MANAGEMENT OF THE

CALIFORNIA STATE WATER PROJECT

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Progress was elusive partly because baseline assumptions required to develop the environmental documents were not finalized due to unsettled issues relating to the Delta, especially those regarding the water projects' Operations Criteria and Plan and the associated unreleased BOs. Additionally, Reclamation suspended work on the programmatic EIS/EIR from August through November due to funding constraints. Development of the EIS/EIR was also hindered because participants could not identify a source of funding for the peer review of the groundwater model to be used in the development of the EIS/EIR. This peer review came at the request of the SVWMA Management Committee based on a December 2008 meeting.

DWR continued to develop monitoring facilities and collect and manage hydrologic data that is required to implement the SVWMP. Staff planned and supervised the construction of multiple-completion wells funded by Proposition 50 and the SWP near several proposed SVWMP projects in Glenn and Sutter counties.

SWP Water Rights Activities

Water Right Permits

SWP operations are governed by the terms and conditions contained in DWR's water right permits and licenses along with other State and federal regulatory restrictions, including BOs for the protection of endangered species. DWR currently holds water right permits for the operation of the SWP and upper Feather River facilities, some of which specifically authorize SWP operations at the Oroville and Delta facilities, including the North Bay Aqueduct, for water supply purposes. Each permit specifies the authorized quantities of direct diversion and diversion to storage, place of use, and time within which the permitted quantities must be put to beneficial use. A change in any of the terms and conditions contained in the water right permits and licenses, including a change in the place or purpose of use or point of diversion, requires SWRCB approval.

Diversion and use of SWP water throughout the SWP service area has increased since initial operations in the 1960s. However, due to a number of factors, including operational and regulatory constraints, the beneficial use of water has not yet reached the maximum quantities anticipated for full development of the SWP.

Two petitions for change were submitted to the SWRCB in 2009. DWR and Reclamation filed a joint petition for change on March 20, 2009, to consolidate the SWP and CVP authorized places of use in order to facilitate transfers and exchanges of SWP and CVP water. The Governor's drought proclamation directed DWR and the SWRCB to facilitate and expedite water transfers. The consolidation of the SWP and CVP places of use provided the two projects with the operational flexibility to manage the available SWP and CVP supply as efficiently as possible. The SWRCB issued Order WR 2009-0033 approving the petition on May 19, 2009. The change facilitated the delivery of water obtained through the DWB as well as a number of exchanges between the SWP and CVP and their respective contractors. A total of 108,768 af of water was transferred under the provisions of the change petition.

DWR filed a petition for temporary change on January 16, 2009, to allow the transfer of up to 8,000 af of SWP water from the Tulare Lake Basin Water Storage District (Tulare) service area to land within Westlands Water District (Westlands). Two landowners with acreage in both Tulare and Westlands requested the change to allow the delivery of a portion of their SWP supply to land in Westlands. The SWRCB issued Order WR 2009-0026-DWR approving the change on April 3, 2009. A total of 2,100 af was transferred.

For more information about specific agreements relating to each of the transfers, see Chapter 9, Water Contracts and Deliveries.

Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary

The Delta and Suisun Marsh are located where California's two major river systems, the Sacramento and San Joaquin, converge to flow westward to meet incoming seawater tides flowing through the San Francisco Bay. The watershed of the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Estuary) is a critical source of water supply for much of California. The watershed is a source of drinking water for two-thirds of the State's population; it supplies some of the State's most productive agricultural areas; and it provides water for fish, wildlife, and other public trust uses of water within and upstream of the estuary.

Water originating in the Bay-Delta watershed is delivered to areas within the watershed and to areas south and west of the estuary. The largest water distribution systems that release stored water into the Delta and directly divert water from the Delta are the SWP, operated by DWR, and the federal CVP, operated by Reclamation. Numerous other water storage and diversion projects influence Bay-Delta Estuary inflows, outflows, water quality, and other hydrologic characteristics.

The SWRCB regulates both the quality of water in the Bay-Delta Estuary and the diversion and use of water released into and diverted from the estuary for water supply. The SWRCB coordinates its regulatory authorities under State laws governing water quality and water rights, ensuring that water quality is protected for all beneficial uses when water is diverted from the estuary.

