State of California | The Resources Agency

Memorandum

Date : April 18, 1996

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Kathlin Johnson

From : *Naser Bateni, Chief*
Water Resources Evaluation
Department of Water Resources

Subject: 1993 Annual Water Use - Water Supply Budgets

This report is the sixth in a series that provides field information on population, land use, water use, surface water supply and ground water. The data reported are based on precipitation, temperature, runoff, water supply and water use measurements for 1993 rather than normalized conditions as assumed in a base year for Bulletin 160. Provided are 1993 data by PSA and by county; water use and supplies by PSA; and groundwater changes from 1992 to 1993.

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Contents

Overview 1
Table 1. Reservoir Storage as of September 30 1
Figure 1. Hydrologic Regions in California 2
Figure 2. Water Year Precipitation in Percent of Average, 1993 3
Figure 3. Water Year Runoff in Percent of Average, 1993 4

Population 5
Table 2. July 1993 California Population by Region 5
Figure 4. Annual Population Increase, 1976–1993 5
Table 3. Population by County, Ranked by 1992-93 Change 6
Table 4. Population by Planning Subarea 8

Land Use 10
Table 5. Government Payments to California Farmers 10
Table 6. Government Payments to U.S. Farmers 10
Table 7. 1993 Crop Acreages by Planning Subarea 11
Table 8. 1993 Crop Acreages by Region 16
Table 9. 1993 Crop Acreages by County 17
Table 10. 1993 Irrigated Crops Compared to 1992 18

Water Use and Supplies 19
Table 11. 1993 Instream Fish Flows 19
Figure 5. Per Capita Water Use by Hydrologic Region, Water Years 1992 and 1993 20
Table 12. 1993 Wild and Scenic Rivers Flow 22
Table 13. Delta Outflow 22
Table 14. Wetlands Water Use 23
Table 15. Water Use by Planning Subarea 24
Table 16. Water Use In California by Region 29
Table 17. Environmental Water Use in California by Region 29
Table 18. 1993 State Water Project Delivery Summary 30
Table 19. U.S. Bureau of Reclamation Delivery Summary 31
Table 20. Water Budgets by Planning Subarea 32
Table 21. Water Budgets by Region 37
Table 22. Groundwater Changes 38

Contributors 43

Overview

This report provides actual field information for 1993 on population, land use, water use, surface water supply, and groundwater. Data are based on actual precipitation, temperature, etc., rather than on normal conditions as assumed in a base year for Bulletin 160. Annual reports provide timely information on changes in population, land use, groundwater, and water use in California. Totals shown in tables will not always add exactly because of rounding.

Water year 1993 was a year of plentiful rainfall, and it broke the streak of six consecutive years of below normal rainfall and runoff. Statewide, precipitation averaged 142 percent, runoff averaged 125 percent, and reservoir storage increased 11.3 million acre-feet to 111 percent of normal at the end of the year. Groundwater storage recovered as the groundwater reservoirs were recharged by the plentiful surface water supplies.

Table 1. Reservoir Storage as of September 30
(1,000 acre-feet)

Region	Number of Reservoirs	Historic Average	1992	1993
North Coast	7	2,112	1,187	2,354
San Francisco Bay	18	397	355	517
Central Coast	6	551	288	524
South Coast	29	1,117	1,322	1,623
Sacramento River	43	10,305	6,210	10,690
San Joaquin River	33	6,454	2,798	6,938
Tulare Lake	6	699	198	877
North Lahontan	5	585	90	210
South Lahontan	8	298	224	247
California Total	**155**	**22,518**	**12,672**	**23,980**
Percent of Average			**56**	**111**

