.0556175 | 15.7676772 | 16.9133600 | 22.6254197 | 26.6360266 | 36.4690989 | 9.8330723 | 9.8330723 |
| 2028 | 5.7145522 | 5.7145522 | 10.0599777 | 15.7745299 | 16.9207200 | 22.6352722 | 26.6476223 | 36.4853377 | 9.8377154 | 9.8377154 |
| 2029 | 5.7155224 | 5.7155224 | 10.0617015 | 15.7772239 | 16.9236400 | 22.6391624 | 26.6522074 | 36.4903137 | 9.8381063 | 9.8381063 |
| 2030 | 5.7118955 | 5.7118955 | 10.0553133 | 15.7672088 | 16.9128800 | 22.6247755 | 26.6352660 | 36.4696957 | 9.8344297 | 9.8344297 |
| 2031 | 5.7219254 | 5.7219254 | 10.0729568 | 15.7948822 | 16.9426000 | 22.6645254 | 26.6820638 | 36.5312177 | 9.8491539 | 9.8491539 |
| 2032 | 5.7219254 | 5.7219254 | 10.0729568 | 15.7948822 | 16.9426000 | 22.6645254 | 26.6820638 | 36.5312177 | 9.8491539 | 9.8491539 |
| 2033 | 5.7264179 | 5.7264179 | 10.0809166 | 15.8073345 | 16.9559200 | 22.6823379 | 26.7030372 | 36.5593666 | 9.8563294 | 9.8563294 |
| 2034 | 5.7131194 | 5.7131194 | 10.0574427 | 15.7705621 | 16.9165200 | 22.6296394 | 26.6409894 | 36.4761710 | 9.8351816 | 9.8351816 |
| 2035 | 5.7359851 | 5.7359851 | 10.0977489 | 15.8337340 | 16.9842800 | 22.7202651 | 26.7476543 | 36.6069567 | 9.8593024 | 9.8593024 |

a) For the period 1968 through 1987, rates are for an interim facility.
b) The relatively minor costs of Del Valle Pumping Plant have been combined with those of South Bay Pumping Plant to simplify the allocation procedure.

TABLE B-17

# Unit Variable OMP&R Component of Transportation Charge

(Dollars per acre-foot)



| | California Aqueduct (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reach 4 Dos Amigos Pumping Plant | | Reach 14A Buena Vista Pumping Plant | | Reach 15A Teerink Pumping Plant | | Reach 16A Chrisman Pumping Plant | | Reach 17E Edmonston Pumping Plant | |
| Calendar Year | Unit Rate (11) | Cumulative Unit Rate (12) | Unit Rate (13) | Cumulative Unit Rate (14) | Unit Rate (15) | Cumulative Unit Rate (16) | Unit Rate (17) | Cumulative Unit Rate (18) | Unit Rate (19) | Cumulative Unit Rate (20) |
| 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 | 1.0732031 | 2.6167353 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0.7028165 | 1.8095316 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0.7813430 | 1.7278779 | 0.3333333 | 2.0612112 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0.4125312 | 1.2933749 | 1.3594550 | 2.6528299 | 4.9729730 | 7.6258029 | 0 | 0 | 0 | 0 |
| 1972 | 0.5543356 | 1.4574352 | 1.0808850 | 2.5383202 | 1.1418280 | 3.6801482 | 2.2892599 | 5.9694081 | 7.3206022 | 13.2900103 |
| 1973 | 0.5996892 | 1.5383283 | 0.9844807 | 2.5228090 | 1.2143719 | 3.7371809 | 2.1051633 | 5.8423442 | 7.4512435 | 13.2935877 |
| 1974 | 0.5736894 | 1.4709300 | 0.9223291 | 2.3932591 | 1.0924098 | 3.4856689 | 1.9449022 | 5.4305711 | 6.9004732 | 12.3310443 |
| 1975 | 0.4602594 | 1.5564614 | 0.8190849 | 2.3755463 | 0.9574493 | 3.3329956 | 1.9610412 | 5.2940368 | 6.9962702 | 12.2903070 |
| 1976 | 0.5163827 | 1.7105095 | 0.9626676 | 2.6731771 | 1.0211874 | 3.6943645 | 2.2275746 | 5.9219391 | 7.9384515 | 13.8603906 |
| 1977 | 0.6138931 | 2.3818667 | 1.0969170 | 3.4787837 | 1.3715867 | 4.8503704 | 2.9301764 | 7.7805468 | 9.9990004 | 17.7795472 |
| 1978 | 0.4207825 | 2.0321851 | 0.9606230 | 2.9928081 | 1.0432294 | 4.0360375 | 1.9779157 | 6.0139532 | 7.0810192 | 13.0949724 |
| 1979 | 0.6587934 | 2.7952984 | 1.1099369 | 3.9052353 | 1.2652451 | 5.1704804 | 2.6939701 | 7.8644505 | 9.6345625 | 17.4990130 |
| 1980 | 0.8056952 | 2.1736228 | 1.3516057 | 3.5252285 | 1.5041463 | 5.0293748 | 3.1923433 | 8.2217181 | 10.9860288 | 19.2077469 |
| 1981 | 1.0841003 | 3.1778354 | 1.2388784 | 4.4167138 | 1.3195560 | 5.7362698 | 2.9541028 | 8.6903726 | 9.9484860 | 18.6388586 |
| 1982 | 0.7762022 | 2.5267329 | 1.2001820 | 3.7269149 | 1.3668611 | 5.0937760 | 2.8880977 | 7.9818737 | 10.1769284 | 18.1588021 |
| 1983 | 0.3689994 | 1.1724609 | 0.7434250 | 1.9158859 | 0.8851706 | 2.8010565 | 1.7730111 | 4.5740676 | 5.5794328 | 10.1535004 |
| 1984 | 0.6028753 | 1.7979157 | 1.0364230 | 2.8343387 | 1.2225175 | 4.0568562 | 2.5595676 | 6.6164238 | 8.3521698 | 14.9685936 |
| 1985 | 0.8634931 | 2.4838618 | 1.4180390 | 3.9019008 | 1.6505071 | 5.5524079 | 3.4670086 | 9.0194165 | 11.7565847 | 20.7760012 |
| 1986 | 1.3950680 | 4.9104276 | 2.3741588 | 7.2845864 | 2.7626510 | 10.0472374 | 5.9668234 | 16.0140608 | 20.6435041 | 36.6575649 |
| 1987 | 1.2918341 | 4.7951071 | 2.2564137 | 7.0515208 | 2.5738801 | 9.6254009 | 5.3754819 | 15.0008828 | 17.9512279 | 32.9521107 |
| 1988 | 1.1857125 | 4.4643575 | 2.1312092 | 6.5955667 | 2.4287598 | 9.0243265 | 5.0672280 | 14.0915545 | 16.7760708 | 30.8676253 |
| 1989 | 1.5156533 | 5.0590294 | 2.7015545 | 7.7605839 | 3.0191335 | 10.7797174 | 6.5760148 | 17.3557322 | 22.2736391 | 39.6293713 |
| 1990 | 1.8051582 | 6.3591126 | 3.3052168 | 9.6643294 | 3.7451498 | 13.4094792 | 8.6757569 | 22.0852361 | 31.0136730 | 53.0989091 |
| 1991 | 1.8991358 | 8.0205955 | 2.2796972 | 10.3002927 | 2.4136828 | 12.7139755 | 5.6149196 | 18.3288951 | 19.9471760 | 38.2760711 |
| 1992 | 1.1862309 | 5.8691373 | 2.0681503 | 7.9372876 | 2.5729831 | 10.5102707 | 4.7699308 | 15.2802015 | 13.7579955 | 29.0381970 |
| 1993 | 1.9012063 | 5.8295801 | 3.0414584 | 8.8710385 | 3.6649523 | 12.5359908 | 7.5249503 | 20.0609411 | 26.0567536 | 46.1176947 |
| 1994 | 2.8503125 | 8.8751997 | 4.7478131 | 13.6230128 | 5.7664001 | 19.3894129 | 12.1580904 | 31.5475033 | 42.7973877 | 74.3448910 |
| 1995 | 3.3067725 | 10.6495247 | 5.5502808 | 16.1998055 | 6.7482844 | 22.9480899 | 14.2681118 | 37.2162017 | 50.3090034 | 87.5252051 |
| 1996 | 3.8599693 | 12.6220792 | 6.4086636 | 19.0307428 | 7.7968030 | 26.8275458 | 16.5553678 | 43.3829136 | 58.5190340 | 101.9019476 |
| 1997 | 3.7249347 | 12.6081376 | 6.1586883 | 18.7668259 | 7.4919961 | 26.2588220 | 15.8984806 | 42.1573026 | 56.1798576 | 98.3371602 |
| 1998 | 3.7534536 | 12.4136004 | 6.2049681 | 18.6185685 | 7.5567582 | 26.1753267 | 16.0472892 | 42.2226159 | 56.7228284 | 98.9454443 |
| 1999 | 3.6978219 | 11.6597813 | 6.2716750 | 17.9314563 | 7.6380836 | 25.5695399 | 16.2235252 | 41.7930651 | 57.3521435 | 99.1452086 |
| 2000 | 3.8096086 | 12.0060149 | 6.4689739 | 18.4749888 | 7.8786913 | 26.3536801 | 16.7451326 | 43.0988127 | 59.2151427 | 102.3139554 |
| 2001 | 3.8238484 | 12.0567643 | 6.4950470 | 18.5518113 | 7.9104477 | 26.4622590 | 16.8159237 | 43.2781827 | 59.4715486 | 102.7497313 |
| 2002 | 3.9117968 | 12.3363046 | 6.6516566 | 18.9879612 | 8.1014250 | 27.0893862 | 17.2298622 | 44.3192484 | 60.9497640 | 105.2690124 |
| 2003 | 3.9577719 | 12.4816154 | 6.7335395 | 19.2151549 | 8.2012369 | 27.4163918 | 17.4461841 | 44.8625759 | 61.7222288 | 106.5848047 |
| 2004 | 4.0081670 | 12.6439101 | 6.8233316 | 19.4672417 | 8.3107566 | 27.7779983 | 17.6836229 | 45.4616212 | 62.5705843 | 108.0322055 |
| 2005 | 4.1102669 | 12.9712205 | 7.0071129 | 19.9783334 | 8.5346372 | 28.5129706 | 18.1762940 | 46.6892646 | 64.3432637 | 111.0325283 |
| 2006 | 4.1155170 | 12.9874743 | 7.0164467 | 20.0039210 | 8.5459885 | 28.5499095 | 18.2007344 | 46.7506439 | 64.4302938 | 111.1809377 |
| 2007 | 4.1511369 | 13.0991126 | 7.0796954 | 20.1788080 | 8.6231431 | 28.8019511 | 18.3675872 | 47.1695383 | 65.0254262 | 112.1949645 |
| 2008 | 4.1902040 | 13.2223156 | 7.1492400 | 20.3715556 | 8.7079798 | 29.0795354 | 18.5515553 | 47.6310907 | 65.6826057 | 113.3136964 |
| 2009 | 4.2218457 | 13.3235819 | 7.2052631 | 20.5288450 | 8.7763105 | 29.3051555 | 18.6986130 | 48.0037685 | 66.2059352 | 114.2097037 |
| 2010 | 4.3650569 | 13.7865545 | 7.4634013 | 21.2499558 | 9.0908448 | 30.3408006 | 19.3886218 | 49.7294224 | 68.6849156 | 118.4143380 |
| 2011 | 4.3373652 | 13.6883452 | 7.4119764 | 21.1003216 | 9.0282861 | 30.1286077 | 19.2479904 | 49.3765981 | 68.1735423 | 117.5501404 |
| 2012 | 4.3789322 | 13.8246305 | 7.4869299 | 21.3115604 | 9.1196310 | 30.4311914 | 19.4481033 | 49.8792947 | 68.8922167 | 118.7715114 |
| 2013 | 4.4199515 | 13.9548697 | 7.5598383 | 21.5147080 | 9.2085225 | 30.7232305 | 19.6405961 | 50.3638266 | 69.5791643 | 119.9429909 |
| 2014 | 4.4676764 | 14.1071223 | 7.6450711 | 21.7521934 | 9.3124841 | 31.0646775 | 19.8665998 | 50.9312773 | 70.3875257 | 121.3188030 |
| 2015 | 4.4509541 | 14.0523073 | 7.6148337 | 21.6671410 | 9.2756595 | 30.9428005 | 19.7854074 | 50.7282079 | 70.0953134 | 120.8235213 |
| 2016 | 4.4611616 | 14.0860919 | 7.6334401 | 21.7195320 | 9.2983023 | 31.0178343 | 19.8354998 | 50.8533341 | 70.2760115 | 121.1293456 |
| 2017 | 4.6120289 | 14.5657751 | 7.9020606 | 22.4678357 | 9.6258371 | 32.0936728 | 20.5453661 | 52.6390389 | 72.8108715 | 125.4499104 |
| 2018 | 4.6107641 | 14.5616742 | 7.8996878 | 22.4613620 | 9.6229627 | 32.0843247 | 20.5389710 | 52.6232957 | 72.7876327 | 125.4109284 |
| 2019 | 4.6172082 | 14.5829139 | 7.9114489 | 22.4943628 | 9.6372495 | 32.1316123 | 20.5705395 | 52.7021518 | 72.9016750 | 125.6038268 |
| 2020 | 4.5484119 | 14.3616222 | 7.7882479 | 22.1498701 | 9.4871220 | 31.6369921 | 20.2435701 | 51.8805622 | 71.7311257 | 123.6116879 |
| 2021 | 4.5652192 | 14.4172060 | 7.8189448 | 22.2361508 | 9.5244368 | 31.7605876 | 20.3262857 | 52.0868733 | 72.0297363 | 124.1166096 |
| 2022 | 4.5738223 | 14.4442665 | 7.8341786 | 22.2784451 | 9.5430775 | 31.8215226 | 20.3664837 | 52.1880063 | 72.1730958 | 124.3611021 |
| 2023 | 4.5730380 | 14.4418757 | 7.8327924 | 22.2746681 | 9.5413936 | 31.8160617 | 20.3628852 | 52.1789469 | 72.1602941 | 124.3392410 |
| 2024 | 4.5731890 | 14.4425611 | 7.8330711 | 22.2756322 | 9.5417039 | 31.8173361 | 20.3636515 | 52.1809876 | 72.1629865 | 124.3439741 |
| 2025 | 4.5764422 | 14.4537951 | 7.8391763 | 22.2929714 | 9.5491368 | 31.8421082 | 20.3805633 | 52.2226715 | 72.2249181 | 124.4475896 |
| 2026 | 4.5563878 | 14.3882546 | 7.8031690 | 22.1914236 | 9.5052516 | 31.6966752 | 20.2846856 | 51.9813608 | 71.8812438 | 123.8626046 |
| 2027 | 4.5567699 | 14.3898422 | 7.8038716 | 22.1937138 | 9.5060931 | 31.6998069 | 20.2866328 | 51.9864397 | 71.8883032 | 123.8747429 |
| 2028 | 4.5586643 | 14.3963797 | 7.8072573 | 22.2036370 | 9.5101797 | 31.7138167 | 20.2954098 | 52.0092265 | 71.9194780 | 123.9287045 |
| 2029 | 4.5593366 | 14.3974429 | 7.8084715 | 22.2059144 | 9.5116889 | 31.7176033 | 20.2987115 | 52.0163148 | 71.9314483 | 123.9477631 |
| 2030 | 4.5566320 | 14.3910617 | 7.8036951 | 22.1947568 | 9.5058898 | 31.7006466 | 20.2860958 | 51.9867424 | 71.8863438 | 123.8730862 |
| 2031 | 4.5639568 | 14.4131107 | 7.8167943 | 22.2299050 | 9.5218477 | 31.7517527 | 20.3208549 | 52.0726076 | 72.0107645 | 124.0833721 |
| 2032 | 4.5639568 | 14.4131107 | 7.8167943 | 22.2299050 | 9.5218477 | 31.7517527 | 20.3208549 | 52.0726076 | 72.0107645 | 124.0833721 |
| 2033 | 4.5670385 | 14.4233679 | 7.8223878 | 22.2457557 | 9.5286732 | 31.7744289 | 20.3360766 | 52.1105055 | 72.0657384 | 124.1762439 |
| 2034 | 4.5578789 | 14.3930605 | 7.8056604 | 22.1987209 | 9.5083070 | 31.7070279 | 20.2909132 | 51.9979411 | 71.9027976 | 123.9007387 |
| 2035 | 4.5737911 | 14.4330935 | 7.8346081 | 22.2677016 | 9.5435675 | 31.8112691 | 20.3687711 | 52.1800402 | 72.1833380 | 124.3633782 |

TABLE B-17

# Unit Variable OMP&R Component of Transportation Charge

(Dollars per acre-foot)



| | California Aqueduct (continued) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Reach 18A Alamo Powerplant | | Reach 22B Pearblossom Pumping Plant | | Reach 23 Mojave Siphon Powerplant | | Reach 26A Devil Canyon Powerplant | | Reach 29A Oso Pumping Plant | |
| Calendar Year | Unit Rate (21) | Cumulative Unit Rate (22) | Unit Rate (23) | Cumulative Unit Rate (24) | Unit Rate (25) | Cumulative Unit Rate (26) | Unit Rate (27) | Cumulative Unit Rate (28) | Unit Rate (29) | Cumulative Unit Rate (30) |
| 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 | 13.2900103 | 14.2519509 | 27.5419612 | 0 | 27.5419612 | -2.3717647 | 25.1701965 | 1.4212193 | 14.7112296 |
| 1973 | 0 | 13.2935877 | 4.4326545 | 17.7262422 | 0 | 17.7262422 | -8.4298618 | 9.2963804 | 1.0210537 | 14.3146414 |
| 1974 | 0 | 12.3310443 | 3.4431782 | 15.7742225 | 0 | 15.7742225 | -5.1043660 | 10.6698565 | 0.9241725 | 13.2552168 |
| 1975 | 0 | 12.2903070 | 3.1739313 | 15.4642383 | 0 | 15.4642383 | -5.6510611 | 9.8131772 | 0.9362286 | 13.2265356 |
| 1976 | 0 | 13.8603906 | 3.9391330 | 17.7995236 | 0 | 17.7995236 | -6.4449941 | 11.3545295 | 0.8622774 | 14.7226680 |
| 1977 | 0 | 17.7795472 | 3.4988957 | 21.2784429 | 0 | 21.2784429 | -11.6274558 | 9.6509871 | 0.9076172 | 18.6871644 |
| 1978 | 0 | 13.0949724 | 4.1377503 | 17.2327227 | 0 | 17.2327227 | -8.1314274 | 9.1012953 | 0.7314697 | 13.8264421 |
| 1979 | 0 | 17.4990130 | 5.1961178 | 22.6951308 | 0 | 22.6951308 | -9.5825772 | 13.1125536 | 0.9504526 | 18.4494656 |
| 1980 | 0 | 19.2077469 | 4.3918283 | 23.5995752 | 0 | 23.5995752 | -8.3797007 | 15.2198745 | 1.4269064 | 20.6346533 |
| 1981 | 0 | 18.6388586 | 3.9979411 | 22.6367997 | 0 | 22.6367997 | -6.7421980 | 15.8946017 | 1.5649076 | 20.2037662 |
| 1982 | 0 | 18.1588021 | 3.6618080 | 21.8206101 | 0 | 21.8206101 | -6.9205064 | 14.9001037 | 1.4942612 | 19.6530633 |
| 1983 | 0 | 10.1535004 | 1.7398697 | 11.8933701 | 0 | 11.8933701 | -23.7901875 | -11.8968174 | 1.4582832 | 11.6117836 |
| 1984 | 0 | 14.9685936 | 2.5301405 | 17.4987341 | 0 | 17.4987341 | -29.6920921 | -12.1933580 | 1.7879684 | 16.7565620 |
| 1985 | 0 | 20.7760012 | 3.4967556 | 24.2727568 | 0 | 24.2727568 | -30.7672356 | -6.4944788 | 2.1683888 | 22.9443900 |
| 1986 | -2.3583180 | 34.2992469 | 6.0001395 | 40.2993864 | 0 | 40.2993864 | -29.2499580 | 11.0494284 | 3.2342581 | 39.8918230 |
| 1987 | -2.6107019 | 30.3414088 | 5.1909608 | 35.5323696 | 0 | 35.5323696 | -30.5133657 | 5.0190039 | 3.1272921 | 36.0794028 |
| 1988 | -1.4076158 | 29.4600095 | 4.8456180 | 34.3056275 | 0 | 34.3056275 | -29.5512806 | 4.7543469 | 2.9971055 | 33.8647308 |
| 1989 | -1.1019487 | 38.5274226 | 6.4423849 | 44.9698075 | 0 | 44.9698075 | -28.3706997 | 16.5991078 | 3.5381171 | 43.1674884 |
| 1990 | -1.0672075 | 52.0317016 | 8.9799647 | 61.0116663 | 0 | 61.0116663 | -28.8762479 | 32.1354184 | 3.6781647 | 56.7770738 |
| 1991 | -2.0170435 | 36.2590276 | 6.1613326 | 42.4203602 | 0 | 42.4203602 | -42.9791408 | -0.5587806 | 2.3948596 | 40.6709307 |
| 1992 | -0.0903964 | 28.9478006 | 6.3052866 | 35.2530872 | 0 | 35.2530872 | -26.5017782 | 8.7513090 | 4.3663749 | 33.4045719 |
| 1993 | -1.2175959 | 44.9000988 | 8.2565041 | 53.1566029 | 0 | 53.1566029 | -29.5349791 | 23.6216238 | 3.7266068 | 49.8443015 |
| 1994 | -1.4488596 | 72.8960314 | 11.6927306 | 84.5887620 | 0 | 84.5887620 | -24.1820287 | 60.4067333 | 6.3648418 | 80.7097328 |
| 1995 | -1.4538553 | 86.0713498 | 15.5611166 | 101.6324664 | 0 | 101.6324664 | -27.8448231 | 73.7876433 | 6.6593417 | 94.1845468 |
| 1996 | -3.5000209 | 98.4019267 | 18.0796621 | 116.4815888 | -7.3556465 | 109.1259423 | -28.4880350 | 80.6379073 | 7.6254301 | 109.5273777 |
| 1997 | -3.5201624 | 94.8169978 | 17.3764580 | 112.1934558 | -7.5210900 | 104.6723658 | -28.4606789 | 76.2116869 | 7.3060253 | 105.6431855 |
| 1998 | -3.5256474 | 95.4197969 | 17.5377690 | 112.9575659 | -7.8787718 | 105.0787941 | -28.3409321 | 76.7378620 | 7.3752295 | 106.3206738 |
| 1999 | -3.5264662 | 95.6187424 | 17.7254310 | 113.3441734 | -7.7455793 | 105.5985941 | -28.3772832 | 77.2213109 | 7.4676552 | 106.6128638 |
| 2000 | -3.5059686 | 98.8079868 | 18.3079334 | 117.1159202 | -7.4963537 | 109.6195665 | -28.4379565 | 81.1816100 | 7.6881242 | 110.0020796 |
| 2001 | -3.5188513 | 99.2308800 | 18.3836128 | 117.6144928 | -7.7785149 | 109.8359779 | -28.3575722 | 81.4784057 | 7.7212271 | 110.4709584 |
| 2002 | -3.5195412 | 101.7494712 | 18.8392515 | 120.5887227 | -7.7695054 | 112.8192173 | -28.3620149 | 84.4572024 | 7.9024565 | 113.1714689 |
| 2003 | -3.5201221 | 103.0646826 | 19.0773067 | 122.1419893 | -7.7523245 | 114.3896648 | -28.3688341 | 86.0208307 | 7.9973001 | 114.5821048 |
| 2004 | -3.5215632 | 104.5106423 | 19.3385520 | 123.8491943 | -7.7936260 | 116.0555683 | -28.3585492 | 87.6970191 | 8.1014544 | 116.1336599 |
| 2005 | -3.5249468 | 107.5075815 | 19.8816345 | 127.3892160 | -7.8858516 | 119.5033644 | -28.3201079 | 91.1832565 | 8.3193748 | 119.3519031 |
| 2006 | -3.5237873 | 107.6571504 | 19.9087770 | 127.5659274 | -7.8515118 | 119.7144156 | -28.3299332 | 91.3844824 | 8.3298122 | 119.5107499 |
| 2007 | -3.5221023 | 108.6728622 | 20.0926697 | 128.7655319 | -7.8384199 | 120.9271120 | -28.3320216 | 92.5950904 | 8.4027282 | 120.5976927 |
| 2008 | -3.5229582 | 109.7907382 | 20.2951109 | 130.0858491 | -7.8543139 | 122.2315352 | -28.3279793 | 93.9035559 | 8.4834041 | 121.7971005 |
| 2009 | -3.5152290 | 110.6944747 | 20.4577119 | 131.1521866 | -7.8410472 | 123.3111394 | -28.3281785 | 94.9829609 | 8.5473082 | 122.7570119 |
| 2010 | -3.4973833 | 114.9169547 | 21.2161704 | 136.1331251 | -7.4163175 | 128.7168076 | -28.4672661 | 100.2495415 | 8.8540428 | 127.2683808 |
| 2011 | -3.4909566 | 114.0591838 | 21.0654697 | 135.1246535 | -7.1731142 | 127.9515393 | -28.5289836 | 99.4225557 | 8.7902293 | 126.3403697 |
| 2012 | -3.4966530 | 115.2748584 | 21.2841808 | 136.5590392 | -7.3459299 | 129.2131093 | -28.4835222 | 100.7295871 | 8.8788157 | 127.6503271 |
| 2013 | -3.4978683 | 116.4451226 | 21.4961341 | 137.9412567 | -7.3496280 | 130.5916287 | -28.4804398 | 102.1111889 | 8.9630573 | 128.9060482 |
| 2014 | -3.5015342 | 117.8172688 | 21.7445519 | 139.5618207 | -7.4340934 | 132.1277273 | -28.4579345 | 103.6697928 | 9.0621665 | 130.3809695 |
| 2015 | -3.4730280 | 117.3504933 | 21.6564759 | 139.0069692 | -7.4341448 | 131.5728244 | -28.4453035 | 103.1275209 | 9.0253963 | 129.8489176 |
| 2016 | -3.4782454 | 117.6511002 | 21.7099970 | 139.3610972 | -7.4783538 | 131.8827434 | -28.4391736 | 103.4435698 | 9.0493833 | 130.1787289 |
| 2017 | -3.4766137 | 121.9732967 | 22.4917371 | 144.4650338 | -7.4621639 | 137.0028699 | -28.4435121 | 108.5593578 | 9.3596219 | 134.8095323 |
| 2018 | -3.4795299 | 121.9313985 | 22.4845139 | 144.4159124 | -7.4623190 | 136.9535934 | -28.4433772 | 108.5102162 | 9.3572828 | 134.7682112 |
| 2019 | -3.4794609 | 122.1243659 | 22.5185838 | 144.6429497 | -7.4914752 | 137.1514745 | -28.4378457 | 108.7136288 | 9.3717672 | 134.9755940 |
| 2020 | -3.4946326 | 120.1170553 | 22.1604599 | 142.2775152 | -7.6660615 | 134.6114537 | -28.3641116 | 106.2473421 | 9.2267338 | 132.8384217 |
| 2021 | -3.4949011 | 120.6217085 | 22.2500171 | 142.8717256 | -7.8312236 | 135.0405020 | -28.3210823 | 106.7194197 | 9.2641807 | 133.3807903 |
| 2022 | -3.4879754 | 120.8731267 | 22.2944872 | 143.1676139 | -7.7852624 | 135.3823515 | -28.3329269 | 107.0494246 | 9.2815921 | 133.6426942 |
| 2023 | -3.4967142 | 120.8425268 | 22.2904116 | 143.1329384 | -7.7862065 | 135.3467319 | -28.3339146 | 107.0128173 | 9.2801903 | 133.6194313 |
| 2024 | -3.4970020 | 120.8469721 | 22.2911353 | 143.1381074 | -7.7913394 | 135.3467680 | -28.3328404 | 107.0139276 | 9.2806336 | 133.6246077 |
| 2025 | -3.4850249 | 120.9625647 | 22.3093876 | 143.2719523 | -7.6921548 | 135.5797975 | -28.3649703 | 107.2148272 | 9.2880196 | 133.7356092 |
| 2026 | -3.4904851 | 120.3721195 | 22.2040425 | 142.5761620 | -7.6466547 | 134.9295073 | -28.3770279 | 106.5524794 | 9.2462981 | 133.1089027 |
| 2027 | -3.4888549 | 120.3858880 | 22.2065022 | 142.5923902 | -7.6509704 | 134.9414198 | -28.3755887 | 106.5658311 | 9.2465248 | 133.1212677 |
| 2028 | -3.4860018 | 120.4427027 | 22.2157948 | 142.6584975 | -7.6781869 | 134.9803106 | -28.3662781 | 106.6140325 | 9.2511268 | 133.1798313 |
| 2029 | -3.4902580 | 120.4575051 | 22.2196506 | 142.6771557 | -7.7400180 | 134.9371377 | -28.3509226 | 106.5862151 | 9.2521851 | 133.1999482 |
| 2030 | -3.5068707 | 120.3662155 | 22.2058154 | 142.5720309 | -7.7847647 | 134.7872662 | -28.3354028 | 106.4518634 | 9.2465172 | 133.1196034 |
| 2031 | -3.4873108 | 120.5960613 | 22.2438698 | 142.8399311 | -7.8591940 | 134.9807371 | -28.3124195 | 106.6683176 | 9.2619702 | 133.3453423 |
| 2032 | -3.4873108 | 120.5960613 | 22.2438698 | 142.8399311 | -7.8591940 | 134.9807371 | -28.3124195 | 106.6683176 | 9.2619702 | 133.3453423 |
| 2033 | -3.4889561 | 120.6872878 | 22.2604535 | 142.9477413 | -7.8581656 | 135.0895757 | -28.3131056 | 106.7764701 | 9.2686625 | 133.4449064 |
| 2034 | -3.4882899 | 120.4124488 | 22.2114990 | 142.6239478 | -7.8252644 | 134.7986834 | -28.3198624 | 106.4788210 | 9.2483453 | 133.1490840 |
| 2035 | -3.4831745 | 120.8802037 | 22.2943740 | 143.1745777 | -7.5018973 | 135.6726804 | -28.4162919 | 107.2563885 | 9.2863700 | 133.6497482 |

TABLE B-17

# Unit Variable OMP&R Component of Transportation Charge

(Dollars per acre-foot)



| | California Aqueduct (continued) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Reach 29G Warne Powerplant | | Reach 29J Castaic Powerplant | | Reach 31A Las Perillas and Badger Hill Pumping Plants | | Reach 33A Devil's Den, Bluestone, and Polonio Pass PP and San Luis Obispo Powerplant | |
| Calendar Year | Unit Rate (31) | Cumulative Unit Rate (32) | Unit Rate (33) | Cumulative Unit Rate (34) | Unit Rate (35) | Cumulative Unit Rate (36) | Unit Rate (37) | Cumulative Unit Rate (38) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 1.5014866 | 4.1182219 | 0 | 0 |
| 1969 | 0 | 0 | 0 | 0 | 1.2624065 | 3.0719381 | 0 | 0 |
| 1970 | 0 | 0 | 0 | 0 | 1.6309699 | 3.3588478 | 0 | 0 |
| 1971 | 0 | 0 | 0 | 0 | 1.4985537 | 2.7919286 | 0 | 0 |
| 1972 | 0 | 14.7112296 | -2.9350830 | 11.7761466 | 1.7489056 | 3.2063408 | 0 | 0 |
| 1973 | 0 | 14.3146414 | -6.8099448 | 7.5046966 | 1.4609575 | 2.9992858 | 0 | 0 |
| 1974 | 0 | 13.2552168 | -7.4013274 | 5.8538894 | 1.4255635 | 2.8964935 | 0 | 0 |
| 1975 | 0 | 13.2265356 | -6.5604921 | 6.6660435 | 1.0379624 | 2.5944238 | 0 | 0 |
| 1976 | 0 | 14.7226680 | -6.7213324 | 8.0013356 | 1.5465478 | 3.2570573 | 0 | 0 |
| 1977 | 0 | 18.6871644 | -30.4985994 | -11.8114350 | 1.7573375 | 4.1392042 | 0 | 0 |
| 1978 | 0 | 13.8264421 | -9.0130187 | 4.8134234 | 1.9032115 | 3.9353966 | 0 | 0 |
| 1979 | 0 | 18.4494656 | -19.0478097 | -0.5983441 | 1.5331899 | 4.3284883 | 0 | 0 |
| 1980 | 0 | 20.6346533 | -20.5438586 | 0.0907947 | 1.5124754 | 3.6860982 | 0 | 0 |
| 1981 | 0 | 20.2037662 | -11.3026541 | 8.9011121 | 1.5414290 | 4.7192644 | 0 | 0 |
| 1982 | -2.1714430 | 17.4816203 | -9.5987314 | 7.8828889 | 1.7581649 | 4.2848978 | 0 | 0 |
| 1983 | -9.1019731 | 2.5098105 | -36.3842929 | -33.8744824 | 0.1742772 | 1.3467381 | 0 | 0 |
| 1984 | -15.0246012 | 1.7319608 | -13.7320333 | -12.0000725 | 0.7223811 | 2.5202968 | 0 | 0 |
| 1985 | -14.7115359 | 8.2328541 | -40.4779966 | -32.2451425 | 1.1915106 | 3.6753724 | 0 | 0 |
| 1986 | -14.1893653 | 25.7024577 | -28.1596224 | -2.4571647 | 2.2665598 | 7.1769874 | 0 | 0 |
| 1987 | -14.8696165 | 21.2097863 | -27.0536484 | -5.8438621 | 1.8902405 | 6.6853476 | 0 | 0 |
| 1988 | -14.7032843 | 19.1614465 | -25.6857024 | -6.5242559 | 1.7424051 | 6.2067626 | 0 | 0 |
| 1989 | -14.4231503 | 28.7443381 | -25.3986130 | 3.3457251 | 2.3854505 | 7.4444799 | 0 | 0 |
| 1990 | -14.1850383 | 42.5920355 | -26.0776141 | 16.5144214 | 3.5208739 | 9.8799865 | 0 | 0 |
| 1991 | -20.1942298 | 20.4767009 | -34.7357685 | -14.2590676 | 24.0962567 | 32.1168522 | 0 | 0 |
| 1992 | -10.8993787 | 22.5051932 | -21.9998926 | 0.5053006 | 1.9056940 | 7.7748313 | 0 | 0 |
| 1993 | -14.4159792 | 35.4283223 | -26.7515622 | 8.6767601 | 2.8284312 | 8.6580113 | 0 | 0 |
| 1994 | -15.8313332 | 64.8783996 | -27.7986616 | 37.0797380 | 5.2315376 | 14.1067373 | 0 | 0 |
| 1995 | -14.1467229 | 80.0378239 | -24.9771304 | 55.0606935 | 6.0973501 | 16.7468748 | 0 | 0 |
| 1996 | -15.1960190 | 94.3313587 | -24.9721848 | 69.3591739 | 6.3180689 | 18.9401481 | 27.2197753 | 46.1599234 |
| 1997 | -15.1242001 | 90.5189854 | -24.8826787 | 65.6363067 | 6.7060312 | 19.3141688 | 37.0010274 | 56.3151962 |
| 1998 | -15.1325703 | 91.1881035 | -24.8780677 | 66.3100358 | 6.7734286 | 19.1870290 | 38.4024203 | 57.5894493 |
| 1999 | -15.2387475 | 91.3741163 | -24.9053487 | 66.4687676 | 6.8497410 | 18.5095223 | 38.9915302 | 57.5010525 |
| 2000 | -15.1806057 | 94.8214739 | -24.8869084 | 69.9345655 | 7.0756976 | 19.0817125 | 40.7362455 | 59.8179580 |
| 2001 | -15.1878336 | 95.2831248 | -24.8885888 | 70.3945360 | 7.1074682 | 19.1642325 | 40.9814715 | 60.1457040 |
| 2002 | -15.1872650 | 97.9842039 | -24.8824533 | 73.1017506 | 7.2867605 | 19.6230651 | 42.3655478 | 61.9886129 |
| 2003 | -15.1869166 | 99.3951882 | -24.8824746 | 74.5127136 | 7.3804477 | 19.8620631 | 43.0887410 | 62.9508041 |
| 2004 | -15.1868962 | 100.9467637 | -24.8824746 | 76.0642891 | 7.4833875 | 20.1272976 | 43.8834095 | 64.0107071 |
| 2005 | -15.1739303 | 104.1779728 | -24.8764421 | 79.3015307 | 7.7006462 | 20.6718667 | 45.5624379 | 66.2343046 |
| 2006 | -15.1704094 | 104.3403405 | -24.8759358 | 79.4644047 | 7.7111457 | 20.6986200 | 45.6434469 | 66.3420669 |
| 2007 | -15.1704094 | 105.4272833 | -24.8720279 | 80.5552554 | 7.7831881 | 20.8823007 | 46.1996283 | 67.0819290 |
| 2008 | -15.1702267 | 106.6268738 | -24.8719845 | 81.7548893 | 7.8629182 | 21.0852338 | 46.8151264 | 67.9003602 |
| 2009 | -15.1715802 | 107.5854317 | -24.8721961 | 82.7132356 | 7.9260582 | 21.2496401 | 47.3026133 | 68.5522534 |
| 2010 | -15.1699992 | 112.0983816 | -24.8717458 | 87.2266358 | 8.2294865 | 22.0160410 | 49.6449650 | 71.6610060 |
| 2011 | -15.1706074 | 111.1697623 | -24.8723388 | 86.2974235 | 8.1657789 | 21.8541241 | 49.1531652 | 71.0072893 |
| 2012 | -15.1719651 | 112.4783620 | -24.8721612 | 87.6062008 | 8.2536687 | 22.0782992 | 49.8315978 | 71.9098970 |
| 2013 | -15.1719651 | 113.7340831 | -24.8721612 | 88.8619219 | 8.3369057 | 22.2917754 | 50.4742076 | 72.7659830 |
| 2014 | -15.1693317 | 115.2116378 | -24.8715895 | 90.3400483 | 8.4351888 | 22.5423111 | 51.2329399 | 73.7752510 |
| 2015 | -15.1672574 | 114.6816602 | -24.8709048 | 89.8107554 | 8.3993082 | 22.4516155 | 50.9559629 | 73.4075784 |
| 2016 | -15.1784528 | 115.0002761 | -24.8736106 | 90.1266655 | 8.4215592 | 22.5076511 | 51.1277417 | 73.6353928 |
| 2017 | -15.1714195 | 119.6381128 | -24.8719837 | 94.7661291 | 8.7289560 | 23.2947311 | 53.5007803 | 76.7955114 |
| 2018 | -15.1754581 | 119.5927531 | -24.8729131 | 94.7198400 | 8.7260858 | 23.2877600 | 53.4785915 | 76.7663515 |
| 2019 | -15.1737332 | 119.8018608 | -24.8730507 | 94.9288101 | 8.7401345 | 23.3230484 | 53.5870953 | 76.9101437 |
| 2020 | -15.1697606 | 117.6686611 | -24.8717569 | 92.7969042 | 8.5976465 | 22.9592687 | 52.4870754 | 75.4463441 |
| 2021 | -15.1725082 | 118.2082821 | -24.8722827 | 93.3359994 | 8.6344556 | 23.0516616 | 52.7712454 | 75.8229070 |
| 2022 | -15.1701091 | 118.4725851 | -24.8718953 | 93.6006898 | 8.6518044 | 23.0960709 | 52.9051727 | 76.0012436 |
| 2023 | -15.1712740 | 118.4481573 | -24.8721621 | 93.5759952 | 8.6502658 | 23.0921415 | 52.8932980 | 75.9854395 |
| 2024 | -15.1729101 | 118.4516976 | -24.8724501 | 93.5792475 | 8.6505947 | 23.0931558 | 52.8958375 | 75.9889933 |
| 2025 | -15.1693063 | 118.5663029 | -24.8715912 | 93.6947117 | 8.6583725 | 23.1121676 | 52.9559203 | 76.0680879 |
| 2026 | -15.1748617 | 117.9340410 | -24.8729437 | 93.0610973 | 8.6164596 | 23.0047142 | 52.6322816 | 75.6369958 |
| 2027 | -15.1696743 | 117.9515934 | -24.8717484 | 93.0798450 | 8.6173350 | 23.0071772 | 52.6390347 | 75.6462119 |
| 2028 | -15.1745428 | 118.0052885 | -24.8729190 | 93.1323695 | 8.6210859 | 23.0174656 | 52.6680050 | 75.6854706 |
| 2029 | -15.1700728 | 118.0298754 | -24.8720058 | 93.1578696 | 8.6225661 | 23.0200090 | 52.6794683 | 75.6994773 |
| 2030 | -15.1709458 | 117.9486576 | -24.8719370 | 93.0767206 | 8.6170856 | 23.0081473 | 52.6371620 | 75.6453093 |
| 2031 | -15.1718484 | 118.1734939 | -24.8721400 | 93.3013539 | 8.6322273 | 23.0453380 | 52.7540646 | 75.7994026 |
| 2032 | -15.1718484 | 118.1734939 | -24.8721400 | 93.3013539 | 8.6322273 | 23.0453380 | 52.7540646 | 75.7994026 |
| 2033 | -15.1706548 | 118.2742516 | -24.8719353 | 93.4023163 | 8.6390130 | 23.0623809 | 52.8064296 | 75.8688105 |
| 2034 | -15.1710676 | 117.9780164 | -24.8719548 | 93.1060616 | 8.6189425 | 23.0120030 | 52.6514627 | 75.6634657 |
| 2035 | -15.1871466 | 118.4626016 | -24.8767191 | 93.5858825 | 8.6534491 | 23.0865426 | 52.9178560 | 76.0043986 |