Under its authority to protect beneficial uses of water, SWRCB adopted the 2006 *Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary* (WQCP) on December 13, 2006 (Resolution No. 2006-0098). The WQCP contains objectives for flow, salinity, dissolved oxygen levels, and other parameters necessary for protection of various beneficial uses such as municipal and industrial, agricultural, and fish and wildlife. The SWRCB implements these objectives in part or in whole, depending on the circumstances, through conditions on water right permits and licenses. In 1999, the SWRCB adopted Water Right Decision 1641 (later modified by Order WR 2000-02) modifying the terms and conditions of a number of water rights permits and licenses, primarily those for the SWP and CVP, to implement the objectives of the 1995 WQCP.

For more information about the SWRCB, see Chapter 4, Water Quality Programs.

SWRCB Bay-Delta Proceedings—2009 Activities

In 2009, SWRCB proceedings examined a number of issues in the Bay-Delta Estuary relating to water quality, protection of beneficial use for agriculture and fish and wildlife, and salinity issues, among others, which have the potential to affect Delta water supply and reliability.

Pelagic Organism Decline

Although the SWRCB did not convene any workshops related to pelagic organism decline in 2009, the pelagic organism decline management team continued with their studies through the Interagency Ecological Program.

For more information on pelagic organism decline, see Chapter 3, Environmental Programs.

Reach 2B of the California Aqueduct in 2009 under this pending agreement. (SWPAO #03312)

Reclamation and San Luis & Delta-Mendota Water Authority

A letter agreement dated August 27, 2009, and executed August 28, 2009, including Amendment Number 1 dated October 22, 2009, and executed October 27, 2009, among Reclamation, DWR, and San Luis & Delta-Mendota Water Authority provided for DWR to convey up to 45,000 af of pre-1914 water rights water from Oakdale Irrigation District and South San Joaquin Irrigation District. During the term of this agreement, July 1, 2009, through December 31, 2009, DWR delivered 15,051 af to Reach 3 of the San Luis Canal portion of the California Aqueduct. (SWPAO #09307)

San Luis Water District

DWR and San Luis Water District executed an agreement on August 3, 2009, providing for DWR conveyance of up to 1,500 af of local groundwater introduced into the California Aqueduct from San Luis Water District's service area. DWR delivered 324 af to Reach 3 turnouts within the San Luis Canal portion of the California Aqueduct. (SWPAO #09061)

Water Deliveries

Table A Deliveries

Each year, by October 1, the SWP water contractors submit initial requests for Table A deliveries allocated to them for use in the subsequent calendar year. Initial Table A allocation amounts for the coming year are made by DWR in December. They are based on operations studies that assume 90 percent exceedence of historical water supply (where exceedence refers to the possibility that water supply in the coming year will be exceeded by the historical water supply), current reservoir storage, and total requests by the SWP water contractors. Forecasts for the year are updated as hydrologic conditions change. Table A amounts are increased or decreased depending on both actual and projected hydrologic conditions, though decreases are rare as the 90 percent exceedence criterion is fairly conservative.

On October 1, 2008, SWP water contractors submitted initial requests for 2009 totaling 4.17 million acre-feet (maf).

DWR approved 0.63 maf on November 29, 2008, resulting in initial Table A amounts of 15 percent of most SWP water contractor requests. DWR increased the 2009 Table A amounts to 1.67 maf, or 40 percent, on May 20, 2009.

2009 SWP Deliveries

The SWP delivers water for a variety of beneficial uses. In addition to delivering Table A water to SWP water contractors, the SWP:

- conveys water to other public and local agencies through special contracts and agreements;
- provides water for wildlife and recreational uses; and
- stores, releases, and delivers local runoff water from SWP facilities to agencies that hold local water rights.

In 2009, 2,915,435 af was delivered to 29 SWP water contractors and 24 other agencies, categorized as follows:

- 1,053,253 af of Table A water;
- 6,032 af of Article 21 water;
- 179,500 af of 2008 carryover water;
- 139,043 af recovered from water banks;
- 117,553 af of flexible storage withdrawal from Castaic Lake and Lake Perris;
- 9,376 af of settlement water;

- 2,047 af of SWP water for recreation and fish and wildlife;
- 1,408,631 af of non-SWP water delivered to satisfy settlement agreements and agreements with SWP water contractors for local water supplies;
- 166,427 af of 2009 Transfer/Dry Year Purchase Program;
- 1,163,175 af of local water;
- 5,389 af of permit water; and
- 73,640 af delivered to satisfy agreements between the SWP and CVP.

Figure 9-1 shows amounts of water delivered to various locations during 2009.