Figure 1. Hydrologic Regions in California

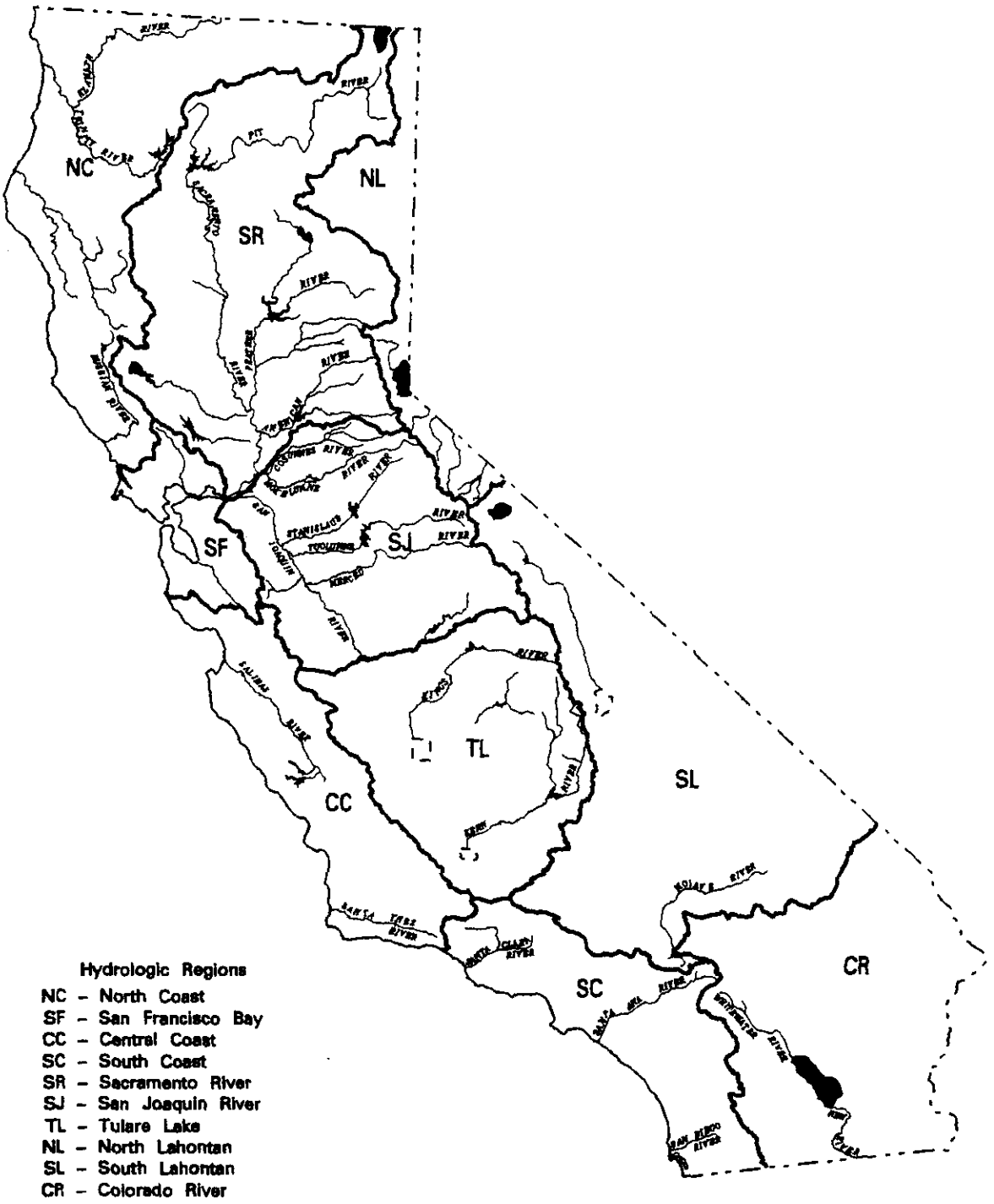


Figure 2. Water Year Precipitation in Percent of Average, 1993
by Hydrologic Region

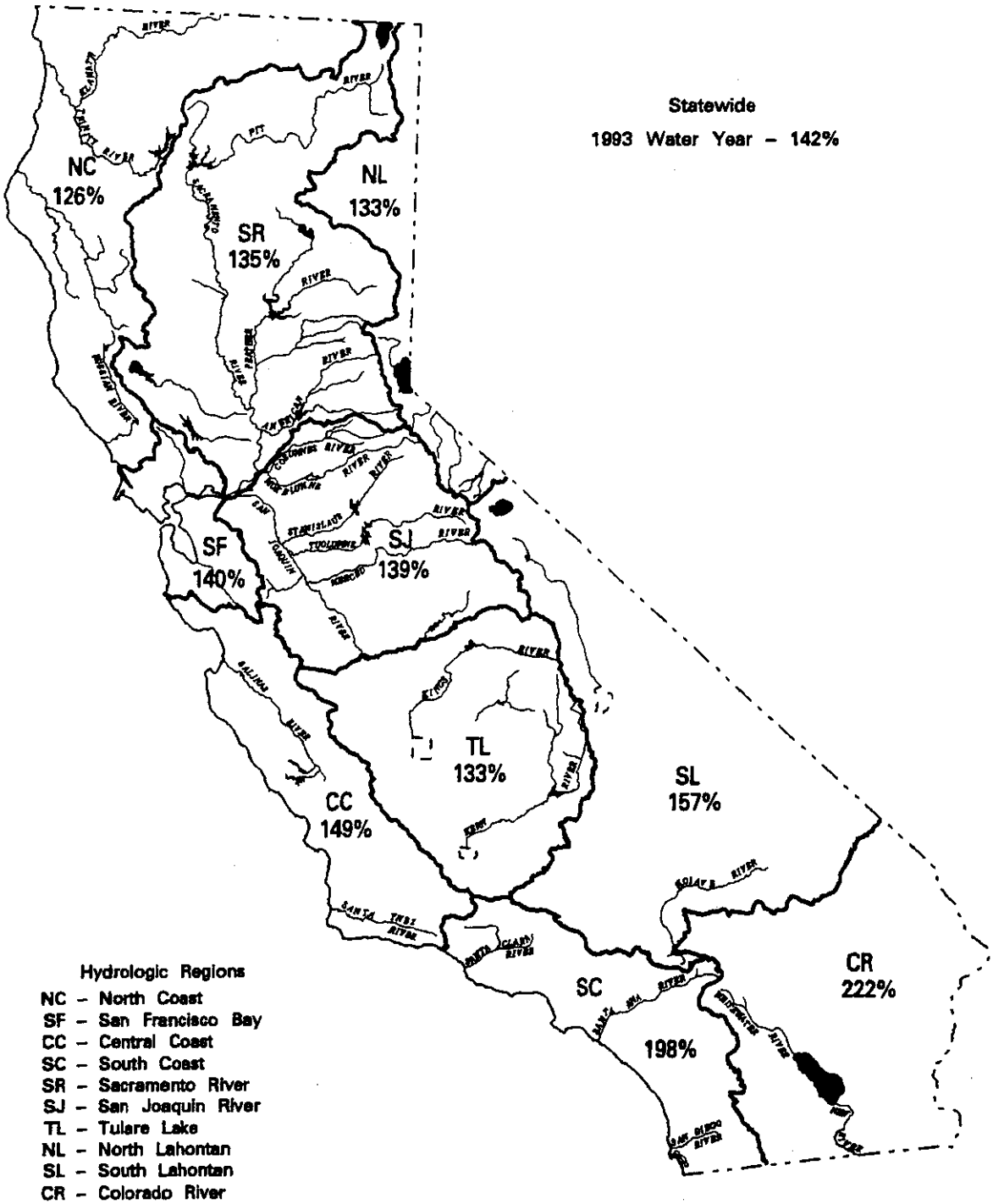
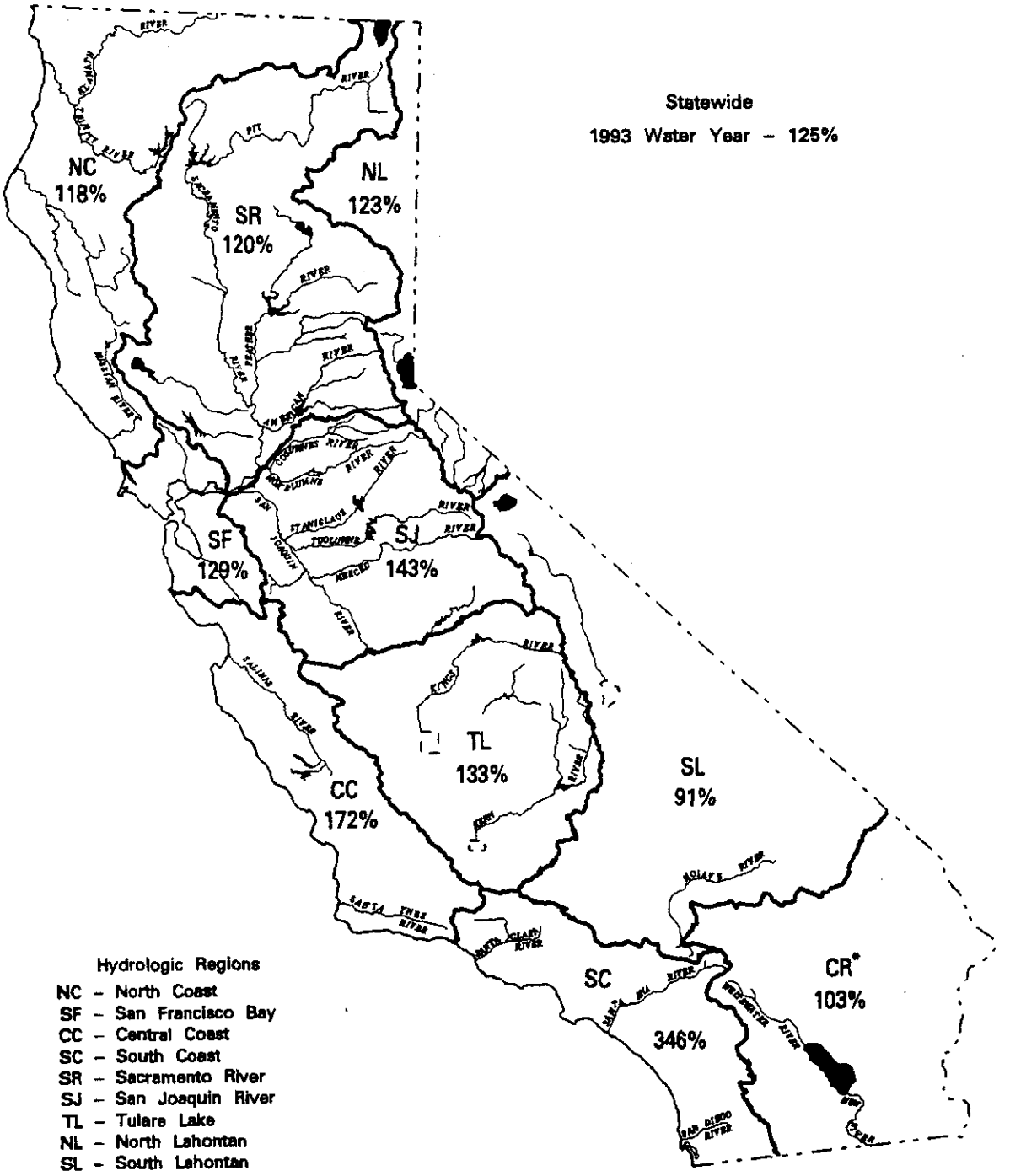