TABLE B-18

# Variable OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 21,692 | 0 | 21,692 | 74,911 | 39,986 | 652,861 | 767,758 | 0 | 0 | 0 |
| 1979 | 16,237 | 0 | 16,237 | 136,993 | 77,085 | 652,117 | 866,195 | 0 | 0 | 0 |
| 1980 | 19,945 | 0 | 19,945 | 98,836 | 64,953 | 518,020 | 681,809 | 0 | 0 | 0 |
| 1981 | 23,841 | 0 | 23,841 | 126,888 | 141,961 | 569,996 | 838,845 | 0 | 0 | 0 |
| 1982 | 12,159 | 0 | 12,159 | 88,298 | 42,497 | 587,133 | 717,928 | 0 | 0 | 0 |
| 1983 | 2,335 | 0 | 2,335 | 10,083 | 6,680 | 183,550 | 200,313 | 0 | 0 | 0 |
| 1984 | 4,866 | 0 | 4,866 | 26,857 | 13,215 | 351,259 | 391,331 | 0 | 0 | 0 |
| 1985 | 10,186 | 0 | 10,186 | 79,851 | 102,775 | 466,220 | 648,846 | 0 | 0 | 0 |
| 1986 | 15,472 | 0 | 15,472 | 116,276 | 135,677 | 964,499 | 1,216,452 | 0 | 0 | 0 |
| 1987 | 27,222 | 0 | 27,222 | 235,361 | 255,061 | 884,626 | 1,375,048 | 0 | 0 | 0 |
| 1988 | 30,359 | 31,519 | 61,878 | 245,410 | 317,644 | 833,460 | 1,396,514 | 0 | 0 | 0 |
| 1989 | 11,375 | 67,112 | 78,487 | 292,976 | 290,814 | 1,005,040 | 1,588,830 | 0 | 0 | 0 |
| 1990 | 58,708 | 111,494 | 170,202 | 546,130 | 523,699 | 1,517,345 | 2,587,174 | 0 | 0 | 0 |
| 1991 | 6,953 | 51,788 | 58,741 | 139,759 | 187,830 | 418,785 | 746,374 | 0 | (17,680) | (17,680) |
| 1992 | 19,304 | 34,077 | 53,381 | 136,545 | 178,284 | 398,763 | 713,592 | 0 | 0 | 0 |
| 1993 | 46,316 | 80,170 | 126,486 | 313,053 | 341,062 | 807,346 | 1,461,461 | 0 | 0 | 0 |
| 1994 | 125,931 | 216,741 | 342,672 | 789,862 | 829,355 | 1,974,655 | 3,593,872 | 0 | 0 | 0 |
| 1995 | 176,499 | 349,315 | 525,814 | 983,770 | 983,770 | 2,342,310 | 4,309,850 | 0 | 0 | 0 |
| 1996 | 179,787 | 304,635 | 484,422 | 1,344,209 | 1,283,109 | 3,055,019 | 5,682,337 | 186,025 | 1,786,389 | 1,972,414 |
| 1997 | 183,361 | 299,714 | 483,075 | 1,361,873 | 1,243,450 | 2,960,593 | 5,565,916 | 452,098 | 2,617,419 | 3,069,517 |
| 1998 | 196,313 | 304,594 | 500,907 | 1,361,411 | 1,243,027 | 2,959,589 | 5,564,027 | 1,439,737 | 2,619,513 | 4,059,250 |
| 1999 | 209,323 | 312,387 | 521,710 | 1,340,144 | 1,223,609 | 2,913,356 | 5,477,109 | 1,437,527 | 2,615,493 | 4,053,020 |
| 2000 | 229,193 | 327,387 | 556,580 | 1,383,063 | 1,262,796 | 3,006,659 | 5,652,518 | 1,495,448 | 2,720,880 | 4,216,328 |
| 2001 | 241,226 | 329,058 | 570,284 | 1,389,259 | 1,268,454 | 3,020,130 | 5,677,843 | 1,503,643 | 2,735,787 | 4,239,430 |
| 2002 | 256,995 | 337,687 | 594,682 | 1,423,564 | 1,299,776 | 3,094,706 | 5,818,046 | 1,549,716 | 2,819,614 | 4,369,330 |
| 2003 | 271,848 | 342,384 | 614,232 | 1,441,454 | 1,316,110 | 3,133,595 | 5,891,159 | 1,573,770 | 2,863,380 | 4,437,150 |
| 2004 | 287,092 | 347,560 | 634,652 | 1,461,238 | 1,334,174 | 3,176,603 | 5,972,015 | 1,600,268 | 2,911,590 | 4,511,858 |
| 2005 | 307,816 | 378,918 | 686,734 | 1,502,522 | 1,371,868 | 3,266,351 | 6,140,741 | 1,655,858 | 3,012,734 | 4,668,592 |
| 2006 | 317,201 | 379,839 | 697,040 | 1,504,520 | 1,373,692 | 3,270,696 | 6,148,908 | 1,658,552 | 3,017,635 | 4,676,187 |
| 2007 | 331,172 | 383,753 | 714,925 | 1,518,262 | 1,386,239 | 3,300,568 | 6,205,069 | 1,677,048 | 3,051,289 | 4,728,337 |
| 2008 | 347,864 | 388,088 | 735,952 | 1,533,468 | 1,400,123 | 3,333,625 | 6,267,216 | 1,697,509 | 3,088,517 | 4,786,026 |
| 2009 | 361,897 | 391,603 | 753,500 | 1,545,649 | 1,411,245 | 3,360,106 | 6,317,000 | 1,713,805 | 3,118,169 | 4,831,974 |
| 2010 | 387,790 | 410,267 | 798,057 | 1,603,501 | 1,464,066 | 3,485,871 | 6,553,438 | 1,791,524 | 3,259,572 | 5,051,096 |
| 2011 | 399,316 | 407,566 | 806,882 | 1,591,198 | 1,452,833 | 3,459,126 | 6,503,157 | 1,775,182 | 3,229,838 | 5,005,020 |
| 2012 | 416,018 | 412,381 | 828,399 | 1,608,051 | 1,468,220 | 3,495,763 | 6,572,034 | 1,797,747 | 3,270,893 | 5,068,640 |
| 2013 | 435,646 | 416,965 | 852,611 | 1,623,991 | 1,482,775 | 3,530,415 | 6,637,181 | 1,819,150 | 3,309,833 | 5,128,983 |
| 2014 | 456,406 | 422,422 | 878,828 | 1,642,774 | 1,499,924 | 3,571,248 | 6,713,946 | 1,844,381 | 3,355,742 | 5,200,123 |
| 2015 | 470,653 | 424,606 | 895,259 | 1,635,920 | 1,493,666 | 3,556,347 | 6,685,933 | 1,835,190 | 3,339,017 | 5,174,207 |
| 2016 | 486,866 | 426,112 | 912,978 | 1,640,168 | 1,497,545 | 3,565,583 | 6,703,296 | 1,840,885 | 3,349,379 | 5,190,264 |
| 2017 | 520,588 | 442,255 | 962,843 | 1,699,001 | 1,551,261 | 3,693,481 | 6,943,743 | 1,919,889 | 3,493,120 | 5,413,009 |
| 2018 | 536,429 | 442,568 | 978,997 | 1,698,462 | 1,550,769 | 3,692,309 | 6,941,540 | 1,919,159 | 3,491,794 | 5,410,953 |
| 2019 | 553,684 | 443,894 | 997,578 | 1,701,140 | 1,553,216 | 3,698,133 | 6,952,489 | 1,922,753 | 3,498,335 | 5,421,088 |
| 2020 | 561,572 | 437,092 | 998,664 | 1,673,866 | 1,528,312 | 3,638,839 | 6,841,017 | 1,886,158 | 3,431,753 | 5,317,911 |
| 2021 | 566,760 | 439,113 | 1,005,873 | 1,680,883 | 1,534,719 | 3,654,094 | 6,869,696 | 1,895,572 | 3,448,881 | 5,344,453 |
| 2022 | 567,899 | 439,996 | 1,007,895 | 1,684,198 | 1,537,747 | 3,661,302 | 6,883,247 | 1,900,031 | 3,456,993 | 5,357,024 |
| 2023 | 567,798 | 439,919 | 1,007,717 | 1,683,907 | 1,537,479 | 3,660,666 | 6,882,052 | 1,899,636 | 3,456,274 | 5,355,910 |
| 2024 | 567,820 | 439,935 | 1,007,755 | 1,683,977 | 1,537,545 | 3,660,821 | 6,882,343 | 1,899,725 | 3,456,435 | 5,356,160 |
| 2025 | 568,330 | 440,329 | 1,008,659 | 1,685,451 | 1,538,891 | 3,664,024 | 6,888,366 | 1,901,702 | 3,460,033 | 5,361,735 |
| 2026 | 565,578 | 438,199 | 1,003,777 | 1,677,399 | 1,531,537 | 3,646,519 | 6,855,455 | 1,890,925 | 3,440,424 | 5,331,349 |
| 2027 | 565,635 | 438,244 | 1,003,879 | 1,677,578 | 1,531,702 | 3,646,910 | 6,856,190 | 1,891,155 | 3,440,843 | 5,331,998 |
| 2028 | 565,882 | 438,434 | 1,004,316 | 1,678,326 | 1,532,384 | 3,648,534 | 6,859,244 | 1,892,137 | 3,442,629 | 5,334,766 |
| 2029 | 565,979 | 438,509 | 1,004,488 | 1,678,555 | 1,532,593 | 3,649,031 | 6,860,179 | 1,892,487 | 3,443,266 | 5,335,753 |
| 2030 | 565,619 | 438,231 | 1,003,850 | 1,677,606 | 1,531,727 | 3,646,970 | 6,856,303 | 1,891,133 | 3,440,803 | 5,331,936 |
| 2031 | 566,613 | 439,000 | 1,005,613 | 1,680,436 | 1,534,311 | 3,653,121 | 6,867,868 | 1,894,986 | 3,447,811 | 5,342,797 |
| 2032 | 566,613 | 439,000 | 1,005,613 | 1,680,436 | 1,534,311 | 3,653,121 | 6,867,868 | 1,894,986 | 3,447,811 | 5,342,797 |
| 2033 | 567,058 | 439,346 | 1,006,404 | 1,681,731 | 1,535,494 | 3,655,936 | 6,873,161 | 1,896,720 | 3,450,968 | 5,347,688 |
| 2034 | 565,741 | 438,324 | 1,004,065 | 1,677,904 | 1,532,000 | 3,647,616 | 6,857,520 | 1,891,588 | 3,441,628 | 5,333,216 |
| 2035 | 568,007 | 440,079 | 1,008,086 | 1,683,920 | 1,537,492 | 3,660,696 | 6,882,108 | 1,900,110 | 3,457,136 | 5,357,246 |
| Total | 18,221,161 | 17,042,609 | 35,263,770 | 68,369,195 | 63,406,329 | 158,143,327 | 289,918,851 | 68,425,915 | 127,721,940 | 196,147,855 |

TABLE B-18

# Variable OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Agricultural (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 68,978 | 5,176 | 0 | 0 | 440,922 | 2,355 | 4,760 | 65,680 | 587,871 |
| 1969 | 56,774 | 101 | 0 | 0 | 321,387 | 181 | 3,338 | 17,956 | 399,737 |
| 1970 | 69,819 | 6,811 | 0 | 0 | 470,866 | 0 | 5,595 | 16,550 | 569,641 |
| 1971 | 53,097 | 7,747 | 0 | 0 | 769,055 | 4,785 | 6,353 | 158,419 | 999,456 |
| 1972 | 61,858 | 8,445 | 0 | 0 | 1,124,058 | 2,040 | 7,375 | 376,601 | 1,580,377 |
| 1973 | 33,931 | 4,615 | 0 | 0 | 764,825 | 2,308 | 3,017 | 77,630 | 886,326 |
| 1974 | 49,114 | 4,413 | 0 | 46,752 | 671,406 | 2,207 | 3,114 | 106,332 | 883,338 |
| 1975 | 63,122 | 4,670 | 0 | 34,574 | 842,482 | 2,490 | 3,920 | 134,257 | 1,085,515 |
| 1976 | 70,851 | 5,131 | 0 | 94,653 | 965,096 | 2,737 | 4,910 | 100,597 | 1,243,975 |
| 1977 | 26,565 | 1,758 | 0 | 84,875 | 498,624 | 3,644 | 2,602 | 43,067 | 661,135 |
| 1978 | 107,194 | 923 | 0 | 188,075 | 1,593,785 | 4,249 | 6,294 | 24,494 | 1,925,014 |
| 1979 | 107,742 | 4,861 | 0 | 193,697 | 2,364,584 | 5,591 | 13,137 | 433,610 | 3,123,222 |
| 1980 | 89,119 | 1,943 | 0 | 122,020 | 1,736,941 | 4,782 | 7,797 | 150,511 | 2,113,113 |
| 1981 | 130,291 | 18,619 | 0 | 264,159 | 2,406,916 | 7,309 | 9,003 | 265,152 | 3,101,449 |
| 1982 | 105,769 | 912 | 0 | 143,019 | 2,325,602 | 4,421 | 6,719 | 46,873 | 2,633,315 |
| 1983 | 59,746 | 0 | 0 | 13,666 | 904,115 | 5,518 | 3,071 | 1,179 | 987,295 |
| 1984 | 81,086 | 0 | 0 | 213,746 | 1,954,328 | 5,855 | 7,621 | 10,325 | 2,272,961 |
| 1985 | 114,881 | 12,973 | 0 | 243,229 | 2,570,860 | 8,445 | 8,901 | 272,706 | 3,231,995 |
| 1986 | 246,744 | 5,745 | 0 | 393,252 | 5,045,389 | 18,169 | 17,966 | 391,886 | 6,119,151 |
| 1987 | 222,269 | 12,192 | 0 | 593,332 | 4,879,815 | 19,180 | 19,801 | 446,348 | 6,192,937 |
| 1988 | 216,115 | 18,257 | 0 | 590,122 | 4,774,833 | 17,858 | 14,537 | 430,349 | 6,062,071 |
| 1989 | 287,714 | 15,580 | 0 | 686,707 | 6,201,849 | 20,237 | 21,822 | 655,128 | 7,889,037 |
| 1990 | 230,810 | 8,134 | 0 | 886,692 | 4,942,668 | 12,718 | 13,307 | 362,914 | 6,457,243 |
| 1991 | 7,435 | 1,773 | 0 | 294,087 | 94,236 | 0 | 863 | 17,485 | 415,879 |
| 1992 | 139,510 | 7,947 | 0 | 352,455 | 2,822,747 | 10,599 | 10,485 | 274,253 | 3,617,996 |
| 1993 | 235,457 | 12,243 | 0 | 583,844 | 4,790,551 | 16,322 | 15,674 | 483,564 | 6,137,655 |
| 1994 | 512,099 | 26,626 | 0 | 1,273,219 | 10,524,929 | 35,501 | 34,342 | 1,051,711 | 13,458,427 |
| 1995 | 614,478 | 31,948 | 0 | 1,525,536 | 12,582,713 | 42,598 | 41,854 | 1,261,969 | 16,101,096 |
| 1996 | 728,294 | 37,866 | 0 | 1,805,570 | 14,804,396 | 50,488 | 49,944 | 1,495,716 | 18,972,274 |
| 1997 | 727,490 | 37,825 | 0 | 1,799,495 | 14,764,292 | 50,433 | 50,634 | 1,494,065 | 18,924,234 |
| 1998 | 716,264 | 37,240 | 0 | 1,796,034 | 15,531,077 | 49,655 | 49,363 | 1,471,011 | 19,650,644 |
| 1999 | 672,769 | 34,979 | 0 | 1,692,020 | 14,798,480 | 46,639 | 45,383 | 1,381,684 | 18,671,954 |
| 2000 | 692,747 | 36,018 | 0 | 1,742,415 | 15,244,614 | 48,024 | 46,720 | 1,422,713 | 19,233,251 |
| 2001 | 695,675 | 36,171 | 0 | 1,749,773 | 15,308,892 | 48,227 | 46,928 | 1,428,727 | 19,314,393 |
| 2002 | 711,805 | 37,009 | 0 | 1,790,431 | 15,667,789 | 49,345 | 48,020 | 1,461,852 | 19,766,251 |
| 2003 | 720,189 | 37,445 | 0 | 1,811,570 | 15,854,567 | 49,926 | 48,586 | 1,479,071 | 20,001,354 |
| 2004 | 729,553 | 37,932 | 0 | 1,835,161 | 16,062,410 | 50,576 | 49,224 | 1,498,304 | 20,263,160 |
| 2005 | 748,439 | 38,914 | 0 | 1,882,785 | 16,483,750 | 51,885 | 50,507 | 1,537,090 | 20,793,370 |
| 2006 | 749,377 | 38,963 | 0 | 1,885,151 | 16,504,698 | 51,950 | 50,570 | 1,539,016 | 20,819,725 |
| 2007 | 755,819 | 39,297 | 0 | 1,901,396 | 16,648,320 | 52,397 | 51,003 | 1,552,245 | 21,000,477 |
| 2008 | 762,928 | 39,667 | 0 | 1,919,321 | 16,806,767 | 52,889 | 51,483 | 1,566,844 | 21,199,899 |
| 2009 | 768,770 | 39,971 | 0 | 1,934,039 | 16,936,303 | 53,294 | 51,880 | 1,578,845 | 21,363,102 |
| 2010 | 795,484 | 41,359 | 0 | 2,001,376 | 17,531,164 | 55,146 | 53,703 | 1,633,706 | 22,111,938 |
| 2011 | 789,818 | 41,065 | 0 | 1,987,124 | 17,406,160 | 54,753 | 53,301 | 1,622,069 | 21,954,290 |
| 2012 | 797,681 | 41,474 | 0 | 2,006,934 | 17,580,738 | 55,299 | 53,840 | 1,638,218 | 22,174,184 |
| 2013 | 805,196 | 41,865 | 0 | 2,025,875 | 17,747,890 | 55,820 | 54,349 | 1,653,652 | 22,384,647 |
| 2014 | 813,981 | 42,321 | 0 | 2,048,019 | 17,943,430 | 56,429 | 54,945 | 1,671,694 | 22,630,819 |
| 2015 | 810,818 | 42,157 | 0 | 2,040,050 | 17,873,113 | 56,209 | 54,728 | 1,665,198 | 22,542,273 |
| 2016 | 812,767 | 42,258 | 0 | 2,044,960 | 17,916,459 | 56,345 | 54,862 | 1,669,202 | 22,596,853 |
| 2017 | 840,445 | 43,697 | 0 | 2,114,726 | 18,532,237 | 58,263 | 56,736 | 1,726,044 | 23,372,148 |
| 2018 | 840,209 | 43,685 | 0 | 2,114,129 | 18,526,917 | 58,247 | 56,720 | 1,725,559 | 23,365,466 |
| 2019 | 841,434 | 43,749 | 0 | 2,117,216 | 18,554,194 | 58,332 | 56,805 | 1,728,075 | 23,399,805 |
| 2020 | 828,665 | 43,085 | 0 | 2,085,038 | 18,270,268 | 57,447 | 55,935 | 1,701,852 | 23,042,290 |
| 2021 | 831,873 | 43,252 | 0 | 2,093,120 | 18,341,634 | 57,669 | 56,156 | 1,708,438 | 23,132,142 |
| 2022 | 833,435 | 43,332 | 0 | 2,097,057 | 18,376,405 | 57,777 | 56,262 | 1,711,646 | 23,175,914 |
| 2023 | 833,296 | 43,326 | 0 | 2,096,707 | 18,373,320 | 57,767 | 56,252 | 1,711,362 | 23,172,030 |
| 2024 | 833,336 | 43,328 | 0 | 2,096,807 | 18,374,149 | 57,770 | 56,255 | 1,711,444 | 23,173,089 |
| 2025 | 833,984 | 43,361 | 0 | 2,098,440 | 18,388,587 | 57,815 | 56,301 | 1,712,774 | 23,191,262 |
| 2026 | 830,203 | 43,165 | 0 | 2,088,915 | 18,304,693 | 57,553 | 56,042 | 1,705,008 | 23,085,579 |
| 2027 | 830,294 | 43,169 | 0 | 2,089,144 | 18,306,648 | 57,559 | 56,049 | 1,705,196 | 23,088,059 |
| 2028 | 830,671 | 43,189 | 0 | 2,090,090 | 18,314,888 | 57,586 | 56,075 | 1,705,971 | 23,098,470 |
| 2029 | 830,733 | 43,192 | 0 | 2,090,253 | 18,316,565 | 57,589 | 56,077 | 1,706,097 | 23,100,506 |
| 2030 | 830,365 | 43,173 | 0 | 2,089,311 | 18,307,794 | 57,565 | 56,056 | 1,705,341 | 23,089,605 |
| 2031 | 831,636 | 43,239 | 0 | 2,092,526 | 18,336,480 | 57,653 | 56,140 | 1,707,954 | 23,125,628 |
| 2032 | 831,636 | 43,239 | 0 | 2,092,526 | 18,336,480 | 57,653 | 56,140 | 1,707,954 | 23,125,628 |
| 2033 | 832,228 | 43,270 | 0 | 2,094,017 | 18,349,630 | 57,693 | 56,181 | 1,709,169 | 23,142,188 |
| 2034 | 830,480 | 43,180 | 0 | 2,089,610 | 18,310,715 | 57,573 | 56,061 | 1,705,578 | 23,093,197 |
| 2035 | 832,790 | 43,299 | 0 | 2,095,511 | 18,365,432 | 57,732 | 56,198 | 1,710,321 | 23,161,283 |
| Total | 35,696,145 | 1,874,269 | 0 | 88,346,353 | 773,787,927 | 2,455,071 | 2,436,592 | 72,644,251 | 977,240,608 |

TABLE B-18

# Variable OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Antelope Valley-East Kern Water Agency (20) | Castaic Lake Water Agency (21) | Coachella Valley Water District (22) | Crestline-Lake Arrowhead Water Agency (23) | Desert Water Agency (24) | Littlerock Creek Irrigation District (25) | Mojave Water Agency (26) | Palmdale Water District (27) | San Bernardino Valley Municipal Water District (28) | San Gabriel Valley Municipal Water District (29) |
| 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 | 30,401 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 30,627 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 39,429 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0 | 34,871 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 779 | 44,585 | 0 | 12,780 | 0 | 4,491 | 1,515 | 0 | 32,092 | 0 |
| 1973 | 286 | 28,247 | 102,811 | 6,895 | 159,535 | 3,854 | 0 | 0 | 301,444 | 0 |
| 1974 | 15,558 | 28,096 | 100,954 | 9,891 | 157,742 | 4,932 | 221 | 0 | 177,172 | 6,529 |
| 1975 | 99,182 | 27,760 | 108,250 | 12,758 | 170,106 | 6,391 | 0 | 0 | 136,060 | 53,482 |
| 1976 | 385,090 | 38,108 | 135,276 | 17,835 | 213,595 | 8,163 | 0 | 0 | 139,356 | 68,933 |
| 1977 | 199,168 | 21,006 | 0 | 23,598 | 0 | 1,973 | 1,702 | 0 | 239,663 | 86,821 |
| 1978 | 580,236 | 44,714 | 173,774 | 20,834 | 263,661 | 2,724 | 0 | 0 | 36,905 | 70,726 |
| 1979 | 1,058,567 | 83,320 | 228,381 | 28,596 | 340,428 | 2,327 | 90,780 | 0 | 236 | 3,803 |
| 1980 | 1,390,776 | 51,281 | 256,858 | 29,240 | 401,192 | 3,668 | 94,398 | 0 | 0 | 16,513 |
| 1981 | 1,479,459 | 111,213 | 274,018 | 33,617 | 430,100 | 23,847 | 90,547 | 0 | 254,648 | 57,523 |
| 1982 | 917,895 | 130,560 | 290,783 | 27,013 | 458,232 | 0 | 229,117 | 0 | 125,294 | 188,148 |
| 1983 | 334,670 | (303,945) | 173,383 | 10,834 | 273,548 | 386 | 0 | 0 | (71,309) | (8,732) |
| 1984 | 488,905 | (102,708) | 275,919 | 19,738 | 437,469 | 15 | 0 | 0 | (67,746) | (93,352) |
| 1985 | 818,808 | (355,149) | 412,369 | 34,515 | 655,364 | 0 | 0 | 32,369 | (47,995) | (32,654) |
| 1986 | 1,117,589 | 61,239 | 733,852 | 60,690 | 1,168,683 | 5,591 | 0 | 106,190 | 70,948 | 104,460 |
| 1987 | 1,053,778 | (14,066) | 690,429 | 65,700 | 1,119,270 | 33,582 | 604 | 163,207 | 43,922 | 53,352 |
| 1988 | 1,048,491 | (51,121) | 708,480 | 68,817 | 1,166,391 | 12,344 | 310 | 52,145 | 60,080 | 42,543 |
| 1989 | 1,745,094 | 182,733 | 983,625 | 97,585 | 1,641,398 | 38,446 | 8,994 | 352,583 | 344,963 | 213,115 |
| 1990 | 2,456,298 | 429,240 | 1,409,370 | 111,468 | 2,324,545 | 90,978 | 0 | 448,859 | 605,142 | 535,023 |
| 1991 | 311,066 | (31,844) | 293,973 | 36,140 | 484,864 | 18,926 | 136,635 | 141,917 | (2,045) | (3,017) |
| 1992 | 876,105 | 53,254 | 367,584 | 9,306 | 606,247 | 7,265 | 368,454 | 116,805 | 29,385 | 69,205 |
| 1993 | 1,694,320 | 269,220 | 620,752 | 103,656 | 1,023,838 | 72,290 | 1,339,547 | 449,450 | 529,125 | 396,842 |
| 1994 | 4,140,713 | 1,376,351 | 1,395,395 | 224,161 | 2,301,496 | 167,662 | 3,045,194 | 1,097,815 | 2,114,236 | 1,087,322 |
| 1995 | 5,328,506 | 2,134,523 | 1,704,494 | 294,735 | 2,811,310 | 197,965 | 5,162,929 | 1,339,269 | 2,803,930 | 1,328,178 |
| 1996 | 6,426,434 | 2,843,729 | 1,862,736 | 338,291 | 3,072,304 | 226,325 | 5,543,598 | 1,700,386 | 3,306,154 | 1,451,482 |
| 1997 | 6,518,480 | 2,896,997 | 1,760,490 | 345,419 | 2,903,665 | 218,080 | 5,317,357 | 1,640,334 | 3,353,314 | 1,371,810 |
| 1998 | 6,891,981 | 2,922,667 | 1,772,643 | 273,204 | 2,923,713 | 219,466 | 5,338,001 | 1,650,763 | 3,913,937 | 1,381,281 |
| 1999 | 8,027,576 | 2,920,476 | 1,783,813 | 274,555 | 2,942,133 | 219,924 | 5,364,410 | 1,654,204 | 4,247,172 | 1,389,985 |
| 2000 | 9,485,566 | 3,515,645 | 1,875,295 | 328,858 | 3,093,020 | 227,259 | 5,568,674 | 1,709,378 | 4,870,897 | 1,623,633 |
| 2001 | 9,526,165 | 3,538,535 | 1,882,151 | 329,508 | 3,104,328 | 228,233 | 5,579,667 | 1,716,694 | 4,888,705 | 1,629,568 |
| 2002 | 9,767,949 | 3,673,114 | 1,950,962 | 338,457 | 3,217,818 | 234,023 | 5,731,215 | 1,760,267 | 5,067,433 | 1,689,144 |
| 2003 | 9,894,210 | 3,743,257 | 1,987,082 | 343,171 | 3,277,392 | 237,049 | 5,810,995 | 1,783,018 | 5,161,250 | 1,720,418 |
| 2004 | 10,033,022 | 3,820,401 | 2,025,802 | 348,167 | 3,341,256 | 240,374 | 5,895,623 | 1,808,034 | 5,261,820 | 1,753,940 |
| 2005 | 12,470,880 | 4,298,143 | 2,106,333 | 457,100 | 3,474,082 | 247,268 | 6,070,772 | 1,859,880 | 8,206,492 | 1,942,205 |
| 2006 | 12,488,230 | 4,306,971 | 2,110,982 | 457,908 | 3,481,749 | 247,613 | 6,081,491 | 1,862,469 | 8,224,603 | 1,946,490 |
| 2007 | 12,606,052 | 4,366,094 | 2,138,946 | 462,546 | 3,527,873 | 249,946 | 6,143,098 | 1,880,041 | 8,333,558 | 1,972,277 |
| 2008 | 12,735,726 | 4,431,115 | 2,169,172 | 467,537 | 3,577,725 | 252,518 | 6,209,361 | 1,899,381 | 8,451,321 | 2,000,146 |
| 2009 | 12,840,558 | 4,483,057 | 2,194,107 | 471,665 | 3,618,850 | 254,598 | 6,264,207 | 1,915,015 | 8,548,466 | 2,023,136 |
| 2010 | 15,628,708 | 4,727,682 | 2,315,766 | 611,404 | 3,819,507 | 264,309 | 6,538,814 | 1,988,063 | 10,285,603 | 2,255,617 |
| 2011 | 15,785,792 | 4,677,319 | 2,296,661 | 607,769 | 3,787,999 | 262,336 | 6,499,938 | 1,973,222 | 10,200,754 | 2,237,007 |
| 2012 | 15,954,040 | 4,748,256 | 2,326,853 | 613,762 | 3,837,797 | 265,133 | 6,564,026 | 1,994,256 | 10,334,855 | 2,266,416 |
| 2013 | 16,116,006 | 4,816,316 | 2,358,770 | 620,310 | 3,890,436 | 267,824 | 6,634,056 | 2,014,500 | 10,476,607 | 2,297,501 |
| 2014 | 16,305,910 | 4,896,431 | 2,394,771 | 627,606 | 3,949,819 | 270,980 | 6,712,088 | 2,038,238 | 10,636,521 | 2,332,569 |
| 2015 | 16,241,307 | 4,867,743 | 2,382,246 | 697,336 | 3,929,159 | 269,905 | 6,683,900 | 2,030,165 | 10,580,884 | 2,454,435 |
| 2016 | 16,282,912 | 4,884,865 | 2,389,547 | 698,978 | 3,941,200 | 270,598 | 6,699,643 | 2,035,364 | 10,613,311 | 2,461,958 |
| 2017 | 16,881,105 | 5,136,324 | 2,507,722 | 726,116 | 4,136,111 | 280,539 | 6,959,746 | 2,110,139 | 11,138,189 | 2,583,712 |
| 2018 | 16,875,306 | 5,133,815 | 2,506,585 | 725,854 | 4,134,240 | 280,443 | 6,957,243 | 2,109,413 | 11,133,146 | 2,582,545 |
| 2019 | 16,902,014 | 5,145,143 | 2,511,284 | 726,902 | 4,141,990 | 280,886 | 6,967,294 | 2,112,751 | 11,154,019 | 2,587,385 |
| 2020 | 16,624,201 | 5,029,592 | 2,454,314 | 767,285 | 4,048,022 | 276,268 | 6,838,261 | 2,078,026 | 10,900,976 | 2,656,181 |
| 2021 | 16,694,045 | 5,058,812 | 2,465,219 | 769,730 | 4,066,010 | 277,430 | 6,860,057 | 2,086,755 | 10,949,412 | 2,667,984 |
| 2022 | 16,728,839 | 5,073,156 | 2,472,842 | 771,682 | 4,078,583 | 278,009 | 6,877,423 | 2,091,105 | 10,983,272 | 2,676,235 |
| 2023 | 16,724,605 | 5,071,819 | 2,471,998 | 771,476 | 4,077,189 | 277,938 | 6,875,615 | 2,090,576 | 10,979,515 | 2,675,320 |
| 2024 | 16,725,220 | 5,071,994 | 2,472,020 | 771,476 | 4,077,231 | 277,948 | 6,875,616 | 2,090,652 | 10,979,630 | 2,675,349 |
| 2025 | 16,741,221 | 5,078,255 | 2,476,663 | 786,363 | 4,084,885 | 278,213 | 6,887,455 | 2,092,652 | 11,000,240 | 2,819,748 |
| 2026 | 16,659,501 | 5,043,910 | 2,461,362 | 782,589 | 4,059,649 | 276,856 | 6,854,419 | 2,082,439 | 10,932,285 | 2,802,329 |
| 2027 | 16,661,406 | 5,044,928 | 2,461,670 | 782,659 | 4,060,159 | 276,888 | 6,855,025 | 2,082,676 | 10,933,654 | 2,802,680 |
| 2028 | 16,669,270 | 5,047,775 | 2,462,784 | 782,886 | 4,061,995 | 277,018 | 6,856,999 | 2,083,659 | 10,938,600 | 2,803,949 |
| 2029 | 16,671,318 | 5,049,155 | 2,462,142 | 782,636 | 4,060,935 | 277,051 | 6,854,807 | 2,083,916 | 10,935,746 | 2,803,218 |
| 2030 | 16,658,684 | 5,044,757 | 2,459,037 | 781,765 | 4,055,816 | 276,842 | 6,847,193 | 2,082,336 | 10,921,960 | 2,927,426 |
| 2031 | 16,690,495 | 5,056,932 | 2,464,038 | 782,888 | 4,064,063 | 277,371 | 6,857,022 | 2,086,312 | 10,944,170 | 2,933,379 |
| 2032 | 16,690,495 | 5,056,932 | 2,464,038 | 782,888 | 4,064,063 | 277,371 | 6,857,022 | 2,086,312 | 10,944,170 | 2,933,379 |
| 2033 | 16,703,119 | 5,062,405 | 2,466,535 | 783,520 | 4,068,184 | 277,580 | 6,862,552 | 2,087,889 | 10,955,265 | 2,936,354 |
| 2034 | 16,665,082 | 5,046,348 | 2,459,662 | 781,832 | 4,056,842 | 276,948 | 6,847,773 | 2,083,136 | 10,924,727 | 2,928,167 |
| 2035 | 16,729,821 | 5,072,354 | 2,477,623 | 786,902 | 4,086,468 | 278,025 | 6,892,174 | 2,091,229 | 11,004,504 | 3,088,985 |
| Total | 597,264,590 | 186,095,164 | 102,503,396 | 25,721,402 | 168,803,274 | 11,161,205 | 268,505,577 | 82,926,254 | 371,472,643 | 97,330,106 |