Specific information about water deliveries made to SWP water contractors and other agencies during 2009, and historical deliveries from 1962 through 2009, are presented in the following three sections, each with a corresponding table located at the end of the chapter:

- Water Delivered to Long-term Water Supply Contractors in 2009, by Service Area (Table 9-6);
- Total Amounts of Water Delivered in 2009, by Month (Table 9-7); and
- Total Amounts of Annual Table A Water and Water Conveyed, by Type, 1962–2009 (Table 9-8).

Please note that the water delivery figures listed are accurate at the time of this Bulletin 132 publication, but small volumes of water may be reclassified over time pursuant to long-term water supply contract provisions. If your research requires more current data than was available at the time of publication, please consult the most recent edition of Bulletin 132 and/or contact DWR staff in the State Water Project Analysis Office.

2009 Water Deliveries to Long-term SWP Water Contractors

Table 9-6 shows amounts delivered in 2009. The following information is arranged by column number.

Table A Water Delivered

Columns 1 through 5 show a detailed breakdown of Table A water delivered for SWP water contractors in 2009.

Turn-Back Pool Water

Column 4 shows 2,000 af of Turn-Back Pool Water delivered to SWP water contractors in 2009.

2008 Carryover Table A Water Delivered During 2009

Column 6 shows a total of 179,500 af was carried over from 2008 for delivery in 2009.

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. The SWP water contractors' long-term contracts and amendments state the criteria for carrying over Table A water from one year to the next under Articles 12(e), 14(b), and 56(c).

Total Table A Water Delivered

Column 7 shows all Table A water delivered in 2009—a total of 1,232,753 af.

Article 21

Column 8 shows 6,032 af of 2009 Article 21 water was delivered to SWP water contractors.

Other SWP Water

Column 9 shows 126,929 af of other SWP water. Other SWP water includes flexible withdrawal water from Castaic Lake and Lake Perris, and settlement water.

Total SWP Water Delivered

Column 10 shows 1,365,714 af of total SWP water was delivered in 2009. This includes total Table A water, 2008 Table A carryover water, Article 21 water, and other SWP water consisting of settlement and flexible withdrawal water.

Non-SWP Water Deliveries

Columns 11 and 12 include deliveries of non-SWP water to long-term water contractors. Column 11 shows 139,043 af of water bank recovery water. Column 12 shows 157,000 af of other non-SWP water. Other non-SWP water is local and permit water that an SWP water contractor has a water right to, dry year purchase water, or water purchased from, exchanged with, or transferred from non-SWP agencies. In 2009, non-SWP water deliveries totaled 296,043 af.

Total Deliveries

Column 13 shows total amounts of water delivered to SWP water contractors. In 2009, the SWP delivered 1,661,757 af of water to 29 long-term contractors.

Water Delivered in 2009 by Month

During 2009, the SWP provided water service to 53 agencies, including 29 SWP water contractors. Those agencies and the amounts of water delivered to them by month are listed in Table 9-7 and are summarized below as SWP water and non-SWP water.

SWP Water

SWP water, as defined in the long-term water supply contracts, includes Article 21 water, carryover Table A water, current year Table A amounts, transfer and exchange of Table A water, and Turn-Back Pools A and B. Detailed information concerning those conveyances is found under the "Miscellaneous Agreements with Long-term SWP Water Contractors" section in this chapter.

Non-SWP Water

In 2009, DWR used SWP facilities to convey non-SWP water for various agencies according to the terms of water rights and water transfer and exchange agreements. Detailed information concerning those conveyances is in this chapter.

Water Rights Water. Water in this category is transported through SWP facilities to long-term SWP water contractors and other agencies according to terms of various settlement agreements. Some water passes through SWP transportation facilities; some is stored in SWP reservoirs for release later. In 2009, 1,177,940 af of water in this category was delivered to the Feather River, Delta, North Bay, South Bay, and Southern California areas, and is summarized below.

Feather River Area. Ten non-SWP agencies received 1,125,147 af:

- Last Chance Creek Water District, 7,332 af;
- Thermalito Irrigation District, 2,036 af;
- South Feather Water and Power Agency, (formerly Oroville-Wyandotte Irrigation District), 5,409 af;
- Western Canal Water District, 334,771 af;
- Joint Water Districts Board, 743,633 af;
- Oswald Water District, 1,623 af;
- Tudor Mutual Water Company, 1,308 af;
- Garden Highway Mutual Water Company, 14,932 af;
- Plumas Mutual Water Company, 13,244 af; and
- Valberde and Ramelli 859 af.