Figure 3. Water Year Runoff in Percent of Average, 1993
by Hydrologic Region



*CR Runoff is inflow to Lake Powell

Population

The California Department of Finance (DOF) estimated California's population at 31,746,400 on July 1, 1993. This is an increase of 440,000 from July 1, 1992, or 1.4 percent over this period. The State continued the pattern of declining growth that began in FY 1990–91. Total population change was the lowest since 1978–79. Foreign net migration was up 5 percent (319,000), while net domestic migration was negative (–252,000). The number of births declined 4 percent to 587,000 and deaths declined 2 percent to 212,000. The fastest growing areas in the State were the Gold Country and the San Joaquin Valley. The slowest growth rate was in Southern California.

DOF population estimates are made between the U.S. Census using data from school enrollments, auto registrations, voter registrations, drivers licenses, Medicare data, and birth and death data. See Tables 2, 3, and 4 for regional, county, and PSA population data.

Table 2. July 1993 California Population by Region

Region	Population	Percent
NC	606,950	1.9
SF	5,734,390	18.1
CC	1,354,250	4.3
SC	17,091,600	53.8
SR	2,375,350	7.5
SJ	1,576,625	5.0
TL	1,710,790	5.4
NL	83,465	0.3
SL	686,305	2.2
CR	526,675	1.7
CA Total	**31,746,400**	**100.0**

Figure 4. Annual Population Increase, 1976–1993
(Thousands)