TABLE B-18

# Variable OMP&R Component of Transportation Charge for Each Contractor

(Dollars)



| | Southern California Area (continued) | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC&WCD (36) | Total (37) | South Bay Area Future Contractor (38) | Grand Total (39) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 30,401 | 0 | 0 | 0 | 0 | 0 | 1,117,913 |
| 1969 | 0 | 0 | 0 | 30,627 | 0 | 0 | 0 | 0 | 0 | 773,646 |
| 1970 | 0 | 0 | 0 | 39,429 | 0 | 0 | 0 | 0 | 0 | 1,103,798 |
| 1971 | 0 | 0 | 0 | 34,871 | 0 | 0 | 0 | 0 | 0 | 1,513,435 |
| 1972 | 0 | 847,154 | 0 | 943,396 | 0 | 0 | 0 | 0 | 0 | 3,261,922 |
| 1973 | 0 | 1,083,333 | 0 | 1,686,405 | 0 | 0 | 0 | 0 | 0 | 3,168,975 |
| 1974 | 0 | 1,872,299 | 0 | 2,373,394 | 0 | 0 | 0 | 0 | 0 | 3,919,920 |
| 1975 | 0 | 3,886,921 | 0 | 4,500,910 | 0 | 0 | 0 | 0 | 0 | 6,053,571 |
| 1976 | 0 | 5,485,263 | 0 | 6,491,619 | 0 | 0 | 0 | 0 | 0 | 8,478,786 |
| 1977 | 0 | (796,688) | 0 | (222,757) | 0 | 0 | 0 | 0 | 0 | 1,164,427 |
| 1978 | 0 | 3,679,270 | 0 | 4,872,844 | 0 | 0 | 0 | 0 | 0 | 7,587,308 |
| 1979 | 0 | 4,019,308 | 0 | 5,855,746 | 0 | 0 | 0 | 0 | 0 | 9,861,400 |
| 1980 | 0 | 5,367,081 | 0 | 7,611,007 | 0 | 0 | 0 | 0 | 0 | 10,425,874 |
| 1981 | 0 | 10,499,224 | 0 | 13,254,196 | 0 | 0 | 0 | 0 | 0 | 17,218,331 |
| 1982 | 0 | 7,595,699 | 0 | 9,962,741 | 0 | 0 | 0 | 0 | 0 | 13,326,143 |
| 1983 | 0 | (8,441,959) | 0 | (8,033,124) | 0 | 0 | 0 | 0 | 0 | (6,843,181) |
| 1984 | 0 | (6,698,556) | 0 | (5,740,316) | 0 | 0 | 0 | 0 | 0 | (3,071,158) |
| 1985 | 0 | (15,853,883) | 0 | (14,336,256) | 0 | 0 | 0 | 0 | 0 | (10,445,229) |
| 1986 | 0 | 1,328,675 | 0 | 4,757,917 | 0 | 0 | 0 | 0 | 0 | 12,108,992 |
| 1987 | 0 | (2,511,334) | 0 | 698,444 | 0 | 0 | 0 | 0 | 0 | 8,293,651 |
| 1988 | 0 | (2,830,884) | 0 | 277,596 | 0 | 0 | 0 | 0 | 0 | 7,798,059 |
| 1989 | 0 | 9,725,080 | 0 | 15,333,616 | 0 | 0 | 0 | 0 | 0 | 24,889,970 |
| 1990 | 0 | 31,167,031 | 205,976 | 39,783,930 | 0 | 0 | 0 | 0 | 0 | 48,998,549 |
| 1991 | 0 | (4,540,242) | 20,231 | (3,133,396) | 0 | 0 | 0 | 0 | 0 | (1,930,082) |
| 1992 | 0 | 1,971,000 | 0 | 4,474,610 | 0 | 0 | 0 | 0 | 0 | 8,859,579 |
| 1993 | 0 | 21,967,214 | 123,998 | 28,590,252 | 0 | 0 | 0 | 0 | 0 | 36,315,854 |
| 1994 | 0 | 97,413,689 | 324,391 | 114,688,425 | 0 | 0 | 0 | 0 | 0 | 132,083,396 |
| 1995 | 221,362 | 128,612,604 | 400,189 | 152,339,994 | 0 | 0 | 0 | 0 | 0 | 173,276,754 |
| 1996 | 580,593 | 149,989,406 | 471,657 | 177,813,095 | 0 | 0 | 0 | 0 | 0 | 204,924,542 |
| 1997 | 548,724 | 141,583,340 | 452,594 | 168,910,604 | 0 | 0 | 0 | 0 | 0 | 196,953,346 |
| 1998 | 427,429 | 142,805,226 | 1,450,592 | 171,970,903 | 0 | 0 | 0 | 0 | 0 | 201,745,731 |
| 1999 | 430,123 | 143,417,919 | 1,453,903 | 174,126,193 | 0 | 0 | 0 | 0 | 0 | 202,849,986 |
| 2000 | 515,503 | 150,836,207 | 1,523,125 | 185,173,060 | 0 | 0 | 0 | 0 | 0 | 214,831,737 |
| 2001 | 517,386 | 151,613,994 | 1,532,333 | 186,087,267 | 0 | 0 | 0 | 0 | 0 | 215,889,217 |
| 2002 | 536,304 | 157,304,959 | 1,586,447 | 192,858,092 | 0 | 0 | 0 | 0 | 0 | 223,406,401 |
| 2003 | 546,232 | 160,281,055 | 1,614,668 | 196,399,797 | 0 | 0 | 0 | 0 | 0 | 227,343,692 |
| 2004 | 556,875 | 163,514,654 | 1,645,698 | 200,245,666 | 0 | 0 | 0 | 0 | 0 | 231,627,351 |
| 2005 | 770,500 | 170,251,356 | 1,710,411 | 213,865,422 | 0 | 0 | 0 | 0 | 0 | 246,154,859 |
| 2006 | 772,199 | 170,613,630 | 1,713,668 | 214,308,003 | 0 | 0 | 0 | 0 | 0 | 246,649,863 |
| 2007 | 782,427 | 172,916,090 | 1,735,468 | 217,114,416 | 0 | 0 | 0 | 0 | 0 | 249,763,224 |
| 2008 | 793,485 | 175,427,493 | 1,759,457 | 220,174,437 | 0 | 0 | 0 | 0 | 0 | 253,163,530 |
| 2009 | 802,606 | 177,464,599 | 1,778,625 | 222,659,489 | 0 | 0 | 0 | 0 | 0 | 255,925,065 |
| 2010 | 1,057,633 | 187,223,875 | 1,868,891 | 238,585,872 | 0 | 0 | 0 | 0 | 0 | 273,100,401 |
| 2011 | 1,048,907 | 185,447,139 | 1,850,312 | 236,675,155 | 0 | 0 | 0 | 0 | 0 | 270,944,504 |
| 2012 | 1,062,696 | 188,078,166 | 1,876,486 | 239,922,742 | 0 | 0 | 0 | 0 | 0 | 274,565,999 |
| 2013 | 1,077,270 | 190,717,794 | 1,901,599 | 243,188,989 | 0 | 0 | 0 | 0 | 0 | 278,192,411 |
| 2014 | 1,093,717 | 193,763,765 | 1,931,159 | 246,953,574 | 0 | 0 | 0 | 0 | 0 | 282,377,290 |
| 2015 | 1,397,375 | 192,687,366 | 1,920,569 | 246,142,390 | 0 | 0 | 0 | 0 | 0 | 281,440,062 |
| 2016 | 1,401,660 | 193,322,942 | 1,926,902 | 246,929,880 | 0 | 0 | 0 | 0 | 0 | 282,333,271 |
| 2017 | 1,470,979 | 203,085,630 | 2,019,682 | 259,035,994 | 0 | 0 | 0 | 0 | 0 | 295,727,737 |
| 2018 | 1,470,313 | 202,989,940 | 2,018,761 | 258,917,604 | 0 | 0 | 0 | 0 | 0 | 295,614,560 |
| 2019 | 1,473,070 | 203,405,261 | 2,022,941 | 259,430,940 | 0 | 0 | 0 | 0 | 0 | 296,201,900 |
| 2020 | 1,769,018 | 198,814,794 | 1,980,297 | 254,237,235 | 0 | 0 | 0 | 0 | 0 | 290,437,117 |
| 2021 | 1,846,245 | 199,838,625 | 1,991,083 | 255,571,407 | 0 | 0 | 0 | 0 | 0 | 291,923,571 |
| 2022 | 1,851,955 | 200,430,060 | 1,996,375 | 256,309,536 | 0 | 0 | 0 | 0 | 0 | 292,733,616 |
| 2023 | 1,851,322 | 200,369,623 | 1,995,883 | 256,232,879 | 0 | 0 | 0 | 0 | 0 | 292,650,588 |
| 2024 | 1,851,341 | 200,374,236 | 1,995,947 | 256,238,660 | 0 | 0 | 0 | 0 | 0 | 292,658,007 |
| 2025 | 1,854,816 | 200,683,691 | 1,998,252 | 256,782,454 | 0 | 0 | 0 | 0 | 0 | 293,232,476 |
| 2026 | 1,843,359 | 199,383,209 | 1,985,587 | 255,167,494 | 0 | 0 | 0 | 0 | 0 | 291,443,654 |
| 2027 | 1,843,588 | 199,416,051 | 1,985,955 | 255,207,339 | 0 | 0 | 0 | 0 | 0 | 291,487,465 |
| 2028 | 1,844,422 | 199,517,792 | 1,987,012 | 255,334,161 | 0 | 0 | 0 | 0 | 0 | 291,630,957 |
| 2029 | 1,843,943 | 199,520,906 | 1,987,518 | 255,333,291 | 0 | 0 | 0 | 0 | 0 | 291,634,217 |
| 2030 | 1,841,619 | 199,309,603 | 1,985,895 | 255,192,933 | 0 | 0 | 0 | 0 | 0 | 291,474,627 |
| 2031 | 1,845,362 | 199,754,064 | 1,990,387 | 255,746,483 | 0 | 0 | 0 | 0 | 0 | 292,088,389 |
| 2032 | 1,845,362 | 199,754,064 | 1,990,387 | 255,746,483 | 0 | 0 | 0 | 0 | 0 | 292,088,389 |
| 2033 | 1,847,232 | 199,963,649 | 1,992,407 | 256,006,691 | 0 | 0 | 0 | 0 | 0 | 292,376,132 |
| 2034 | 1,842,084 | 199,366,467 | 1,986,482 | 255,265,550 | 0 | 0 | 0 | 0 | 0 | 291,553,548 |
| 2035 | 1,855,537 | 200,600,668 | 1,996,100 | 256,960,390 | 0 | 0 | 0 | 0 | 0 | 293,369,113 |
| Total | 50,832,573 | 7,660,686,607 | 72,686,300 | 9,695,989,091 | 0 | 0 | 0 | 0 | 0 | 11,194,560,175 |

TABLE B-19

# Total Transportation Charge for Each Contractor

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 11,750 | 43,787 | 0 | 55,537 | 0 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 151,140 | 190,453 | 449,448 | 791,041 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 170,797 | 277,738 | 623,343 | 1,071,878 | 8,922 | 17,665 | 26,587 |
| 1965 | 0 | 0 | 0 | 245,718 | 404,749 | 1,160,661 | 1,811,128 | 14,706 | 28,502 | 43,208 |
| 1966 | 18,096 | 0 | 18,096 | 271,833 | 422,196 | 1,415,802 | 2,109,831 | 24,019 | 45,891 | 69,910 |
| 1967 | 41,644 | 0 | 41,644 | 347,120 | 502,125 | 1,686,523 | 2,535,768 | 42,370 | 79,917 | 122,287 |
| 1968 | 128,824 | 0 | 128,824 | 392,186 | 604,069 | 1,988,444 | 2,984,699 | 68,510 | 128,322 | 196,832 |
| 1969 | 254,981 | 0 | 254,981 | 447,140 | 539,983 | 2,086,637 | 3,073,760 | 123,594 | 230,076 | 353,670 |
| 1970 | 277,819 | 0 | 277,819 | 460,871 | 533,235 | 2,206,210 | 3,200,316 | 136,687 | 254,318 | 391,005 |
| 1971 | 227,749 | 0 | 227,749 | 421,783 | 552,785 | 2,173,353 | 3,147,921 | 137,849 | 256,543 | 394,392 |
| 1972 | 225,255 | 0 | 225,255 | 509,334 | 679,192 | 2,323,883 | 3,512,409 | 144,068 | 268,132 | 412,200 |
| 1973 | 221,370 | 31,433 | 252,803 | 473,850 | 550,066 | 2,342,090 | 3,366,006 | 141,109 | 262,722 | 403,831 |
| 1974 | 240,782 | 33,008 | 273,790 | 497,183 | 565,268 | 2,509,832 | 3,572,283 | 142,344 | 265,051 | 407,395 |
| 1975 | 237,756 | 36,366 | 274,122 | 545,545 | 606,407 | 2,413,402 | 3,565,354 | 158,925 | 295,683 | 454,608 |
| 1976 | 271,596 | 40,918 | 312,514 | 635,843 | 735,490 | 2,503,988 | 3,875,321 | 268,668 | 498,348 | 767,016 |
| 1977 | 293,936 | 45,185 | 339,121 | 599,129 | 714,277 | 2,479,981 | 3,793,387 | 279,488 | 518,758 | 798,246 |
| 1978 | 274,184 | 49,273 | 323,457 | 653,210 | 693,271 | 2,789,490 | 4,135,971 | 287,212 | 533,171 | 820,383 |
| 1979 | 289,799 | 53,442 | 343,241 | 716,611 | 736,986 | 2,816,583 | 4,270,180 | 286,105 | 531,246 | 817,351 |
| 1980 | 311,182 | 67,873 | 379,055 | 833,370 | 867,133 | 3,032,233 | 4,732,736 | 313,121 | 581,218 | 894,339 |
| 1981 | 347,583 | 87,563 | 435,146 | 795,695 | 880,186 | 2,922,266 | 4,598,147 | 336,009 | 623,531 | 959,540 |
| 1982 | 440,975 | 107,105 | 548,080 | 832,779 | 854,172 | 3,221,789 | 4,908,740 | 336,308 | 624,196 | 960,504 |
| 1983 | 355,488 | 151,515 | 507,003 | 849,825 | 905,721 | 3,843,842 | 5,599,388 | 362,445 | 672,458 | 1,034,903 |
| 1984 | 467,726 | 224,617 | 692,343 | 1,132,407 | 1,097,747 | 5,741,851 | 7,972,005 | 393,236 | 729,319 | 1,122,555 |
| 1985 | 736,709 | 364,898 | 1,101,607 | 1,582,320 | 1,793,429 | 6,562,828 | 9,938,577 | 440,554 | 816,662 | 1,257,216 |
| 1986 | 1,085,755 | 693,592 | 1,779,347 | 1,409,601 | 1,534,658 | 6,900,532 | 9,844,791 | 428,891 | 795,277 | 1,224,168 |
| 1987 | 1,774,246 | 1,561,716 | 3,335,962 | 1,906,674 | 2,027,526 | 6,736,748 | 10,670,948 | 429,355 | 835,916 | 1,265,271 |
| 1988 | 2,230,626 | 2,356,455 | 4,587,081 | 1,910,669 | 2,227,357 | 6,414,207 | 10,552,233 | 480,579 | 983,188 | 1,463,767 |
| 1989 | 2,391,731 | 3,347,913 | 5,739,644 | 1,791,909 | 1,855,395 | 5,870,205 | 9,517,509 | 489,730 | 1,141,919 | 1,631,649 |
| 1990 | 2,750,150 | 3,453,664 | 6,203,814 | 2,180,471 | 2,226,064 | 6,848,117 | 11,254,652 | 577,639 | 1,198,599 | 1,776,238 |
| 1991 | 2,746,152 | 3,530,883 | 6,277,035 | 1,459,580 | 1,700,365 | 4,717,684 | 7,877,629 | 616,773 | 1,444,782 | 2,061,555 |
| 1992 | 2,630,351 | 3,504,603 | 6,134,954 | 1,994,617 | 2,285,777 | 6,018,371 | 10,298,765 | 684,763 | 1,420,283 | 2,105,046 |
| 1993 | 2,731,304 | 3,871,065 | 6,602,369 | 3,033,167 | 3,132,227 | 8,351,754 | 14,517,148 | 906,337 | 1,733,171 | 2,639,508 |
| 1994 | 2,796,566 | 3,989,772 | 6,786,338 | 3,225,658 | 3,328,549 | 8,855,109 | 15,409,316 | 1,517,853 | 3,154,159 | 4,672,012 |
| 1995 | 2,905,061 | 4,219,327 | 7,124,388 | 3,091,986 | 3,154,913 | 8,429,811 | 14,676,710 | 4,232,400 | 9,465,155 | 13,697,555 |
| 1996 | 2,943,582 | 4,242,733 | 7,186,315 | 3,464,856 | 3,428,519 | 9,024,436 | 15,917,811 | 7,800,095 | 22,229,156 | 30,029,251 |
| 1997 | 2,956,161 | 4,245,565 | 7,201,726 | 3,511,462 | 3,389,703 | 8,935,075 | 15,836,240 | 8,733,369 | 24,874,333 | 33,607,702 |
| 1998 | 2,971,725 | 4,245,325 | 7,217,050 | 3,487,387 | 3,367,711 | 8,882,944 | 15,738,042 | 10,343,870 | 24,800,631 | 35,144,501 |
| 1999 | 2,984,808 | 4,245,636 | 7,230,444 | 3,434,810 | 3,319,711 | 8,768,753 | 15,523,274 | 10,312,759 | 24,750,757 | 35,063,516 |
| 2000 | 2,999,694 | 4,243,912 | 7,243,606 | 3,417,654 | 3,304,048 | 8,731,540 | 15,453,242 | 10,299,920 | 24,734,330 | 35,034,250 |
| 2001 | 3,016,219 | 4,245,158 | 7,261,377 | 3,419,074 | 3,305,440 | 8,735,416 | 15,459,930 | 10,317,625 | 24,773,809 | 35,091,434 |
| 2002 | 3,031,120 | 4,246,320 | 7,277,440 | 3,428,967 | 3,314,476 | 8,756,947 | 15,500,390 | 10,327,993 | 24,792,800 | 35,120,793 |
| 2003 | 3,045,379 | 4,243,433 | 7,288,812 | 3,422,792 | 3,308,839 | 8,743,527 | 15,475,158 | 10,316,817 | 24,772,531 | 35,089,348 |
| 2004 | 3,058,247 | 4,239,249 | 7,297,496 | 3,412,954 | 3,299,860 | 8,722,156 | 15,434,970 | 10,299,951 | 24,741,912 | 35,041,863 |
| 2005 | 3,070,628 | 4,259,908 | 7,330,536 | 3,400,898 | 3,288,854 | 8,695,972 | 15,385,724 | 10,277,463 | 24,701,137 | 34,978,600 |
| 2006 | 3,080,308 | 4,257,581 | 7,337,889 | 3,393,278 | 3,281,897 | 8,679,414 | 15,354,589 | 10,266,067 | 24,680,413 | 34,946,480 |
| 2007 | 3,091,354 | 4,253,349 | 7,344,703 | 3,382,548 | 3,272,101 | 8,656,093 | 15,310,742 | 10,248,731 | 24,648,918 | 34,897,649 |
| 2008 | 3,104,170 | 4,248,163 | 7,352,333 | 3,369,188 | 3,259,904 | 8,627,057 | 15,256,149 | 10,227,364 | 24,610,094 | 34,837,458 |
| 2009 | 3,114,371 | 4,243,454 | 7,357,825 | 3,356,746 | 3,248,544 | 8,600,016 | 15,205,306 | 10,207,603 | 24,574,187 | 34,781,790 |
| 2010 | 3,132,531 | 4,250,438 | 7,382,969 | 3,376,366 | 3,266,463 | 8,642,706 | 15,285,535 | 10,229,409 | 24,614,073 | 34,843,482 |
| 2011 | 3,142,712 | 4,242,945 | 7,385,657 | 3,350,564 | 3,242,905 | 8,586,606 | 15,180,075 | 10,193,264 | 24,548,263 | 34,741,527 |
| 2012 | 3,153,725 | 4,238,818 | 7,392,543 | 3,340,649 | 3,233,851 | 8,565,061 | 15,139,561 | 10,176,639 | 24,518,070 | 34,694,709 |
| 2013 | 3,125,711 | 4,187,033 | 7,312,744 | 3,080,303 | 2,991,761 | 7,874,143 | 13,946,207 | 9,956,077 | 24,116,825 | 34,072,902 |
| 2014 | 3,160,190 | 4,207,062 | 7,367,252 | 3,105,544 | 2,981,709 | 7,840,362 | 13,927,615 | 10,033,655 | 24,256,607 | 34,290,262 |
| 2015 | 3,156,104 | 4,188,662 | 7,344,766 | 3,000,610 | 2,831,439 | 7,324,933 | 13,156,982 | 9,930,635 | 24,068,832 | 33,999,467 |
| 2016 | 3,147,183 | 4,182,447 | 7,329,630 | 2,963,183 | 2,783,794 | 7,110,924 | 12,857,901 | 9,893,944 | 24,001,651 | 33,895,595 |
| 2017 | 3,153,894 | 4,195,374 | 7,349,268 | 2,979,223 | 2,796,660 | 7,099,026 | 12,874,909 | 9,937,661 | 24,080,752 | 34,018,413 |
| 2018 | 3,089,757 | 4,195,677 | 7,285,434 | 2,937,059 | 2,755,153 | 6,975,317 | 12,667,529 | 9,922,576 | 24,052,765 | 33,975,341 |
| 2019 | 3,063,281 | 4,197,057 | 7,260,338 | 2,901,572 | 2,722,134 | 6,879,333 | 12,503,039 | 9,922,474 | 24,052,365 | 33,974,839 |
| 2020 | 3,067,280 | 4,189,836 | 7,257,116 | 2,860,240 | 2,682,136 | 6,780,685 | 12,323,061 | 9,883,595 | 23,981,395 | 33,864,990 |
| 2021 | 3,070,313 | 4,191,960 | 7,262,273 | 2,864,271 | 2,685,443 | 6,789,079 | 12,338,793 | 9,891,719 | 23,996,083 | 33,887,802 |
| 2022 | 3,070,119 | 4,192,903 | 7,263,022 | 2,867,014 | 2,687,582 | 6,792,096 | 12,346,692 | 9,895,215 | 24,002,314 | 33,897,529 |
| 2023 | 3,069,025 | 4,161,399 | 7,230,424 | 2,866,123 | 2,686,687 | 6,788,276 | 12,341,086 | 9,894,339 | 24,000,653 | 33,894,992 |
| 2024 | 3,070,088 | 4,163,530 | 7,233,618 | 2,876,359 | 2,695,904 | 6,809,682 | 12,381,945 | 9,909,688 | 24,028,517 | 33,938,205 |
| 2025 | 3,054,548 | 4,153,443 | 7,207,991 | 2,856,310 | 2,677,086 | 6,764,110 | 12,297,506 | 9,880,800 | 23,975,906 | 33,856,706 |
| 2026 | 3,047,056 | 4,146,638 | 7,193,694 | 2,847,355 | 2,668,881 | 6,744,385 | 12,260,621 | 9,762,520 | 23,757,745 | 33,520,265 |
| 2027 | 3,044,168 | 4,142,418 | 7,186,586 | 2,845,802 | 2,667,279 | 6,739,184 | 12,252,265 | 9,759,968 | 23,752,583 | 33,512,551 |
| 2028 | 3,041,146 | 4,138,531 | 7,179,677 | 2,844,194 | 2,665,662 | 6,734,017 | 12,243,873 | 9,754,326 | 23,741,987 | 33,496,313 |
| 2029 | 3,037,708 | 4,134,441 | 7,172,149 | 2,840,791 | 2,662,506 | 6,725,595 | 12,228,892 | 9,752,474 | 23,738,445 | 33,490,919 |
| 2030 | 3,027,584 | 4,119,716 | 7,147,300 | 2,837,518 | 2,659,445 | 6,717,873 | 12,214,836 | 9,748,490 | 23,730,997 | 33,479,487 |
| 2031 | 3,015,111 | 4,100,839 | 7,115,950 | 2,833,502 | 2,655,702 | 6,708,526 | 12,197,730 | 9,742,959 | 23,720,608 | 33,463,567 |
| 2032 | 3,003,501 | 4,081,298 | 7,084,799 | 2,835,225 | 2,657,227 | 6,711,878 | 12,204,330 | 9,746,707 | 23,727,412 | 33,474,119 |
| 2033 | 2,976,057 | 4,037,253 | 7,013,310 | 2,836,366 | 2,658,226 | 6,714,015 | 12,208,607 | 9,750,835 | 23,734,947 | 33,485,782 |
| 2034 | 2,910,720 | 3,963,071 | 6,873,791 | 2,825,635 | 2,648,187 | 6,688,890 | 12,162,712 | 9,744,240 | 23,722,840 | 33,467,080 |
| 2035 | 2,783,064 | 3,824,648 | 6,607,712 | 2,823,887 | 2,646,525 | 6,684,106 | 12,154,518 | 9,751,161 | 23,735,371 | 33,486,532 |
| Total | 151,785,738 | 199,109,409 | 350,895,147 | 160,080,050 | 157,923,250 | 435,787,171 | 753,790,471 | 411,855,566 | 997,777,192 | 1,409,632,758 |

TABLE B-19

# Total Transportation Charge for Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Agricultural (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 2,729 | 0 | 0 | 0 | 0 | 0 | 2,729 |
| 1965 | 0 | 0 | 6,039 | 73,693 | 0 | 0 | 0 | 0 | 79,732 |
| 1966 | 0 | 0 | 12,058 | 137,555 | 0 | 0 | 0 | 0 | 149,613 |
| 1967 | 0 | 0 | 26,299 | 268,043 | 0 | 0 | 0 | 0 | 294,342 |
| 1968 | 180,584 | 9,518 | 54,666 | 446,057 | 1,527,908 | 12,880 | 11,494 | 206,311 | 2,449,418 |
| 1969 | 176,182 | 9,475 | 87,668 | 525,806 | 2,358,252 | 11,493 | 10,490 | 347,247 | 3,526,613 |
| 1970 | 197,813 | 16,240 | 94,768 | 574,762 | 2,873,735 | 11,621 | 13,022 | 286,466 | 4,068,427 |
| 1971 | 193,473 | 17,199 | 95,789 | 606,688 | 3,768,786 | 16,569 | 14,315 | 441,124 | 5,153,943 |
| 1972 | 214,942 | 17,996 | 98,886 | 632,429 | 4,884,573 | 13,996 | 20,503 | 1,054,822 | 6,938,147 |
| 1973 | 197,474 | 14,138 | 97,647 | 640,072 | 4,827,543 | 14,263 | 11,609 | 400,080 | 6,202,826 |
| 1974 | 274,250 | 14,107 | 98,559 | 699,072 | 5,118,106 | 14,356 | 12,677 | 582,944 | 6,814,071 |
| 1975 | 339,382 | 15,049 | 106,801 | 716,430 | 6,220,122 | 15,365 | 14,358 | 710,807 | 8,138,314 |
| 1976 | 296,933 | 15,595 | 108,184 | 775,124 | 6,568,568 | 15,734 | 16,014 | 552,084 | 8,348,236 |
| 1977 | 259,125 | 12,709 | 112,665 | 798,817 | 6,733,946 | 17,185 | 13,816 | 499,673 | 8,447,936 |
| 1978 | 345,609 | 11,564 | 115,625 | 889,187 | 8,146,812 | 17,492 | 17,841 | 491,912 | 10,036,042 |
| 1979 | 375,539 | 15,435 | 114,358 | 896,690 | 9,273,268 | 18,826 | 24,735 | 938,712 | 11,657,563 |
| 1980 | 396,616 | 13,804 | 126,305 | 890,169 | 9,830,121 | 19,401 | 24,126 | 711,073 | 12,011,615 |
| 1981 | 460,412 | 31,726 | 134,332 | 1,081,209 | 11,257,043 | 23,593 | 22,908 | 895,735 | 13,906,958 |
| 1982 | 453,046 | 14,840 | 136,288 | 1,007,116 | 12,063,777 | 21,534 | 22,293 | 732,864 | 14,451,758 |
| 1983 | 626,451 | 16,440 | 150,202 | 1,030,466 | 15,267,255 | 38,502 | 30,619 | 428,653 | 17,588,588 |
| 1984 | 897,561 | 16,791 | 164,827 | 2,061,149 | 23,330,817 | 52,939 | 59,648 | 771,952 | 27,355,684 |
| 1985 | 1,100,212 | 90,021 | 187,368 | 2,381,471 | 27,966,598 | 68,753 | 71,126 | 2,188,676 | 34,054,225 |
| 1986 | 1,265,711 | 36,295 | 181,625 | 2,392,735 | 30,828,018 | 80,363 | 77,291 | 2,190,341 | 37,052,379 |
| 1987 | 1,143,226 | 54,487 | 180,295 | 2,893,192 | 29,640,019 | 79,615 | 78,234 | 2,292,013 | 36,361,081 |
| 1988 | 1,123,928 | 66,576 | 194,645 | 2,822,452 | 29,475,815 | 74,870 | 62,344 | 2,239,305 | 36,059,935 |
| 1989 | 1,126,787 | 51,015 | 188,004 | 2,447,209 | 29,062,703 | 65,611 | 68,266 | 2,419,310 | 35,428,905 |
| 1990 | 1,182,718 | 48,816 | 221,412 | 2,869,798 | 30,699,284 | 64,726 | 66,167 | 2,390,959 | 37,543,880 |
| 1991 | 605,215 | 26,526 | 229,553 | 2,280,758 | 17,648,076 | 27,026 | 27,445 | 1,237,078 | 22,081,677 |
| 1992 | 1,037,192 | 47,326 | 246,285 | 2,543,134 | 27,604,323 | 60,990 | 57,661 | 2,090,568 | 33,687,479 |
| 1993 | 1,169,911 | 51,745 | 323,577 | 2,818,058 | 30,744,224 | 67,667 | 66,837 | 2,385,924 | 37,627,943 |
| 1994 | 1,444,050 | 66,002 | 310,461 | 3,512,203 | 36,261,987 | 87,062 | 84,193 | 2,949,027 | 44,714,985 |
| 1995 | 1,543,281 | 71,103 | 304,660 | 3,774,765 | 38,284,209 | 94,047 | 91,878 | 3,151,655 | 47,315,598 |
| 1996 | 1,666,512 | 77,486 | 292,211 | 4,085,066 | 40,544,223 | 102,699 | 101,041 | 3,404,199 | 50,273,437 |
| 1997 | 1,664,362 | 77,368 | 308,159 | 4,079,054 | 40,380,365 | 102,616 | 101,582 | 3,399,658 | 50,113,164 |
| 1998 | 1,641,919 | 76,199 | 308,390 | 4,054,841 | 41,358,232 | 101,060 | 99,554 | 3,353,561 | 50,993,756 |
| 1999 | 1,583,481 | 73,162 | 308,361 | 3,913,273 | 40,292,611 | 97,016 | 94,581 | 3,233,572 | 49,596,057 |
| 2000 | 1,575,456 | 72,747 | 308,452 | 3,893,117 | 40,117,655 | 96,457 | 94,023 | 3,217,081 | 49,374,988 |
| 2001 | 1,576,025 | 72,774 | 308,819 | 3,894,382 | 40,133,590 | 96,484 | 94,059 | 3,218,223 | 49,394,356 |
| 2002 | 1,580,813 | 73,023 | 308,893 | 3,906,443 | 40,241,433 | 96,812 | 94,381 | 3,228,045 | 49,529,843 |
| 2003 | 1,577,984 | 72,875 | 308,928 | 3,899,321 | 40,179,532 | 96,613 | 94,189 | 3,222,232 | 49,451,674 |
| 2004 | 1,573,545 | 72,645 | 308,971 | 3,888,118 | 40,081,166 | 96,303 | 93,894 | 3,213,108 | 49,327,750 |
| 2005 | 1,567,581 | 72,334 | 309,057 | 3,873,102 | 39,951,391 | 95,887 | 93,496 | 3,200,846 | 49,163,694 |
| 2006 | 1,564,030 | 72,149 | 309,063 | 3,864,149 | 39,872,593 | 95,640 | 93,255 | 3,193,552 | 49,064,431 |
| 2007 | 1,559,061 | 71,890 | 309,092 | 3,851,633 | 39,763,021 | 95,296 | 92,917 | 3,183,347 | 48,926,257 |
| 2008 | 1,552,848 | 71,568 | 309,124 | 3,835,984 | 39,625,850 | 94,863 | 92,496 | 3,170,582 | 48,753,315 |
| 2009 | 1,547,208 | 71,274 | 309,149 | 3,821,764 | 39,500,534 | 94,470 | 92,119 | 3,158,999 | 48,595,517 |
| 2010 | 1,556,166 | 71,736 | 309,270 | 3,844,323 | 39,702,426 | 95,085 | 92,735 | 3,177,370 | 48,849,111 |
| 2011 | 1,544,169 | 71,114 | 309,243 | 3,814,122 | 39,436,323 | 94,254 | 91,908 | 3,152,735 | 48,513,868 |
| 2012 | 1,539,554 | 70,876 | 309,279 | 3,802,482 | 39,334,080 | 93,934 | 91,603 | 3,143,255 | 48,385,063 |
| 2013 | 1,469,927 | 67,254 | 309,312 | 3,627,011 | 37,786,981 | 89,105 | 86,912 | 3,000,253 | 46,436,755 |
| 2014 | 1,498,274 | 68,726 | 306,622 | 3,698,448 | 38,417,926 | 91,071 | 88,822 | 3,058,463 | 47,228,352 |
| 2015 | 1,467,026 | 67,102 | 303,299 | 3,546,007 | 37,723,107 | 88,903 | 86,715 | 2,994,289 | 46,276,448 |
| 2016 | 1,458,431 | 66,654 | 297,290 | 3,460,488 | 37,532,279 | 88,309 | 86,137 | 2,976,643 | 45,966,231 |
| 2017 | 1,480,785 | 67,818 | 283,171 | 3,386,316 | 38,031,451 | 89,851 | 87,643 | 3,022,528 | 46,449,563 |
| 2018 | 1,480,543 | 67,806 | 260,443 | 3,268,398 | 38,026,019 | 81,317 | 87,626 | 3,022,034 | 46,294,186 |
| 2019 | 1,481,795 | 67,871 | 251,967 | 3,211,659 | 38,053,990 | 80,895 | 87,713 | 3,024,604 | 46,260,494 |
| 2020 | 1,468,908 | 67,199 | 250,098 | 3,146,352 | 37,766,573 | 79,755 | 86,839 | 2,998,143 | 45,863,867 |
| 2021 | 1,472,142 | 67,367 | 249,009 | 3,132,548 | 37,838,680 | 79,835 | 87,061 | 3,004,779 | 45,931,421 |
| 2022 | 1,473,728 | 67,450 | 248,396 | 3,126,467 | 37,874,154 | 79,879 | 87,168 | 3,008,041 | 45,965,283 |
| 2023 | 1,473,601 | 67,445 | 247,971 | 3,121,746 | 37,871,331 | 79,839 | 87,159 | 3,007,782 | 45,956,874 |
| 2024 | 1,478,641 | 67,707 | 247,449 | 3,132,308 | 37,983,309 | 80,171 | 87,499 | 3,018,133 | 46,095,217 |
| 2025 | 1,469,609 | 67,236 | 246,892 | 3,107,089 | 37,782,620 | 79,521 | 86,892 | 2,999,582 | 45,839,441 |
| 2026 | 1,465,791 | 67,036 | 246,606 | 3,095,418 | 37,697,635 | 79,221 | 86,633 | 2,991,739 | 45,730,079 |
| 2027 | 1,465,882 | 67,041 | 245,963 | 3,092,655 | 37,699,616 | 79,183 | 86,640 | 2,991,929 | 45,728,909 |
| 2028 | 1,466,262 | 67,062 | 243,526 | 3,091,560 | 37,707,963 | 79,188 | 86,666 | 2,992,713 | 45,734,940 |
| 2029 | 1,466,325 | 67,065 | 243,211 | 3,088,624 | 37,709,663 | 79,129 | 86,668 | 2,992,841 | 45,733,526 |
| 2030 | 1,465,953 | 67,045 | 242,920 | 3,084,585 | 37,700,772 | 79,037 | 86,647 | 2,992,076 | 45,719,035 |
| 2031 | 1,467,237 | 67,112 | 241,339 | 3,069,472 | 37,729,834 | 78,734 | 86,731 | 2,994,713 | 45,735,172 |
| 2032 | 1,467,237 | 67,112 | 241,317 | 3,071,652 | 37,729,834 | 78,744 | 86,731 | 2,994,713 | 45,737,340 |
| 2033 | 1,467,837 | 67,144 | 241,029 | 3,068,500 | 37,743,160 | 78,656 | 86,772 | 2,995,942 | 45,749,040 |
| 2034 | 1,466,070 | 67,052 | 240,433 | 3,057,828 | 37,703,732 | 78,396 | 86,652 | 2,992,316 | 45,692,479 |
| 2035 | 1,468,405 | 67,174 | 239,716 | 3,054,715 | 37,759,198 | 78,324 | 86,789 | 2,997,108 | 45,751,429 |
| Total | 79,338,746 | 3,662,236 | 15,675,020 | 185,547,329 | 2,012,650,740 | 4,629,031 | 4,700,858 | 159,529,044 | 2,465,733,004 |