Delta. In the Delta, 22,249 af of Byron-Bethany water was delivered, pursuant to the May 28, 2003, *Agreement Between the Department of Water Resources of the State of California and the Byron-Bethany Irrigation*

District Regarding the Diversion of Water from the Delta.

North Bay Area. In the North Bay area, 5,389 af of Vallejo permit water and 9,376 af of water pursuant to the May 19, 2003, *Settlement Agreement among DWR, Solano County Water Agency, and the Cities of Fairfield, Vacaville, and Benicia* were delivered.

South Bay Area. In the South Bay area, a total of 15,259 af of local water was delivered to Alameda-Zone 7 and Alameda County. These two South Bay Aqueduct (SBA) SWP water contractors hold water rights to runoff from the Lake del Valle watershed.

Southern California. In Southern California, 520 af of local runoff from the Houston Creek watershed was stored and delivered to Crestline under water rights held by DWR on Houston Creek. The authorized place of use is limited to Crestline.

Annual Table A Water and Water Delivered Since 1962

Information about current annual Table A water and water conveyed for the previous 47 years is contained in Table 9-8. The following discussion of conveyed Table A water is arranged according to column numbers.

Annual Table A Water

Columns 1 through 7 of Table 9-8 show the amount of SWP water contractors' annual Table A water by area for years 1962 through 2009 as specified in the Table A schedules of the long-term water supply contracts.

In some instances, Table A schedules—projections of each contractor's need for water to 2035—have been amended to meet the needs of individual contractors. The amounts of annual Table A water each SWP water contractor may request for years 1962 through 2035 can be found in Table B-4 in Appendix B in the back of this Bulletin.

Water Delivered

Columns 8 through 16 show water delivered or conveyed, including initial fill water and operational losses and storage changes.

Table A Water. Column 8 shows amounts of Table A water delivered each year from 1962 through 2009. In 2009, a total of 1,232,753 af of Table A water was delivered.

Article 21 and Unscheduled Water. Column 9 shows amounts of Article 21 water, as defined under SWP deliveries, and unscheduled water delivered from 1962 through 2009. Article 21 and unscheduled water is water in excess of that required to meet all demands for the year's Table A water and water to be stored in SWP reservoirs. In 2009, a total of 6,032 af of Article 21 water was delivered. No unscheduled water was delivered.

Other Water. Column 10 includes amounts of water classified as other water delivered in 2009, including non-SWP water conveyed through SWP facilities and regulated delivery of local supply. In 2009, a total of 527,207 af 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. Column 11 also includes Delta diversions. In 2009, a total of 1,147,396 af in this category was delivered to agencies in the Feather River area, and 22,249 af was delivered to Byron-Bethany in the Delta.

Recreation Water. Column 12 shows water conveyed for recreational use or to provide water to improve water quality for fish and wildlife. In 2009, a total of 2,047 af of SWP water was conveyed for this purpose.

Initial Fill Water. The quantities listed in Column 14 represent the amounts used to initially fill the aqueducts and reservoirs south of the Delta to maximum operating capacities. Initial filling began in 1962, with the filling of the SBA, and was completed in 1979, when Lake Perris reached its maximum operating capacity of 127,000 af. In 1996 and 1997, the Coastal Aqueduct was initially filled.

Operational Losses. Column 15 includes the total amounts of water lost through evaporation and seepage, net storage changes in reservoirs south of the Delta, and amounts of inflow from local drainage areas, including inflows into San Luis Canal and from the Kern River Intertie. Negative values are indicated for years when withdrawals and evaporation from reservoirs south of the Delta exceed the amounts of water added to the reservoirs.

Table 9-6 Water Delivered to Long-term Contractors through 2009, by Service Area (Acre-feet)[a]