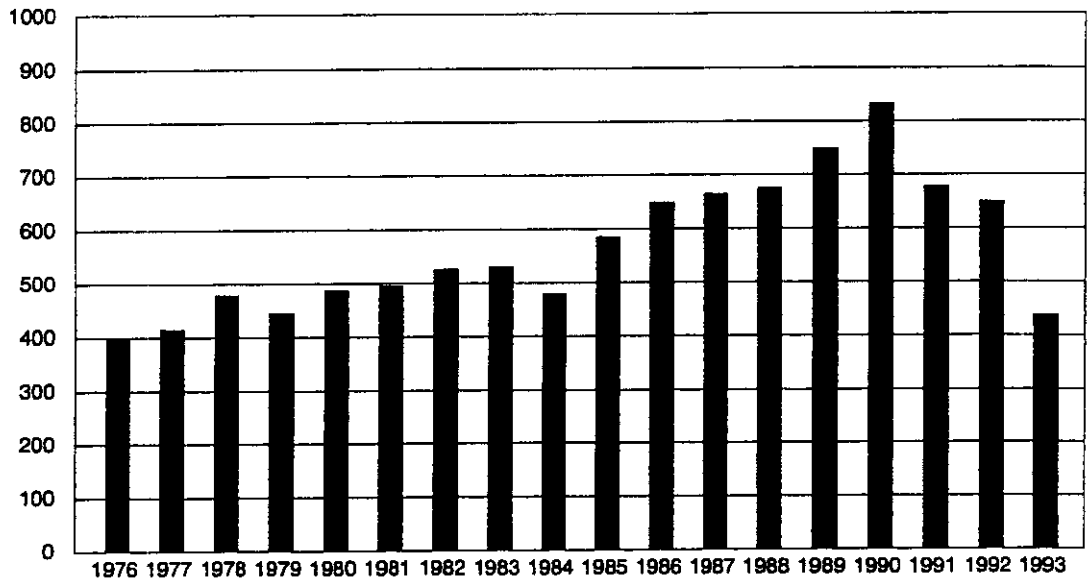


Table 3. Population by County, Ranked by 1992-93 Change
Department of Finance Data

	July 1992	July 1993	1992-93 Increase	1992-93 % Increase
Los Angeles	9,132,400	9,194,700	62,300	0.7
Orange	2,535,400	2,578,400	43,000	1.7
Riverside	1,305,100	1,343,500	38,400	2.9
San Diego	2,636,600	2,665,900	29,300	1.1
San Bernardino	1,553,200	1,580,800	27,600	1.8
Santa Clara	1,548,900	1,574,900	26,000	1.7
Fresno	723,200	741,400	18,200	2.5
Sacramento	1,108,500	1,123,800	15,300	1.4
Kern	595,100	609,800	14,700	2.5
Contra Costa	847,700	862,000	14,300	1.7
Alameda	1,327,300	1,340,000	12,700	1.0
San Joaquin	509,100	518,500	9,400	1.8
San Francisco	738,100	747,300	9,200	1.2
Stanislaus	400,300	409,500	9,200	2.3
Sonoma	409,900	418,600	8,700	2.1
San Mateo	673,700	681,600	7,900	1.2
Ventura	695,700	703,600	7,900	1.1
Placer	190,700	197,800	7,100	3.7
Solano	365,900	371,800	5,900	1.6
Tulare	337,600	343,500	5,900	1.7
Imperial	126,200	131,800	5,600	4.4
Merced	191,900	196,800	4,900	2.6
Santa Barbara	384,000	388,900	4,900	1.3
Butte	193,200	197,900	4,700	2.4
Madera	100,700	105,100	4,400	4.4
Ed Dorado	139,000	142,800	3,800	2.7
Monterey	373,000	376,600	3,600	1.0
Kings	109,400	112,900	3,500	3.2
San Luis Obispo	226,700	229,900	3,200	1.4
Marin	238,500	241,700	3,200	1.3
Shasta	159,200	162,100	2,900	1.8
Napa	115,800	118,000	2,200	1.9
Santa Cruz	235,700	237,800	2,100	0.9
Sutter	69,900	72,000	2,100	3.0
Humboldt	124,800	126,600	1,800	1.4

Table 3. (continued) Population by County, Ranked by 1992-93 Change
Department of Finance Data

	July 1992	July 1993	1992-93 Increase	1992-93 % Increase
San Benito	39,100	40,800	1,700	4.3
Nevada	84,400	85,900	1,500	1.8
Lake	54,800	56,000	1,200	2.2
Yuba	62,100	63,200	1,100	1.8
Mendocino	83,200	84,300	1,100	1.3
Tuolumne	51,600	52,500	900	1.7
Calaveras	36,100	37,000	900	2.5
Amador	32,400	33,000	600	1.9
Lassen	28,600	29,200	600	2.1
Del Norte	27,800	28,400	600	2.2
Glenn	26,000	26,600	600	2.3
Yolo	149,000	149,600	600	0.4
Siskiyou	44,800	45,300	500	1.1
Mono	10,300	10,800	500	4.9
Colusa	17,100	17,500	400	2.3
Tehama	53,400	53,800	400	0.7
Mariposa	15,600	16,000	400	2.6
Modoc	10,200	10,400	200	2.0
Trinity	13,400	13,600	200	1.5
Inyo	18,500	18,600	100	0.5
Sierra	3,300	3,400	100	3.0
Plumas	20,900	21,000	100	0.5
Alpine	1,200	1,200	0	0.0
State Total	**31,306,200**	**31,746,400**	**440,200**	**1.4**