TABLE B-19

# Total Transportation Charge for Each Contractor

(Dollars)



| | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Antelope Valley-East Kern Water Agency (20) | Castaic Lake Water Agency (21) | Coachella Valley Water District (22) | Crestline-Lake Arrowhead Water Agency (23) | Desert Water Agency (24) | Littlerock Creek Irrigation District (25) | Mojave Water Agency (26) | Palmdale Water District (27) | San Bernardino Valley Municipal Water District (28) | San Gabriel Valley Municipal Water District (29) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 33,380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51,822 | 0 |
| 1964 | 62,973 | 27,495 | 14,452 | 4,378 | 37,225 | 1,145 | 28,487 | 8,220 | 82,953 | 35,048 |
| 1965 | 118,798 | 53,095 | 25,137 | 7,206 | 40,837 | 2,086 | 50,402 | 15,247 | 135,293 | 35,403 |
| 1966 | 216,130 | 101,429 | 44,803 | 12,499 | 73,271 | 3,760 | 90,547 | 27,724 | 232,882 | 61,564 |
| 1967 | 418,148 | 211,152 | 86,258 | 23,510 | 141,637 | 7,296 | 175,459 | 54,110 | 434,047 | 115,759 |
| 1968 | 737,079 | 478,808 | 152,915 | 41,571 | 251,568 | 12,889 | 311,156 | 95,604 | 783,330 | 209,237 |
| 1969 | 1,060,558 | 725,285 | 225,642 | 61,317 | 371,507 | 18,721 | 458,790 | 138,265 | 1,207,644 | 322,237 |
| 1970 | 1,379,045 | 905,406 | 315,733 | 89,833 | 520,091 | 25,267 | 632,954 | 185,110 | 1,780,878 | 468,279 |
| 1971 | 1,706,796 | 1,089,448 | 433,184 | 128,553 | 713,792 | 31,882 | 857,092 | 231,613 | 2,542,024 | 660,399 |
| 1972 | 2,023,788 | 1,305,330 | 562,354 | 181,418 | 926,827 | 42,451 | 1,111,109 | 274,961 | 3,393,179 | 866,240 |
| 1973 | 2,114,059 | 1,323,580 | 696,689 | 183,937 | 1,138,351 | 43,534 | 1,173,988 | 287,687 | 3,976,218 | 947,886 |
| 1974 | 2,177,612 | 1,382,827 | 712,209 | 193,515 | 1,165,213 | 45,265 | 1,205,771 | 292,445 | 4,003,330 | 991,867 |
| 1975 | 2,354,190 | 1,450,796 | 753,130 | 206,281 | 1,233,035 | 48,543 | 1,272,370 | 304,659 | 4,164,039 | 1,092,369 |
| 1976 | 2,707,247 | 1,446,632 | 799,688 | 215,328 | 1,308,731 | 51,516 | 1,314,774 | 314,067 | 4,304,669 | 1,146,358 |
| 1977 | 2,650,062 | 1,515,938 | 695,533 | 226,286 | 1,146,470 | 47,400 | 1,386,343 | 329,765 | 4,559,086 | 1,210,549 |
| 1978 | 2,966,022 | 1,599,792 | 876,162 | 231,244 | 1,421,436 | 47,166 | 1,385,990 | 322,068 | 4,465,229 | 1,213,318 |
| 1979 | 3,520,543 | 1,634,505 | 944,014 | 238,199 | 1,520,043 | 48,450 | 1,513,097 | 332,862 | 4,427,615 | 1,153,854 |
| 1980 | 4,067,991 | 1,717,237 | 1,033,506 | 259,668 | 1,681,436 | 53,404 | 1,632,174 | 360,866 | 4,840,998 | 1,270,829 |
| 1981 | 4,393,473 | 1,962,516 | 1,103,652 | 271,280 | 1,797,719 | 77,820 | 1,751,038 | 392,055 | 5,226,348 | 1,358,227 |
| 1982 | 3,964,741 | 2,067,136 | 1,158,076 | 281,407 | 1,887,965 | 56,238 | 1,953,806 | 408,886 | 5,436,170 | 1,570,427 |
| 1983 | 5,157,646 | 2,344,889 | 1,749,717 | 334,111 | 2,834,083 | 69,595 | 2,026,584 | 496,238 | 6,041,953 | 1,562,145 |
| 1984 | 7,184,738 | 3,405,106 | 2,830,145 | 445,860 | 4,558,352 | 75,822 | 2,252,204 | 553,678 | 7,054,836 | 2,331,668 |
| 1985 | 8,955,281 | 3,744,616 | 3,629,402 | 542,300 | 5,838,452 | 79,872 | 2,375,726 | 737,341 | 7,775,911 | 2,387,908 |
| 1986 | 8,811,869 | 4,328,073 | 4,055,735 | 578,597 | 6,527,667 | 102,630 | 2,465,380 | 1,002,318 | 7,873,764 | 3,054,279 |
| 1987 | 8,796,008 | 4,167,795 | 3,911,136 | 603,630 | 6,375,732 | 211,943 | 2,472,141 | 1,025,943 | 9,121,027 | 3,021,227 |
| 1988 | 8,326,181 | 4,242,187 | 3,897,550 | 615,416 | 6,419,665 | 127,552 | 2,533,979 | 794,944 | 9,426,851 | 2,816,732 |
| 1989 | 8,665,195 | 4,128,104 | 3,547,348 | 586,117 | 5,899,141 | 170,313 | 2,496,120 | 1,442,620 | 8,936,865 | 2,929,801 |
| 1990 | 10,140,393 | 4,789,036 | 4,295,443 | 658,436 | 7,118,570 | 237,930 | 2,717,317 | 1,665,766 | 10,101,543 | 3,553,862 |
| 1991 | 6,537,621 | 3,241,611 | 2,791,321 | 577,853 | 4,603,044 | 179,409 | 3,503,438 | 1,328,131 | 9,004,478 | 3,038,190 |
| 1992 | 9,180,990 | 4,895,925 | 3,029,226 | 443,812 | 4,999,171 | 135,979 | 4,606,722 | 1,240,769 | 8,966,934 | 3,231,934 |
| 1993 | 9,722,773 | 5,276,483 | 3,429,062 | 705,612 | 5,654,878 | 275,986 | 6,437,524 | 1,827,189 | 11,728,428 | 4,178,921 |
| 1994 | 12,363,601 | 6,388,867 | 4,247,968 | 837,156 | 7,005,545 | 375,737 | 8,191,346 | 2,535,833 | 13,758,878 | 4,636,240 |
| 1995 | 13,840,393 | 7,273,058 | 4,557,577 | 918,312 | 7,516,197 | 406,276 | 11,127,344 | 2,803,065 | 14,630,534 | 4,888,252 |
| 1996 | 15,132,777 | 8,200,918 | 4,744,186 | 977,027 | 7,823,979 | 436,133 | 11,567,971 | 3,256,950 | 15,452,596 | 5,063,988 |
| 1997 | 15,364,898 | 8,485,348 | 4,608,265 | 967,850 | 7,599,783 | 426,815 | 11,314,355 | 3,189,723 | 15,277,869 | 4,908,277 |
| 1998 | 15,776,041 | 8,400,116 | 4,595,749 | 879,480 | 7,579,156 | 424,199 | 11,230,869 | 3,170,037 | 16,643,126 | 4,984,658 |
| 1999 | 17,248,072 | 8,229,367 | 4,568,094 | 901,637 | 7,533,558 | 419,470 | 11,121,975 | 3,134,466 | 17,534,856 | 5,041,607 |
| 2000 | 18,805,887 | 8,941,259 | 4,501,546 | 911,212 | 7,423,780 | 416,900 | 11,068,216 | 3,115,093 | 17,223,337 | 5,102,334 |
| 2001 | 18,807,362 | 8,938,080 | 4,517,038 | 934,824 | 7,449,335 | 416,899 | 11,054,388 | 3,115,059 | 17,646,652 | 5,183,439 |
| 2002 | 18,881,446 | 8,980,846 | 4,538,579 | 937,915 | 7,484,857 | 418,671 | 11,101,521 | 3,128,371 | 17,707,420 | 5,202,987 |
| 2003 | 18,842,151 | 8,959,306 | 4,526,540 | 935,130 | 7,465,006 | 417,730 | 11,077,969 | 3,121,268 | 17,654,270 | 5,188,732 |
| 2004 | 18,777,169 | 8,923,553 | 4,507,820 | 933,146 | 7,434,126 | 416,172 | 11,035,355 | 3,109,529 | 17,614,073 | 5,174,036 |
| 2005 | 21,414,423 | 9,333,185 | 4,489,817 | 1,063,098 | 7,404,442 | 414,269 | 10,981,490 | 3,095,199 | 21,415,748 | 5,339,658 |
| 2006 | 21,351,723 | 9,302,749 | 4,472,890 | 1,057,437 | 7,376,517 | 413,028 | 10,950,788 | 3,085,851 | 21,300,878 | 5,314,958 |
| 2007 | 21,265,893 | 9,260,074 | 4,451,336 | 1,052,103 | 7,340,964 | 411,327 | 10,907,212 | 3,073,056 | 21,186,739 | 5,289,553 |
| 2008 | 21,157,828 | 9,206,244 | 4,427,481 | 1,050,013 | 7,301,621 | 409,189 | 10,850,665 | 3,056,950 | 21,125,102 | 5,273,463 |
| 2009 | 21,057,743 | 9,155,722 | 4,397,802 | 1,038,274 | 7,252,662 | 407,210 | 10,799,641 | 3,042,031 | 20,894,137 | 5,224,707 |
| 2010 | 23,913,219 | 9,244,009 | 4,484,550 | 1,234,968 | 7,395,764 | 410,624 | 10,910,802 | 3,067,682 | 23,484,149 | 5,583,188 |
| 2011 | 23,982,531 | 9,133,284 | 4,385,934 | 1,161,233 | 7,233,087 | 406,420 | 10,813,433 | 3,036,065 | 22,132,657 | 5,314,527 |
| 2012 | 23,884,815 | 9,094,837 | 4,383,106 | 1,180,018 | 7,228,431 | 404,803 | 10,762,494 | 3,023,886 | 22,452,749 | 5,374,712 |
| 2013 | 22,372,938 | 8,474,094 | 4,090,910 | 1,119,459 | 6,733,106 | 380,235 | 10,120,752 | 2,839,100 | 21,095,053 | 5,075,562 |
| 2014 | 22,948,227 | 8,703,700 | 4,199,304 | 1,144,996 | 6,925,899 | 389,151 | 10,350,961 | 2,906,527 | 21,690,223 | 5,202,386 |
| 2015 | 22,231,126 | 8,401,257 | 4,039,353 | 1,166,693 | 6,662,074 | 377,215 | 10,041,640 | 2,816,831 | 20,649,212 | 5,120,335 |
| 2016 | 21,951,143 | 8,267,326 | 3,998,538 | 1,172,160 | 6,594,774 | 372,511 | 9,919,991 | 2,781,529 | 20,729,981 | 5,122,947 |
| 2017 | 22,231,474 | 8,366,671 | 4,052,120 | 1,181,953 | 6,683,145 | 377,011 | 10,046,458 | 2,815,544 | 20,932,794 | 5,163,614 |
| 2018 | 21,971,751 | 8,151,921 | 3,995,321 | 1,165,754 | 6,589,479 | 372,409 | 9,932,587 | 2,781,486 | 20,615,969 | 5,080,474 |
| 2019 | 21,696,714 | 7,957,727 | 3,935,988 | 1,153,843 | 6,491,628 | 367,385 | 9,803,245 | 2,744,898 | 20,333,125 | 4,997,245 |
| 2020 | 21,120,549 | 7,688,988 | 3,770,361 | 1,140,238 | 6,218,449 | 356,548 | 9,506,788 | 2,665,807 | 19,047,915 | 4,832,618 |
| 2021 | 20,933,854 | 7,549,877 | 3,694,572 | 1,128,974 | 6,093,472 | 352,289 | 9,331,321 | 2,636,992 | 18,779,399 | 4,743,588 |
| 2022 | 20,837,595 | 7,455,998 | 3,649,275 | 1,115,651 | 6,018,764 | 350,411 | 9,242,494 | 2,623,697 | 18,433,666 | 4,657,438 |
| 2023 | 20,783,976 | 7,439,320 | 3,629,467 | 1,108,215 | 5,986,100 | 349,368 | 9,206,688 | 2,616,346 | 18,247,585 | 4,612,142 |
| 2024 | 20,872,789 | 7,436,509 | 3,641,420 | 1,108,021 | 6,005,816 | 350,824 | 9,240,684 | 2,627,358 | 18,230,166 | 4,610,210 |
| 2025 | 20,659,943 | 7,345,248 | 3,598,608 | 1,116,890 | 5,935,199 | 347,252 | 9,136,768 | 2,600,617 | 18,126,254 | 4,715,927 |
| 2026 | 20,564,846 | 7,293,679 | 3,567,374 | 1,103,219 | 5,883,690 | 345,632 | 9,083,318 | 2,588,598 | 17,852,032 | 4,652,649 |
| 2027 | 20,554,646 | 7,285,662 | 3,560,045 | 1,100,577 | 5,871,605 | 345,447 | 9,069,763 | 2,587,253 | 17,789,888 | 4,637,133 |
| 2028 | 20,552,374 | 7,264,692 | 3,560,248 | 1,104,051 | 5,871,940 | 345,387 | 9,062,409 | 2,586,874 | 17,845,804 | 4,646,305 |
| 2029 | 20,539,023 | 7,244,947 | 3,549,016 | 1,094,622 | 5,853,409 | 345,154 | 9,052,179 | 2,585,162 | 17,678,091 | 4,611,979 |
| 2030 | 20,508,037 | 7,193,322 | 3,544,500 | 1,096,045 | 5,845,965 | 344,638 | 9,035,973 | 2,581,302 | 17,704,242 | 4,742,454 |
| 2031 | 20,444,673 | 7,114,300 | 3,528,997 | 1,092,694 | 5,820,399 | 343,516 | 9,001,852 | 2,573,007 | 17,645,450 | 4,724,977 |
| 2032 | 20,452,557 | 7,083,074 | 3,531,358 | 1,093,128 | 5,824,293 | 343,644 | 9,007,006 | 2,573,979 | 17,652,458 | 4,727,108 |
| 2033 | 20,385,833 | 7,046,035 | 3,522,933 | 1,094,890 | 5,810,401 | 342,518 | 8,981,448 | 2,565,548 | 17,682,791 | 4,728,172 |
| 2034 | 20,241,881 | 7,002,814 | 3,487,006 | 1,076,581 | 5,751,138 | 340,101 | 8,925,385 | 2,547,441 | 17,353,422 | 4,653,031 |
| 2035 | 20,229,189 | 6,995,155 | 3,523,553 | 1,118,508 | 5,811,440 | 339,791 | 8,938,931 | 2,545,930 | 18,086,483 | 4,935,062 |
| Total | 977,104,440 | 405,775,370 | 218,875,767 | 53,717,169 | 360,336,904 | 18,362,173 | 475,098,957 | 135,843,091 | 941,418,117 | 255,919,189 |

TABLE B-19

# Total Transportation Charge for Each Contractor

(Dollars)



| Calendar Year | Southern California Area (continued) | | | | Feather River Area | | | | South Bay Area Future Contractor (38) | Grand Total (39) |
|---|---|---|---|---|---|---|---|---|---|---|
| | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC&WCD (36) | Total (37) | | |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55,537 |
| 1963 | 0 | 692,054 | 0 | 777,256 | 0 | 0 | 0 | 0 | 55,823 | 1,624,120 |
| 1964 | 21,774 | 1,262,657 | 9,394 | 1,596,201 | 0 | 0 | 0 | 0 | 84,094 | 2,781,489 |
| 1965 | 21,903 | 2,184,191 | 17,795 | 2,707,393 | 0 | 0 | 405 | 405 | 129,191 | 4,771,057 |
| 1966 | 38,026 | 3,906,499 | 33,480 | 4,842,614 | 0 | 0 | 565 | 565 | 148,545 | 7,339,174 |
| 1967 | 71,397 | 7,706,041 | 68,264 | 9,513,078 | 0 | 0 | 563 | 563 | 204,922 | 12,712,604 |
| 1968 | 129,106 | 15,340,767 | 143,015 | 18,687,045 | 0 | 0 | 565 | 565 | 279,614 | 24,726,997 |
| 1969 | 199,064 | 23,187,849 | 215,531 | 28,192,410 | 0 | 0 | 3,196 | 3,196 | 349,609 | 35,754,239 |
| 1970 | 290,069 | 30,663,254 | 274,014 | 37,529,933 | 0 | 0 | 15,144 | 15,144 | 386,703 | 45,869,347 |
| 1971 | 409,939 | 40,018,151 | 342,929 | 49,165,802 | 0 | 0 | 16,026 | 16,026 | 376,266 | 58,482,099 |
| 1972 | 537,899 | 53,017,698 | 422,865 | 64,666,119 | 0 | 0 | 17,400 | 17,400 | 401,782 | 76,173,312 |
| 1973 | 588,712 | 57,346,729 | 436,221 | 70,257,591 | 0 | 0 | 17,361 | 17,361 | 376,261 | 80,876,679 |
| 1974 | 612,193 | 61,853,182 | 456,154 | 75,091,583 | 0 | 0 | 17,505 | 17,505 | 399,238 | 86,575,865 |
| 1975 | 645,411 | 66,834,776 | 479,000 | 80,838,599 | 0 | 0 | 18,433 | 18,433 | 408,459 | 93,697,889 |
| 1976 | 669,123 | 68,564,636 | 476,191 | 83,318,960 | 0 | 0 | 17,504 | 17,504 | 431,049 | 97,070,600 |
| 1977 | 697,354 | 66,316,766 | 507,694 | 81,289,246 | 0 | 0 | 18,260 | 18,260 | 423,804 | 95,110,000 |
| 1978 | 709,872 | 73,000,655 | 523,820 | 88,762,774 | 0 | 0 | 17,408 | 17,408 | 427,038 | 104,523,073 |
| 1979 | 713,699 | 72,748,266 | 527,059 | 89,322,206 | 0 | 0 | 20,606 | 20,606 | 447,078 | 106,878,225 |
| 1980 | 778,837 | 80,018,730 | 571,918 | 98,287,594 | 0 | 0 | 17,788 | 17,788 | 507,904 | 116,831,031 |
| 1981 | 806,369 | 90,951,866 | 636,859 | 110,729,222 | 0 | 0 | 21,221 | 21,221 | 517,325 | 131,167,559 |
| 1982 | 857,728 | 93,492,058 | 673,618 | 113,808,256 | 0 | 0 | 28,331 | 28,331 | 515,912 | 135,221,581 |
| 1983 | 955,510 | 102,074,595 | 800,798 | 126,447,864 | 0 | 0 | 16,954 | 16,954 | 554,995 | 151,749,695 |
| 1984 | 1,073,719 | 138,504,267 | 869,329 | 171,139,724 | 0 | 0 | 18,020 | 18,020 | 561,981 | 208,862,312 |
| 1985 | 1,126,883 | 173,451,938 | 914,775 | 211,560,405 | 0 | 0 | 19,977 | 19,977 | 682,132 | 258,614,139 |
| 1986 | 1,152,128 | 193,678,929 | 939,375 | 234,570,744 | 0 | 0 | 19,975 | 19,975 | 620,806 | 285,112,210 |
| 1987 | 1,161,987 | 178,385,537 | 900,532 | 220,154,638 | 0 | 0 | 19,976 | 19,976 | 684,868 | 272,492,744 |
| 1988 | 1,201,341 | 190,921,709 | 908,427 | 232,232,534 | 0 | 0 | 19,983 | 19,983 | 709,318 | 285,624,851 |
| 1989 | 1,192,863 | 193,418,842 | 932,620 | 234,345,949 | 0 | 0 | 20,058 | 20,058 | 766,079 | 287,449,793 |
| 1990 | 1,304,764 | 234,807,812 | 1,206,867 | 282,597,739 | 0 | 0 | 20,076 | 20,076 | 821,918 | 340,218,317 |
| 1991 | 1,371,406 | 176,826,189 | 1,138,057 | 214,140,748 | 0 | 0 | 20,124 | 20,124 | 575,257 | 253,034,025 |
| 1992 | 1,377,876 | 217,949,737 | 1,060,607 | 261,119,682 | 0 | 0 | 20,172 | 20,172 | 918,833 | 314,284,931 |
| 1993 | 1,558,037 | 264,183,215 | 1,445,484 | 316,423,592 | 0 | 0 | 20,313 | 20,313 | 1,145,189 | 378,976,062 |
| 1994 | 1,589,114 | 341,024,461 | 1,630,874 | 404,585,620 | 0 | 0 | 20,459 | 20,459 | 1,034,032 | 477,222,762 |
| 1995 | 1,985,483 | 371,901,274 | 1,714,107 | 443,561,872 | 0 | 0 | 20,612 | 20,612 | 937,182 | 527,333,917 |
| 1996 | 2,596,609 | 399,130,971 | 1,807,192 | 476,191,297 | 0 | 0 | 20,612 | 20,612 | 920,226 | 580,538,949 |
| 1997 | 2,518,228 | 390,594,498 | 1,811,991 | 467,067,900 | 0 | 0 | 20,612 | 20,612 | 925,592 | 574,772,936 |
| 1998 | 2,363,895 | 388,978,835 | 3,513,372 | 468,539,533 | 0 | 0 | 20,612 | 20,612 | 925,895 | 578,579,389 |
| 1999 | 2,414,787 | 383,624,450 | 3,449,055 | 465,221,394 | 0 | 0 | 20,612 | 20,612 | 925,865 | 573,581,162 |
| 2000 | 2,394,673 | 379,541,701 | 3,431,725 | 462,877,663 | 0 | 0 | 20,612 | 20,612 | 926,190 | 570,930,551 |
| 2001 | 2,449,482 | 380,516,948 | 3,430,619 | 464,460,125 | 0 | 0 | 20,612 | 20,612 | 927,340 | 572,615,174 |
| 2002 | 2,456,242 | 382,408,322 | 3,447,577 | 466,694,754 | 0 | 0 | 20,612 | 20,612 | 927,590 | 575,071,422 |
| 2003 | 2,450,178 | 381,561,402 | 3,438,849 | 465,638,531 | 0 | 0 | 20,612 | 20,612 | 927,722 | 573,891,857 |
| 2004 | 2,446,254 | 380,190,141 | 3,424,383 | 463,985,757 | 0 | 0 | 20,612 | 20,612 | 927,865 | 572,036,313 |
| 2005 | 2,717,523 | 378,496,390 | 3,406,968 | 469,572,210 | 0 | 0 | 20,612 | 20,612 | 928,167 | 577,379,543 |
| 2006 | 2,704,730 | 377,206,646 | 3,395,669 | 467,933,864 | 0 | 0 | 20,612 | 20,612 | 928,183 | 575,586,048 |
| 2007 | 2,692,870 | 375,347,136 | 3,379,869 | 465,658,132 | 0 | 0 | 20,612 | 20,612 | 928,283 | 573,086,378 |
| 2008 | 2,688,502 | 373,371,639 | 3,359,961 | 463,278,658 | 0 | 0 | 20,612 | 20,612 | 928,394 | 570,426,919 |
| 2009 | 2,662,140 | 370,774,169 | 3,341,287 | 460,047,525 | 0 | 0 | 20,612 | 20,612 | 928,483 | 566,937,058 |
| 2010 | 3,047,630 | 377,384,822 | 3,373,568 | 473,534,975 | 0 | 0 | 20,612 | 20,612 | 928,907 | 580,845,591 |
| 2011 | 2,879,844 | 369,540,320 | 3,333,030 | 463,352,365 | 0 | 0 | 20,612 | 20,612 | 928,817 | 570,122,921 |
| 2012 | 2,923,342 | 369,505,570 | 3,318,653 | 463,537,416 | 0 | 0 | 20,612 | 20,612 | 928,940 | 570,098,844 |
| 2013 | 2,780,761 | 344,589,353 | 3,089,549 | 432,760,872 | 0 | 0 | 20,612 | 20,612 | 885,861 | 535,435,953 |
| 2014 | 2,842,778 | 354,494,877 | 3,174,811 | 444,973,840 | 0 | 0 | 20,612 | 20,612 | 859,038 | 548,666,971 |
| 2015 | 3,042,876 | 341,307,288 | 3,064,068 | 428,919,968 | 0 | 0 | 20,207 | 20,207 | 828,889 | 530,546,727 |
| 2016 | 3,048,880 | 337,315,176 | 3,017,444 | 424,292,400 | 0 | 0 | 20,047 | 20,047 | 811,951 | 525,173,755 |
| 2017 | 3,069,212 | 341,639,562 | 3,059,282 | 429,618,840 | 0 | 0 | 20,049 | 20,049 | 772,403 | 531,103,445 |
| 2018 | 3,017,761 | 334,736,049 | 2,992,210 | 421,403,171 | 0 | 0 | 20,047 | 20,047 | 696,934 | 522,342,642 |
| 2019 | 2,966,689 | 328,194,834 | 2,926,541 | 413,569,862 | 0 | 0 | 17,416 | 17,416 | 632,974 | 514,218,962 |
| 2020 | 3,116,167 | 314,626,698 | 2,829,676 | 396,920,802 | 0 | 0 | 5,468 | 5,468 | 612,464 | 496,847,768 |
| 2021 | 3,133,231 | 308,736,519 | 2,781,590 | 389,895,678 | 0 | 0 | 4,640 | 4,640 | 608,739 | 489,929,346 |
| 2022 | 3,080,370 | 302,385,270 | 2,749,585 | 382,600,214 | 0 | 0 | 3,252 | 3,252 | 608,128 | 482,684,120 |
| 2023 | 3,051,821 | 300,162,601 | 2,745,427 | 379,939,056 | 0 | 0 | 3,252 | 3,252 | 607,453 | 479,973,137 |
| 2024 | 3,051,784 | 299,906,542 | 2,746,879 | 379,829,002 | 0 | 0 | 3,251 | 3,251 | 607,041 | 480,088,279 |
| 2025 | 3,029,049 | 296,379,961 | 2,713,835 | 375,705,551 | 0 | 0 | 3,248 | 3,248 | 605,594 | 475,516,037 |
| 2026 | 2,988,239 | 293,621,041 | 2,695,513 | 372,239,830 | 0 | 0 | 3,247 | 3,247 | 605,115 | 471,552,851 |
| 2027 | 2,978,523 | 293,025,250 | 2,692,785 | 371,498,527 | 0 | 0 | 3,245 | 3,245 | 604,276 | 470,786,359 |
| 2028 | 2,984,806 | 292,413,444 | 2,686,703 | 370,925,037 | 0 | 0 | 3,243 | 3,243 | 603,201 | 470,186,284 |
| 2029 | 2,962,523 | 291,760,523 | 2,679,131 | 369,955,759 | 0 | 0 | 3,241 | 3,241 | 601,729 | 469,186,215 |
| 2030 | 2,964,523 | 289,958,344 | 2,660,189 | 368,179,534 | 0 | 0 | 3,240 | 3,240 | 600,362 | 467,343,794 |
| 2031 | 2,953,996 | 287,520,552 | 2,631,795 | 365,396,208 | 0 | 0 | 3,239 | 3,239 | 597,365 | 464,509,231 |
| 2032 | 2,955,285 | 286,718,201 | 2,620,332 | 364,582,423 | 0 | 0 | 3,237 | 3,237 | 597,710 | 463,683,958 |
| 2033 | 2,956,700 | 285,622,424 | 2,606,666 | 363,346,359 | 0 | 0 | 3,237 | 3,237 | 597,013 | 462,403,348 |
| 2034 | 2,908,891 | 282,973,943 | 2,590,981 | 359,852,615 | 0 | 0 | 3,236 | 3,236 | 593,392 | 458,645,305 |
| 2035 | 3,002,651 | 284,257,437 | 2,589,880 | 362,374,010 | 0 | 0 | 3,234 | 3,234 | 589,192 | 460,966,627 |
| Total | 139,144,031 | 17,236,755,179 | 140,286,263 | 21,358,636,650 | 0 | 0 | 1,049,884 | 1,049,884 | 47,772,490 | 26,387,510,404 |

TABLE B-20A

# Calculation of Delta Water Rates

(Millions of dollars [$] or millions of acre-feet [AF] discounted to 1993 at 4.620 percent per annum)

| *Procedure* | *Capital Cost Component (1)* | | *Minimum Operation, Maintenance, Power, and Replacement Component (a (2)* | | *Total Delta Water Rate (3)* | |
|---|---|---|---|---|---|---|
| **Beginning in 1994** | | | | | | |
| Total costs of "Initial" Project ConservationFacilities to be reimbursed and project water entitlements during the Project Repayment Period | $2,635.83 (b | 166.37 AF | $1,447.58 (c | 166.37 AF | $4,083.41 | 166.37 AF |
| Less project power revenues to be realized during the Project Repayment Period | -966.87 | | -328.61 | | -1,295.48 | |
| Less Delta Water Charges paid and project water entitlements prior to 1994 | -791.56 (d | -89.14 AF | -457.80 | -89.14 AF | -1,249.36 | -89.14 AF |
| **Total** | **877.40** | **77.23 AF** | **661.17** | **77.23 AF** | **1,538.57** | **77.23 AF** |
| Rate Applicable in 1994 | $11.36 per acre-foot | | $8.56 per acre-foot | | $19.92 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 from 1961 through 1978.
c) Including conservation power costs and credits at San Luis.
d) Applying all Delta Water Charges paid prior to 1970 to reimburse capital costs (the charge was not divided into components until 1970).

TABLE B-20B

# Delta Water Rates by Facility

(Dollars per acre-foot)

| *Item* | *Capital Cost Component (1)* | *Minimum Operation, Maintenance, Power, and Replacement Component (2)* | *Total Delta Water Rate (3)* |
|---|---|---|---|
| **Initial Conservation Facilities** | | | |
| Oroville Division | | | |
| Water supply and power costs (a | 20.62 | 10.02 | 30.64 |
| Less Oroville power revenues | -12.52 | -4.25 | -16.77 |
| *Subtotal* | 8.10 | 5.77 | 13.87 |
| Delta facilities (b | 6.01 | 3.46 | 9.47 |
| California Aqueduct, portion | | | |
| Reach 1 | 1.32 | 1.83 | 3.15 |
| Reach 2A | 0.79 | 0.34 | 1.13 |
| Reach 2B | 0.40 | 0.13 | 0.53 |
| Reach 3 | 0.28 | 0.11 | 0.39 |
| *Subtotal* | 2.79 | 2.41 | 5.20 |
| San Luis facilities | 3.97 | 2.85 | 6.82 |
| Planning and preoperating costs through 1992 | 1.30 | 0.00 | 1.30 |
| Less capital cost credits | -0.56 | 0.00 | -0.56 |
| Less Delta Water Charges paid prior to 1994 | -10.25 | -5.93 | -16.18 |
| **Rate applicable in 1994** | **11.36** | **8.56** | **19.92** |

a) Includes revenue received from non-contractors.
b) Includes (1) Delta facility planning costs, (2) Delta studies costs, and (3) Suisun Marsh facilities costs.

TABLE B-21

# Total Delta Water Charge for Each Contractor

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 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 | 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 | 22,453 | 22,453 | 334,587 | 380,914 | 1,132,448 | 1,847,949 | 57,909 | 105,498 | 163,407 |
| 1985 | 0 | 22,001 | 22,001 | 381,970 | 435,728 | 1,244,939 | 2,062,637 | 106,103 | 192,937 | 299,040 |
| 1986 | 35,358 | 21,767 | 57,125 | 423,378 | 485,372 | 1,330,615 | 2,239,365 | 151,206 | 275,347 | 426,553 |
| 1987 | 0 | 22,984 | 22,984 | 430,024 | 493,786 | 1,304,900 | 2,228,710 | 185,355 | 336,664 | 522,019 |
| 1988 | 88,878 | 150,466 | 239,344 | 464,114 | 533,731 | 1,361,400 | 2,359,245 | 239,792 | 436,607 | 676,399 |
| 1989 | 102,688 | 305,328 | 408,016 | 513,853 | 591,760 | 1,491,833 | 2,597,446 | 331,518 | 602,402 | 933,920 |
| 1990 | 112,723 | 355,132 | 467,855 | 534,787 | 616,676 | 1,537,512 | 2,688,975 | 417,802 | 760,166 | 1,177,968 |
| 1991 | 129,296 | 395,515 | 524,811 | 603,028 | 681,067 | 1,667,194 | 2,951,289 | 443,403 | 806,745 | 1,250,148 |
| 1992 | 158,879 | 489,808 | 648,687 | 729,545 | 808,579 | 1,945,453 | 3,483,577 | 506,628 | 921,780 | 1,428,408 |
| 1993 | 172,457 | 530,778 | 703,235 | 771,894 | 840,958 | 1,990,673 | 3,603,525 | 507,825 | 923,957 | 1,431,782 |
| 1994 | 181,978 | 559,380 | 741,358 | 796,838 | 836,680 | 1,992,094 | 3,625,612 | 498,024 | 906,124 | 1,404,148 |
| 1995 | 194,827 | 682,292 | 877,119 | 836,680 | 836,680 | 1,992,094 | 3,665,454 | 498,024 | 906,124 | 1,404,148 |
| 1996 | 207,676 | 753,012 | 960,688 | 876,521 | 836,680 | 1,992,094 | 3,705,295 | 498,024 | 906,124 | 1,404,148 |
| 1997 | 220,425 | 761,976 | 982,401 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 1998 | 233,274 | 771,140 | 1,004,414 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 1999 | 245,625 | 780,303 | 1,025,928 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2000 | 259,968 | 789,268 | 1,049,236 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2001 | 272,220 | 798,431 | 1,070,651 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2002 | 282,579 | 807,595 | 1,090,174 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2003 | 294,830 | 816,759 | 1,111,589 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2004 | 306,782 | 825,723 | 1,132,505 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2005 | 318,735 | 826,719 | 1,145,454 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2006 | 327,699 | 827,715 | 1,155,414 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2007 | 338,656 | 828,711 | 1,167,367 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2008 | 351,605 | 829,707 | 1,181,312 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2009 | 362,561 | 830,703 | 1,193,264 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2010 | 373,518 | 831,699 | 1,205,217 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2011 | 386,466 | 832,695 | 1,219,161 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2012 | 397,423 | 833,691 | 1,231,114 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2013 | 410,371 | 834,687 | 1,245,058 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2014 | 423,320 | 835,683 | 1,259,003 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2015 | 436,269 | 836,680 | 1,272,949 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2016 | 448,221 | 836,680 | 1,284,901 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2017 | 460,174 | 836,680 | 1,296,854 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2018 | 472,126 | 836,680 | 1,308,806 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2019 | 484,079 | 836,680 | 1,320,759 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2020 | 496,031 | 836,680 | 1,332,711 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2021 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2022 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2023 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2024 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2025 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2026 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2027 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2028 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2029 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2030 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2031 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2032 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2033 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2034 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| 2035 | 498,024 | 836,680 | 1,334,704 | 916,363 | 836,680 | 1,992,094 | 3,745,137 | 498,024 | 906,124 | 1,404,148 |
| Total | 17,458,077 | 36,635,118 | 54,093,195 | 46,390,061 | 44,634,185 | 112,691,927 | 203,716,173 | 23,971,183 | 43,601,894 | 67,573,077 |

TABLE B-21

# Total Delta Water Charge for Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Agricultural (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 40,695 | 10,469 | 0 | 0 | 165,522 | 3,177 | 8,073 | 98,608 | 326,544 |
| 1969 | 61,267 | 3,281 | 0 | 0 | 337,686 | 4,200 | 8,805 | 102,478 | 517,717 |
| 1970 | 104,405 | 19,950 | 0 | 0 | 964,915 | 8,645 | 17,290 | 228,095 | 1,343,300 |
| 1971 | 129,596 | 21,720 | 0 | 0 | 1,377,772 | 9,412 | 20,272 | 264,260 | 1,823,032 |
| 1972 | 160,756 | 24,113 | 0 | 0 | 2,175,835 | 11,253 | 43,131 | 905,057 | 3,320,145 |
| 1973 | 195,541 | 26,664 | 0 | 386,638 | 2,373,167 | 13,333 | 27,553 | 373,307 | 3,396,203 |
| 1974 | 224,202 | 27,909 | 0 | 446,545 | 2,781,595 | 13,954 | 29,770 | 445,138 | 3,969,113 |
| 1975 | 329,688 | 27,413 | 0 | 481,560 | 3,041,048 | 14,620 | 33,702 | 827,591 | 4,755,622 |
| 1976 | 414,245 | 29,388 | 0 | 549,549 | 3,931,785 | 15,673 | 35,966 | 877,151 | 5,853,757 |
| 1977 | 312,532 | 28,195 | 0 | 569,545 | 4,071,218 | 15,977 | 40,289 | 626,210 | 5,663,966 |
| 1978 | 342,208 | 31,588 | 0 | 674,939 | 4,950,959 | 20,006 | 41,065 | 666,516 | 6,727,281 |
| 1979 | 395,523 | 34,294 | 0 | 772,757 | 5,901,986 | 22,863 | 45,725 | 771,613 | 7,944,761 |
| 1980 | 555,341 | 37,679 | 0 | 881,371 | 6,984,026 | 27,272 | 70,658 | 933,481 | 9,489,828 |
| 1981 | 740,789 | 54,204 | 0 | 1,351,487 | 11,140,730 | 41,556 | 77,692 | 1,373,168 | 14,779,626 |
| 1982 | 782,396 | 57,248 | 0 | 1,518,993 | 12,703,436 | 47,707 | 85,873 | 1,530,443 | 16,726,096 |
| 1983 | 543,462 | 38,004 | 0 | 1,057,789 | 9,141,315 | 35,471 | 58,273 | 78,506 | 10,952,820 |
| 1984 | 580,379 | 13,572 | 0 | 1,333,200 | 9,741,623 | 39,893 | 61,770 | 756,132 | 12,526,569 |
| 1985 | 667,740 | 42,441 | 0 | 1,540,611 | 11,403,920 | 48,100 | 69,320 | 644,383 | 14,416,515 |
| 1986 | 745,447 | 45,362 | 0 | 2,213,919 | 12,425,873 | 55,946 | 77,115 | 1,469,725 | 17,033,387 |
| 1987 | 762,180 | 44,485 | 0 | 1,766,065 | 13,410,817 | 59,314 | 77,108 | 1,503,601 | 17,623,570 |
| 1988 | 827,669 | 46,411 | 0 | 1,916,790 | 14,707,763 | 61,882 | 83,540 | 1,633,680 | 19,277,735 |
| 1989 | 921,621 | 49,728 | 0 | 2,125,033 | 16,312,361 | 66,304 | 92,825 | 1,821,693 | 21,389,565 |
| 1990 | 964,288 | 50,136 | 0 | 1,998,766 | 17,276,959 | 66,848 | 95,259 | 1,980,383 | 22,432,639 |
| 1991 | 1,023,374 | 53,208 | 0 | 2,121,239 | 18,335,590 | 70,944 | 101,096 | 2,101,729 | 23,807,180 |
| 1992 | 1,169,299 | 60,795 | 0 | 2,727,688 | 20,646,125 | 81,061 | 115,511 | 2,401,419 | 27,201,898 |
| 1993 | 1,172,060 | 60,939 | 0 | 2,429,434 | 20,999,569 | 81,252 | 115,784 | 2,407,089 | 27,266,127 |
| 1994 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 1995 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 1996 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 1997 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 1998 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 1999 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2000 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2001 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2002 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2003 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2004 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2005 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2006 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2007 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2008 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2009 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2010 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2011 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2012 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2013 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2014 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2015 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2016 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2017 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2018 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2019 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2020 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2021 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2022 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2023 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2024 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2025 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2026 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2027 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2028 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2029 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2030 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2031 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2032 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2033 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2034 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| 2035 | 1,149,438 | 59,763 | 0 | 2,382,545 | 20,594,269 | 79,684 | 113,549 | 2,360,632 | 26,739,880 |
| Total | 62,443,099 | 3,449,242 | 0 | 128,930,808 | 1,092,262,893 | 4,283,391 | 6,302,523 | 125,968,000 | 1,423,639,956 |

TABLE B-21

# Total Delta Water Charge for Each Contractor

(Dollars)



| | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Antelope Valley-East Kern Water Agency (20) | Castaic Lake Water Agency (21) | Coachella Valley Water District (22) | Crestline-Lake Arrowhead Water Agency (23) | Desert Water Agency (24) | Littlerock Creek Irrigation District (25) | Mojave Water Agency (26) | Palmdale Water District (27) | San Bernardino Valley Municipal Water District (28) | San Gabriel Valley Municipal Water District (29) |
| 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 | 13,060 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1969 | 0 | 17,804 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1970 | 0 | 37,905 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1971 | 0 | 48,508 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 160,756 | 74,751 | 41,797 | 4,662 | 64,303 | 1,367 | 67,518 | 13,021 | 369,739 | 85,202 |
| 1973 | 222,207 | 107,163 | 51,552 | 7,279 | 79,994 | 2,577 | 95,104 | 26,131 | 54,908 | 14,338 |
| 1974 | 279,090 | 143,266 | 59,539 | 10,791 | 93,030 | 3,721 | 121,869 | 39,631 | 465,150 | 114,427 |
| 1975 | 319,822 | 166,307 | 63,964 | 13,250 | 100,515 | 4,752 | 140,722 | 50,989 | 479,733 | 119,705 |
| 1976 | 431,018 | 207,673 | 74,449 | 17,045 | 117,550 | 6,269 | 174,366 | 67,591 | 538,772 | 137,142 |
| 1977 | 469,922 | 226,502 | 79,144 | 19,079 | 122,180 | 6,861 | 189,848 | 77,255 | 540,410 | 139,097 |
| 1978 | 600,180 | 274,819 | 97,313 | 24,428 | 147,413 | 9,687 | 236,913 | 98,345 | 631,768 | 165,313 |
| 1979 | 720,173 | 320,077 | 115,033 | 29,836 | 171,470 | 11,889 | 284,640 | 117,285 | 714,457 | 189,760 |
| 1980 | 857,818 | 376,845 | 134,920 | 35,949 | 210,736 | 14,256 | 337,177 | 138,590 | 811,952 | 215,694 |
| 1981 | 1,355,100 | 592,631 | 218,713 | 57,637 | 343,292 | 22,946 | 534,813 | 211,396 | 1,237,658 | 330,644 |
| 1982 | 1,551,434 | 664,082 | 254,298 | 66,408 | 400,739 | 26,335 | 313,057 | 235,100 | 1,341,923 | 364,482 |
| 1983 | 1,110,994 | 472,521 | 184,283 | 47,759 | 291,367 | 19,002 | 434,517 | 163,925 | 943,775 | 252,096 |
| 1984 | 450,405 | 509,602 | 202,914 | 52,247 | 321,718 | 20,719 | 472,282 | 174,500 | 1,003,760 | 266,383 |
| 1985 | 565,881 | 591,346 | 240,344 | 61,540 | 381,970 | 24,474 | 551,734 | 200,605 | 1,152,983 | 308,405 |
| 1986 | 635,066 | 659,259 | 275,347 | 70,160 | 438,498 | 27,822 | 625,994 | 223,785 | 1,285,253 | 350,799 |
| 1987 | 652,450 | 676,176 | 288,131 | 73,104 | 467,095 | 29,064 | 648,002 | 228,654 | 1,319,729 | 364,779 |
| 1988 | 711,641 | 742,582 | 319,496 | 80,756 | 525,996 | 32,024 | 711,641 | 248,146 | 1,438,752 | 402,232 |
| 1989 | 2,083,593 | 830,453 | 362,565 | 91,333 | 605,021 | 36,301 | 803,932 | 276,155 | 1,607,864 | 454,180 |
| 1990 | 2,207,667 | 869,029 | 386,049 | 96,930 | 636,731 | 38,438 | 848,974 | 289,119 | 1,696,277 | 481,308 |
| 1991 | 2,454,678 | 961,298 | 409,704 | 102,869 | 675,746 | 40,793 | 900,994 | 306,835 | 1,819,725 | 510,800 |
| 1992 | 2,804,695 | 1,098,371 | 468,125 | 117,538 | 772,102 | 46,610 | 1,029,469 | 350,587 | 2,079,203 | 583,636 |
| 1993 | 2,811,318 | 1,100,964 | 469,230 | 117,815 | 773,925 | 46,720 | 1,031,900 | 351,415 | 2,084,113 | 585,014 |
| 1994 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 1995 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 1996 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 1997 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 1998 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 1999 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2000 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2001 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2002 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2003 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2004 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2005 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2006 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2007 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2008 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2009 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2010 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2011 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2012 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2013 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2014 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2015 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2016 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2017 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2018 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2019 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2020 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2021 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2022 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2023 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2024 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2025 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2026 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2027 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2028 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2029 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2030 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2031 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2032 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2033 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2034 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| 2035 | 2,757,058 | 1,079,715 | 460,174 | 115,541 | 758,988 | 45,818 | 1,011,984 | 344,632 | 2,043,889 | 573,723 |
| Total | 139,252,344 | 57,131,024 | 24,124,218 | 6,051,137 | 39,618,887 | 2,396,983 | 53,058,794 | 18,363,604 | 109,461,242 | 30,531,802 |