SWP Contractor	Table A Water Deliveries					SWP					Non-SWP		
	2009 Table A Not Transferred, Exchanged, or Stored (1)	2009 Table A Transferred or Exchanged (2)	2009 Table A Stored (3)	2009 Turn-Back Pools (4)	Total 2009 Table A (5)	2008 Carryover (6)	Total (7)	2009 Article 21 (8)	Other SWP (9)	Total SWP Water (10)	Water Bank Recovery (11)	Other Non-SWP Water (12)	Total (13)
Feather River													
County of Butte	581	9,625			10,206		10,206			10,206			10,206
Plumas County FC&WCD	200				200		200			200			200
City of Yuba City	2,114				2,114		2,114			2,114			2,114
North Bay													
Napa County FC&WCD	2,723			13	2,736	4,475	7,211	1,588	9,376	18,175		2,008	20,183
Solano County WA	7,118				7,118	3,123	10,241	4,444		14,685		5,389	20,074
South Bay													
Alameda County FC&WCD, Zone 7	11,745				11,745	14,584	26,329			26,329		15,323	41,652
Alameda County WD	5,911			8	5,919	10,494	16,413			16,413	3,083	4,694	24,190
Santa Clara Valley WD	9,188			54	9,242	23,867	33,109			33,109	27,775	7,801	68,685
San Joaquin Valley													
Castaic Lake WA					0		0			0			0
County of Kings	3,153			5	3,158	70	3,228			3,228		163	3,391
Dudley Ridge WD	3,985	9,200		32	13,217	7,810	21,027			21,027		210	21,237
Empire West Side ID	164	870			1,034		1,034			1,034			1,034
Kern County WA	223,964	4,667		544	229,175	56,367	285,542			285,542	17,017	5,049	307,608
Oak Flat WD	1,825			3	1,828	66	1,894			1,894		99	1,993
Tulare Lake Basin WSD	28,640	6,520		52	35,212	1,271	36,483			36,483		353	36,836
Central Coast													
San Luis Obispo County FC&WCD	3,799	5,924			9,723		9,723			9,723		2	9,725
Santa Barbara County FC&WCD	4,961			25	4,986	4,523	9,509			9,509		19	9,528
Southern California													
Antelope Valley-East Kern WA	13,499			77	13,576	18,408	31,984			31,984		12,766	44,750
Castaic Lake WA	14,858			52	14,910	9,529	24,439			24,439	1,650	12,696	38,785
Coachella Valley WD	40,845			66	40,911		40,911			40,911		5,111	46,022
Crestline-Lake Arrowhead WA		1,000			1,000	893	1,893			1,893		521	2,414
Desert WA	16,865			27	16,892		16,892			16,892		1,371	18,263
Littlerock Creek ID		920			920		920			920		42	962
The Metropolitan WDSC	544,304			1,042	545,346	10,721	556,067		117,553	673,620	89,518	79,840	842,978
Mojave WA	21,312	1,500			22,812	242	23,054			23,054		5	23,059
Palmdale WD	2,470				2,470	3,229	5,699			5,699		15	5,714
San Bernardino Valley MWD	25,636	449			26,085	9,348	35,433			35,433		3,213	38,646
San Gabriel Valley MWD	11,516				11,516		11,516			11,516		4	11,520
San Gorgonio Pass WA	5,312				5,312	480	5,792			5,792		305	6,097
Ventura County WPD	3,890				3,890		3,890			3,890		1	3,891
Totals	**1,010,578**	**40,675**	**-**	**2,000**	**1,053,253**	**179,500**	**1,232,753**	**6,032**	**126,929**	**1,365,714**	**139,043**	**157,000**	**1,661,757**

[a] Please note that the water delivery figures listed are accurate at the time of this Bulletin 132 publication, but small volumes of water may be reclassified over time pursuant to long-term water supply contract provisions. If your research requires more current data than was available at the time of publication, please consult the most recent publication of Bulletin 132 available and/or contact DWR staff in the State Water Project Analysis Office.