Table 4. Population by Planning Subarea

	July 1992	July 1993
North Coast Region		
Upper Klamath PSA	30,010	30,350
Lower Klamath-Smith PSA	49,325	50,605
Coastal PSA	166,540	168,120
Russian River PSA	352,935	357,875
Regional Total	598,810	606,950
San Francisco Bay Region		
North Bay PSA	710,400	718,955
South Bay PSA	4,970,455	5,015,435
Regional Total	5,680,855	5,734,390
Central Coast Region		
Northern PSA	726,330	735,225
Southern PSA	613,225	619,025
Regional Total	1,339,555	1,354,250
South Coast Region		
Santa Clara PSA	869,875	885,575
Metropolitan PSA	8,689,900	8,736,100
Santa Ana PSA	4,243,600	4,327,300
San Diego PSA	3,085,425	3,142,625
Regional Total	16,888,800	17,091,600
Sacramento River Region		
Shasta Lake- Pit River PSA	32,120	32,390
Northwest Valley PSA	115,340	117,200
Northeast Valley PSA	201,175	205,045
Southeast PSA	264,450	267,580
Central Basin West PSA	255,880	260,220
Central Basin East PSA	1,345,820	1,365,560
Southwest PSA	56,650	57,670
Delta Service Area PSA	69,225	69,685
Regional Total	2,340,660	2,375,350
San Joaquin River Region		
Sierra Foothills PSA	155,875	159,575
Eastern Valley Floor PSA	330,385	337,360
Delta Service Area PSA	167,575	173,325
Western Uplands PSA	69,020	75,040
East Side Uplands PSA	47,235	48,045
Valley East Side PSA	695,790	714,860
Valley West Side PSA	65,765	68,385
West Side Uplands PSA	35	35
Regional Total	1,531,680	1,576,625

Table 4. (continued) Population by Planning Subarea

	July 1992	July 1993
Tulare Lake Region		
Upland PSA	58,060	61,310
Kings-Kaweah-Tule Rivers PSA	1,093,140	1,123,065
San Luis West Side PSA	41,820	42,445
Western Uplands PSA	7,680	7,805
Kern Valley Floor PSA	469,110	476,165
Regional Total	1,669,810	1,710,790
North Lahontan Region		
Lassen Group PSA	25,430	26,020
Alpine Group PSA	55,525	57,445
Regional Total	80,955	83,465
South Lahontan Region		
Mono-Owens Area PSA	25,155	26,205
Death Valley PSA	1,070	1,075
Indian Wells Area PSA	52,295	54,025
Antelope Valley PSA	289,925	304,950
Mojave River PSA	293,400	300,050
Regional Total	661,845	686,305
Colorado River Region		
Twentynine Palms-Lanfair PSA	65,275	67,175
Chuckwalla PSA	2,895	2,875
Colorado River PSA	30,235	31,010
Coachella PSA	284,350	292,360
Borrego PSA	6,500	8,230
Imperial Valley PSA	117,775	125,025
Regional Total	**507,030**	**526,675**
California Total	**31,300,000**	**31,746,400**

Land Use

California's total irrigated acreage in 1993 was 8.9 million acres, about 150,000 acres more than 1992. Significant crop changes from 1992 were that rice increased by about 70,000 acres, and field crops increased by 65,000 acres. Surface water supplies recovered in many areas during 1993, the first year after the six year drought.

Areas that DWR surveyed in 1993 (using aerial photographs, field identification, and then either cut and weigh or computer digitizing) were: Colusa County, Glenn County, Sacramento County, Tulare County, Santa Ana area, and a partial Delta update.

Agricultural price support programs, conservation reserve programs, marketing orders, and international trade restrictions by the federal government impact the irrigated acreage in California, but the impact is difficult to determine. Price support programs that require farmers to idle irrigated acreage may tend to reduce California's planted acreage. On the other hand, subsidy programs that make crops profitable that otherwise might not have been planted may tend to increase acreage. Tabulated below are the government payments to California farmers and to all U.S. farmers for the last 12 years. California ranked number one in gross agricultural receipts (11.3 percent of U.S.) but received only 3.9 percent of federal payments to farmers.

Table 5. Government Payments to California Farmers (1,000 Dollars)

Year	Feed Grains	Wheat	Rice	Cotton	Wool Act	Conservation	Miscellaneous	Total
1982	4,280	9,524	23,679	86,731	4,190	4,869	1,210	134,483
1983	4,787	12,433	52,281	71,729	6,730	4,371	200,275	352,606
1984	2,688	19,040	29,016	27,023	9,717	7,717	240,058	335,259
1985	5,295	21,711	121,362	99,972	8,091	5,325	39,131	300,887
1986	17,324	43,441	82,272	119,602	9,476	4,990	110,756	387,861
1987	36,397	60,250	87,589	168,103	8,295	10,866	90,511	462,011
1988	28,464	40,237	87,435	118,600	6,949	12,879	40,514	335,078
1989	10,331	10,426	124,811	148,324	3,203	13,684	61,311	372,090
1990	6,340	27,752	92,150	57,995	4,463	14,452	49,181	252,333
1991	8,942	32,741	102,428	48,991	8,968	13,212	45,537	260,825
1992	10,643	23,134	103,570	91,232	10,794	13,479	177,530	430,382
1993	15,093	30,023	127,013	138,427	8,915	14,144	188,531	522,146

Table 6. Government Payments to U.S. Farmers (1,000 Dollars)

Year	Feed Grains	Wheat	Rice	Cotton	Wool Act	Conservation	Miscellaneous	Total
1982	713,315	652,268	155,910	800,211	46,042	176,668	945,551	3,489,965
1983	1,346,033	864,179	277,627	662,289	83,550	187,532	5,873,889	9,295,099
1984	366,739	1,795,151	191,783	274,658	117,578	191,458	5,493,003	8,430,370
1985	2,860,552	1,949,621	577,234	1,106,244	97,596	188,830	924,077	7,704,154
1986	5,158,038	3,499,721	422,769	1,042,392	119,922	253,697	1,324,812	11,821,351
1987	8,489,993	2,931,266	474,853	1,204,298	143,724	1,530,927	1,971,671	16,746,732
1988	7,219,460	1,841,883	464,548	923,863	116,777	1,607,379	2,305,898	14,479,808
1989	3,140,796	602,997	670,982	1,183,316	81,403	1,770,664	3,436,044	10,886,202
1990	2,701,173	2,311,300	464,880	440,757	96,195	1,898,141	1,385,584	9,298,030
1991	2,648,653	2,165,672	550,029	406,903	153,519	1,858,183	431,440	8,214,399
1992	2,499,273	1,402,688	512,300	751,177	188,082	1,899,421	1,915,979	9,168,920
1993	4,844,009	1,909,362	649,678	1,255,618	173,249	1,966,691	2,633,408	13,402,015

Source: *Economic Indicators of the Farm Sector, State Financial Summary*, U.S. Dept of Agriculture, Economic Research Unit.