TABLE B-21

# Total Delta Water Charge for Each Contractor

(Dollars)



| Calendar Year | Southern California Area (continued) | | | | Feather River Area | | | | South Bay Area Future Contractor (38) | Grand Total (39) |
|---|---|---|---|---|---|---|---|---|---|---|
| | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC&WCD (36) | Total (37) | | |
| 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 | 241,150 |
| 1968 | 0 | 0 | 0 | 13,060 | 0 | 1,050 | 875 | 1,925 | 0 | 583,631 |
| 1969 | 0 | 0 | 0 | 17,804 | 0 | 1,225 | 929 | 2,154 | 0 | 827,578 |
| 1970 | 0 | 0 | 0 | 37,905 | 0 | 3,848 | 1,995 | 5,843 | 0 | 2,160,886 |
| 1971 | 0 | 0 | 0 | 48,508 | 0 | 4,546 | 3,186 | 7,732 | 0 | 2,696,792 |
| 1972 | 0 | 2,043,211 | 0 | 2,926,327 | 0 | 4,929 | 3,778 | 8,707 | 0 | 7,206,052 |
| 1973 | 0 | 2,317,893 | 0 | 2,979,146 | 0 | 7,059 | 4,444 | 11,503 | 0 | 7,456,998 |
| 1974 | 0 | 4,231,933 | 0 | 5,562,447 | 0 | 8,336 | 4,931 | 13,267 | 0 | 10,683,514 |
| 1975 | 0 | 5,073,286 | 0 | 6,533,045 | 0 | 9,416 | 5,117 | 14,533 | 0 | 12,440,851 |
| 1976 | 0 | 6,422,167 | 0 | 8,194,042 | 0 | 7,004 | 5,780 | 12,784 | 0 | 15,299,760 |
| 1977 | 0 | 7,104,278 | 0 | 8,974,576 | 0 | 16,917 | 5,827 | 22,744 | 0 | 15,869,924 |
| 1978 | 0 | 9,016,389 | 0 | 11,302,568 | 0 | 12,635 | 6,844 | 19,479 | 0 | 19,425,531 |
| 1979 | 0 | 10,935,192 | 0 | 13,609,812 | 0 | 16,575 | 7,773 | 24,348 | 0 | 23,095,855 |
| 1980 | 84,294 | 13,102,796 | 12,396 | 16,333,423 | 0 | 19,834 | 8,801 | 28,635 | 0 | 27,557,096 |
| 1981 | 140,930 | 20,910,099 | 36,136 | 25,991,995 | 0 | 21,682 | 13,370 | 35,052 | 0 | 43,335,911 |
| 1982 | 167,929 | 23,998,560 | 57,248 | 29,441,595 | 0 | 16,117 | 14,694 | 30,811 | 0 | 49,027,703 |
| 1983 | 124,148 | 17,203,307 | 50,672 | 21,298,366 | 0 | 15,202 | 10,134 | 25,336 | 0 | 34,186,736 |
| 1984 | 138,982 | 18,766,458 | 64,344 | 22,444,314 | 20,590 | 15,442 | 10,681 | 46,713 | 0 | 37,051,405 |
| 1985 | 166,935 | 22,050,974 | 84,882 | 26,382,073 | 24,050 | 16,976 | 12,166 | 53,192 | 0 | 43,235,458 |
| 1986 | 195,056 | 25,089,658 | 120,965 | 29,997,662 | 31,753 | 18,145 | 13,457 | 63,355 | 0 | 49,817,447 |
| 1987 | 207,598 | 26,095,043 | 148,284 | 31,198,109 | 37,071 | 17,794 | 13,642 | 68,507 | 0 | 51,663,899 |
| 1988 | 233,604 | 28,781,238 | 201,116 | 34,429,224 | 46,722 | 18,565 | 14,852 | 80,139 | 0 | 57,062,086 |
| 1989 | 268,530 | 32,505,376 | 265,215 | 40,190,518 | 61,184 | 19,891 | 16,576 | 97,651 | 0 | 65,617,116 |
| 1990 | 289,119 | 33,616,369 | 334,242 | 41,790,252 | 63,506 | 20,055 | 17,381 | 100,942 | 0 | 68,658,631 |
| 1991 | 306,835 | 35,676,185 | 354,722 | 44,521,184 | 170,267 | 21,283 | 19,155 | 210,705 | 0 | 73,265,317 |
| 1992 | 350,587 | 40,763,329 | 405,303 | 50,869,555 | 194,545 | 24,318 | 22,697 | 241,560 | 0 | 83,873,685 |
| 1993 | 351,415 | 40,859,579 | 406,260 | 50,989,668 | 195,005 | 24,376 | 23,563 | 242,944 | 0 | 84,237,281 |
| 1994 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 23,905 | 23,905 | 239,051 | 0 | 82,755,595 |
| 1995 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 23,905 | 24,901 | 240,047 | 0 | 82,932,194 |
| 1996 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 23,905 | 25,897 | 241,043 | 0 | 83,056,600 |
| 1997 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 23,905 | 26,893 | 242,039 | 0 | 83,119,151 |
| 1998 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 23,905 | 27,889 | 243,035 | 0 | 83,142,160 |
| 1999 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 23,905 | 28,885 | 244,031 | 0 | 83,164,670 |
| 2000 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 23,905 | 30,081 | 245,227 | 0 | 83,189,174 |
| 2001 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 31,276 | 770,343 | 0 | 83,735,705 |
| 2002 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 32,471 | 771,538 | 0 | 83,756,423 |
| 2003 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 33,666 | 772,733 | 0 | 83,779,033 |
| 2004 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 34,862 | 773,929 | 0 | 83,801,145 |
| 2005 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 36,057 | 775,124 | 0 | 83,815,289 |
| 2006 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 37,451 | 776,518 | 0 | 83,826,643 |
| 2007 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 38,846 | 777,913 | 0 | 83,839,991 |
| 2008 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 40,240 | 779,307 | 0 | 83,855,330 |
| 2009 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 41,635 | 780,702 | 0 | 83,868,677 |
| 2010 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 43,029 | 782,096 | 0 | 83,882,024 |
| 2011 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 44,623 | 783,690 | 0 | 83,897,562 |
| 2012 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 46,217 | 785,284 | 0 | 83,911,109 |
| 2013 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 48,009 | 787,076 | 0 | 83,926,845 |
| 2014 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 49,802 | 788,869 | 0 | 83,942,583 |
| 2015 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 51,794 | 790,861 | 0 | 83,958,521 |
| 2016 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 83,972,466 |
| 2017 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 83,984,419 |
| 2018 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 83,996,371 |
| 2019 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,008,324 |
| 2020 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,020,276 |
| 2021 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2022 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2023 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2024 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2025 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2026 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2027 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2028 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2029 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2030 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2031 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2032 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2033 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2034 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| 2035 | 344,632 | 40,070,973 | 398,419 | 50,005,546 | 191,241 | 547,826 | 53,787 | 792,854 | 0 | 84,022,269 |
| Total | 17,500,506 | 2,109,544,186 | 19,275,383 | 2,626,310,110 | 8,876,815 | 19,704,465 | 2,136,817 | 30,718,097 | 0 | 4,406,050,608 |

TABLE B-22

# Water System Revenue Bond Surcharge for Each Contractor

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 36,888 | 51,291 | 88,179 | 32,209 | 38,210 | 126,672 | 197,091 | 16,621 | 30,887 | 47,508 |
| 1989 | 73,556 | 104,930 | 178,486 | 65,325 | 77,891 | 256,675 | 399,891 | 40,433 | 74,806 | 115,239 |
| 1990 | 64,850 | 95,278 | 160,128 | 60,501 | 80,631 | 235,408 | 376,540 | 44,036 | 81,591 | 125,627 |
| 1991 | 98,609 | 143,740 | 242,349 | 97,180 | 127,546 | 366,679 | 591,405 | 69,827 | 130,219 | 200,046 |
| 1992 | 131,376 | 196,667 | 328,043 | 139,051 | 179,500 | 507,345 | 825,896 | 95,255 | 177,501 | 272,756 |
| 1993 | 146,878 | 223,975 | 370,853 | 160,367 | 203,936 | 566,085 | 930,388 | 110,339 | 206,360 | 316,699 |
| 1994 | 144,871 | 222,900 | 367,771 | 161,027 | 199,216 | 556,244 | 916,487 | 128,512 | 251,207 | 379,719 |
| 1995 | 142,517 | 238,476 | 380,993 | 162,732 | 193,163 | 539,142 | 895,037 | 226,794 | 480,887 | 707,681 |
| 1996 | 147,293 | 257,748 | 405,041 | 173,386 | 197,649 | 551,554 | 922,589 | 319,362 | 765,686 | 1,085,048 |
| 1997 | 143,188 | 249,141 | 392,329 | 167,775 | 189,801 | 529,563 | 887,139 | 311,721 | 749,581 | 1,061,302 |
| 1998 | 143,822 | 248,801 | 392,623 | 167,729 | 188,270 | 525,201 | 881,200 | 314,376 | 758,202 | 1,072,578 |
| 1999 | 145,343 | 249,964 | 395,307 | 168,700 | 187,846 | 523,924 | 880,470 | 319,003 | 771,629 | 1,090,632 |
| 2000 | 142,899 | 244,302 | 387,201 | 165,066 | 182,291 | 508,336 | 855,693 | 314,928 | 764,012 | 1,078,940 |
| 2001 | 144,174 | 244,999 | 389,173 | 165,728 | 181,480 | 505,975 | 853,183 | 319,051 | 776,285 | 1,095,336 |
| 2002 | 145,703 | 243,982 | 389,685 | 164,420 | 180,035 | 501,893 | 846,348 | 316,835 | 770,955 | 1,087,790 |
| 2003 | 148,533 | 245,208 | 393,741 | 164,635 | 180,257 | 502,461 | 847,353 | 317,549 | 772,751 | 1,090,300 |
| 2004 | 158,579 | 258,211 | 416,790 | 172,734 | 189,110 | 527,085 | 888,929 | 333,479 | 811,581 | 1,145,060 |
| 2005 | 161,284 | 259,133 | 420,417 | 172,728 | 189,090 | 526,976 | 888,794 | 333,775 | 812,362 | 1,146,137 |
| 2006 | 164,203 | 260,434 | 424,637 | 172,981 | 189,354 | 527,657 | 889,992 | 334,567 | 814,352 | 1,148,919 |
| 2007 | 167,159 | 261,818 | 428,977 | 173,294 | 189,683 | 528,522 | 891,499 | 335,473 | 816,617 | 1,152,090 |
| 2008 | 169,912 | 262,911 | 432,823 | 173,418 | 189,806 | 528,813 | 892,037 | 336,012 | 817,989 | 1,154,001 |
| 2009 | 172,681 | 264,058 | 436,739 | 173,584 | 189,974 | 529,231 | 892,789 | 336,629 | 819,550 | 1,156,179 |
| 2010 | 175,533 | 265,355 | 440,888 | 173,854 | 190,257 | 529,967 | 894,078 | 337,444 | 821,594 | 1,159,038 |
| 2011 | 177,383 | 266,122 | 443,505 | 173,903 | 190,253 | 529,714 | 893,870 | 338,157 | 823,402 | 1,161,559 |
| 2012 | 175,774 | 265,720 | 441,494 | 174,093 | 190,518 | 530,695 | 895,306 | 337,908 | 822,723 | 1,160,631 |
| 2013 | 181,385 | 267,845 | 449,230 | 174,067 | 190,311 | 529,356 | 893,734 | 339,790 | 827,532 | 1,167,322 |
| 2014 | 183,640 | 268,940 | 452,580 | 174,269 | 190,467 | 529,514 | 894,250 | 340,886 | 830,282 | 1,171,168 |
| 2015 | 185,849 | 269,869 | 455,718 | 174,340 | 190,476 | 529,252 | 894,068 | 341,756 | 832,487 | 1,174,243 |
| 2016 | 188,268 | 270,996 | 459,264 | 174,514 | 190,595 | 529,281 | 894,390 | 342,862 | 835,271 | 1,178,133 |
| 2017 | 190,822 | 272,202 | 463,024 | 174,712 | 190,738 | 529,359 | 894,809 | 344,054 | 838,267 | 1,182,321 |
| 2018 | 193,244 | 273,103 | 466,347 | 174,687 | 190,633 | 528,736 | 894,056 | 344,844 | 840,290 | 1,185,134 |
| 2019 | 196,121 | 274,521 | 470,642 | 174,962 | 190,851 | 528,992 | 894,805 | 346,268 | 843,862 | 1,190,130 |
| 2020 | 198,884 | 275,644 | 474,528 | 175,017 | 190,825 | 528,555 | 894,397 | 347,304 | 846,491 | 1,193,795 |
| 2021 | 202,097 | 277,248 | 479,345 | 175,342 | 191,089 | 528,900 | 895,331 | 348,923 | 850,551 | 1,199,474 |
| 2022 | 205,531 | 278,995 | 484,526 | 175,719 | 191,405 | 529,367 | 896,491 | 350,702 | 855,003 | 1,205,705 |
| 2023 | 254,795 | 342,111 | 596,906 | 214,538 | 233,566 | 645,451 | 1,093,555 | 429,500 | 1,047,263 | 1,476,763 |
| 2024 | 151,562 | 201,216 | 352,778 | 125,609 | 136,674 | 377,369 | 639,652 | 252,283 | 615,242 | 867,525 |
| 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 | 5,855,206 | 8,897,854 | 14,753,060 | 5,864,196 | 6,573,397 | 18,375,949 | 30,813,542 | 10,417,258 | 24,985,270 | 35,402,528 |

TABLE B-22

# Water System Revenue Bond Surcharge for Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Agricultural (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 43,035 | 2,098 | 0 | 84,892 | 916,572 | 2,822 | 3,611 | 84,520 | 1,137,550 |
| 1989 | 89,334 | 4,199 | 0 | 175,229 | 1,879,267 | 5,626 | 7,427 | 175,939 | 2,337,021 |
| 1990 | 84,041 | 3,809 | 0 | 453,379 | 1,492,333 | 5,118 | 6,878 | 171,890 | 2,217,448 |
| 1991 | 127,952 | 5,805 | 0 | 559,058 | 2,434,518 | 7,833 | 10,533 | 261,682 | 3,407,381 |
| 1992 | 175,382 | 7,989 | 0 | 705,314 | 3,355,135 | 10,792 | 14,466 | 358,689 | 4,627,767 |
| 1993 | 194,969 | 8,893 | 0 | 443,880 | 4,059,486 | 12,026 | 16,121 | 398,854 | 5,134,229 |
| 1994 | 186,666 | 8,490 | 0 | 386,183 | 3,923,555 | 11,523 | 15,414 | 381,861 | 4,913,692 |
| 1995 | 181,088 | 8,239 | 0 | 378,780 | 3,988,987 | 11,187 | 14,662 | 370,463 | 4,953,406 |
| 1996 | 185,331 | 8,430 | 0 | 387,035 | 3,921,672 | 11,454 | 15,312 | 379,148 | 4,908,382 |
| 1997 | 178,030 | 8,097 | 0 | 440,789 | 3,698,422 | 11,004 | 14,711 | 364,220 | 4,715,273 |
| 1998 | 176,655 | 8,033 | 0 | 508,119 | 3,599,353 | 10,921 | 14,599 | 361,413 | 4,679,093 |
| 1999 | 176,319 | 8,017 | 0 | 580,133 | 3,519,780 | 10,902 | 14,573 | 360,734 | 4,670,458 |
| 2000 | 171,167 | 7,782 | 0 | 636,459 | 3,343,908 | 10,585 | 14,150 | 350,201 | 4,534,252 |
| 2001 | 170,469 | 7,749 | 0 | 709,387 | 3,255,014 | 10,543 | 14,094 | 348,782 | 4,516,038 |
| 2002 | 169,155 | 7,690 | 0 | 697,727 | 3,235,610 | 10,462 | 13,986 | 346,097 | 4,480,727 |
| 2003 | 169,407 | 7,702 | 0 | 692,637 | 3,246,059 | 10,478 | 14,008 | 346,615 | 4,486,906 |
| 2004 | 177,772 | 8,083 | 0 | 720,480 | 3,412,189 | 10,997 | 14,701 | 363,734 | 4,707,956 |
| 2005 | 177,797 | 8,085 | 0 | 714,296 | 3,418,457 | 10,999 | 14,704 | 363,790 | 4,708,128 |
| 2006 | 178,088 | 8,099 | 0 | 709,239 | 3,429,778 | 11,017 | 14,729 | 364,389 | 4,715,339 |
| 2007 | 178,441 | 8,115 | 0 | 704,475 | 3,442,243 | 11,040 | 14,759 | 365,114 | 4,724,187 |
| 2008 | 178,600 | 8,123 | 0 | 698,995 | 3,450,913 | 11,050 | 14,774 | 365,442 | 4,727,897 |
| 2009 | 178,801 | 8,133 | 0 | 693,737 | 3,460,355 | 11,063 | 14,791 | 365,857 | 4,732,737 |
| 2010 | 179,109 | 8,148 | 0 | 688,942 | 3,471,817 | 11,083 | 14,818 | 366,490 | 4,740,407 |
| 2011 | 179,387 | 8,161 | 0 | 699,230 | 3,468,159 | 11,095 | 14,841 | 367,061 | 4,747,934 |
| 2012 | 179,355 | 8,159 | 0 | 689,889 | 3,476,588 | 11,098 | 14,838 | 366,994 | 4,746,921 |
| 2013 | 180,040 | 8,192 | 0 | 721,375 | 3,461,552 | 11,123 | 14,895 | 368,402 | 4,765,579 |
| 2014 | 180,508 | 8,214 | 0 | 733,667 | 3,460,311 | 11,146 | 14,934 | 369,360 | 4,778,140 |
| 2015 | 180,851 | 8,230 | 0 | 745,929 | 3,456,219 | 11,161 | 14,963 | 370,064 | 4,787,417 |
| 2016 | 181,313 | 8,252 | 0 | 759,189 | 3,453,912 | 11,183 | 15,001 | 371,012 | 4,799,862 |
| 2017 | 181,815 | 8,275 | 0 | 773,163 | 3,451,812 | 11,207 | 15,043 | 372,040 | 4,813,355 |
| 2018 | 182,098 | 8,289 | 0 | 786,780 | 3,445,007 | 11,217 | 15,067 | 372,622 | 4,821,080 |
| 2019 | 182,710 | 8,317 | 0 | 802,434 | 3,443,797 | 11,247 | 15,118 | 373,876 | 4,837,499 |
| 2020 | 183,109 | 8,336 | 0 | 817,825 | 3,437,928 | 11,263 | 15,151 | 374,694 | 4,848,306 |
| 2021 | 183,808 | 8,369 | 0 | 835,281 | 3,436,984 | 11,298 | 15,209 | 376,128 | 4,867,077 |
| 2022 | 184,582 | 8,405 | 0 | 853,884 | 3,436,650 | 11,337 | 15,274 | 377,714 | 4,887,846 |
| 2023 | 225,847 | 10,285 | 0 | 1,064,142 | 4,185,925 | 13,860 | 18,688 | 462,158 | 5,980,905 |
| 2024 | 132,531 | 6,036 | 0 | 636,396 | 2,444,658 | 8,126 | 10,967 | 271,205 | 3,509,919 |
| 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 | 6,265,562 | 285,328 | 0 | 23,688,349 | 122,014,925 | 386,886 | 517,810 | 12,809,254 | 165,968,114 |

TABLE B-22

# Water System Revenue Bond Surcharge for Each Contractor

(Dollars)



| | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Antelope Valley-East Kern Water Agency (20) | Castaic Lake Water Agency (21) | Coachella Valley Water District (22) | Crestline-Lake Arrowhead Water Agency (23) | Desert Water Agency (24) | Littlerock Creek Irrigation District (25) | Mojave Water Agency (26) | Palmdale Water District (27) | San Bernardino Valley Municipal Water District (28) | San Gabriel Valley Municipal Water District (29) |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 81,377 | 72,318 | 34,229 | 9,695 | 56,339 | 2,728 | 70,906 | 20,564 | 191,436 | 50,534 |
| 1989 | 309,973 | 148,786 | 70,827 | 19,989 | 117,714 | 5,671 | 146,402 | 42,172 | 391,651 | 104,150 |
| 1990 | 291,440 | 138,318 | 66,869 | 18,753 | 110,224 | 5,331 | 137,561 | 39,311 | 364,910 | 97,431 |
| 1991 | 461,792 | 218,364 | 102,588 | 28,854 | 169,102 | 8,145 | 210,978 | 60,111 | 565,173 | 149,606 |
| 1992 | 626,359 | 365,239 | 139,225 | 39,251 | 229,495 | 10,989 | 286,389 | 81,269 | 765,839 | 203,126 |
| 1993 | 692,210 | 402,542 | 153,117 | 43,280 | 252,397 | 12,116 | 315,027 | 89,680 | 842,926 | 223,689 |
| 1994 | 669,267 | 390,210 | 149,159 | 42,403 | 245,873 | 11,729 | 306,506 | 86,760 | 829,268 | 220,060 |
| 1995 | 649,165 | 378,962 | 144,679 | 41,211 | 238,488 | 11,375 | 297,239 | 84,148 | 806,071 | 213,930 |
| 1996 | 664,352 | 387,773 | 148,054 | 42,188 | 244,046 | 11,642 | 304,159 | 86,116 | 827,901 | 219,740 |
| 1997 | 638,157 | 372,505 | 142,216 | 40,525 | 234,423 | 11,182 | 292,167 | 82,719 | 796,125 | 211,311 |
| 1998 | 633,202 | 369,635 | 141,111 | 40,211 | 232,602 | 11,095 | 289,899 | 82,075 | 790,832 | 209,911 |
| 1999 | 631,973 | 368,941 | 140,836 | 40,134 | 232,149 | 11,073 | 289,337 | 81,914 | 790,214 | 209,752 |
| 2000 | 613,481 | 358,168 | 136,715 | 38,961 | 225,356 | 10,748 | 280,872 | 79,516 | 768,014 | 203,864 |
| 2001 | 610,954 | 356,717 | 136,151 | 38,801 | 224,427 | 10,703 | 279,716 | 79,187 | 765,800 | 203,281 |
| 2002 | 606,173 | 353,918 | 135,080 | 38,495 | 222,662 | 10,619 | 277,519 | 78,566 | 759,770 | 201,682 |
| 2003 | 607,005 | 354,397 | 135,260 | 38,546 | 222,959 | 10,634 | 277,892 | 78,673 | 760,775 | 201,951 |
| 2004 | 636,905 | 371,847 | 141,918 | 40,443 | 233,932 | 11,157 | 291,572 | 82,547 | 798,211 | 211,891 |
| 2005 | 636,924 | 371,850 | 141,916 | 40,442 | 233,930 | 11,158 | 291,573 | 82,548 | 798,197 | 211,889 |
| 2006 | 637,896 | 372,411 | 142,128 | 40,502 | 234,279 | 11,175 | 292,010 | 82,672 | 799,377 | 212,204 |
| 2007 | 639,089 | 373,100 | 142,388 | 40,576 | 234,708 | 11,196 | 292,548 | 82,826 | 800,835 | 212,593 |
| 2008 | 639,587 | 373,383 | 142,494 | 40,606 | 234,882 | 11,204 | 292,768 | 82,889 | 801,421 | 212,750 |
| 2009 | 640,238 | 373,756 | 142,634 | 40,645 | 235,112 | 11,216 | 293,058 | 82,972 | 802,200 | 212,959 |
| 2010 | 641,272 | 374,353 | 142,859 | 40,709 | 235,483 | 11,234 | 293,524 | 83,105 | 803,459 | 213,295 |
| 2011 | 641,403 | 374,404 | 142,853 | 40,704 | 235,474 | 11,235 | 293,531 | 83,116 | 803,321 | 213,270 |
| 2012 | 642,153 | 374,867 | 143,055 | 40,765 | 235,807 | 11,249 | 293,927 | 83,219 | 804,563 | 213,588 |
| 2013 | 641,902 | 374,641 | 142,890 | 40,708 | 235,536 | 11,240 | 293,646 | 83,170 | 803,301 | 213,290 |
| 2014 | 642,591 | 375,014 | 143,005 | 40,737 | 235,724 | 11,251 | 293,901 | 83,253 | 803,821 | 213,441 |
| 2015 | 642,794 | 375,102 | 143,008 | 40,734 | 235,730 | 11,253 | 293,930 | 83,273 | 803,715 | 213,427 |
| 2016 | 643,373 | 375,408 | 143,094 | 40,754 | 235,872 | 11,261 | 294,129 | 83,341 | 804,064 | 213,535 |
| 2017 | 644,040 | 375,764 | 143,197 | 40,779 | 236,042 | 11,271 | 294,365 | 83,421 | 804,504 | 213,667 |
| 2018 | 643,880 | 375,636 | 143,114 | 40,751 | 235,906 | 11,267 | 294,219 | 83,393 | 803,892 | 213,521 |
| 2019 | 644,821 | 376,149 | 143,274 | 40,792 | 236,169 | 11,281 | 294,573 | 83,507 | 804,635 | 213,735 |
| 2020 | 644,950 | 376,186 | 143,251 | 40,780 | 236,130 | 11,282 | 294,553 | 83,516 | 804,342 | 213,675 |
| 2021 | 646,069 | 376,798 | 143,444 | 40,830 | 236,449 | 11,299 | 294,979 | 83,652 | 805,259 | 213,937 |
| 2022 | 647,375 | 377,518 | 143,676 | 40,891 | 236,832 | 11,320 | 295,487 | 83,812 | 806,383 | 214,256 |
| 2023 | 790,284 | 460,801 | 175,319 | 49,890 | 288,991 | 13,816 | 360,603 | 102,303 | 983,744 | 261,406 |
| 2024 | 462,634 | 269,720 | 102,586 | 29,188 | 169,100 | 8,086 | 211,027 | 59,881 | 575,485 | 152,937 |
| 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 | 22,237,060 | 12,885,501 | 4,968,219 | 1,413,523 | 8,190,344 | 391,231 | 10,212,492 | 2,895,197 | 27,831,434 | 7,389,284 |

TABLE B-22

# Water System Revenue Bond Surcharge for Each Contractor

(Dollars)



| | Southern California Area (continued) | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC&WCD (36) | Total (37) | South Bay Area Future Contractor (38) | Grand Total (39) |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 30,414 | 3,345,930 | 22,943 | 3,989,413 | 1,691 | 699 | 1,081 | 3,471 | 0 | 5,463,212 |
| 1989 | 63,360 | 6,914,298 | 52,095 | 8,387,088 | 3,808 | 1,385 | 2,190 | 7,383 | 0 | 11,425,108 |
| 1990 | 59,899 | 6,360,905 | 55,124 | 7,746,076 | 3,993 | 1,260 | 2,023 | 7,276 | 0 | 10,633,095 |
| 1991 | 91,972 | 9,738,012 | 84,183 | 11,888,880 | 15,470 | 1,934 | 3,153 | 20,557 | 0 | 16,350,618 |
| 1992 | 124,847 | 13,142,613 | 113,570 | 16,128,211 | 21,299 | 2,662 | 4,370 | 28,331 | 0 | 22,211,004 |
| 1993 | 137,459 | 14,476,079 | 125,219 | 17,765,741 | 23,801 | 2,976 | 4,930 | 31,707 | 0 | 24,549,617 |
| 1994 | 135,264 | 14,089,765 | 121,210 | 17,297,474 | 22,743 | 2,843 | 4,846 | 30,432 | 0 | 23,905,575 |
| 1995 | 131,495 | 13,687,713 | 117,747 | 16,802,223 | 22,077 | 2,760 | 4,822 | 29,659 | 0 | 23,768,999 |
| 1996 | 135,076 | 14,021,831 | 120,486 | 17,213,364 | 22,813 | 2,825 | 5,060 | 30,698 | 0 | 24,565,122 |
| 1997 | 129,897 | 13,473,121 | 115,732 | 16,540,080 | 21,921 | 2,758 | 4,987 | 29,666 | 0 | 23,625,789 |
| 1998 | 129,040 | 13,372,771 | 114,830 | 16,417,214 | 21,759 | 2,782 | 5,078 | 29,619 | 0 | 23,472,327 |
| 1999 | 128,945 | 13,351,212 | 114,603 | 16,391,083 | 21,725 | 2,823 | 5,202 | 29,750 | 0 | 23,457,700 |
| 2000 | 125,329 | 12,964,975 | 111,246 | 15,917,245 | 21,097 | 2,788 | 5,185 | 29,070 | 0 | 22,802,401 |
| 2001 | 124,974 | 12,916,127 | 110,784 | 15,857,622 | 21,019 | 59,606 | 5,302 | 85,927 | 0 | 22,797,279 |
| 2002 | 123,991 | 12,814,331 | 109,912 | 15,732,718 | 21,660 | 59,156 | 5,487 | 86,303 | 0 | 22,623,571 |
| 2003 | 124,156 | 12,831,201 | 110,058 | 15,753,507 | 22,487 | 59,254 | 5,718 | 87,459 | 0 | 22,659,266 |
| 2004 | 130,266 | 13,462,505 | 115,474 | 16,528,668 | 24,422 | 62,190 | 6,233 | 92,845 | 0 | 23,780,248 |
| 2005 | 130,265 | 13,462,174 | 115,472 | 16,528,338 | 25,240 | 62,209 | 6,463 | 93,912 | 0 | 23,785,726 |
| 2006 | 130,459 | 13,481,987 | 115,643 | 16,552,743 | 26,089 | 62,320 | 6,700 | 95,109 | 0 | 23,826,739 |
| 2007 | 130,698 | 13,506,479 | 115,855 | 16,582,891 | 26,941 | 62,454 | 6,938 | 96,333 | 0 | 23,875,977 |
| 2008 | 130,794 | 13,516,287 | 115,940 | 16,595,005 | 27,757 | 62,519 | 7,167 | 97,443 | 0 | 23,899,206 |
| 2009 | 130,922 | 13,529,336 | 116,053 | 16,611,101 | 28,572 | 62,599 | 7,395 | 98,566 | 0 | 23,928,111 |
| 2010 | 131,129 | 13,550,474 | 116,235 | 16,637,131 | 29,398 | 62,716 | 7,627 | 99,741 | 0 | 23,971,283 |
| 2011 | 131,111 | 13,548,923 | 116,235 | 16,635,580 | 29,685 | 62,813 | 7,693 | 100,191 | 0 | 23,982,639 |
| 2012 | 131,309 | 13,569,097 | 116,395 | 16,659,994 | 29,438 | 62,802 | 7,637 | 99,877 | 0 | 24,004,223 |
| 2013 | 131,118 | 13,550,238 | 116,273 | 16,637,953 | 30,308 | 63,043 | 7,836 | 101,187 | 0 | 24,015,005 |
| 2014 | 131,209 | 13,559,878 | 116,371 | 16,650,196 | 30,661 | 63,207 | 7,918 | 101,786 | 0 | 24,048,120 |
| 2015 | 131,197 | 13,559,014 | 116,379 | 16,649,556 | 31,004 | 63,327 | 7,997 | 102,328 | 0 | 24,063,330 |
| 2016 | 131,260 | 13,565,859 | 116,453 | 16,658,403 | 31,382 | 63,490 | 8,085 | 102,957 | 0 | 24,093,009 |
| 2017 | 131,338 | 13,574,288 | 116,542 | 16,669,218 | 31,780 | 63,666 | 8,177 | 103,623 | 0 | 24,126,350 |
| 2018 | 131,245 | 13,565,020 | 116,480 | 16,658,324 | 32,156 | 63,765 | 8,263 | 104,184 | 0 | 24,129,125 |
| 2019 | 131,373 | 13,578,663 | 116,616 | 16,675,588 | 32,606 | 63,980 | 8,368 | 104,954 | 0 | 24,173,618 |
| 2020 | 131,333 | 13,574,881 | 116,603 | 16,671,482 | 33,035 | 64,120 | 8,466 | 105,621 | 0 | 24,188,129 |
| 2021 | 131,490 | 13,591,581 | 116,767 | 16,692,554 | 33,538 | 64,365 | 8,583 | 106,486 | 0 | 24,240,267 |
| 2022 | 131,682 | 13,611,847 | 116,962 | 16,718,041 | 34,075 | 64,636 | 8,708 | 107,419 | 0 | 24,300,028 |
| 2023 | 160,655 | 16,607,400 | 142,730 | 20,397,942 | 42,201 | 79,087 | 10,769 | 132,057 | 0 | 29,678,128 |
| 2024 | 93,989 | 9,716,266 | 83,522 | 11,934,421 | 25,078 | 46,410 | 6,390 | 77,878 | 0 | 17,382,173 |
| 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 | 4,540,960 | 471,183,081 | 4,034,742 | 578,173,068 | 924,729 | 1,534,229 | 232,847 | 2,691,805 | 0 | 827,802,117 |

TABLE B-23

# Total Transportation and Delta Water Charge for Each Contractor

(Dollars)