TABLE B-4. Maximum Contractual Table A Amounts

(in acre-feet)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency	Coachella Valley Water District	Crestline-Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[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	75,800	17,300	102,600	28,800
1999	138,400	54,200	23,100	5,800	38,100	2,300	75,800	17,300	102,600	28,800
2000	138,400	95,200	23,100	5,800	38,100	2,300	75,800	21,300	102,600	28,800
2001	138,400	95,200	23,100	5,800	38,100	2,300	75,800	21,300	102,600	28,800
2002	141,400	95,200	23,100	5,800	38,100	2,300	75,800	21,300	102,600	28,800
2003	141,400	95,200	23,100	5,800	38,100	2,300	75,800	21,300	102,600	28,800
2004	141,400	95,200	33,000	5,800	38,100	2,300	75,800	21,300	102,600	28,800
2005	141,400	95,200	121,100	5,800	50,000	2,300	75,800	21,300	102,600	28,800
2006	141,400	95,200	121,100	5,800	50,000	2,300	75,800	21,300	102,600	28,800
2007	141,400	95,200	121,100	5,800	50,000	2,300	75,800	21,300	102,600	28,800
2008	141,400	95,200	121,100	5,800	50,000	2,300	75,800	21,300	102,600	28,800
2009	141,400	95,200	121,100	5,800	50,000	2,300	75,800	21,300	102,600	28,800
2010	141,400	95,200	138,350	5,800	55,750	2,300	82,800	21,300	102,600	28,800
2011	**141,400**	**95,200**	**138,350**	**5,800**	**55,750**	**2,300**	**82,800**	**21,300**	**102,600**	**28,800**
2012	141,400	95,200	138,350	5,800	55,750	2,300	82,800	21,300	102,600	28,800
2013	141,400	95,200	138,350	5,800	55,750	2,300	82,800	21,300	102,600	28,800
2014	141,400	95,200	138,350	5,800	55,750	2,300	82,800	21,300	102,600	28,800
2015	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2016	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2017	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2018	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2019	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2020	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2021	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2022	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2023	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2024	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2025	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2026	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2027	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2028	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2029	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2030	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2031	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2032	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2033	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2034	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2035	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
TOTAL	7,432,000	4,545,098	4,782,511	321,556	2,626,000	127,210	4,069,043	1,127,720	5,909,177	1,641,322

Table 1. Summary of Permanent Aqueduct Capacity Transfers

Contractor		Capacity Transfer		
Seller	Buyer	Amount (af)	Effective Year	**Transfer Description**
Transfers under Monterey Amendment				
Kern	Mojave	25,000	1998	Purchased capacity upstream from Reach 31A
Kern	Castaic Lake	41,000	2000	Purchased capacity upstream from Reach 16A
Kern	Palmdale	4,000	2000	Purchased capacity upstream from Reach 11B
Kern	Alameda-Zone 7	7,000	2000	Purchased capacity upstream from Reach 10A
Kern	Alameda-Zone 7	15,000	2000	Purchased capacity upstream from Reach 10A
Kern	Alameda-Zone 7	10,000	2001	Purchased capacity upstream from Reach 11B
Kern	Solano	5,756	2001	Purchased capacity upstream from Reach 11B and Reach 31A
Kern	Napa	4,025	2001	Purchased capacity upstream from Reach 11B and Reach 31A
Kern	Alameda-Zone 7	2,219	2004	Purchased capacity upstream from Reach 11B
Subtotal under Article 53		*114,000*		
Transfers outside of Monterey Amendment				
Tulare	Dudley Ridge	3,973	2002	Purchased capacity upstream from Reach 8D
Tulare	AVEK	3,000	2002	Purchased capacity upstream from Reach 8D
Tulare	Alameda-Zone 7	400	2003	Purchased capacity upstream from Reach 8D
Tulare	Kings	5,000	2004	Purchased capacity upstream from Reach 8D
Tulare	Coachella	9,900	2004	Purchased capacity upstream from Reach 8D
MWDSC	Coachella	88,100	2005	Purchased capacity upstream from Reach 28J
MWDSC	Desert	11,900	2005	Purchased capacity upstream from Reach 28J
Tulare	Kings	305	2006	Purchased capacity upstream from Reach 31A
Tulare	Desert	1,750	2010	Purchased capacity upstream from Reach 17F
Tulare	Coachella	5,250	2010	Purchased capacity upstream from Reach 17F
Kern	Desert	4,000	2010	Purchased capacity upstream from Reach 17F and Reach 31A
Kern	Coachella	12,000	2010	Purchased capacity upstream from Reach 17F and Reach 31A
Dudley Ridge	Mojave	7,000	2010	Purchased capacity upstream from Reach 8D
Subtotal outside of Article 53		*152,578*		

Water Conveyance

Tables B-4, B-5A, B-5B, and B-6 present water conveyance quantities that form the basis for allocating costs.

Table B-4 presents the schedules of annual allocations as set forth in Table A and Article 6(a) of each water supply contract.

Table B-5A shows amounts of actual and projected allocated water quantities delivered from each aqueduct reach to each contractor. Projected deliveries for years 2010 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, and actual Article 21 water deliveries in 1994 and after.

Table B-5B presents a summary of actual and projected annual allocated water quantities for each contractor. The quantities also include amounts of nonproject water and surplus water delivered prior to May 1, 1973,

and actual deliveries of Article 21 water in 1994 and after.