Table 7. 1993 Crop Acreages by Planning Subarea (1,000 Acres)

North Coast Region

Crop	Upper Klamath	Lower Klamath	Coastal	Russian River	Total
Grain	53.6	0.4	0.4	0.0	54.4
Rice	0.0	0.0	0.0	0.0	0.0
Cotton	0.0	0.0	0.0	0.0	0.0
Sugar Beets	4.9	0.0	0.0	0.0	4.9
Corn	0.1	0.0	0.2	0.1	0.4
Other Field	0.1	0.0	0.4	4.0	4.5
Alfalfa	38.4	0.4	0.3	0.0	39.1
Pasture	65.8	10.7	24.1	10.9	111.5
Tomatoes	0.0	0.0	0.0	0.0	0.0
Other Truck	19.9	0.7	1.3	0.7	22.6
Almond-Pistachio	0.0	0.0	0.0	0.0	0.0
Other Deciduous	0.0	0.0	1.2	5.6	6.8
Citrus-Olive	0.0	0.0	0.0	0.0	0.0
Grapes	0.0	0.0	1.0	35.2	36.2
Total Crop Acres	**182.8**	**12.2**	**28.9**	**56.5**	**280.4**
Double Crop	0.0	0.0	0.0	0.0	0.0
Total Land Acres	**182.8**	**12.2**	**28.9**	**56.5**	**280.4**

San Francisco Bay Region

Crop	North Bay	South Bay	Total
Grain	0.4	1.5	1.9
Rice	0.0	0.0	0.0
Cotton	0.0	0.0	0.0
Sugar Beets	0.2	0.0	0.2
Corn	0.3	0.3	0.6
Other Field	0.4	1.4	1.8
Alfalfa	0.0	0.0	0.0
Pasture	4.5	0.6	5.1
Tomatoes	0.2	0.0	0.2
Other Truck	1.0	6.9	7.9
Almond-Pistachio	0.0	0.0	0.0
Other Deciduous	4.0	2.1	6.1
Citrus-Olive	0.0	0.0	0.0
Grapes	36.4	1.7	38.1
Total Crop Acres	**47.4**	**14.5**	**61.9**
Double Crop	0.0	0.2	0.2
Total Land Acres	**47.4**	**14.3**	**61.7**

Table 7. (continued) 1993 Crop Acreages by Planning Subarea (1,000 Acres)

Central Coast Region

Crop	Southern	Northern	Total
Grain	5.9	18.5	24.4
Rice	0.0	0.0	0.0
Cotton	0.0	0.0	0.0
Sugar Beets	0.0	2.2	2.2
Corn	1.4	1.0	2.4
Other Field	7.8	10.8	18.6
Alfalfa	17.3	3.9	21.2
Pasture	12.8	5.0	17.8
Tomatoes	0.5	9.4	9.9
Other Truck	96.8	286.9	383.7
Almond-Pistachio	0.0	0.0	0.0
Other Deciduous	2.9	15.7	18.6
Citrus-Olive	16.7	1.1	17.8
Grapes	20.8	34.9	55.7
Total Crop Acres	**182.9**	**389.4**	**572.3**
Double Crop	40.4	104.3	144.7
Total Land Acres	**142.5**	**285.1**	**427.6**

South Coast Region

Crop	Santa Clara	Metro LA	Santa Ana	San Diego	Total
Grain	0.1	0.1	3.5	7.1	10.7
Rice	0.0	0.0	0.0	0.0	0.0
Cotton	0.0	0.0	0.0	0.0	0.0
Sugar Beets	0.0	0.0	0.0	0.0	0.0
Corn	1.1	0.2	2.2	0.4	3.9
Other Field	0.4	0.0	3.9	0.2	4.4
Alfalfa	0.2	0.0	8.7	0.5	9.4
Pasture	2.3	0.3	12.4	5.1	20.0
Tomatoes	2.3	0.0	0.9	2.9	6.1
Other Truck	48.9	4.1	18.3	14.8	86.1
Almond-Pistachio	0.0	0.0	0.0	0.0	0.0
Other Deciduous	0.3	0.0	1.1	1.9	3.3
Citrus-Olive	59.0	2.1	25.1	73.0	159.2
Grapes	0.0	0.0	3.7	2.3	6.0
Total Crop Acres	**114.5**	**6.8**	**79.7**	**108.1**	**309.1**
Double Crop	21.4	0.1	5.6	3.1	30.1
Total Land Acres	**93.1**	**6.7**	**74.1**	**105.1**	**278.9**

Table 7. (continued) 1993 Crop Acreages by Planning Subarea (1,000 Acres)