| | North Bay Area | | | South Bay Area | | | | Central Coastal Area | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Napa County FC&WCD (1) | Solano County Water Agency (2) | Total (3) | Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Total (7) | San Luis Obispo County FC&WCD (8) | Santa Barbara County FC&WCD (9) | Total (10) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 11,750 | 43,787 | 0 | 55,537 | 0 | 0 | 0 |
| 1963 | 0 | 0 | 0 | 151,140 | 190,453 | 449,448 | 791,041 | 0 | 0 | 0 |
| 1964 | 0 | 0 | 0 | 170,797 | 277,738 | 623,343 | 1,071,878 | 8,922 | 17,665 | 26,587 |
| 1965 | 0 | 0 | 0 | 245,718 | 404,749 | 1,160,661 | 1,811,128 | 14,706 | 28,502 | 43,208 |
| 1966 | 18,096 | 0 | 18,096 | 271,833 | 422,196 | 1,415,802 | 2,109,831 | 24,019 | 45,891 | 69,910 |
| 1967 | 41,644 | 0 | 41,644 | 361,120 | 552,175 | 1,863,623 | 2,776,918 | 42,370 | 79,917 | 122,287 |
| 1968 | 128,824 | 0 | 128,824 | 411,342 | 633,770 | 2,181,689 | 3,226,801 | 68,510 | 128,322 | 196,832 |
| 1969 | 254,981 | 0 | 254,981 | 477,464 | 584,079 | 2,302,120 | 3,363,663 | 123,594 | 230,076 | 353,670 |
| 1970 | 277,819 | 0 | 277,819 | 541,779 | 640,965 | 2,791,410 | 3,974,154 | 136,687 | 254,318 | 391,005 |
| 1971 | 227,749 | 0 | 227,749 | 479,103 | 675,865 | 2,810,473 | 3,965,441 | 137,849 | 256,543 | 394,392 |
| 1972 | 225,255 | 0 | 225,255 | 609,002 | 823,069 | 3,031,211 | 4,463,282 | 144,068 | 268,132 | 412,200 |
| 1973 | 221,370 | 31,433 | 252,803 | 594,730 | 717,165 | 3,124,257 | 4,436,152 | 141,109 | 262,722 | 403,831 |
| 1974 | 240,782 | 33,008 | 273,790 | 634,867 | 747,607 | 3,328,496 | 4,710,970 | 142,344 | 265,051 | 407,395 |
| 1975 | 237,756 | 36,366 | 274,122 | 691,749 | 793,731 | 3,217,525 | 4,703,005 | 158,925 | 295,683 | 454,608 |
| 1976 | 271,596 | 40,918 | 312,514 | 804,332 | 944,142 | 3,366,024 | 5,114,498 | 268,668 | 498,348 | 767,016 |
| 1977 | 293,936 | 45,185 | 339,121 | 772,060 | 922,922 | 3,307,043 | 5,002,025 | 279,488 | 518,758 | 798,246 |
| 1978 | 274,184 | 49,273 | 323,457 | 859,588 | 936,502 | 3,716,084 | 5,512,174 | 287,212 | 533,171 | 820,383 |
| 1979 | 289,799 | 53,442 | 343,241 | 954,382 | 1,010,194 | 3,822,538 | 5,787,114 | 286,105 | 531,246 | 817,351 |
| 1980 | 311,182 | 86,198 | 397,380 | 1,106,087 | 1,174,559 | 4,123,100 | 6,403,746 | 325,517 | 584,697 | 910,214 |
| 1981 | 347,583 | 113,003 | 460,586 | 1,211,259 | 1,349,954 | 4,512,250 | 7,073,463 | 354,077 | 633,945 | 988,022 |
| 1982 | 440,975 | 142,022 | 582,997 | 1,290,767 | 1,373,225 | 4,901,078 | 7,565,070 | 374,474 | 723,984 | 1,098,458 |
| 1983 | 355,488 | 163,550 | 519,038 | 1,166,528 | 1,265,496 | 4,958,637 | 7,390,661 | 400,449 | 741,360 | 1,141,809 |
| 1984 | 467,726 | 247,070 | 714,796 | 1,466,994 | 1,478,661 | 6,874,299 | 9,819,954 | 451,145 | 834,817 | 1,285,962 |
| 1985 | 736,709 | 386,899 | 1,123,608 | 1,964,290 | 2,229,157 | 7,807,767 | 12,001,214 | 546,657 | 1,009,599 | 1,556,256 |
| 1986 | 1,121,113 | 715,359 | 1,836,472 | 1,832,979 | 2,020,030 | 8,231,147 | 12,084,156 | 580,097 | 1,070,624 | 1,650,721 |
| 1987 | 1,774,246 | 1,584,700 | 3,358,946 | 2,336,698 | 2,521,312 | 8,041,648 | 12,899,658 | 614,710 | 1,172,580 | 1,787,290 |
| 1988 | 2,356,392 | 2,558,212 | 4,914,604 | 2,406,992 | 2,799,298 | 7,902,279 | 13,108,569 | 736,992 | 1,450,682 | 2,187,674 |
| 1989 | 2,567,975 | 3,758,171 | 6,326,146 | 2,371,087 | 2,525,046 | 7,618,713 | 12,514,846 | 861,681 | 1,819,127 | 2,680,808 |
| 1990 | 2,927,723 | 3,904,074 | 6,831,797 | 2,775,759 | 2,923,371 | 8,621,037 | 14,320,167 | 1,039,477 | 2,040,356 | 3,079,833 |
| 1991 | 2,974,057 | 4,070,138 | 7,044,195 | 2,159,788 | 2,508,978 | 6,751,557 | 11,420,323 | 1,130,003 | 2,381,746 | 3,511,749 |
| 1992 | 2,920,606 | 4,191,078 | 7,111,684 | 2,863,213 | 3,273,856 | 8,471,169 | 14,608,238 | 1,286,646 | 2,519,564 | 3,806,210 |
| 1993 | 3,050,639 | 4,625,818 | 7,676,457 | 3,965,428 | 4,177,121 | 10,908,512 | 19,051,061 | 1,524,501 | 2,863,488 | 4,387,989 |
| 1994 | 3,123,415 | 4,772,052 | 7,895,467 | 4,183,523 | 4,364,445 | 11,403,447 | 19,951,415 | 2,144,389 | 4,311,490 | 6,455,879 |
| 1995 | 3,242,405 | 5,140,095 | 8,382,500 | 4,091,398 | 4,184,756 | 10,961,047 | 19,237,201 | 4,957,218 | 10,852,166 | 15,809,384 |
| 1996 | 3,298,551 | 5,253,493 | 8,552,044 | 4,514,763 | 4,462,848 | 11,568,084 | 20,545,695 | 8,617,481 | 23,900,966 | 32,518,447 |
| 1997 | 3,319,774 | 5,256,682 | 8,576,456 | 4,595,600 | 4,416,184 | 11,456,732 | 20,468,516 | 9,543,114 | 26,530,038 | 36,073,152 |
| 1998 | 3,348,821 | 5,265,266 | 8,614,087 | 4,571,479 | 4,392,661 | 11,400,239 | 20,364,379 | 11,156,270 | 26,464,957 | 37,621,227 |
| 1999 | 3,375,776 | 5,275,903 | 8,651,679 | 4,519,873 | 4,344,237 | 11,284,771 | 20,148,881 | 11,129,786 | 26,428,510 | 37,558,296 |
| 2000 | 3,402,561 | 5,277,482 | 8,680,043 | 4,499,083 | 4,323,019 | 11,231,970 | 20,054,072 | 11,112,872 | 26,404,466 | 37,517,338 |
| 2001 | 3,432,613 | 5,288,588 | 8,721,201 | 4,501,165 | 4,323,600 | 11,233,485 | 20,058,250 | 11,134,700 | 26,456,218 | 37,590,918 |
| 2002 | 3,459,402 | 5,297,897 | 8,757,299 | 4,509,750 | 4,331,191 | 11,250,934 | 20,091,875 | 11,142,852 | 26,469,879 | 37,612,731 |
| 2003 | 3,488,742 | 5,305,400 | 8,794,142 | 4,503,790 | 4,325,776 | 11,238,082 | 20,067,648 | 11,132,390 | 26,451,406 | 37,583,796 |
| 2004 | 3,523,608 | 5,323,183 | 8,846,791 | 4,502,051 | 4,325,650 | 11,241,335 | 20,069,036 | 11,131,454 | 26,459,617 | 37,591,071 |
| 2005 | 3,550,647 | 5,345,760 | 8,896,407 | 4,489,989 | 4,314,624 | 11,215,042 | 20,019,655 | 11,109,262 | 26,419,623 | 37,528,885 |
| 2006 | 3,572,210 | 5,345,730 | 8,917,940 | 4,482,622 | 4,307,931 | 11,199,165 | 19,989,718 | 11,098,658 | 26,400,889 | 37,499,547 |
| 2007 | 3,597,169 | 5,343,878 | 8,941,047 | 4,472,205 | 4,298,464 | 11,176,709 | 19,947,378 | 11,082,228 | 26,371,659 | 37,453,887 |
| 2008 | 3,625,687 | 5,340,781 | 8,966,468 | 4,458,969 | 4,286,390 | 11,147,964 | 19,893,323 | 11,061,400 | 26,334,207 | 37,395,607 |
| 2009 | 3,649,613 | 5,338,215 | 8,987,828 | 4,446,693 | 4,275,198 | 11,121,341 | 19,843,232 | 11,042,256 | 26,299,861 | 37,342,117 |
| 2010 | 3,681,582 | 5,347,492 | 9,029,074 | 4,466,583 | 4,293,400 | 11,164,767 | 19,924,750 | 11,064,877 | 26,341,791 | 37,406,668 |
| 2011 | 3,706,561 | 5,341,762 | 9,048,323 | 4,440,830 | 4,269,838 | 11,108,414 | 19,819,082 | 11,029,445 | 26,277,789 | 37,307,234 |
| 2012 | 3,726,922 | 5,338,229 | 9,065,151 | 4,431,105 | 4,261,049 | 11,087,850 | 19,780,004 | 11,012,571 | 26,246,917 | 37,259,488 |
| 2013 | 3,717,467 | 5,289,565 | 9,007,032 | 4,170,733 | 4,018,752 | 10,395,593 | 18,585,078 | 10,793,891 | 25,850,481 | 36,644,372 |
| 2014 | 3,767,150 | 5,311,685 | 9,078,835 | 4,196,176 | 4,008,856 | 10,361,970 | 18,567,002 | 10,872,565 | 25,993,013 | 36,865,578 |
| 2015 | 3,778,222 | 5,295,211 | 9,073,433 | 4,091,313 | 3,858,595 | 9,846,279 | 17,796,187 | 10,770,415 | 25,807,443 | 36,577,858 |
| 2016 | 3,783,672 | 5,290,123 | 9,073,795 | 4,054,060 | 3,811,069 | 9,632,299 | 17,497,428 | 10,734,830 | 25,743,046 | 36,477,876 |
| 2017 | 3,804,890 | 5,304,256 | 9,109,146 | 4,070,298 | 3,824,078 | 9,620,479 | 17,514,855 | 10,779,739 | 25,825,143 | 36,604,882 |
| 2018 | 3,755,127 | 5,305,460 | 9,060,587 | 4,028,109 | 3,782,466 | 9,496,147 | 17,306,722 | 10,765,444 | 25,799,179 | 36,564,623 |
| 2019 | 3,743,481 | 5,308,258 | 9,051,739 | 3,992,897 | 3,749,665 | 9,400,419 | 17,142,981 | 10,766,766 | 25,802,351 | 36,569,117 |
| 2020 | 3,762,195 | 5,302,160 | 9,064,355 | 3,951,620 | 3,709,641 | 9,301,334 | 16,962,595 | 10,728,923 | 25,734,010 | 36,462,933 |
| 2021 | 3,770,434 | 5,305,888 | 9,076,322 | 3,955,976 | 3,713,212 | 9,310,073 | 16,979,261 | 10,738,666 | 25,752,758 | 36,491,424 |
| 2022 | 3,773,674 | 5,308,578 | 9,082,252 | 3,959,096 | 3,715,667 | 9,313,557 | 16,988,320 | 10,743,941 | 25,763,441 | 36,507,382 |
| 2023 | 3,821,844 | 5,340,190 | 9,162,034 | 3,997,024 | 3,756,933 | 9,425,821 | 17,179,778 | 10,821,863 | 25,954,040 | 36,775,903 |
| 2024 | 3,719,674 | 5,201,426 | 8,921,100 | 3,918,331 | 3,669,258 | 9,179,145 | 16,766,734 | 10,659,995 | 25,549,883 | 36,209,878 |
| 2025 | 3,552,572 | 4,990,123 | 8,542,695 | 3,772,673 | 3,513,766 | 8,756,204 | 16,042,643 | 10,378,824 | 24,882,030 | 35,260,854 |
| 2026 | 3,545,080 | 4,983,318 | 8,528,398 | 3,763,718 | 3,505,561 | 8,736,479 | 16,005,758 | 10,260,544 | 24,663,869 | 34,924,413 |
| 2027 | 3,542,192 | 4,979,098 | 8,521,290 | 3,762,165 | 3,503,959 | 8,731,278 | 15,997,402 | 10,257,992 | 24,658,707 | 34,916,699 |
| 2028 | 3,539,170 | 4,975,211 | 8,514,381 | 3,760,557 | 3,502,342 | 8,726,111 | 15,989,010 | 10,252,350 | 24,648,111 | 34,900,461 |
| 2029 | 3,535,732 | 4,971,121 | 8,506,853 | 3,757,154 | 3,499,186 | 8,717,689 | 15,974,029 | 10,250,498 | 24,644,569 | 34,895,067 |
| 2030 | 3,525,608 | 4,956,396 | 8,482,004 | 3,753,881 | 3,496,125 | 8,709,967 | 15,959,973 | 10,246,514 | 24,637,121 | 34,883,635 |
| 2031 | 3,513,135 | 4,937,519 | 8,450,654 | 3,749,865 | 3,492,382 | 8,700,620 | 15,942,867 | 10,240,983 | 24,626,732 | 34,867,715 |
| 2032 | 3,501,525 | 4,917,978 | 8,419,503 | 3,751,588 | 3,493,907 | 8,703,972 | 15,949,467 | 10,244,731 | 24,633,536 | 34,878,267 |
| 2033 | 3,474,081 | 4,873,933 | 8,348,014 | 3,752,729 | 3,494,906 | 8,706,109 | 15,953,744 | 10,248,859 | 24,641,071 | 34,889,930 |
| 2034 | 3,408,744 | 4,799,751 | 8,208,495 | 3,741,998 | 3,484,867 | 8,680,984 | 15,907,849 | 10,242,264 | 24,628,964 | 34,871,228 |
| 2035 | 3,281,088 | 4,661,328 | 7,942,416 | 3,740,250 | 3,483,205 | 8,676,200 | 15,899,655 | 10,249,185 | 24,641,495 | 34,890,680 |
| Total | 175,099,021 | 244,642,381 | 419,741,402 | 212,334,307 | 209,130,832 | 566,855,047 | 988,320,186 | 446,244,007 | 1,066,364,356 | 1,512,608,363 |

TABLE B-23

# Total Transportation and Delta Water Charge for Each Contractor

(Dollars)



| | San Joaquin Valley Area | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | Kern County Water Agency | | | | | |
| Calendar Year | Dudley Ridge Water District (11) | Empire West Side Irrigation District (12) | Future Contractor San Joaquin Valley (13) | Municipal and Industrial (14) | Agricultural (15) | County of Kings (16) | Oak Flat Water District (17) | Tulare Lake Basin Water Storage District (18) | Total (19) |
| 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 | 2,729 | 0 | 0 | 0 | 0 | 0 | 2,729 |
| 1965 | 0 | 0 | 6,039 | 73,693 | 0 | 0 | 0 | 0 | 79,732 |
| 1966 | 0 | 0 | 12,058 | 137,555 | 0 | 0 | 0 | 0 | 149,613 |
| 1967 | 0 | 0 | 26,299 | 268,043 | 0 | 0 | 0 | 0 | 294,342 |
| 1968 | 221,279 | 19,987 | 54,666 | 446,057 | 1,693,430 | 16,057 | 19,567 | 304,919 | 2,775,962 |
| 1969 | 237,449 | 12,756 | 87,668 | 525,806 | 2,695,938 | 15,693 | 19,295 | 449,725 | 4,044,330 |
| 1970 | 302,218 | 36,190 | 94,768 | 574,762 | 3,838,650 | 20,266 | 30,312 | 514,561 | 5,411,727 |
| 1971 | 323,069 | 38,919 | 95,789 | 606,688 | 5,146,558 | 25,981 | 34,587 | 705,384 | 6,976,975 |
| 1972 | 375,698 | 42,109 | 98,886 | 632,429 | 7,060,408 | 25,249 | 63,634 | 1,959,879 | 10,258,292 |
| 1973 | 393,015 | 40,802 | 97,647 | 1,026,710 | 7,200,710 | 27,596 | 39,162 | 773,387 | 9,599,029 |
| 1974 | 498,452 | 42,016 | 98,559 | 1,145,617 | 7,899,701 | 28,310 | 42,447 | 1,028,082 | 10,783,184 |
| 1975 | 669,070 | 42,462 | 106,801 | 1,197,990 | 9,261,170 | 29,985 | 48,060 | 1,538,398 | 12,893,936 |
| 1976 | 711,178 | 44,983 | 108,184 | 1,324,673 | 10,500,353 | 31,407 | 51,980 | 1,429,235 | 14,201,993 |
| 1977 | 571,657 | 40,904 | 112,665 | 1,368,362 | 10,805,164 | 33,162 | 54,105 | 1,125,883 | 14,111,902 |
| 1978 | 687,817 | 43,152 | 115,625 | 1,564,126 | 13,097,771 | 37,498 | 58,906 | 1,158,428 | 16,763,323 |
| 1979 | 771,062 | 49,729 | 114,358 | 1,669,447 | 15,175,254 | 41,689 | 70,460 | 1,710,325 | 19,602,324 |
| 1980 | 951,957 | 51,483 | 126,305 | 1,771,540 | 16,814,147 | 46,673 | 94,784 | 1,644,554 | 21,501,443 |
| 1981 | 1,201,201 | 85,930 | 134,332 | 2,432,696 | 22,397,773 | 65,149 | 100,600 | 2,268,903 | 28,686,584 |
| 1982 | 1,235,442 | 72,088 | 136,288 | 2,526,109 | 24,767,213 | 69,241 | 108,166 | 2,263,307 | 31,177,854 |
| 1983 | 1,169,913 | 54,444 | 150,202 | 2,088,255 | 24,408,570 | 73,973 | 88,892 | 507,159 | 28,541,408 |
| 1984 | 1,477,940 | 30,363 | 164,827 | 3,394,349 | 33,072,440 | 92,832 | 121,418 | 1,528,084 | 39,882,253 |
| 1985 | 1,767,952 | 132,462 | 187,368 | 3,922,082 | 39,370,518 | 116,853 | 140,446 | 2,833,059 | 48,470,740 |
| 1986 | 2,011,158 | 81,657 | 181,625 | 4,606,654 | 43,253,891 | 136,309 | 154,406 | 3,660,066 | 54,085,766 |
| 1987 | 1,905,406 | 98,972 | 180,295 | 4,659,257 | 43,050,836 | 138,929 | 155,342 | 3,795,614 | 53,984,651 |
| 1988 | 1,994,632 | 115,085 | 194,645 | 4,824,134 | 45,100,150 | 139,574 | 149,495 | 3,957,505 | 56,475,220 |
| 1989 | 2,137,742 | 104,942 | 188,004 | 4,747,471 | 47,254,331 | 137,541 | 168,518 | 4,416,942 | 59,155,491 |
| 1990 | 2,231,047 | 102,761 | 221,412 | 5,321,943 | 49,468,576 | 136,692 | 168,304 | 4,543,232 | 62,193,967 |
| 1991 | 1,756,541 | 85,539 | 229,553 | 4,961,055 | 38,418,184 | 105,803 | 139,074 | 3,600,489 | 49,296,238 |
| 1992 | 2,381,873 | 116,110 | 246,285 | 5,976,136 | 51,605,583 | 152,843 | 187,638 | 4,850,676 | 65,517,144 |
| 1993 | 2,536,940 | 121,577 | 323,577 | 5,691,372 | 55,803,279 | 160,945 | 198,742 | 5,191,867 | 70,028,299 |
| 1994 | 2,780,154 | 134,255 | 310,461 | 6,280,931 | 60,779,811 | 178,269 | 213,156 | 5,691,520 | 76,368,557 |
| 1995 | 2,873,807 | 139,105 | 304,660 | 6,536,090 | 62,867,465 | 184,918 | 220,089 | 5,882,750 | 79,008,884 |
| 1996 | 3,001,281 | 145,679 | 292,211 | 6,854,646 | 65,060,164 | 193,837 | 229,902 | 6,143,979 | 81,921,699 |
| 1997 | 2,991,830 | 145,228 | 308,159 | 6,902,388 | 64,673,056 | 193,304 | 229,842 | 6,124,510 | 81,568,317 |
| 1998 | 2,968,012 | 143,995 | 308,390 | 6,945,505 | 65,551,854 | 191,665 | 227,702 | 6,075,606 | 82,412,729 |
| 1999 | 2,909,238 | 140,942 | 308,361 | 6,875,951 | 64,406,660 | 187,602 | 222,703 | 5,954,938 | 81,006,395 |
| 2000 | 2,896,061 | 140,292 | 308,452 | 6,912,121 | 64,055,832 | 186,726 | 221,722 | 5,927,914 | 80,649,120 |
| 2001 | 2,895,932 | 140,286 | 308,819 | 6,986,314 | 63,982,873 | 186,711 | 221,702 | 5,927,637 | 80,650,274 |
| 2002 | 2,899,406 | 140,476 | 308,893 | 6,986,715 | 64,071,312 | 186,958 | 221,916 | 5,934,774 | 80,750,450 |
| 2003 | 2,896,829 | 140,340 | 308,928 | 6,974,503 | 64,019,860 | 186,775 | 221,746 | 5,929,479 | 80,678,460 |
| 2004 | 2,900,755 | 140,491 | 308,971 | 6,991,143 | 64,087,624 | 186,984 | 222,144 | 5,937,474 | 80,775,586 |
| 2005 | 2,894,816 | 140,182 | 309,057 | 6,969,943 | 63,964,117 | 186,570 | 221,749 | 5,925,268 | 80,611,702 |
| 2006 | 2,891,556 | 140,011 | 309,063 | 6,955,933 | 63,896,640 | 186,341 | 221,533 | 5,918,573 | 80,519,650 |
| 2007 | 2,886,940 | 139,768 | 309,092 | 6,938,653 | 63,799,533 | 186,020 | 221,225 | 5,909,093 | 80,390,324 |
| 2008 | 2,880,886 | 139,454 | 309,124 | 6,917,524 | 63,671,032 | 185,597 | 220,819 | 5,896,656 | 80,221,092 |
| 2009 | 2,875,447 | 139,170 | 309,149 | 6,898,046 | 63,555,158 | 185,217 | 220,459 | 5,885,488 | 80,068,134 |
| 2010 | 2,884,713 | 139,647 | 309,270 | 6,915,810 | 63,768,512 | 185,852 | 221,102 | 5,904,492 | 80,329,398 |
| 2011 | 2,872,994 | 139,038 | 309,243 | 6,895,897 | 63,498,751 | 185,033 | 220,298 | 5,880,428 | 80,001,682 |
| 2012 | 2,868,347 | 138,798 | 309,279 | 6,874,916 | 63,404,937 | 184,716 | 219,990 | 5,870,881 | 79,871,864 |
| 2013 | 2,799,405 | 135,209 | 309,312 | 6,730,931 | 61,842,802 | 179,912 | 215,356 | 5,729,287 | 77,942,214 |
| 2014 | 2,828,220 | 136,703 | 306,622 | 6,814,660 | 62,472,506 | 181,901 | 217,305 | 5,788,455 | 78,746,372 |
| 2015 | 2,797,315 | 135,095 | 303,299 | 6,674,481 | 61,773,595 | 179,748 | 215,227 | 5,724,985 | 77,803,745 |
| 2016 | 2,789,182 | 134,669 | 297,290 | 6,602,222 | 61,580,460 | 179,176 | 214,687 | 5,708,287 | 77,505,973 |
| 2017 | 2,812,038 | 135,856 | 283,171 | 6,542,024 | 62,077,532 | 180,742 | 216,235 | 5,755,200 | 78,002,798 |
| 2018 | 2,812,079 | 135,858 | 260,443 | 6,437,723 | 62,065,295 | 172,218 | 216,242 | 5,755,288 | 77,855,146 |
| 2019 | 2,813,943 | 135,951 | 251,967 | 6,396,638 | 62,092,056 | 171,826 | 216,380 | 5,759,112 | 77,837,873 |
| 2020 | 2,801,455 | 135,298 | 250,098 | 6,346,722 | 61,798,770 | 170,702 | 215,539 | 5,733,469 | 77,452,053 |
| 2021 | 2,805,388 | 135,499 | 249,009 | 6,350,374 | 61,869,933 | 170,817 | 215,819 | 5,741,539 | 77,538,378 |
| 2022 | 2,807,748 | 135,618 | 248,396 | 6,362,896 | 61,905,073 | 170,900 | 215,991 | 5,746,387 | 77,593,009 |
| 2023 | 2,848,886 | 137,493 | 247,971 | 6,568,433 | 62,651,525 | 173,383 | 219,396 | 5,830,572 | 78,677,659 |
| 2024 | 2,760,610 | 133,506 | 247,449 | 6,151,249 | 61,022,236 | 167,981 | 212,015 | 5,649,970 | 76,345,016 |
| 2025 | 2,619,047 | 126,999 | 246,892 | 5,489,634 | 58,376,889 | 159,205 | 200,441 | 5,360,214 | 72,579,321 |
| 2026 | 2,615,229 | 126,799 | 246,606 | 5,477,963 | 58,291,904 | 158,905 | 200,182 | 5,352,371 | 72,469,959 |
| 2027 | 2,615,320 | 126,804 | 245,963 | 5,475,200 | 58,293,885 | 158,867 | 200,189 | 5,352,561 | 72,468,789 |
| 2028 | 2,615,700 | 126,825 | 243,526 | 5,474,105 | 58,302,232 | 158,872 | 200,215 | 5,353,345 | 72,474,820 |
| 2029 | 2,615,763 | 126,828 | 243,211 | 5,471,169 | 58,303,932 | 158,813 | 200,217 | 5,353,473 | 72,473,406 |
| 2030 | 2,615,391 | 126,808 | 242,920 | 5,467,130 | 58,295,041 | 158,721 | 200,196 | 5,352,708 | 72,458,915 |
| 2031 | 2,616,675 | 126,875 | 241,339 | 5,452,017 | 58,324,103 | 158,418 | 200,280 | 5,355,345 | 72,475,052 |
| 2032 | 2,616,675 | 126,875 | 241,317 | 5,454,197 | 58,324,103 | 158,428 | 200,280 | 5,355,345 | 72,477,220 |
| 2033 | 2,617,275 | 126,907 | 241,029 | 5,451,045 | 58,337,429 | 158,340 | 200,321 | 5,356,574 | 72,488,920 |
| 2034 | 2,615,508 | 126,815 | 240,433 | 5,440,373 | 58,298,001 | 158,080 | 200,201 | 5,352,948 | 72,432,359 |
| 2035 | 2,617,843 | 126,937 | 239,716 | 5,437,260 | 58,353,467 | 158,008 | 200,338 | 5,357,740 | 72,491,309 |
| Total | 148,047,407 | 7,396,806 | 15,675,020 | 338,166,486 | 3,226,928,558 | 9,299,308 | 11,521,191 | 298,306,298 | 4,055,341,074 |

TABLE B-23

# Total Transportation and Delta Water Charge for Each Contractor

(Dollars)



| | Southern California Area | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | Antelope Valley-East Kern Water Agency (20) | Castaic Lake Water Agency (21) | Coachella Valley Water District (22) | Crestline-Lake Arrowhead Water Agency (23) | Desert Water Agency (24) | Littlerock Creek Irrigation District (25) | Mojave Water Agency (26) | Palmdale Water District (27) | San Bernardino Valley Municipal Water District (28) | San Gabriel Valley Municipal Water District (29) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1963 | 33,380 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 51,822 | 0 |
| 1964 | 62,973 | 27,495 | 14,452 | 4,378 | 37,225 | 1,145 | 28,487 | 8,220 | 82,953 | 35,048 |
| 1965 | 118,798 | 53,095 | 25,137 | 7,206 | 40,837 | 2,086 | 50,402 | 15,247 | 135,293 | 35,403 |
| 1966 | 216,130 | 101,429 | 44,803 | 12,499 | 73,271 | 3,760 | 90,547 | 27,724 | 232,882 | 61,564 |
| 1967 | 418,148 | 211,152 | 86,258 | 23,510 | 141,637 | 7,296 | 175,459 | 54,110 | 434,047 | 115,759 |
| 1968 | 737,079 | 491,868 | 152,915 | 41,571 | 251,568 | 12,889 | 311,156 | 95,604 | 783,330 | 209,237 |
| 1969 | 1,060,558 | 743,089 | 225,642 | 61,317 | 371,507 | 18,721 | 458,790 | 138,265 | 1,207,644 | 322,237 |
| 1970 | 1,379,045 | 943,311 | 315,733 | 89,833 | 520,091 | 25,267 | 632,954 | 185,110 | 1,780,878 | 468,279 |
| 1971 | 1,706,796 | 1,137,956 | 433,184 | 128,553 | 713,792 | 31,882 | 857,092 | 231,613 | 2,542,024 | 660,399 |
| 1972 | 2,184,544 | 1,380,081 | 604,151 | 186,080 | 991,130 | 43,818 | 1,178,627 | 287,982 | 3,762,918 | 951,442 |
| 1973 | 2,336,266 | 1,430,743 | 748,241 | 191,216 | 1,218,345 | 46,111 | 1,269,092 | 313,818 | 4,031,126 | 962,224 |
| 1974 | 2,456,702 | 1,526,093 | 771,748 | 204,306 | 1,258,243 | 48,986 | 1,327,640 | 332,076 | 4,468,480 | 1,106,294 |
| 1975 | 2,674,012 | 1,617,103 | 817,094 | 219,531 | 1,333,550 | 53,295 | 1,413,092 | 355,648 | 4,643,772 | 1,212,074 |
| 1976 | 3,138,265 | 1,654,305 | 874,137 | 232,373 | 1,426,281 | 57,785 | 1,489,140 | 381,658 | 4,843,441 | 1,283,500 |
| 1977 | 3,119,984 | 1,742,440 | 774,677 | 245,365 | 1,268,650 | 54,261 | 1,576,191 | 407,020 | 5,099,496 | 1,349,646 |
| 1978 | 3,566,202 | 1,874,611 | 973,475 | 255,672 | 1,568,849 | 56,853 | 1,622,903 | 420,413 | 5,096,997 | 1,378,631 |
| 1979 | 4,240,716 | 1,954,582 | 1,059,047 | 268,035 | 1,691,513 | 60,339 | 1,797,737 | 450,147 | 5,142,072 | 1,343,614 |
| 1980 | 4,925,809 | 2,094,082 | 1,168,426 | 295,617 | 1,892,172 | 67,660 | 1,969,351 | 499,456 | 5,652,950 | 1,486,523 |
| 1981 | 5,748,573 | 2,555,147 | 1,322,365 | 328,917 | 2,141,011 | 100,766 | 2,285,851 | 603,451 | 6,464,006 | 1,688,871 |
| 1982 | 5,516,175 | 2,731,218 | 1,412,374 | 347,815 | 2,288,704 | 82,573 | 2,266,863 | 643,986 | 6,778,093 | 1,934,909 |
| 1983 | 6,268,640 | 2,817,410 | 1,934,000 | 381,870 | 3,125,450 | 88,597 | 2,461,101 | 660,163 | 6,985,728 | 1,814,241 |
| 1984 | 7,635,143 | 3,914,708 | 3,033,059 | 498,107 | 4,880,070 | 96,541 | 2,724,486 | 728,178 | 8,058,596 | 2,598,051 |
| 1985 | 9,521,162 | 4,335,962 | 3,869,746 | 603,840 | 6,220,422 | 104,346 | 2,927,460 | 937,946 | 8,928,894 | 2,696,313 |
| 1986 | 9,446,935 | 4,987,332 | 4,331,082 | 648,757 | 6,966,165 | 130,452 | 3,091,374 | 1,226,103 | 9,159,017 | 3,405,078 |
| 1987 | 9,448,458 | 4,843,971 | 4,199,267 | 676,734 | 6,842,827 | 241,007 | 3,120,143 | 1,254,597 | 10,440,756 | 3,386,006 |
| 1988 | 9,119,199 | 5,057,087 | 4,251,275 | 705,867 | 7,002,000 | 162,304 | 3,316,526 | 1,063,654 | 11,057,039 | 3,269,498 |
| 1989 | 11,058,761 | 5,727,896 | 3,360,187 | 697,439 | 6,621,876 | 212,285 | 3,446,454 | 1,760,947 | 10,936,380 | 3,488,131 |
| 1990 | 12,639,500 | 5,796,383 | 4,748,361 | 774,119 | 7,865,525 | 281,699 | 3,703,852 | 1,994,196 | 12,162,730 | 4,132,601 |
| 1991 | 9,454,091 | 4,421,273 | 3,303,613 | 709,576 | 5,447,892 | 228,347 | 4,615,410 | 1,695,077 | 11,389,376 | 3,698,596 |
| 1992 | 12,612,044 | 6,359,535 | 3,636,576 | 600,601 | 6,000,768 | 193,578 | 5,922,580 | 1,672,625 | 11,811,976 | 4,018,696 |
| 1993 | 13,226,301 | 6,779,989 | 4,051,409 | 866,707 | 6,681,200 | 334,822 | 7,784,451 | 2,268,284 | 14,655,467 | 4,987,624 |
| 1994 | 15,789,926 | 7,858,792 | 4,857,301 | 995,100 | 8,010,406 | 433,284 | 9,509,836 | 2,967,225 | 16,632,035 | 5,430,023 |
| 1995 | 17,246,616 | 8,731,735 | 5,162,430 | 1,075,064 | 8,513,673 | 463,469 | 12,436,567 | 3,231,845 | 17,480,494 | 5,675,905 |
| 1996 | 18,554,187 | 9,668,406 | 5,352,414 | 1,134,756 | 8,827,013 | 493,593 | 12,884,114 | 3,687,698 | 18,324,386 | 5,857,451 |
| 1997 | 18,760,113 | 9,937,568 | 5,210,655 | 1,123,916 | 8,593,194 | 483,815 | 12,618,506 | 3,617,074 | 18,117,883 | 5,693,311 |
| 1998 | 19,166,301 | 9,849,466 | 5,197,034 | 1,035,232 | 8,570,746 | 481,112 | 12,532,752 | 3,596,744 | 19,477,847 | 5,768,292 |
| 1999 | 20,637,103 | 9,678,023 | 5,169,104 | 1,057,312 | 8,524,695 | 476,361 | 12,423,296 | 3,561,012 | 20,368,959 | 5,825,082 |
| 2000 | 22,176,426 | 10,379,142 | 5,098,435 | 1,065,714 | 8,408,124 | 473,466 | 12,361,072 | 3,539,241 | 20,035,240 | 5,879,921 |
| 2001 | 22,175,374 | 10,374,512 | 5,113,363 | 1,089,166 | 8,432,750 | 473,420 | 12,346,088 | 3,538,878 | 20,456,341 | 5,960,443 |
| 2002 | 22,244,677 | 10,414,479 | 5,133,833 | 1,091,951 | 8,466,507 | 475,108 | 12,391,024 | 3,551,569 | 20,511,079 | 5,978,392 |
| 2003 | 22,206,214 | 10,393,418 | 5,121,974 | 1,089,217 | 8,446,953 | 474,182 | 12,367,845 | 3,544,573 | 20,458,934 | 5,964,406 |
| 2004 | 22,171,132 | 10,375,115 | 5,109,912 | 1,089,130 | 8,427,046 | 473,147 | 12,338,911 | 3,536,708 | 20,456,173 | 5,959,650 |
| 2005 | 24,808,405 | 10,784,750 | 5,091,907 | 1,219,081 | 8,397,360 | 471,245 | 12,285,047 | 3,522,379 | 24,257,834 | 6,125,270 |
| 2006 | 24,746,677 | 10,754,875 | 5,075,192 | 1,213,480 | 8,369,784 | 470,021 | 12,254,782 | 3,513,155 | 24,144,144 | 6,100,885 |
| 2007 | 24,662,040 | 10,712,889 | 5,053,898 | 1,208,220 | 8,334,660 | 468,341 | 12,211,744 | 3,500,514 | 24,031,463 | 6,075,869 |
| 2008 | 24,554,473 | 10,659,342 | 5,030,149 | 1,206,160 | 8,295,491 | 466,211 | 12,155,417 | 3,484,471 | 23,970,412 | 6,059,936 |
| 2009 | 24,455,039 | 10,609,193 | 5,000,610 | 1,194,460 | 8,246,762 | 464,244 | 12,104,683 | 3,469,635 | 23,740,226 | 6,011,389 |
| 2010 | 27,311,549 | 10,698,077 | 5,087,583 | 1,391,218 | 8,390,235 | 467,676 | 12,216,310 | 3,495,419 | 26,331,497 | 6,370,206 |
| 2011 | 27,380,992 | 10,587,403 | 4,988,961 | 1,317,478 | 8,227,549 | 463,473 | 12,118,948 | 3,463,813 | 24,979,867 | 6,101,520 |
| 2012 | 27,284,026 | 10,549,419 | 4,986,335 | 1,336,324 | 8,223,226 | 461,870 | 12,068,405 | 3,451,737 | 25,301,201 | 6,162,023 |
| 2013 | 25,771,898 | 9,928,450 | 4,693,974 | 1,275,708 | 7,727,630 | 437,293 | 11,426,382 | 3,266,902 | 23,942,243 | 5,862,575 |
| 2014 | 26,347,876 | 10,158,429 | 4,802,483 | 1,301,274 | 7,920,611 | 446,220 | 11,656,846 | 3,334,412 | 24,537,933 | 5,989,550 |
| 2015 | 25,630,978 | 9,856,074 | 4,642,535 | 1,322,968 | 7,656,792 | 434,286 | 11,347,554 | 3,244,736 | 23,496,816 | 5,907,485 |
| 2016 | 25,351,574 | 9,722,449 | 4,601,806 | 1,328,455 | 7,589,634 | 429,590 | 11,226,104 | 3,209,502 | 23,577,934 | 5,910,205 |
| 2017 | 25,632,572 | 9,822,150 | 4,655,491 | 1,338,273 | 7,678,175 | 434,100 | 11,352,807 | 3,243,597 | 23,781,187 | 5,951,004 |
| 2018 | 25,372,689 | 9,607,272 | 4,598,609 | 1,322,046 | 7,584,373 | 429,494 | 11,238,790 | 3,209,511 | 23,463,750 | 5,867,718 |
| 2019 | 25,098,593 | 9,413,591 | 4,539,436 | 1,310,176 | 7,486,785 | 424,484 | 11,109,802 | 3,173,037 | 23,181,649 | 5,784,703 |
| 2020 | 24,522,557 | 9,144,889 | 4,373,786 | 1,296,559 | 7,213,567 | 413,648 | 10,813,325 | 3,093,955 | 21,896,146 | 5,620,016 |
| 2021 | 24,336,981 | 9,006,390 | 4,298,190 | 1,285,345 | 7,088,909 | 409,406 | 10,638,284 | 3,065,276 | 21,628,547 | 5,531,248 |
| 2022 | 24,242,028 | 8,913,231 | 4,253,125 | 1,272,083 | 7,014,584 | 407,549 | 10,549,965 | 3,052,141 | 21,283,938 | 5,445,417 |
| 2023 | 24,331,318 | 8,979,836 | 4,264,960 | 1,273,646 | 7,034,079 | 409,002 | 10,579,275 | 3,063,281 | 21,275,218 | 5,447,271 |
| 2024 | 24,092,481 | 8,785,944 | 4,204,180 | 1,252,750 | 6,933,904 | 404,728 | 10,463,695 | 3,031,871 | 20,849,540 | 5,336,870 |
| 2025 | 23,417,001 | 8,424,963 | 4,058,782 | 1,232,431 | 6,694,187 | 393,070 | 10,148,752 | 2,945,249 | 20,170,143 | 5,289,650 |
| 2026 | 23,321,904 | 8,373,394 | 4,027,548 | 1,218,760 | 6,642,678 | 391,450 | 10,095,302 | 2,933,230 | 19,895,921 | 5,226,372 |
| 2027 | 23,311,704 | 8,365,377 | 4,020,219 | 1,216,118 | 6,630,593 | 391,265 | 10,081,747 | 2,931,885 | 19,833,777 | 5,210,856 |
| 2028 | 23,309,432 | 8,344,407 | 4,020,422 | 1,219,592 | 6,630,928 | 391,205 | 10,074,393 | 2,931,506 | 19,889,693 | 5,220,028 |
| 2029 | 23,296,081 | 8,324,662 | 4,009,190 | 1,210,163 | 6,612,397 | 390,972 | 10,064,163 | 2,929,794 | 19,721,980 | 5,185,702 |
| 2030 | 23,265,095 | 8,273,037 | 4,004,674 | 1,211,586 | 6,604,953 | 390,456 | 10,047,957 | 2,925,934 | 19,748,131 | 5,316,177 |
| 2031 | 23,201,731 | 8,194,015 | 3,989,171 | 1,208,235 | 6,579,387 | 389,334 | 10,013,836 | 2,917,639 | 19,689,339 | 5,298,700 |
| 2032 | 23,209,615 | 8,162,789 | 3,991,532 | 1,208,669 | 6,583,281 | 389,462 | 10,018,990 | 2,918,611 | 19,696,347 | 5,300,831 |
| 2033 | 23,142,891 | 8,125,750 | 3,983,107 | 1,210,431 | 6,569,389 | 388,336 | 9,993,432 | 2,910,180 | 19,726,680 | 5,301,895 |
| 2034 | 22,998,939 | 8,082,529 | 3,947,180 | 1,192,122 | 6,510,126 | 385,919 | 9,937,369 | 2,892,073 | 19,397,311 | 5,226,754 |
| 2035 | 22,986,247 | 8,074,870 | 3,983,727 | 1,234,049 | 6,570,428 | 385,609 | 9,950,915 | 2,890,562 | 20,130,372 | 5,508,785 |
| Total | 1,138,593,844 | 476,412,448 | 247,347,651 | 61,181,829 | 408,146,135 | 21,150,387 | 538,370,243 | 157,101,892 | 1,078,710,793 | 293,840,275 |