Table B-6 summarizes the annual allocated 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 pre-consolidation water used during construction.
- *Deliveries-Recreation.* Water delivered to down-aqueduct recreation developments or used for fish and wildlife 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.

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 the exception of Banks Pumping Plant, "Reservoir Storage Changes" also includes SWP water placed into Southern California groundwater storage 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). At Banks Pumping Plant, groundwater 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.
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 previously for Transportation Facilities also applies to water delivered from storage in 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.

TABLE B-5B. Annual Water Quantities Delivered to Each Contractor

(in acre-feet)

Calendar Year	SOUTHERN CALIFORNIA AREA									
	Antelope Valley-East Kern Water Agency	Castaic Lake Water Agency (c)	Coachella Valley Water District	Crestline-Lake Arrowhead Water Agency	Desert Water Agency	Littlerock Creek Irrigation District	Mojave Water Agency	Palmdale Water District	San Bernardino Valley Municipal Water District	San Gabriel Valley Municipal Water District
	[20]	[21]	[22]	[23]	[24]	[25]	[26]	[27]	[28]	[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	34,089	27,988	19,431	1,849	31,500	1,085	17	5,379	18,751	10,630
1988	34,079	30,438	20,652	2,006	34,000	419	9	1,770	21,386	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	849	11,430	522	3,423	3,914	3,661	5,399
1992	30,265	20,699	10,427	519	17,197	251	10,686	4,035	3,358	7,908
1993	43,102	23,039	23,100	439	38,100	734	11,514	7,761	4,361	14,397
1994	49,153	26,441	14,102	785	23,257	1,098	16,852	8,418	9,135	15,230
1995	47,286	27,233	23,100	409	38,100	480	8,722	6,961	696	12,922
1996	56,356	32,500	62,219	485	102,622	494	7,427	11,434	6,064	15,989
1997	62,393	27,712	68,340	651	69,990	444	10,374	11,861	9,654	18,175
1998	52,926	20,093	85,709	187	70,647	404	3,925	8,752	1,878	9,310
1999	69,073	32,899	50,480	1,132	58,100	342	8,144	13,278	12,874	21,729
2000	83,577	40,680	43,517	0	58,234	0	11,380	9,060	18,399	15,140
2001	62,857	31,939	9,100	1,057	15,010	0	4,433	10,427	26,488	2,360
2002	58,171	68,817	16,755	2,189	27,640	0	4,346	18,496	72,069	24,851
2003	60,029	55,736	14,443	1,563	23,819	0	14,435	11,547	26,113	21,934
2004	59,731	83,761	15,465	2,006	21,190	0	13,176	12,162	57,030	12,541
2005	59,831	59,456	42,519	807	49,089	0	13,561	11,712	31,550	13,984
2006	80,384	62,752	121,100	641	50,000	0	34,014	12,492	35,331	16,284
2007	80,203	60,190	73,228	1,768	30,234	0	46,109	19,634	57,116	4,024
2008	54,436	42,878	46,791	848	26,428	25	25,396	14,255	35,145	7,212
2009	45,670	42,085	46,022	899	18,263	42	29,047	15,339	39,346	11,520
2010	84,840	56,264	56,018	3,480	22,648	805	25,980	12,706	47,102	10,080
2011	**68,831**	**30,800**	**69,175**	**3,340**	**27,875**	**2,300**	**82,800**	**21,300**	**102,600**	**16,000**
2012	70,896	31,400	69,175	3,460	27,875	2,300	82,800	21,300	102,600	12,000
2013	73,020	32,000	69,175	3,600	27,875	2,300	82,800	21,300	102,600	12,000
2014	75,214	36,000	69,175	3,720	27,875	2,300	81,800	21,300	102,600	28,800
2015	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2016	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2017	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2018	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2019	141,400	95,200	138,350	5,800	55,750	2,300	85,800	21,300	102,600	28,800
2020	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2021	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2022	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2023	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2024	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2025	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2026	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2027	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2028	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2029	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2030	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2031	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2032	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2033	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2034	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
2035	141,400	95,200	138,350	5,800	55,750	2,300	89,800	21,300	102,600	28,800
TOTAL	5,058,089	3,358,942	4,245,247	180,300	2,427,648	71,615	2,521,819	786,164	3,297,261	1,053,020

(c) Devil's Den Water District merged with Castaic Lake Water Agency effective January 1, 1992.