Sacramento River Region

Crop	Shasta Pit	North-west Valley	North-east Valley	Southeast	Central Basin W	Central Basin E	South-west	Delta Serv Area	Total
Grain	8.8	10.8	3.8	0.8	144.2	49.8	1.2	30.9	250.3
Rice	2.8	1.9	0.0	0.7	193.4	277.2	1.0	0.8	477.8
Cotton	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.2
Sugar Beets	1.2	1.3	1.6	0.0	32.2	9.0	0.0	11.5	56.8
Corn	0.0	3.6	2.2	0.0	33.1	11.7	0.0	33.3	83.9
Other Field	0.2	3.5	2.7	0.0	82.4	48.6	0.2	46.5	184.1
Alfalfa	38.2	8.1	1.4	6.2	61.4	13.8	0.5	13.0	142.6
Pasture	86.8	44.0	20.9	82.6	28.8	49.9	3.2	15.8	332.0
Tomatoes	0.0	0.0	0.0	0.0	97.0	29.3	0.0	20.2	146.5
Other Truck	1.3	0.9	0.8	0.5	31.8	19.2	0.1	2.5	57.1
Almond-Pistachio	0.0	13.3	19.2	0.0	38.8	30.1	0.1	0.0	101.5
Other Deciduous	0.1	18.2	25.1	2.9	33.2	113.6	8.3	7.2	208.6
Citrus-Olive	0.0	16.9	0.6	2.0	2.1	3.7	0.0	0.0	25.3
Grapes	0.0	0.1	0.3	0.9	4.2	0.4	4.4	4.3	14.6
Total Crop Acres	**139.4**	**122.6**	**78.6**	**96.6**	**782.8**	**656.3**	**19.0**	**186.0**	**2,081.3**
Double Crop	0.0	0.6	0.0	0.0	28.0	11.9	0.0	5.2	45.7
Total Land Acres	**139.4**	**122.0**	**78.6**	**96.6**	**754.8**	**644.4**	**19.0**	**180.8**	**2,035.6**

San Joaquin River Region

Crop	Sierra Foot	E Vly Floor	Delta	West Uplands	E Side Uplands	Vly E Side	Vly W Side	W Side Uplands	Total
Grain	0.0	22.0	39.4	0.6	0.0	94.8	21.5		178.3
Rice	0.0	4.6	0.0	0.0	0.0	11.7	7.7		24.0
Cotton	0.0	0.0	0.0	0.0	0.0	80.4	111.0		191.4
Sugar Beets	0.0	9.6	11.5	0.0	0.0	6.3	14.0		41.4
Corn	0.0	30.6	61.2	0.0	0.0	110.8	17.3		219.9
Other Field	0.0	12.7	40.2	2.1	0.7	19.1	40.5		115.3
Alfalfa	0.0	15.3	45.7	3.4	0.0	111.1	63.4		238.9
Pasture	3.8	44.8	8.8	0.8	1.1	120.6	21.2		201.1
Tomatoes	0.0	11.1	20.3	0.0	0.0	12.5	34.7		78.6
Other Truck	0.1	11.2	36.8	0.5	0.0	23.7	70.8		143.1
Almond-Pistachio	0.0	3.0	2.7	1.7	0.0	223.5	13.2		244.1
Other Deciduous	3.0	41.1	11.1	2.2	0.4	71.8	24.8		154.4
Citrus-Olive	0.0	0.0	0.0	0.0	0.0	8.0	0.0		8.0
Grapes	2.0	56.9	1.5	0.9	0.1	118.9	0.6		180.9
Total Crop Acres	**8.9**	**262.9**	**279.2**	**12.2**	**2.3**	**1,013.2**	**440.7**	**0.0**	**2,019.4**
Double Crop	0.0	4.5	6.1	0.0	0.0	37.5	5.1		53.2
Total Land Acres	**8.9**	**258.4**	**273.1**	**12.2**	**2.3**	**975.7**	**435.6**	**0.0**	**1,966.2**

Table 7. (continued) 1993 Crop Acreages by Planning Subarea (1,000 acres)

Tulare Lake Region

Crop	Kern Valley	KKT	San Luis W Side	Uplands	Total
Grain	58.8	157.3	42.2	0.0	258.3
Rice	0.0	0.2	0.0	0.0	0.2
Cotton	290.3	455.6	255.5	0.0	1001.4
Sugar Beets	8.9	9.7	6.4	0.0	25.0
Corn	2.0	117.0	0.3	0.0	119.3
Other Field	24.0	63.0	28.8	0.1	115.9
Alfalfa	79.4	172.7	8.2	1.0	261.3
Pasture	4.3	45.9	1.3	3.8	55.3
Tomatoes	3.6	6.0	78.3	0.0	87.9
Other Truck	78.2	33.3	74.3	0.1	185.9
Almond-Pistachio	100.4	44.2	22.1	0.0	166.7
Other Deciduous	20.6	165.3	3.8	1.5	191.2
Citrus-Olive	49.8	148.1	0.7	1.7	200.3
Grapes	86.9	286.6	7.1	0.0	380.6
Total Crop Acres	**807.2**	**1,704.9**	**529.0**	**8.2**	**3,049.3**
Double Crop	22.0	27.2	5.1	0.0	54.3
Total Land Acres	**785.2**	**1,677.7**	**523.9**	**8.2**	**2,995.0**

North Lahontan Region

Crop	Lassen Group	Alpine Group	Total
Grain	6.0	0.0	6.0
Rice	0.5	0.0	0.5
Cotton	0.0	0.0	0.0
Sugar Beets	0.3	0.0	0.3
Corn	0.3	0.0	0.3
Other Field	0.0	0.0	0.0
Alfalfa	37.3	3.0	40.3
Pasture	63.6	37.4	101.0
Tomatoes	0.0	0.0	0.0
Other Truck	1.0	0.0	1.0
Almond-Pistachio	0.0	0.0	0.0
Other Deciduous	0.0	0.0	0.0
Citrus-Olive	0.0	0.0	0.0
Grapes	0.0	0.0	0.0
Total Crop Acres	**109.0**	**40.4**	**149.4**
Double Crop	0.0	0.0	0.0
Total Land Acres	**109.0**	**40.4**	**149.4**

Table 7. (continued) 1993 Crop Acreages by Planning Subarea (1,000 acres)