TABLE B-23

# Total Transportation and Delta Water Charge for Each Contractor

(Dollars)



| | Southern California Area (continued) | | | | Feather River Area | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Calendar Year | San Gorgonio Pass Water Agency (30) | Metropolitan Water District of Southern California (31) | Ventura County Flood Control District (32) | Total (33) | City of Yuba City (34) | County of Butte (35) | Plumas County FC&WCD (36) | Total (37) | South Bay Area Future Contractor (38) | Grand Total (39) |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1962 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 55,537 |
| 1963 | 0 | 692,054 | 0 | 777,256 | 0 | 0 | 0 | 0 | 55,823 | 1,624,120 |
| 1964 | 21,774 | 1,262,657 | 9,394 | 1,596,201 | 0 | 0 | 0 | 0 | 84,094 | 2,781,489 |
| 1965 | 21,903 | 2,184,191 | 17,795 | 2,707,393 | 0 | 0 | 405 | 405 | 129,191 | 4,771,057 |
| 1966 | 38,026 | 3,906,499 | 33,480 | 4,842,614 | 0 | 0 | 565 | 565 | 148,545 | 7,339,174 |
| 1967 | 71,397 | 7,706,041 | 68,264 | 9,513,078 | 0 | 0 | 563 | 563 | 204,922 | 12,953,754 |
| 1968 | 129,106 | 15,340,767 | 143,015 | 18,700,105 | 0 | 1,050 | 1,440 | 2,490 | 279,614 | 25,310,628 |
| 1969 | 199,064 | 23,187,849 | 215,531 | 28,210,214 | 0 | 1,225 | 4,125 | 5,350 | 349,609 | 36,581,817 |
| 1970 | 290,069 | 30,663,254 | 274,014 | 37,567,838 | 0 | 3,848 | 17,139 | 20,987 | 386,703 | 48,030,233 |
| 1971 | 409,939 | 40,018,151 | 342,929 | 49,214,310 | 0 | 4,546 | 19,212 | 23,758 | 376,266 | 61,178,891 |
| 1972 | 537,899 | 55,060,909 | 422,865 | 67,592,446 | 0 | 4,929 | 21,178 | 26,107 | 401,782 | 83,379,364 |
| 1973 | 588,712 | 59,664,622 | 436,221 | 73,236,737 | 0 | 7,059 | 21,805 | 28,864 | 376,261 | 88,333,677 |
| 1974 | 612,193 | 66,085,115 | 456,154 | 80,654,030 | 0 | 8,336 | 22,436 | 30,772 | 399,238 | 97,259,379 |
| 1975 | 645,411 | 71,908,062 | 479,000 | 87,371,644 | 0 | 9,416 | 23,550 | 32,966 | 408,459 | 106,138,740 |
| 1976 | 669,123 | 74,986,803 | 476,191 | 91,513,002 | 0 | 7,004 | 23,284 | 30,288 | 431,049 | 112,370,360 |
| 1977 | 697,354 | 73,421,044 | 507,694 | 90,263,822 | 0 | 16,917 | 24,087 | 41,004 | 423,804 | 110,979,924 |
| 1978 | 709,872 | 82,017,044 | 523,820 | 100,065,342 | 0 | 12,635 | 24,252 | 36,887 | 427,038 | 123,948,604 |
| 1979 | 713,699 | 83,683,458 | 527,059 | 102,932,018 | 0 | 16,575 | 28,379 | 44,954 | 447,078 | 129,974,080 |
| 1980 | 863,131 | 93,121,526 | 584,314 | 114,621,017 | 0 | 19,834 | 26,589 | 46,423 | 507,904 | 144,388,127 |
| 1981 | 947,299 | 111,861,965 | 672,995 | 136,721,217 | 0 | 21,682 | 34,591 | 56,273 | 517,325 | 174,503,470 |
| 1982 | 1,025,657 | 117,490,618 | 730,866 | 143,249,851 | 0 | 16,117 | 43,025 | 59,142 | 515,912 | 184,249,284 |
| 1983 | 1,079,658 | 119,277,902 | 851,470 | 147,746,230 | 0 | 15,202 | 27,088 | 42,290 | 554,995 | 185,936,431 |
| 1984 | 1,212,701 | 157,270,725 | 933,673 | 193,584,038 | 20,590 | 15,442 | 28,701 | 64,733 | 561,981 | 245,913,717 |
| 1985 | 1,293,818 | 195,502,912 | 999,657 | 237,942,478 | 24,050 | 16,976 | 32,143 | 73,169 | 682,132 | 301,849,597 |
| 1986 | 1,347,184 | 218,768,587 | 1,060,340 | 264,568,406 | 31,753 | 18,145 | 33,432 | 83,330 | 620,806 | 334,929,657 |
| 1987 | 1,369,585 | 204,480,580 | 1,048,816 | 251,352,747 | 37,071 | 17,794 | 33,618 | 88,483 | 684,868 | 324,156,643 |
| 1988 | 1,465,359 | 223,048,877 | 1,132,486 | 270,651,171 | 48,413 | 19,264 | 35,916 | 103,593 | 709,318 | 348,150,149 |
| 1989 | 1,524,753 | 232,838,516 | 1,249,930 | 282,923,555 | 64,992 | 21,276 | 38,824 | 125,092 | 766,079 | 364,492,017 |
| 1990 | 1,653,782 | 274,785,086 | 1,596,233 | 332,134,067 | 67,499 | 21,315 | 39,480 | 128,294 | 821,918 | 419,510,043 |
| 1991 | 1,770,213 | 222,240,386 | 1,576,962 | 270,550,812 | 185,737 | 23,217 | 42,432 | 251,386 | 575,257 | 342,649,960 |
| 1992 | 1,853,310 | 271,855,679 | 1,579,480 | 328,117,448 | 215,844 | 26,980 | 47,239 | 290,063 | 918,833 | 420,369,620 |
| 1993 | 2,046,911 | 319,518,873 | 1,976,963 | 385,179,001 | 218,806 | 27,352 | 48,806 | 294,964 | 1,145,189 | 487,762,960 |
| 1994 | 2,069,010 | 395,185,199 | 2,150,503 | 471,888,640 | 213,984 | 26,748 | 49,210 | 289,942 | 1,034,032 | 583,883,932 |
| 1995 | 2,461,610 | 425,659,960 | 2,230,273 | 510,369,641 | 213,318 | 26,665 | 50,335 | 290,318 | 937,182 | 634,035,110 |
| 1996 | 3,076,317 | 453,223,775 | 2,326,097 | 543,410,207 | 214,054 | 26,730 | 51,569 | 292,353 | 920,226 | 688,160,671 |
| 1997 | 2,992,757 | 444,138,592 | 2,326,142 | 533,613,526 | 213,162 | 26,663 | 52,492 | 292,317 | 925,592 | 681,517,876 |
| 1998 | 2,837,567 | 442,422,579 | 4,026,621 | 534,962,293 | 213,000 | 26,687 | 53,579 | 293,266 | 925,895 | 685,193,876 |
| 1999 | 2,888,364 | 437,046,635 | 3,962,077 | 531,618,023 | 212,966 | 26,728 | 54,699 | 294,393 | 925,865 | 680,203,532 |
| 2000 | 2,864,634 | 432,577,649 | 3,941,390 | 528,800,454 | 212,338 | 26,693 | 55,878 | 294,909 | 926,190 | 676,922,126 |
| 2001 | 2,919,088 | 433,504,048 | 3,939,822 | 530,323,293 | 212,260 | 607,432 | 57,190 | 876,882 | 927,340 | 679,148,158 |
| 2002 | 2,924,865 | 435,293,626 | 3,955,908 | 532,433,018 | 212,901 | 606,982 | 58,570 | 878,453 | 927,590 | 681,451,416 |
| 2003 | 2,918,966 | 434,463,576 | 3,947,326 | 531,397,584 | 213,728 | 607,080 | 59,996 | 880,804 | 927,722 | 680,330,156 |
| 2004 | 2,921,152 | 433,723,619 | 3,938,276 | 530,519,971 | 215,663 | 610,016 | 61,707 | 887,386 | 927,865 | 679,617,706 |
| 2005 | 3,192,420 | 432,029,537 | 3,920,859 | 536,106,094 | 216,481 | 610,035 | 63,132 | 889,648 | 928,167 | 684,980,558 |
| 2006 | 3,179,821 | 430,759,606 | 3,909,731 | 534,492,153 | 217,330 | 610,146 | 64,763 | 892,239 | 928,183 | 683,239,430 |
| 2007 | 3,168,200 | 428,924,588 | 3,894,143 | 532,246,569 | 218,182 | 610,280 | 66,396 | 894,858 | 928,283 | 680,802,346 |
| 2008 | 3,163,928 | 426,958,899 | 3,874,320 | 529,879,209 | 218,998 | 610,345 | 68,019 | 897,362 | 928,394 | 678,181,455 |
| 2009 | 3,137,694 | 424,374,478 | 3,855,759 | 526,664,172 | 219,813 | 610,425 | 69,642 | 899,880 | 928,483 | 674,733,846 |
| 2010 | 3,523,391 | 431,006,269 | 3,888,222 | 540,177,652 | 220,639 | 610,542 | 71,268 | 902,449 | 928,907 | 688,698,898 |
| 2011 | 3,355,587 | 423,160,216 | 3,847,684 | 529,993,491 | 220,926 | 610,639 | 72,928 | 904,493 | 928,817 | 678,003,122 |
| 2012 | 3,399,283 | 423,145,640 | 3,833,467 | 530,202,956 | 220,679 | 610,628 | 74,466 | 905,773 | 928,940 | 678,014,176 |
| 2013 | 3,256,511 | 398,210,564 | 3,604,241 | 499,404,371 | 221,549 | 610,869 | 76,457 | 908,875 | 885,861 | 643,377,803 |
| 2014 | 3,318,619 | 408,125,728 | 3,689,601 | 511,629,582 | 221,902 | 611,033 | 78,332 | 911,267 | 859,038 | 656,657,674 |
| 2015 | 3,518,705 | 394,937,275 | 3,578,866 | 495,575,070 | 222,245 | 611,153 | 79,998 | 913,396 | 828,889 | 638,568,578 |
| 2016 | 3,524,772 | 390,952,008 | 3,532,316 | 490,956,349 | 222,623 | 611,316 | 81,919 | 915,858 | 811,951 | 633,239,230 |
| 2017 | 3,545,182 | 395,284,823 | 3,574,243 | 496,293,604 | 223,021 | 611,492 | 82,013 | 916,526 | 772,403 | 639,214,214 |
| 2018 | 3,493,638 | 388,372,042 | 3,507,109 | 488,067,041 | 223,397 | 611,591 | 82,097 | 917,085 | 696,934 | 630,468,138 |
| 2019 | 3,442,694 | 381,844,470 | 3,441,576 | 480,250,996 | 223,847 | 611,806 | 79,571 | 915,224 | 632,974 | 622,400,904 |
| 2020 | 3,592,132 | 368,272,552 | 3,344,698 | 463,597,830 | 224,276 | 611,946 | 67,721 | 903,943 | 612,464 | 605,056,173 |
| 2021 | 3,609,353 | 362,399,073 | 3,296,776 | 456,593,778 | 224,779 | 612,191 | 67,010 | 903,980 | 608,739 | 598,191,882 |
| 2022 | 3,556,684 | 356,068,090 | 3,264,966 | 449,323,801 | 225,316 | 612,462 | 65,747 | 903,525 | 608,128 | 591,006,417 |
| 2023 | 3,557,108 | 356,840,974 | 3,286,576 | 450,342,544 | 233,442 | 626,913 | 67,808 | 928,163 | 607,453 | 593,673,534 |
| 2024 | 3,490,405 | 349,693,781 | 3,228,820 | 441,768,969 | 216,319 | 594,236 | 63,428 | 873,983 | 607,041 | 581,492,721 |
| 2025 | 3,373,681 | 336,450,934 | 3,112,254 | 425,711,097 | 191,241 | 547,826 | 57,035 | 796,102 | 605,594 | 559,538,306 |
| 2026 | 3,332,871 | 333,692,014 | 3,093,932 | 422,245,376 | 191,241 | 547,826 | 57,034 | 796,101 | 605,115 | 555,575,120 |
| 2027 | 3,323,155 | 333,096,223 | 3,091,154 | 421,504,073 | 191,241 | 547,826 | 57,032 | 796,099 | 604,276 | 554,808,628 |
| 2028 | 3,329,438 | 332,484,417 | 3,085,122 | 420,930,583 | 191,241 | 547,826 | 57,030 | 796,097 | 603,201 | 554,208,553 |
| 2029 | 3,307,155 | 331,831,496 | 3,077,550 | 419,961,305 | 191,241 | 547,826 | 57,028 | 796,095 | 601,729 | 553,208,484 |
| 2030 | 3,309,155 | 330,029,317 | 3,058,608 | 418,185,080 | 191,241 | 547,826 | 57,027 | 796,094 | 600,362 | 551,366,063 |
| 2031 | 3,298,628 | 327,591,525 | 3,030,214 | 415,401,754 | 191,241 | 547,826 | 57,026 | 796,093 | 597,365 | 548,531,500 |
| 2032 | 3,299,917 | 326,789,174 | 3,018,751 | 414,587,969 | 191,241 | 547,826 | 57,024 | 796,091 | 597,710 | 547,706,227 |
| 2033 | 3,301,332 | 325,693,397 | 3,005,085 | 413,351,905 | 191,241 | 547,826 | 57,024 | 796,091 | 597,013 | 546,425,617 |
| 2034 | 3,253,523 | 323,044,916 | 2,989,400 | 409,858,161 | 191,241 | 547,826 | 57,023 | 796,090 | 593,392 | 542,667,574 |
| 2035 | 3,347,283 | 324,328,410 | 2,988,299 | 412,379,556 | 191,241 | 547,826 | 57,021 | 796,088 | 589,192 | 544,988,896 |
| Total | 161,185,497 | 19,817,482,446 | 163,596,388 | 24,563,119,828 | 9,801,544 | 21,238,694 | 3,419,548 | 34,459,786 | 47,772,490 | 31,621,363,129 |

TABLE B-24

# Equivalent Unit Charge for Water Supply for Each Contractor (a

(Dollars per acre-foot)

| Project Service Area and Water Supply Contractor | Transportation Charge: Capital Cost Component (1) | Minimum OMP&R Component (2) | Off-Aqueduct Component (3) | Variable OMP&R Component (4) | Total (5) | Delta Water Charge (6) | Water System Revenue Bond Surcharge (7) | Total Equivalent Unit Charge (8) |
|---|---|---|---|---|---|---|---|---|
| **Feather River Area** | | | | | | | | |
| City of Yuba City | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 29.46 | 3.27 | 32.73 |
| County of Butte | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.44 | 1.11 | 13.55 |
| Plumas County Flood Control and Water Conservation District | 17.63 | 2.20 | 0.00 | 0.00 | 19.83 | 19.56 | 2.18 | 41.57 |
| Feather River Area | 1.23 | 0.15 | 0.00 | 0.00 | 1.38 | 16.09 | 1.59 | 19.06 |
| **North Bay Area** | | | | | | | | |
| Napa County Flood Control and Water Conservation District | 113.88 | 35.24 | 3.83 | 13.47 | 166.42 | 13.50 | 6.14 | 186.06 |
| Solano County Water Agency | 85.17 | 29.67 | 3.53 | 8.76 | 127.13 | 21.05 | 6.14 | 154.32 |
| North Bay Area | 96.42 | 31.85 | 3.68 | 10.60 | 142.56 | 18.09 | 6.14 | 166.79 |
| **South Bay Area** | | | | | | | | |
| Alameda County Flood Control and Water Conservation District, Zone 7 | 16.81 | 26.35 | 7.84 | 21.60 | 72.60 | 19.57 | 2.30 | 94.47 |
| Alameda County Water District | 18.72 | 22.17 | 6.97 | 18.23 | 66.09 | 17.59 | 2.28 | 85.96 |
| Santa Clara Valley Water District | 17.85 | 16.85 | 6.25 | 14.12 | 55.07 | 13.66 | 1.76 | 70.49 |
| South Bay Area | 17.84 | 19.31 | 6.68 | 16.05 | 59.88 | 15.31 | 1.94 | 77.13 |
| **San Joaquin Valley Area** | | | | | | | | |
| County of Kings | 4.18 | 3.52 | 3.37 | 7.26 | 18.33 | 16.79 | 1.35 | 36.47 |
| Dudley Ridge Water District | 4.89 | 4.09 | 2.72 | 6.43 | 18.13 | 14.77 | 1.29 | 34.19 |
| Empire West Side Irrigation District | 2.63 | 3.31 | 2.30 | 5.72 | 13.96 | 15.03 | 0.96 | 29.95 |
| Kern County Water Agency | 8.34 | 7.97 | 4.14 | 8.73 | 29.18 | 16.15 | 1.76 | 47.09 |
| Oak Flat Water District | 2.05 | 2.07 | 1.74 | 4.33 | 10.19 | 14.96 | 1.02 | 26.17 |
| Tulare Lake Basin Water Storage District | 5.13 | 4.30 | 2.64 | 6.73 | 18.80 | 15.40 | 1.38 | 35.58 |
| San Joaquin Valley Area | 7.80 | 7.37 | 3.74 | 8.39 | 27.30 | 16.01 | 1.69 | 45.00 |
| **Central Coastal Area** | | | | | | | | |
| San Luis Obispo County Flood Control and Water Conservation District | 328.80 | 68.33 | 15.21 | 68.16 | 480.50 | 33.43 | 14.45 | 528.38 |
| Santa Barbara County Flood Control and Water Conservation District | 433.36 | 70.83 | 18.18 | 66.78 | 589.15 | 30.92 | 17.39 | 637.46 |
| Central Coastal Area | 398.09 | 69.98 | 17.70 | 67.25 | 553.02 | 31.77 | 16.40 | 601.19 |
| **Southern California Area** | | | | | | | | |
| Antelope Valley-East Kern Water Agency | 40.56 | 34.45 | 23.35 | 78.09 | 176.45 | 26.78 | 4.20 | 207.43 |
| Castaic Lake Water Agency | 46.77 | 32.87 | 23.33 | 42.46 | 145.43 | 20.98 | 4.31 | 170.72 |
| Coachella Valley Water District | 42.54 | 36.11 | 40.05 | 59.86 | 178.56 | 18.41 | 3.57 | 200.54 |
| Crestline-Lake Arrowhead Water Agency | 92.80 | 70.52 | 30.70 | 88.77 | 282.79 | 32.72 | 7.23 | 322.74 |
| Desert Water Agency | 43.24 | 36.70 | 40.30 | 60.49 | 180.73 | 18.48 | 3.62 | 202.83 |
| Littlerock Creek Irrigation District | 39.58 | 32.66 | 26.22 | 84.40 | 182.86 | 25.46 | 3.95 | 212.27 |
| Mojave Water Agency | 68.20 | 60.26 | 30.00 | 112.65 | 271.11 | 33.25 | 6.03 | 310.39 |
| Palmdale Water District | 45.69 | 37.87 | 31.07 | 96.50 | 211.13 | 31.96 | 4.63 | 247.72 |
| San Bernardino Valley Municipal Water District | 121.39 | 94.02 | 24.73 | 75.73 | 315.87 | 39.13 | 8.96 | 363.96 |
| San Gabriel Valley Municipal Water District | 94.81 | 75.52 | 35.44 | 63.99 | 269.76 | 32.45 | 7.16 | 309.37 |
| San Gorgonio Pass Water Agency | 207.79 | 164.88 | 20.30 | 97.28 | 490.25 | 59.21 | 15.53 | 564.99 |
| The Metropolitan Water District of Southern California | 60.80 | 43.05 | 33.24 | 55.70 | 192.79 | 23.15 | 4.85 | 220.79 |
| Ventura County Flood Control District | 84.39 | 58.59 | 21.99 | 86.96 | 251.93 | 31.87 | 7.32 | 291.12 |
| Southern California Area | 61.43 | 44.47 | 32.90 | 58.50 | 197.31 | 23.96 | 4.96 | 226.23 |
| All Areas | 39.00 | 27.23 | 18.45 | 34.14 | 118.82 | 20.04 | 3.49 | 142.36 |

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 B-5B), would provide a sum at the end of the period financially equivalent to all Transportation Charge and Delta Water Charge payments required under a water supply contract, considering interest at the Project Interest Rate, 4.620 percent per annum.

TABLE B-25

# Equivalent Unit Transportation Costs of Water Delivered from or through Each Aqueduct Reach (a

(Dollars per acre-foot)

| | Unit Costs of Reach (b | | | | | | Cumulative Unit Costs from the Delta | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aqueduct Reach | Capital Costs (1) | Water System Revenue Bond Surcharge (c (2) | Minimum OMP&R (3) | Off-Aqueduct Costs (4) | Variable OMP&R (5) | Total (6) | Capital Costs (7) | Water System Revenue Bond Surcharge (c (8) | Minimum OMP&R (9) | Off-Aqueduct Costs (10) | Variable OMP&R (11) | Total (12) |
| North Bay Aqueduct | | | | | | | | | | | | |
| 1 | 43.60 | 6.85 | 13.15 | 1.88 | 4.08 | 69.56 | 43.60 | 6.85 | 13.15 | 1.88 | 4.08 | 69.56 |
| 2 | 48.11 | 7.56 | 5.63 | 0.00 | 0.00 | 61.30 | 91.71 | 14.41 | 18.78 | 1.88 | 4.08 | 130.86 |
| 3A | 9.91 | 1.56 | 13.40 | 4.12 | 5.45 | 34.44 | 101.62 | 15.97 | 32.18 | 6.00 | 9.53 | 165.30 |
| 3B | 47.37 | 7.45 | 22.47 | 4.65 | 10.19 | 92.13 | 139.08 | 21.86 | 41.25 | 6.53 | 14.27 | 222.99 |
| South Bay Aqueduct | | | | | | | | | | | | |
| 1 | 6.16 | 0.97 | 12.33 | 10.24 | 11.70 | 41.40 | 7.87 | 1.24 | 14.66 | 13.47 | 18.94 | 56.18 |
| 2 | 0.58 | 0.09 | 1.56 | 0.00 | 0.00 | 2.23 | 8.45 | 1.33 | 16.22 | 13.47 | 18.94 | 58.41 |
| 4 | 1.94 | 0.30 | 2.33 | 0.00 | 0.00 | 4.57 | 10.39 | 1.63 | 18.55 | 13.47 | 18.94 | 62.98 |
| 5 | 4.17 | 0.66 | 1.88 | 0.00 | 0.00 | 6.71 | 14.56 | 2.29 | 20.43 | 13.47 | 18.94 | 69.69 |
| 6 | 0.24 | 0.04 | 0.26 | 0.00 | 0.00 | 0.54 | 14.80 | 2.33 | 20.69 | 13.47 | 18.94 | 70.23 |
| 7 | 1.88 | 0.30 | 0.36 | 0.00 | 0.00 | 2.54 | 16.68 | 2.63 | 21.05 | 13.47 | 18.94 | 72.77 |
| 8 | 2.56 | 0.40 | 0.41 | 0.00 | 0.00 | 3.37 | 19.24 | 3.03 | 21.46 | 13.47 | 18.94 | 76.14 |
| 9 | 5.30 | 0.83 | 2.17 | 0.00 | 0.00 | 8.30 | 24.54 | 3.86 | 23.63 | 13.47 | 18.94 | 84.44 |
| California Aqueduct | | | | | | | | | | | | |
| 1 | 1.71 | 0.27 | 2.33 | 3.23 | 7.24 | 14.78 | 1.71 | 0.27 | 2.33 | 3.23 | 7.24 | 14.78 |
| 2A | 1.09 | 0.17 | 0.46 | 0.00 | 0.00 | 1.72 | 2.80 | 0.44 | 2.79 | 3.23 | 7.24 | 16.50 |
| 2B | 0.55 | 0.09 | 0.18 | 0.00 | 0.00 | 0.82 | 3.35 | 0.53 | 2.97 | 3.23 | 7.24 | 17.32 |
| 3 | 0.47 | 0.07 | 0.18 | 0.00 | 0.00 | 0.72 | 3.82 | 0.60 | 3.15 | 3.23 | 7.24 | 18.04 |
| 4 | 0.75 | 0.12 | 1.13 | 1.50 | 3.33 | 6.83 | 4.57 | 0.72 | 4.28 | 4.73 | 10.57 | 24.87 |
| 5 | 0.59 | 0.09 | 0.24 | 0.00 | 0.00 | 0.92 | 5.16 | 0.81 | 4.52 | 4.73 | 10.57 | 25.79 |
| 6 | 0.15 | 0.02 | 0.11 | 0.00 | 0.00 | 0.28 | 5.31 | 0.83 | 4.63 | 4.73 | 10.57 | 26.07 |
| 7 | 0.65 | 0.10 | 0.28 | 0.00 | 0.00 | 1.03 | 5.96 | 0.93 | 4.91 | 4.73 | 10.57 | 27.10 |
| 8C | 0.02 | 0.00 | 0.06 | 0.00 | 0.00 | 0.08 | 5.98 | 0.93 | 4.97 | 4.73 | 10.57 | 27.18 |
| 8D | 0.34 | 0.05 | 0.23 | 0.00 | 0.00 | 0.62 | 6.32 | 0.98 | 5.20 | 4.73 | 10.57 | 27.80 |
| 9 | 0.28 | 0.04 | 0.21 | 0.00 | 0.00 | 0.53 | 6.60 | 1.02 | 5.41 | 4.73 | 10.57 | 28.33 |
| 10A | 0.29 | 0.05 | 0.25 | 0.00 | 0.00 | 0.59 | 6.89 | 1.07 | 5.66 | 4.73 | 10.57 | 28.92 |
| 11B | 0.43 | 0.07 | 0.18 | 0.00 | 0.00 | 0.68 | 7.32 | 1.14 | 5.84 | 4.73 | 10.57 | 29.60 |
| 12D | 0.40 | 0.06 | 0.16 | 0.00 | 0.00 | 0.62 | 7.72 | 1.20 | 6.00 | 4.73 | 10.57 | 30.22 |
| 12E | 0.27 | 0.04 | 0.26 | 0.00 | 0.00 | 0.57 | 7.99 | 1.24 | 6.26 | 4.73 | 10.57 | 30.79 |
| 13B | 0.61 | 0.10 | 0.32 | 0.00 | 0.00 | 1.03 | 8.60 | 1.34 | 6.58 | 4.73 | 10.57 | 31.82 |
| 14A | 2.29 | 0.36 | 2.27 | 2.56 | 4.98 | 12.46 | 10.89 | 1.70 | 8.85 | 7.29 | 15.55 | 44.28 |
| 14B | 0.36 | 0.06 | 0.28 | 0.00 | 0.00 | 0.70 | 11.25 | 1.76 | 9.13 | 7.29 | 15.55 | 44.98 |
| 14C | 0.31 | 0.05 | 0.21 | 0.00 | 0.00 | 0.57 | 11.56 | 1.81 | 9.34 | 7.29 | 15.55 | 45.55 |
| 15A | 1.67 | 0.26 | 2.39 | 3.09 | 6.15 | 13.56 | 13.23 | 2.07 | 11.73 | 10.38 | 21.70 | 59.11 |
| 16A | 2.77 | 0.44 | 3.64 | 6.68 | 13.18 | 26.71 | 16.00 | 2.51 | 15.37 | 17.06 | 34.88 | 85.82 |
| 17E | 9.41 | 1.48 | 10.22 | 23.32 | 46.64 | 91.07 | 25.41 | 3.99 | 25.59 | 40.38 | 81.52 | 176.89 |
| 17F | 2.47 | 0.39 | 0.14 | 0.00 | 0.00 | 3.00 | 27.88 | 4.38 | 25.73 | 40.38 | 81.52 | 179.89 |
| 18A | 2.38 | 0.37 | 1.36 | 0.00 | -2.36 | 1.75 | 30.26 | 4.75 | 27.09 | 40.38 | 79.16 | 181.64 |
| 19 | 1.75 | 0.28 | 0.94 | 0.00 | 0.00 | 2.97 | 32.01 | 5.03 | 28.03 | 40.38 | 79.16 | 184.61 |
| 19C | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 32.01 | 5.03 | 28.03 | 40.38 | 79.16 | 184.61 |
| 20A | 1.39 | 0.22 | 0.96 | 0.00 | 0.00 | 2.57 | 33.40 | 5.25 | 28.99 | 40.38 | 79.16 | 187.18 |
| 20B | 1.65 | 0.26 | 0.74 | 0.00 | 0.00 | 2.65 | 35.05 | 5.51 | 29.73 | 40.38 | 79.16 | 189.83 |
| 21 | 0.83 | 0.13 | 0.58 | 0.00 | 0.00 | 1.54 | 35.88 | 5.64 | 30.31 | 40.38 | 79.16 | 191.37 |
| 22A | 0.85 | 0.13 | 0.39 | 0.00 | 0.00 | 1.37 | 36.73 | 5.77 | 30.70 | 40.38 | 79.16 | 192.74 |
| 22B | 8.40 | 1.32 | 8.94 | 7.28 | 14.49 | 40.43 | 45.13 | 7.09 | 39.64 | 47.66 | 93.65 | 233.17 |
| 23 | 1.97 | 0.31 | 0.46 | 0.00 | -4.48 | -1.74 | 47.10 | 7.40 | 40.10 | 47.66 | 89.17 | 231.43 |
| 24 | 4.45 | 0.70 | 1.62 | 0.00 | 0.00 | 6.77 | 51.55 | 8.10 | 41.72 | 47.66 | 89.17 | 238.20 |
| 25 | 3.28 | 0.52 | 0.10 | 0.00 | 0.00 | 3.90 | 54.83 | 8.62 | 41.82 | 47.66 | 89.17 | 242.10 |
| 26A | 3.35 | 0.53 | 5.82 | 0.00 | -24.86 | -15.16 | 58.18 | 9.15 | 47.64 | 47.66 | 64.31 | 226.94 |
| 28G | 5.73 | 0.90 | 1.52 | 0.00 | 0.00 | 8.15 | 63.91 | 10.05 | 49.16 | 47.66 | 64.31 | 235.09 |
| 28H | 5.53 | 0.87 | 1.91 | 0.00 | 0.00 | 8.31 | 69.44 | 10.92 | 51.07 | 47.66 | 64.31 | 243.40 |
| 28J | 73.21 | 11.51 | 37.54 | 0.00 | 0.00 | 122.26 | 142.65 | 22.43 | 88.61 | 47.66 | 64.31 | 365.66 |
| West Branch | | | | | | | | | | | | |
| 29A | 2.84 | 0.45 | 5.20 | 2.98 | 6.19 | 17.66 | 30.72 | 4.83 | 30.93 | 43.36 | 87.71 | 197.55 |
| 29F | 2.08 | 0.33 | 0.68 | 0.00 | 0.00 | 3.09 | 32.80 | 5.16 | 31.61 | 43.36 | 87.71 | 200.64 |
| 29G | 7.04 | 1.11 | 2.76 | 0.00 | -12.69 | -1.78 | 39.84 | 6.27 | 34.37 | 43.36 | 75.02 | 198.86 |
| 29H | 4.32 | 0.68 | 2.89 | 0.00 | 0.00 | 7.89 | 44.16 | 6.95 | 37.26 | 43.36 | 75.02 | 206.75 |
| 29J | 7.41 | 1.16 | 0.76 | 0.00 | -23.17 | -13.84 | 51.57 | 8.11 | 38.02 | 43.36 | 51.85 | 192.91 |
| 30 | 11.83 | 1.86 | 2.36 | 0.00 | 0.00 | 16.05 | 63.40 | 9.97 | 40.38 | 43.36 | 51.85 | 208.96 |
| Coastal Branch | | | | | | | | | | | | |
| 31A | 6.25 | 0.98 | 15.07 | 3.06 | 4.14 | 29.50 | 12.57 | 1.96 | 20.27 | 7.79 | 14.71 | 57.30 |
| 33A | 236.23 | 37.14 | 21.01 | 15.62 | 46.21 | 356.21 | 248.80 | 39.10 | 41.28 | 23.41 | 60.92 | 413.51 |
| 34 | 71.58 | 11.25 | 5.63 | 0.00 | 0.00 | 88.46 | 320.38 | 50.35 | 46.91 | 23.41 | 60.92 | 501.97 |
| 35 | 38.68 | 6.08 | 5.92 | 0.00 | 0.00 | 50.68 | 359.06 | 56.43 | 52.83 | 23.41 | 60.92 | 552.65 |

a) Representative of transportation unit costs only; does not include a unit cost of conservation. The Delta Water Rate should be added to these values in order to approximate 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 rate at the Project Interest Rate of 4.620 percent per annum.

c) The Water System Revenue Bond Surcharge equivalent unit rate is calculated by dividing the WSRB surcharge for 1994 (from 132-93, Table B-22) by the totalTransportation Capital (132-93, B-15) and the Capital component of the Delta Water Charge (132-93, B-4 * 11.36049872). This rate is multiplied by the equivalent rate for theTransportation Capital cost (column 1).

TABLE B-26

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through the Capital Cost Component of the East Branch Enlargement Transportation Charge

(Dollars)



| Calendar Year | California Aqueduct | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Mojave Division | | | | | | | |
| | Reach 18A (1) | Reach 19 (2) | Reach 20A (3) | Reach 20B (4) | Reach 21 (5) | Reach 22A (6) | Reach 22B (7) | Reach 23B (8) |
| 1952 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1953 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1954 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1955 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1956 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1957 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1958 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1959 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1960 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 117,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 200,000 | 0 | 0 | 0 | 0 | 0 | 0 | 74,000 |
| 1981 | 135,000 | 0 | 0 | 0 | 0 | 0 | 0 | 385,000 |
| 1982 | 1,503,000 | 0 | 0 | 0 | 0 | 0 | 0 | 1,586,000 |
| 1983 | 2,260,000 | 0 | 0 | 0 | 0 | 0 | 0 | 2,965,000 |
| 1984 | 735,000 | 0 | 0 | 0 | 0 | 0 | 796,000 | 1,380,000 |
| 1985 | 93,000 | 520,000 | 153,000 | 625,000 | 955,000 | 703,000 | 1,139,000 | 146,000 |
| 1986 | 784,000 | 5,207,000 | 3,318,000 | 2,417,000 | 1,785,000 | 1,203,000 | 4,971,000 | 34,000 |
| 1987 | 11,000 | 139,000 | 2,356,000 | 2,007,000 | 1,985,000 | 47,000 | 21,741,000 | 43,000 |
| 1988 | 1,000 | 123,000 | 2,034,000 | 2,099,000 | 2,461,000 | 40,000 | 5,317,000 | 70,000 |
| 1989 | 0 | 205,000 | 351,000 | 354,000 | 357,000 | 61,000 | 10,930,000 | 229,000 |
| 1990 | 1,000 | 577,000 | 809,000 | 636,000 | 811,000 | 194,000 | 24,411,000 | 887,000 |
| 1991 | 1,000 | 280,000 | 360,000 | 278,000 | 357,000 | 93,000 | 16,740,000 | 1,215,000 |
| 1992 | 0 | 40,000 | 41,000 | 39,000 | 35,000 | 13,000 | 8,884,000 | 3,719,000 |
| 1993 | 0 | 20,000 | 26,000 | 20,000 | 25,000 | 7,000 | 2,958,000 | 20,059,000 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,460,000 |
| 1995 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,061,000 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 5,841,000 | 7,111,000 | 9,448,000 | 8,475,000 | 8,771,000 | 2,361,000 | 97,887,000 | 41,313,000 |

TABLE B-26

# Capital Costs of Each Aqueduct Reach to Be Reimbursed through the Capital Cost Component of the East Branch Enlargement Transportation Charge

(Dollars)



| Calendar Year | California Aqueduct (continued) | | | | | | | Grand Total (16) |
|---|---|---|---|---|---|---|---|---|
| | Mojave Division (continued) | | | Santa Ana Division | | | | |
| | Reach 23C (9) | Reach 24 (10) | Total (11) | Reach 25 (12) | Reach 26A (13) | Reach 26B (14) | Total (15) | |
| 1952 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1953 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1954 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1955 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1956 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1957 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1958 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1959 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1960 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1961 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 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 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 117,000 | 0 | 0 | 0 | 0 | 117,000 |
| 1980 | 0 | 0 | 274,000 | 0 | 0 | 0 | 0 | 274,000 |
| 1981 | 0 | 0 | 520,000 | 0 | 0 | 0 | 0 | 520,000 |
| 1982 | 0 | 0 | 3,089,000 | 0 | 0 | 0 | 0 | 3,089,000 |
| 1983 | 0 | 0 | 5,225,000 | 0 | 0 | 0 | 0 | 5,225,000 |
| 1984 | 0 | 0 | 2,911,000 | 0 | 0 | 0 | 0 | 2,911,000 |
| 1985 | 0 | 0 | 4,334,000 | 0 | 528,000 | 89,000 | 617,000 | 4,951,000 |
| 1986 | 25,000 | 0 | 19,744,000 | 0 | 1,926,000 | 154,000 | 2,080,000 | 21,824,000 |
| 1987 | 178,000 | 0 | 28,507,000 | 0 | 3,699,000 | 437,000 | 4,136,000 | 32,643,000 |
| 1988 | 632,000 | 0 | 12,777,000 | 0 | 5,736,000 | 3,329,000 | 9,065,000 | 21,842,000 |
| 1989 | 1,130,000 | 0 | 13,617,000 | 0 | 41,463,000 | 1,650,000 | 43,113,000 | 56,730,000 |
| 1990 | 2,066,000 | 0 | 30,392,000 | 0 | 31,341,000 | 1,650,000 | 32,991,000 | 63,383,000 |
| 1991 | 4,980,000 | 0 | 24,304,000 | 0 | 29,334,000 | 999,000 | 30,333,000 | 54,637,000 |
| 1992 | 11,920,000 | 0 | 24,691,000 | 0 | 17,953,000 | 299,000 | 18,252,000 | 42,943,000 |
| 1993 | 23,143,000 | 0 | 46,258,000 | 0 | 36,610,000 | 0 | 36,610,000 | 82,868,000 |
| 1994 | 7,492,000 | 0 | 13,952,000 | 0 | 20,880,000 | 0 | 20,880,000 | 34,832,000 |
| 1995 | 1,611,000 | 0 | 3,672,000 | 0 | 0 | 0 | 0 | 3,672,000 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 53,177,000 | 0 | 234,384,000 | 0 | 189,470,000 | 8,607,000 | 198,077,000 | 432,461,000 |

TABLE B-27

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of the East Branch Enlargement Transportation Charge (a

(Dollars)



| | *California Aqueduct* | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Mojave Division* | | | | | | | |
| *Calendar Year* | *Reach 18A (1)* | *Reach 19 (2)* | *Reach 20A (3)* | *Reach 20B (4)* | *Reach 21 (5)* | *Reach 22A (6)* | *Reach 22B (7)* | *Reach 23B (8)* |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1991 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 0 | 0 | 0 | 0 | 0 | 0 | 173,173 | 0 |
| 1995 | 0 | 0 | 0 | 0 | 0 | 0 | 180,964 | 0 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2001 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2002 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2003 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2004 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2005 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2006 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2007 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2008 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2009 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2010 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2011 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2012 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2013 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2014 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2015 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2016 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2017 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2018 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2019 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2020 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2021 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2022 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2023 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2024 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2025 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2026 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2031 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2032 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2033 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2034 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| 2035 | 0 | 0 | 0 | 0 | 0 | 0 | 184,548 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 7,736,057 | 0 |

a) This table shows only the estimated incremental minimum OMP&R costs attributable to East Branch Enlargement. Under Article 49(e)(1), the contractors participating in the East Branch Enlargement will also share in the remaining minimum OMP&R costs of the affected reaches according to a formula to be developed by DWR in consultation with the affected contractors. Once the formula is developed, subsequent versions of this table will reflect the transfer of a share of the minimum OMP&R costs now shown in Table B-11.

TABLE B-27

# Minimum OMP&R Costs of Each Aqueduct Reach to Be Reimbursed through Minimum OMP&R Component of the East Branch Enlargement Transportation Charge (a

(Dollars)



| | California Aqueduct (continued) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Mojave Division (continued) | | | Santa Ana Division | | | | |
| Calendar Year | Reach 23C (9) | Reach 24 (10) | Subtotal (11) | Reach 25 (12) | Reach 26A (13) | Reach 26B (14) | Subtotal (15) | Total (16) |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1991 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 11,682 | 0 | 184,855 | 0 | 51,132 | 0 | 51,132 | 235,987 |
| 1995 | 146,913 | 0 | 327,877 | 0 | 20,559 | 0 | 20,559 | 348,436 |
| 1996 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 1997 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 1998 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 1999 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2000 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2001 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2002 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2003 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2004 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2005 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2006 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2007 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2008 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2009 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2010 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2011 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2012 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2013 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2014 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2015 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2016 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2017 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2018 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2019 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2020 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2021 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2022 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2023 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2024 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2025 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2026 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2027 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2028 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2029 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2030 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2031 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2032 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2033 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2034 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| 2035 | 124,706 | 0 | 309,254 | 0 | 77,969 | 0 | 77,969 | 387,223 |
| Total | 5,146,835 | 0 | 12,882,892 | 0 | 3,190,451 | 0 | 3,190,451 | 16,073,343 |

TABLE B-28

# Capital Costs of East Branch Enlargement Transportation Facilities Allocated to Each Contractor

(Dollars)

| | Southern California Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Calendar Year* | *Antelope Valley-East Kern Water Agency (1)* | *Coachella Valley Water District (2)* | *Desert Water Agency (3)* | *Mojave Water Agency (4)* | *Palmdale Water District (5)* | *San Bernardino Valley Municipal Water District (6)* | *Metropolitan Water District of Southern California (7)* | *Total (8)* |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 11,731 | 1,010 | 10,566 | 466 | 0 | 93,227 | 117,000 |
| 1980 | 0 | 28,241 | 4,708 | 27,495 | 797 | 0 | 212,759 | 274,000 |
| 1981 | 0 | 56,134 | 16,676 | 61,271 | 538 | 0 | 385,381 | 520,000 |
| 1982 | 0 | 326,180 | 76,872 | 337,913 | 5,988 | 0 | 2,342,047 | 3,089,000 |
| 1983 | 0 | 554,658 | 138,964 | 582,070 | 9,004 | 0 | 3,940,304 | 5,225,000 |
| 1984 | 0 | 306,514 | 68,842 | 314,468 | 2,928 | 0 | 2,218,248 | 2,911,000 |
| 1985 | 55,475 | 497,825 | 70,126 | 392,798 | 5,471 | 21,614 | 3,907,691 | 4,951,000 |
| 1986 | 198,387 | 2,205,466 | 274,879 | 1,766,932 | 46,198 | 78,842 | 17,253,296 | 21,824,000 |
| 1987 | 145,427 | 3,322,254 | 453,175 | 2,555,299 | 17,585 | 151,421 | 25,997,839 | 32,643,000 |
| 1988 | 150,897 | 2,005,908 | 444,550 | 1,088,539 | 16,586 | 234,807 | 17,900,713 | 21,842,000 |
| 1989 | 25,543 | 6,599,387 | 2,403,534 | 1,137,946 | 3,562 | 1,697,316 | 44,862,712 | 56,730,000 |
| 1990 | 55,735 | 7,046,265 | 2,058,642 | 2,595,106 | 7,929 | 1,282,965 | 50,336,358 | 63,383,000 |
| 1991 | 24,751 | 6,264,722 | 2,017,617 | 1,794,201 | 3,604 | 1,200,807 | 43,331,298 | 54,637,000 |
| 1992 | 2,911 | 5,085,357 | 1,746,887 | 1,294,508 | 471 | 734,918 | 34,077,948 | 42,943,000 |
| 1993 | 1,774 | 10,052,690 | 3,877,665 | 2,834,024 | 259 | 1,498,655 | 64,602,933 | 82,868,000 |
| 1994 | 0 | 4,283,290 | 1,732,290 | 823,524 | 0 | 854,737 | 27,138,159 | 34,832,000 |
| 1995 | 0 | 432,326 | 157,423 | 262,737 | 0 | 0 | 2,819,514 | 3,672,000 |
| 1996 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1997 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1998 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1999 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 660,900 | 49,078,948 | 15,543,860 | 17,879,397 | 121,386 | 7,756,082 | 341,420,427 | 432,461,000 |

TABLE B-29

# Capital Cost Component of East Branch Enlargement Facilities Transportation Charge for Each Contractor

(Dollars)

| | Southern California Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| *Calendar Year* | *Antelope Valley-East Kern Water Agency (1)* | *Coachella Valley Water District (2)* | *Desert Water Agency (3)* | *Mojave Water Agency (4)* | *Palmdale Water District (5)* | *San Bernardino Valley Municipal Water District (a (6)* | *Metropolitan Water District of Southern California (7)* | *Total (8)* |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 16,567 | 1,230,300 | 389,650 | 448,197 | 3,043 | 0 | 8,558,653 | 10,646,410 |
| 1989 | 17,412 | 1,292,997 | 409,507 | 471,037 | 3,198 | 0 | 8,994,804 | 11,188,955 |
| 1990 | 17,405 | 1,292,536 | 409,361 | 470,869 | 3,197 | 0 | 8,991,597 | 11,184,965 |
| 1991 | 17,403 | 1,292,328 | 409,295 | 470,793 | 3,196 | 0 | 8,990,150 | 11,183,165 |
| 1992 | 45,821 | 3,402,700 | 1,077,673 | 1,239,599 | 8,416 | 0 | 23,671,073 | 29,445,282 |
| 1993 | 50,718 | 3,766,323 | 1,192,837 | 1,372,066 | 9,315 | 0 | 26,200,636 | 32,591,895 |
| 1994 | 47,353 | 3,516,481 | 1,113,709 | 1,281,049 | 8,697 | 0 | 24,462,599 | 30,429,888 |
| 1995 | 47,268 | 3,510,143 | 1,111,702 | 1,278,740 | 8,681 | 0 | 24,418,510 | 30,375,044 |
| 1996 | 45,861 | 3,405,700 | 1,078,624 | 1,240,692 | 8,423 | 0 | 23,691,946 | 29,471,246 |
| 1997 | 47,214 | 3,506,134 | 1,110,432 | 1,277,280 | 8,672 | 0 | 24,390,613 | 30,340,345 |
| 1998 | 47,119 | 3,499,084 | 1,108,199 | 1,274,712 | 8,654 | 0 | 24,341,576 | 30,279,344 |
| 1999 | 47,095 | 3,497,341 | 1,107,647 | 1,274,077 | 8,650 | 0 | 24,329,451 | 30,264,261 |
| 2000 | 48,583 | 3,607,774 | 1,142,623 | 1,314,307 | 8,923 | 0 | 25,097,680 | 31,219,890 |
| 2001 | 48,639 | 3,611,944 | 1,143,944 | 1,315,826 | 8,933 | 0 | 25,126,694 | 31,255,980 |
| 2002 | 48,283 | 3,585,518 | 1,135,574 | 1,306,199 | 8,868 | 0 | 24,942,859 | 31,027,301 |
| 2003 | 48,315 | 3,587,883 | 1,136,323 | 1,307,061 | 8,874 | 0 | 24,959,307 | 31,047,763 |
| 2004 | 46,160 | 3,427,839 | 1,085,635 | 1,248,757 | 8,478 | 0 | 23,845,955 | 29,662,824 |
| 2005 | 46,192 | 3,430,242 | 1,086,396 | 1,249,633 | 8,484 | 0 | 23,862,671 | 29,683,618 |
| 2006 | 46,258 | 3,435,181 | 1,087,961 | 1,251,432 | 8,496 | 0 | 23,897,030 | 29,726,358 |
| 2007 | 46,346 | 3,441,712 | 1,090,029 | 1,253,811 | 8,512 | 0 | 23,942,466 | 29,782,876 |
| 2008 | 46,437 | 3,448,417 | 1,092,153 | 1,256,254 | 8,529 | 0 | 23,989,103 | 29,840,893 |
| 2009 | 46,506 | 3,453,595 | 1,093,792 | 1,258,140 | 8,542 | 0 | 24,025,124 | 29,885,699 |
| 2010 | 46,604 | 3,460,818 | 1,096,080 | 1,260,771 | 8,559 | 0 | 24,075,374 | 29,948,206 |
| 2011 | 46,679 | 3,466,432 | 1,097,858 | 1,262,817 | 8,573 | 0 | 24,114,430 | 29,996,789 |
| 2012 | 46,759 | 3,472,367 | 1,099,738 | 1,264,979 | 8,588 | 0 | 24,155,717 | 30,048,148 |
| 2013 | 46,830 | 3,477,631 | 1,101,405 | 1,266,896 | 8,601 | 0 | 24,192,335 | 30,093,698 |
| 2014 | 46,905 | 3,483,179 | 1,103,162 | 1,268,917 | 8,615 | 0 | 24,230,926 | 30,141,704 |
| 2015 | 46,978 | 3,488,601 | 1,104,879 | 1,270,893 | 8,628 | 0 | 24,268,649 | 30,188,628 |
| 2016 | 47,063 | 3,494,932 | 1,106,884 | 1,273,199 | 8,644 | 0 | 24,312,687 | 30,243,409 |
| 2017 | 47,164 | 3,502,411 | 1,109,253 | 1,275,924 | 8,662 | 0 | 24,364,720 | 30,308,134 |
| 2018 | 47,275 | 3,510,713 | 1,111,882 | 1,278,948 | 8,683 | 0 | 24,422,470 | 30,379,971 |
| 2019 | 47,383 | 3,518,689 | 1,114,409 | 1,281,854 | 8,703 | 0 | 24,477,958 | 30,448,996 |
| 2020 | 47,511 | 3,528,219 | 1,117,427 | 1,285,325 | 8,726 | 0 | 24,544,250 | 30,531,458 |
| 2021 | 47,675 | 3,540,401 | 1,121,285 | 1,289,763 | 8,756 | 0 | 24,628,998 | 30,636,878 |
| 2022 | 47,865 | 3,554,498 | 1,125,750 | 1,294,899 | 8,791 | 0 | 24,727,063 | 30,758,866 |
| 2023 | 36,342 | 2,698,761 | 854,728 | 983,155 | 6,675 | 0 | 18,774,077 | 23,353,738 |
| 2024 | 37,572 | 2,790,138 | 883,668 | 1,016,444 | 6,901 | 0 | 19,409,753 | 24,144,476 |
| 2025 | 26,872 | 1,995,544 | 632,011 | 726,974 | 4,935 | 0 | 13,882,117 | 17,268,453 |
| 2026 | 4,991 | 370,669 | 117,395 | 135,034 | 917 | 0 | 2,578,577 | 3,207,583 |
| 2027 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2028 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2029 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2030 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2031 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2032 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2033 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2034 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2035 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 1,637,423 | 121,596,175 | 38,510,880 | 44,297,323 | 300,738 | 0 | 845,890,598 | 1,052,233,137 |

a) Under Article 49(d)(4)(A) of its contract, San Bernardino Valley Municipal Water District elected to pay a portion of its allocated costs of East Branch Enlargement in advance rather than to participate in payment of Water System Revenue Bonds. This election was made via a letter of agreement signed June 1, 1987. As of June 30, 1992, $5,479,000 has been received from the San Bernardino Valley Municipal Water District.

TABLE B-30

# Minimum OMP&R Component of East Branch Enlargement Facilities Transportation Charge for Each Contractor

(Dollars)

| Calendar Year | Southern California Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Antelope Valley-East Kern Water Agency (1)* | *Coachella Valley Water District (2)* | *Desert Water Agency (3)* | *Mojave Water Agency (4)* | *Palmdale Water District (5)* | *San Bernardino Valley Municipal Water District (a (6)* | *Metropolitan Water District of Southern California (7)* | *Total (8)* |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1991 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1993 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1994 | 0 | 25,326 | 4,798 | 15,701 | 0 | 2,093 | 188,069 | 235,987 |
| 1995 | 0 | 39,425 | 9,461 | 16,407 | 0 | 842 | 282,301 | 348,436 |
| 1996 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 1997 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 1998 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 1999 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2000 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2001 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2002 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2003 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2004 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2005 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2006 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2007 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2008 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2009 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2010 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2011 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2012 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2013 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2014 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2015 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2016 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2017 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2018 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2019 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2020 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2021 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2022 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2023 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2024 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2025 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2026 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2027 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2028 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2029 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2030 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2031 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2032 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2033 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2034 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2035 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| Total | 0 | 1,831,511 | 476,779 | 701,388 | 0 | 130,615 | 12,933,050 | 16,073,343 |

TABLE B-31

# Total East Branch Enlargement Facilities Transportation Charge for Each Contractor

(Dollars)

| Calendar Year | Southern California Area | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | *Antelope Valley-East Kern Water Agency (1)* | *Coachella Valley Water District (2)* | *Desert Water Agency (3)* | *Mojave Water Agency (4)* | *Palmdale Water District (5)* | *San Bernardino Valley Municipal Water District (a (6)* | *Metropolitan Water District of Southern California (7)* | *Total (8)* |
| 1971 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1972 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1973 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1976 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1980 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1981 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1982 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1988 | 16,567 | 1,230,300 | 389,650 | 448,197 | 3,043 | 0 | 8,558,653 | 10,646,410 |
| 1989 | 17,412 | 1,292,997 | 409,507 | 471,037 | 3,198 | 0 | 8,994,804 | 11,188,955 |
| 1990 | 17,405 | 1,292,536 | 409,361 | 470,869 | 3,197 | 0 | 8,991,597 | 11,184,965 |
| 1991 | 17,403 | 1,292,328 | 409,295 | 470,793 | 3,196 | 0 | 8,990,150 | 11,183,165 |
| 1992 | 45,821 | 3,402,700 | 1,077,673 | 1,239,599 | 8,416 | 0 | 23,671,073 | 29,445,282 |
| 1993 | 50,718 | 3,766,323 | 1,192,837 | 1,372,066 | 9,315 | 0 | 26,200,636 | 32,591,895 |
| 1994 | 47,353 | 3,541,807 | 1,118,507 | 1,296,750 | 8,697 | 2,093 | 24,650,668 | 30,665,875 |
| 1995 | 47,268 | 3,549,568 | 1,121,163 | 1,295,147 | 8,681 | 842 | 24,700,811 | 30,723,480 |
| 1996 | 45,861 | 3,449,869 | 1,090,187 | 1,257,424 | 8,423 | 3,192 | 24,003,513 | 29,858,469 |
| 1997 | 47,214 | 3,550,303 | 1,121,995 | 1,294,012 | 8,672 | 3,192 | 24,702,180 | 30,727,568 |
| 1998 | 47,119 | 3,543,253 | 1,119,762 | 1,291,444 | 8,654 | 3,192 | 24,653,143 | 30,666,567 |
| 1999 | 47,095 | 3,541,510 | 1,119,210 | 1,290,809 | 8,650 | 3,192 | 24,641,018 | 30,651,484 |
| 2000 | 48,583 | 3,651,943 | 1,154,186 | 1,331,039 | 8,923 | 3,192 | 25,409,247 | 31,607,113 |
| 2001 | 48,639 | 3,656,113 | 1,155,507 | 1,332,558 | 8,933 | 3,192 | 25,438,261 | 31,643,203 |
| 2002 | 48,283 | 3,629,687 | 1,147,137 | 1,322,931 | 8,868 | 3,192 | 25,254,426 | 31,414,524 |
| 2003 | 48,315 | 3,632,052 | 1,147,886 | 1,323,793 | 8,874 | 3,192 | 25,270,874 | 31,434,986 |
| 2004 | 46,160 | 3,472,008 | 1,097,198 | 1,265,489 | 8,478 | 3,192 | 24,157,522 | 30,050,047 |
| 2005 | 46,192 | 3,474,411 | 1,097,959 | 1,266,365 | 8,484 | 3,192 | 24,174,238 | 30,070,841 |
| 2006 | 46,258 | 3,479,350 | 1,099,524 | 1,268,164 | 8,496 | 3,192 | 24,208,597 | 30,113,581 |
| 2007 | 46,346 | 3,485,881 | 1,101,592 | 1,270,543 | 8,512 | 3,192 | 24,254,033 | 30,170,099 |
| 2008 | 46,437 | 3,492,586 | 1,103,716 | 1,272,986 | 8,529 | 3,192 | 24,300,670 | 30,228,116 |
| 2009 | 46,506 | 3,497,764 | 1,105,355 | 1,274,872 | 8,542 | 3,192 | 24,336,691 | 30,272,922 |
| 2010 | 46,604 | 3,504,987 | 1,107,643 | 1,277,503 | 8,559 | 3,192 | 24,386,941 | 30,335,429 |
| 2011 | 46,679 | 3,510,601 | 1,109,421 | 1,279,549 | 8,573 | 3,192 | 24,425,997 | 30,384,012 |
| 2012 | 46,759 | 3,516,536 | 1,111,301 | 1,281,711 | 8,588 | 3,192 | 24,467,284 | 30,435,371 |
| 2013 | 46,830 | 3,521,800 | 1,112,968 | 1,283,628 | 8,601 | 3,192 | 24,503,902 | 30,480,921 |
| 2014 | 46,905 | 3,527,348 | 1,114,725 | 1,285,649 | 8,615 | 3,192 | 24,542,493 | 30,528,927 |
| 2015 | 46,978 | 3,532,770 | 1,116,442 | 1,287,625 | 8,628 | 3,192 | 24,580,216 | 30,575,851 |
| 2016 | 47,063 | 3,539,101 | 1,118,447 | 1,289,931 | 8,644 | 3,192 | 24,624,254 | 30,630,632 |
| 2017 | 47,164 | 3,546,580 | 1,120,816 | 1,292,656 | 8,662 | 3,192 | 24,676,287 | 30,695,357 |
| 2018 | 47,275 | 3,554,882 | 1,123,445 | 1,295,680 | 8,683 | 3,192 | 24,734,037 | 30,767,194 |
| 2019 | 47,383 | 3,562,858 | 1,125,972 | 1,298,586 | 8,703 | 3,192 | 24,789,525 | 30,836,219 |
| 2020 | 47,511 | 3,572,388 | 1,128,990 | 1,302,057 | 8,726 | 3,192 | 24,855,817 | 30,918,681 |
| 2021 | 47,675 | 3,584,570 | 1,132,848 | 1,306,495 | 8,756 | 3,192 | 24,940,565 | 31,024,101 |
| 2022 | 47,865 | 3,598,667 | 1,137,313 | 1,311,631 | 8,791 | 3,192 | 25,038,630 | 31,146,089 |
| 2023 | 36,342 | 2,742,930 | 866,291 | 999,887 | 6,675 | 3,192 | 19,085,644 | 23,740,961 |
| 2024 | 37,572 | 2,834,307 | 895,231 | 1,033,176 | 6,901 | 3,192 | 19,721,320 | 24,531,699 |
| 2025 | 26,872 | 2,039,713 | 643,574 | 743,706 | 4,935 | 3,192 | 14,193,684 | 17,655,676 |
| 2026 | 4,991 | 414,838 | 128,958 | 151,766 | 917 | 3,192 | 2,890,144 | 3,594,806 |
| 2027 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2028 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2029 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2030 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2031 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2032 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2033 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2034 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| 2035 | 0 | 44,169 | 11,563 | 16,732 | 0 | 3,192 | 311,567 | 387,223 |
| Total | 1,637,423 | 123,427,686 | 38,987,659 | 44,998,711 | 300,738 | 130,615 | 858,823,648 | 1,068,306,480 |

TABLE B-32

# Annual Surplus and Unscheduled Water Deliveries

(Acre-feet)

| Calendar Year (a | North Bay Area: Napa County FC&WCD (1) | Solano County Water Agency (2) | Area Total (3) | South Bay Area: Alameda County FC&WCD, Zone 7 (4) | Alameda County Water District (5) | Santa Clara Valley Water District (6) | Area Total (7) |
|---|---|---|---|---|---|---|---|
| 1973 | 0 | 0 | 0 | 0 | 0 | 2,499 | 2,499 |
| 1974 | 0 | 0 | 0 | 0 | 0 | 2,934 | 2,934 |
| 1975 | 0 | 0 | 0 | 0 | 0 | 18,470 | 18,470 |
| 1976 | 0 | 0 | 0 | 3,636 | 4,147 | 24,705 | 32,488 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1979 | 0 | 0 | 0 | 0 | 0 | 15,998 | 15,998 |
| 1980 (b | 0 | 0 | 0 | 0 | 0 | 14,278 | 14,278 |
| 1981 (b | 0 | 0 | 0 | 0 | 0 | 18,920 | 18,920 |
| 1982 (b | 0 | 0 | 0 | 0 | 0 | 1,303 | 1,303 |
| 1983 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1984 | 0 | 0 | 0 | 0 | 0 | 3,663 | 3,663 |
| 1985 | 0 | 0 | 0 | 0 | 0 | 9,638 | 9,638 |
| 1986 (c | 0 | 0 | 0 | 0 | 0 | 2,595 | 2,595 |
| 1987 (d | 0 | 0 | 0 | 0 | 0 | 6,949 | 6,949 |
| 1988 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 (d | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1991 (d | 768 | 2,753 | 3,521 | 0 | 0 | 0 | 0 |
| 1992 (d | 1,156 | 3,065 | 4,221 | 0 | 0 | 0 | 0 |
| Total | 1,924 | 5,818 | 7,742 | 3,636 | 4,147 | 121,952 | 129,735 |

| Calendar Year (a | San Joaquin Valley Area: Dudley Ridge Water District (8) | Empire West Side Irrigation District (9) | Kern County Water Agency (10) | Oak Flat Water District (11) | Tulare Lake Basin Water Storage District (12) | Area Total (13) | Southern California Area: Castaic Lake Water Agency (e (14) | Littlerock Creek Irrigation District (15) | Area Total (16) | Total All Areas (17) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1973 | 13,192 | 2,814 | 163,744 | 1,013 | 69,588 | 250,351 | 4,104 | 80 | 4,184 | 257,034 |
| 1974 | 33,391 | 1,539 | 299,433 | 3,471 | 70,961 | 408,795 | 4,128 | 67 | 4,195 | 415,924 |
| 1975 | 40,555 | 3,448 | 410,820 | 3,576 | 135,965 | 594,364 | 7,495 | 356 | 7,851 | 620,685 |
| 1976 | 30,922 | 3,457 | 442,150 | 3,840 | 61,526 | 541,895 | 5,727 | 0 | 5,727 | 580,110 |
| 1977 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | 7,586 | 0 | 8,623 | 6 | 0 | 16,215 | 0 | 0 | 0 | 16,215 |
| 1979 | 38,545 | 0 | 524,247 | 698 | 67,342 | 630,832 | 0 | 0 | 0 | 646,830 |
| 1980 (b | 39,079 | 0 | 327,233 | 718 | 14,817 | 381,847 | 6,092 | 0 | 6,092 | 402,217 |
| 1981 (b | 32,327 | 2,992 | 624,581 | 2,788 | 215,926 | 878,614 | 10,647 | 247 | 10,894 | 908,428 |
| 1982 (b | 14,463 | 926 | 124,736 | 721 | 67,365 | 208,211 | 6,359 | 0 | 6,359 | 215,873 |
| 1983 | 13,019 | 0 | 0 | 0 | 0 | 13,019 | 0 | 0 | 0 | 13,019 |
| 1984 | 19,500 | 0 | 230,691 | 1,644 | 0 | 251,835 | 7,419 | 0 | 7,419 | 262,917 |
| 1985 | 7,636 | 0 | 186,486 | 764 | 96,887 | 291,773 | 6,095 | 0 | 6,095 | 307,506 |
| 1986 (c | 903 | 1,130 | 14,987 | 247 | 12,788 | 30,055 | 3,970 | 0 | 3,970 | 36,620 |
| 1987 (d | 0 | 1,876 | 52,048 | 255 | 51,206 | 105,385 | 2,573 | 0 | 2,573 | 114,907 |
| 1988 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 (d | 0 | 0 | 0 | 90 | 0 | 90 | 0 | 0 | 0 | 90 |
| 1991 (d | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,521 |
| 1992 (d | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4,221 |
| Total | 291,118 | 18,182 | 3,409,779 | 19,831 | 864,371 | 4,603,281 | 64,609 | 750 | 65,359 | 4,806,117 |

a) All deliveries are surplus water deliveries unless otherwise indicated.
b) Includes surplus and unscheduled water.
c) Includes 12,270 acre-feet of 1985 surplus water carried over and delivered during January and February 1986. Also includes 22,034 acre-feet of unscheduled water.
d) Unscheduled water only.

TABLE B-33

# Power Costs for Pumping Surplus Water

(Dollars)

| Calendar Year | North Bay Aqueduct Reach 1 Barker Slough Pumping Plant (1) | North Bay Aqueduct Reach 3A Cordelia Solano Pumping Plant (2) | North Bay Aqueduct Reach 3B Cordelia Napa Pumping Plant (3) | South Bay Aqueduct Reach 1 South Bay and Del Valle Pumping Plants (4) | California Aqueduct Reach 1 Banks Pumping Plant (5) | California Aqueduct Reach 4 Dos Amigos Pumping Plant (6) | California Aqueduct Reach 14A Buena Vista Pumping Plant (7) | California Aqueduct Reach 15A Teerink Pumping Plant (8) | California Aqueduct Reach 16A Chrisman Pumping Plant (9) | California Aqueduct Reach 17E Edmonston Pumping Plant (10) | California Aqueduct Reach 31A Las Perillas and Badger Hill Pumping Plants (11) | Combined Total (12) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1973(a | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 5,290 | 0 | 37,033 | 25,622 | 29,816 | 0 | 0 | 15,588 | 113,349 |
| Energy | 0 | 0 | 0 | 6,302 | 231,691 | 102,725 | 53,375 | 12,819 | 1,697 | 526 | 24,245 | 433,380 |
| Total | 0 | 0 | 0 | 11,592 | 231,691 | 139,758 | 78,997 | 42,635 | 1,697 | 526 | 39,833 | 546,729 |
| 1974 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 21,773 | 0 | 81,328 | 69,381 | 62,301 | 0 | 0 | 31,511 | 266,294 |
| Energy | 0 | 0 | 0 | 7,561 | 374,506 | 181,827 | 95,596 | 22,550 | 5,599 | 450 | 33,406 | 721,495 |
| Total | 0 | 0 | 0 | 29,334 | 374,506 | 263,155 | 164,977 | 84,851 | 5,599 | 450 | 64,917 | 987,789 |
| 1975 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 32,288 | 298,709 | 126,806 | 99,676 | 30,049 | 0 | 0 | 32,231 | 619,759 |
| Energy | 0 | 0 | 0 | 47,597 | 617,396 | 264,000 | 99,745 | 313 | 661 | 2,391 | 49,501 | 1,081,604 |
| Total | 0 | 0 | 0 | 79,885 | 916,105 | 390,806 | 199,421 | 30,362 | 661 | 2,391 | 81,732 | 1,701,363 |
| 1976 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 41,897 | 60,502 | 63,788 | 85,415 | 8,579 | 0 | 0 | 30,449 | 290,630 |
| Energy | 0 | 0 | 0 | 83,722 | 597,636 | 225,126 | 103,213 | 4,885 | 5,385 | 0 | 45,101 | 1,065,068 |
| Total | 0 | 0 | 0 | 125,619 | 658,138 | 288,914 | 188,628 | 13,464 | 5,385 | 0 | 75,550 | 1,355,698 |
| 1977 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1978 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 0 | 144,188 | 51,403 | 0 | 0 | 0 | 0 | 0 | 195,591 |
| Energy | 0 | 0 | 0 | 0 | 15,039 | 6,591 | 0 | 0 | 0 | 0 | 0 | 21,630 |
| Total | 0 | 0 | 0 | 0 | 159,227 | 57,994 | 0 | 0 | 0 | 0 | 0 | 217,221 |
| 1979 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 27,116 | 382,070 | 232,001 | 35,743 | 6,771 | 3,165 | 0 | 8,769 | 695,635 |
| Energy | 0 | 0 | 0 | 39,517 | 599,886 | 256,188 | 51,045 | 8,205 | 4,194 | 0 | 11,808 | 970,843 |
| Total | 0 | 0 | 0 | 66,633 | 981,956 | 488,189 | 86,788 | 14,976 | 7,359 | 0 | 20,577 | 1,666,478 |
| 1980 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 30,319 | 530,982 | 227,837 | 28,682 | 3,559 | 5,146 | 0 | 3,228 | 829,753 |
| Energy | 0 | 0 | 0 | 35,268 | 373,023 | 162,404 | 73,422 | 11,451 | 9,753 | 0 | 22,755 | 688,076 |
| Total | 0 | 0 | 0 | 65,587 | 904,005 | 390,241 | 102,104 | 15,010 | 14,899 | 0 | 25,983 | 1,517,829 |
| 1981 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 36,749 | 625,106 | 281,362 | 69,202 | 22,262 | 24,138 | 1,054 | 26,168 | 1,086,041 |
| Energy | 0 | 0 | 0 | 44,229 | 806,574 | 366,945 | 85,341 | 27,489 | 29,847 | 1,629 | 34,020 | 1,396,074 |
| Total | 0 | 0 | 0 | 80,978 | 1,431,680 | 648,307 | 154,543 | 49,751 | 53,985 | 2,683 | 60,188 | 2,482,115 |
| 1982 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 40,355 | 1,704,800 | 578,744 | 176,362 | 16,932 | 2,612 | 0 | 6,148 | 2,525,953 |
| Energy | 0 | 0 | 0 | 3,225 | 192,415 | 88,494 | 19,390 | 2,109 | 296 | 0 | 5,278 | 311,207 |
| Total | 0 | 0 | 0 | 43,580 | 1,897,215 | 667,238 | 195,752 | 19,041 | 2,908 | 0 | 11,426 | 2,837,160 |
| 1983 | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 0 | 40,303 | 16,941 | 0 | 0 | 0 | 0 | 0 | 57,244 |
| Energy | 0 | 0 | 0 | 0 | 43,045 | 20,026 | 0 | 0 | 0 | 0 | 0 | 63,071 |
| Total | 0 | 0 | 0 | 0 | 83,348 | 36,967 | 0 | 0 | 0 | 0 | 0 | 120,315 |
| 1984 (b | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 51,632 | 1,865,605 | 769,718 | 0 | 0 | 0 | 0 | 37,407 | 2,724,362 |
| 1985 | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 301,663 | 2,835,778 | 1,180,255 | 0 | 0 | 0 | 0 | 46,140 | 4,363,836 |
| 1986 | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 43,007 | 227,832 | 99,593 | 0 | 0 | 0 | 0 | 20,176 | 390,608 |
| 1987 | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 98,970 | 610,046 | 273,559 | 59,496 | 15,365 | 6,776 | 0 | 12,700 | 1,076,912 |
| 1988 | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1989 | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 1990 | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 0 | 485 | 0 | 0 | 0 | 0 | 0 | 0 | 485 |
| 1991 | | | | | | | | | | | | |
| Energy | 32,766 | 14,685 | 18,043 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65,494 |
| 1992 | | | | | | | | | | | | |
| Energy | 27,909 | 19,495 | 19,297 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66,701 |
| Grand Total | 60,675 | 34,180 | 37,340 | 998,480 | 13,177,617 | 5,694,694 | 1,230,706 | 285,455 | 99,269 | 6,050 | 496,629 | 22,121,095 |

a) May through December only.
b) No capacity costs are charged to surplus water pumping after 1983.

TABLE B-34

# Power, Replacement, and Administrative Charge for Surplus Water Delivery

(Dollars)

| Calendar Year | North Bay Area | | South Bay Area | | San Joaquin Valley Area | | | | | | Southern California Area | | | | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | NCFC&WCD (1) | SCWA (2) | ACWD (3) | SCVWD (4) | CLWA (5) | DRWD (6) | EWSID (7) | KCWA (a (8) | OFWD (9) | TLBWSD (10) | AVEK (11) | LCID (12) | CVWD (13) | DWA (14) | (15) |
| 1978 | | | | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 3,275 | 0 | 14,642 | 0 | 154,051 | 4 | 23,619 | 0 | 0 | 0 | 0 | 195,591 |
| Energy | 0 | 0 | 0 | 0 | 0 | 10,119 | 0 | 11,505 | 6 | 0 | 0 | 0 | 0 | 0 | 21,630 |
| Replacement | 0 | 0 | 0 | 0 | 0 | 248 | 0 | 281 | 0 | 0 | 0 | 0 | 0 | 0 | 529 |
| Administrative | 0 | 0 | 0 | 0 | 0 | 3,793 | 0 | 4,312 | 3 | 0 | 0 | 0 | 0 | 0 | 8,108 |
| Total | 0 | 0 | 0 | 3,275 | 0 | 28,802 | 0 | 170,149 | 13 | 23,619 | 0 | 0 | 0 | 0 | 225,858 |
| 1979 | | | | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 37,413 | 0 | 37,615 | 0 | 547,875 | 417 | 72,315 | 0 | 0 | 0 | 0 | 695,635 |
| Energy | 0 | 0 | 0 | 54,354 | 0 | 51,418 | 0 | 774,587 | 651 | 89,833 | 0 | 0 | 0 | 0 | 970,843 |
| Replacement | 0 | 0 | 0 | 413 | 0 | 886 | 0 | 7,633 | 5 | 2,042 | 0 | 0 | 0 | 0 | 10,979 |
| Administrative | 0 | 0 | 0 | 4,005 | 0 | 20,051 | 0 | 116,977 | 176 | 46,075 | 0 | 0 | 0 | 0 | 187,284 |
| Total | 0 | 0 | 0 | 96,185 | 0 | 109,970 | 0 | 1,447,072 | 1,249 | 210,265 | 0 | 0 | 0 | 0 | 1,864,741 |
| 1980 | | | | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 41,641 | 8,485 | 40,160 | 0 | 636,135 | 432 | 102,900 | 0 | 0 | 0 | 0 | 829,753 |
| Energy | 0 | 0 | 0 | 48,510 | 13,101 | 52,131 | 0 | 553,902 | 666 | 19,766 | 0 | 0 | 0 | 0 | 688,076 |
| Replacement | 0 | 0 | 0 | 533 | 3,332 | 1,255 | 0 | 149,588 | 134 | 5,705 | 0 | 0 | 0 | 0 | 160,547 |
| Administrative | 0 | 0 | 0 | 5,638 | 3,815 | 21,859 | 0 | 281,776 | 666 | 22,258 | 0 | 0 | 0 | 0 | 336,012 |
| Total | 0 | 0 | 0 | 96,322 | 28,733 | 115,405 | 0 | 1,621,401 | 1,898 | 150,629 | 0 | 0 | 0 | 0 | 2,014,388 |
| 1981 | | | | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 50,706 | 14,608 | 40,674 | 2,520 | 784,875 | 1,601 | 189,238 | 0 | 1,819 | 0 | 0 | 1,086,041 |
| Energy | 0 | 0 | 0 | 61,028 | 22,575 | 42,078 | 3,897 | 980,142 | 2,475 | 281,071 | 0 | 2,808 | 0 | 0 | 1,396,074 |
| Replacement | 0 | 0 | 0 | 3,538 | 4,099 | 12,446 | 1,152 | 275,232 | 521 | 83,132 | 0 | 431 | 0 | 0 | 380,551 |
| Administrative | 0 | 0 | 725 | 11,192 | 6,160 | 19,221 | 1,869 | 348,397 | 1,950 | 146,357 | 0 | 123 | 0 | 0 | 535,994 |
| Total | 0 | 0 | 725 | 126,464 | 47,442 | 114,419 | 9,438 | 2,388,646 | 6,547 | 699,798 | 0 | 5,181 | 0 | 0 | 3,398,660 |
| 1982 | | | | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 55,431 | 20,739 | 74,514 | 6,103 | 1,658,571 | 434 | 339,639 | 370,522 | 0 | 0 | 0 | 2,525,953 |
| Energy | 0 | 0 | 0 | 4,386 | 13,578 | 18,876 | 1,208 | 184,594 | 643 | 87,922 | 0 | 0 | 0 | 0 | 311,207 |
| Replacement | 0 | 0 | 0 | 105 | 2,462 | 5,596 | 361 | 54,018 | 135 | 26,070 | 0 | 0 | 0 | 0 | 88,747 |
| Administrative | 0 | 0 | 0 | 7,328 | 3,710 | 5,487 | 698 | 185,494 | 676 | 50,524 | 0 | 0 | 0 | 0 | 253,917 |
| Total | 0 | 0 | 0 | 67,250 | 40,489 | 104,473 | 8,370 | 2,082,677 | 1,888 | 504,155 | 370,522 | 0 | 0 | 0 | 3,179,824 |
| 1983 | | | | | | | | | | | | | | | |
| Capacity | 0 | 0 | 0 | 1,698 | 187 | 3,850 | 60 | 48,348 | 0 | 3,101 | 0 | 0 | 0 | 0 | 57,244 |
| Energy | 0 | 0 | 0 | 0 | 0 | 62,996 | 0 | 0 | 75 | 0 | 0 | 0 | 0 | 0 | 63,071 |
| Replacement | 0 | 0 | 0 | 0 | 0 | 5,851 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 5,857 |
| Administrative | 0 | 0 | 0 | 0 | 0 | 6,510 | 0 | 0 | 14 | 0 | 0 | 0 | 0 | 0 | 6,524 |
| Total | 0 | 0 | 0 | 1,698 | 187 | 79,207 | 60 | 48,348 | 95 | 3,101 | 0 | 0 | 0 | 0 | 132,696 |
| 1984 (b | | | | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 70,885 | 98,169 | 222,456 | 0 | 2,322,714 | 10,138 | 0 | 0 | 0 | 0 | 0 | 2,724,362 |
| Replacement | 0 | 0 | 0 | 782 | 3,334 | 8,763 | 0 | 103,670 | 351 | 0 | 0 | 0 | 0 | 0 | 116,900 |
| Administrative | 0 | 0 | 2,450 | 7,160 | 6,800 | 9,380 | 0 | 36,460 | 6,340 | 0 | 0 | 0 | 0 | 0 | 68,590 |
| Total | 0 | 0 | 2,450 | 78,827 | 108,303 | 240,599 | 0 | 2,462,844 | 16,829 | 0 | 0 | 0 | 0 | 0 | 2,909,852 |
| 1985 | | | | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 414,281 | 124,603 | 107,436 | 0 | 2,444,591 | 6,373 | 1,266,552 | 0 | 0 | 0 | 0 | 4,363,836 |
| Replacement | 0 | 0 | 0 | 2,053 | 2,737 | 3,429 | 0 | 83,732 | 163 | 43,502 | 0 | 0 | 0 | 0 | 135,616 |
| Administrative | 0 | 0 | 0 | 4,811 | 4,596 | 5,227 | 0 | 18,251 | 4,245 | 11,883 | 0 | 0 | 0 | 0 | 49,013 |
| Total | 0 | 0 | 0 | 421,145 | 131,936 | 116,092 | 0 | 2,546,574 | 10,781 | 1,321,937 | 0 | 0 | 0 | 0 | 4,548,465 |
| 1986 | | | | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 58,939 | 52,904 | 7,658 | 12,104 | 113,630 | 1,267 | 144,106 | 0 | 0 | 0 | 0 | 390,608 |
| Replacement | 0 | 0 | 0 | 553 | 1,783 | 405 | 507 | 6,729 | 53 | 5,742 | 0 | 0 | 0 | 0 | 15,772 |
| Administrative | 0 | 0 | 2,263 | 3,468 | 6,051 | 3,995 | 1,550 | 7,533 | 3,545 | 5,470 | 0 | 0 | 0 | 0 | 33,875 |
| Total | 0 | 0 | 2,263 | 62,960 | 60,738 | 12,058 | 14,161 | 127,892 | 4,865 | 155,318 | 0 | 0 | 0 | 0 | 440,255 |
| 1987 | | | | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 135,461 | 32,558 | 0 | 14,941 | 500,919 | 1,367 | 391,666 | 0 | 0 | 0 | 0 | 1,076,912 |
| Replacement | 0 | 0 | 0 | 1,974 | 1,508 | 0 | 1,099 | 37,897 | 72 | 30,007 | 0 | 0 | 0 | 0 | 72,557 |
| Administrative | 0 | 0 | 0 | 1,392 | 1,240 | 711 | 1,298 | 4,135 | 1,252 | 2,769 | 0 | 0 | 0 | 0 | 12,797 |
| Total | 0 | 0 | 0 | 138,827 | 35,306 | 711 | 17,338 | 542,951 | 2,691 | 424,442 | 0 | 0 | 0 | 0 | 1,162,266 |
| 1988 | | | | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Replacement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administrative | 0 | 0 | 0 | 839 | 838 | 839 | 838 | 839 | 838 | 839 | 0 | 0 | 839 | 839 | 7,548 |
| Total | 0 | 0 | 0 | 839 | 838 | 839 | 838 | 839 | 838 | 839 | 0 | 0 | 839 | 839 | 7,548 |
| 1989 | | | | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Replacement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administrative | 0 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 0 | 490 | 490 | 4,410 |
| Total | 0 | 0 | 0 | 490 | 490 | 490 | 490 | 490 | 490 | 490 | 0 | 0 | 490 | 490 | 4,410 |
| 1990 | | | | | | | | | | | | | | | |
| Energy | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 485 | 0 | 0 | 0 | 0 | 0 | 485 |
| Replacement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administrative | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 485 | 0 | 0 | 0 | 0 | 0 | 485 |
| 1991 | | | | | | | | | | | | | | | |
| Energy | 25,190 | 40,304 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65,494 |
| Replacement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administrative | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 25,190 | 40,304 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 65,494 |
| 1991 | | | | | | | | | | | | | | | |
| Energy | 26,940 | 39,761 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66,701 |
| Replacement | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Administrative | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 26,940 | 39,761 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 66,701 |
| Grand Total | 52,130 | 80,065 | 5,438 | 1,094,282 | 454,462 | 923,065 | 50,695 | 13,439,883 | 48,669 | 3,494,593 | 370,522 | 5,181 | 1,329 | 1,329 | 20,021,643 |

a) 1982 costs are preliminary and may change when 1982 exchange is taken into consideration.
b) No capacity costs are charged to surplus water pumping after 1983.