South Lahontan Region

Crop	Mono Owens	Death Valley	Indian Wells	Antelope Valley	Mojave River	Total
Grain	0.0	0.0	0.0	1.8	0.3	2.0
Rice	0.0	0.0	0.0	0.0	0.0	0.0
Cotton	0.0	0.0	0.0	0.0	0.0	0.0
Sugar Beets	0.0	0.0	0.0	0.0	0.0	0.0
Corn	0.0	0.0	0.0	0.1	0.0	0.1
Other Field	0.0	0.0	0.0	0.3	0.7	1.0
Alfalfa	10.0	1.7	2.0	6.6	13.0	33.2
Pasture	16.0	0.2	0.1	0.3	1.1	17.7
Tomatoes	0.0	0.0	0.0	0.0	0.0	0.0
Other Truck	2.2	0.0	0.0	2.2	0.2	4.5
Almond-Pistachio	0.0	0.0	0.0	0.0	0.0	0.0
Other Deciduous	0.0	0.1	0.3	1.9	0.4	2.7
Citrus-Olive	0.0	0.0	0.0	0.0	0.0	0.0
Grapes	0.0	0.0	0.0	0.0	0.0	0.0
Total Crop Acres	**28.2**	**2.1**	**2.5**	**13.0**	**15.5**	**61.3**
Double Crop	0.0	0.0	0.0	0.0	0.0	0.0
Total Land Acres	**28.2**	**2.1**	**2.5**	**13.0**	**15.5**	**61.3**

Colorado River Region

Crop	29 Palms	Chuckwalla	Colorado River	Coachella	Borrego	Imperial	Total
Grain	0.0	0.0	8.9	0.8	0.2	62.1	72.0
Rice	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cotton	0.0	0.0	12.1	0.4	0.0	6.7	19.2
Sugar Beets	0.0	0.0	0.0	0.0	0.0	41.5	41.5
Corn	0.0	0.0	0.1	4.4	0.3	3.4	8.2
Other Field	0.0	0.0	8.0	1.7	0.1	63.7	73.4
Alfalfa	3.1	0.0	51.5	3.1	2.2	184.6	244.5
Pasture	0.0	0.0	4.1	1.6	0.1	42.2	47.9
Tomatoes	0.0	0.0	0.9	0.1	0.3	3.5	4.7
Other Truck	0.0	1.0	22.0	20.1	4.4	93.0	140.6
Almond-Pistachio	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Deciduous	0.1	0.0	0.0	0.5	0.1	0.6	1.3
Citrus-Olive	0.2	3.4	5.4	21.3	2.0	4.5	36.9
Grapes	0.8	0.0	0.0	18.7	0.0	0.0	19.5
Total Crop Acres	**4.2**	**4.4**	**113.0**	**72.6**	**9.7**	**505.8**	**709.5**
Double Crop	0.0	0.0	19.3	14.7	1.4	55.7	91.1
Total Land Acres	**4.2**	**4.4**	**93.7**	**57.9**	**8.2**	**450.0**	**618.4**

Table 8. 1993 Crop Acreages by Region (1,000 acres)

Crop	NC	SF	CC	SC	SR	SJ	TL	NL	SL	CR	CA Total
Grain	54.4	1.9	24.4	10.7	250.3	178.3	258.3	6.0	2.0	72.0	858.3
Rice	0.0	0.0	0.0	0.0	477.8	24.0	0.2	0.5	0.0	0.0	502.5
Cotton	0.0	0.0	0.0	0.0	0.2	191.4	1,001.4	0.0	0.0	19.2	1,212.2
Sugar Beets	4.9	0.2	2.2	0.0	56.8	41.4	25.0	0.3	0.0	41.5	172.3
Corn	0.4	0.6	2.4	3.9	83.9	219.9	119.3	0.3	0.1	8.2	439.0
Other Field	4.5	1.8	18.6	4.4	184.1	115.3	115.9	0.0	1.0	73.4	519.1
Alfalfa	39.1	0.0	21.2	9.4	142.6	238.9	261.3	40.3	33.2	244.5	1,030.5
Pasture	111.5	5.1	17.8	20.0	332.0	201.1	55.3	101.0	17.7	47.9	909.4
Tomatoes	0.0	0.2	9.9	6.1	146.5	78.6	87.9	0.0	0.0	4.7	333.9
Other Truck	22.6	7.9	383.7	86.1	57.1	143.1	185.9	1.0	4.5	140.6	1,032.5
Almond-Pistachio	0.0	0.0	0.0	0.0	101.5	244.1	166.7	0.0	0.0	0.0	512.3
Other Deciduous	6.8	6.1	18.6	3.3	208.6	154.4	191.2	0.0	2.7	1.3	592.9
Citrus-Olive	0.0	0.0	17.8	159.2	25.3	8.0	200.3	0.0	0.0	36.9	447.5
Grapes	36.2	38.1	55.7	6.0	14.6	180.9	380.6	0.0	0.0	19.5	731.6
Total Crop Acres	**280.4**	**61.9**	**572.3**	**309.1**	**2,081.3**	**2,019.4**	**3,049.3**	**149.4**	**61.3**	**709.5**	**9,293.9**
Double Crop	0.0	0.2	144.7	30.1	45.7	53.2	54.3	0.0	0.0	91.1	419.3
Total Land Acres	**280.4**	**61.7**	**427.6**	**278.9**	**2,035.6**	**1,966.2**	**2,995.0**	**149.4**	**61.3**	**618.4**	**8,874.6**

Table 9. 1993 Crop Acreages by County (1,000 acres)

County	Grain	Rice	Cotton	Beets	Corn	Other Field	Alfalfa	Pas-ture	Toma-to	Other Truck	Al-Pist	Other Decid	Citrus Olive	Vine	Total
Alameda	1.0	0.0	0.0	0.0	0.0	0.5	1.8	0.2	0.0	0.8	0.0	0.1	0.0	1.6	6.0
Alpine	0.0	0.0	0.0	0.0	0.0	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	6.3
Amador	0.3	0.0	0.0	0.0	0.3	0.5	0.0	1.6	0.0	0.1	0.0	0.5	0.0	1.6	4.9
Butte	9.4	89.5	0.0	2.8	1.7	6.5	5.6	12.7	0.0	2.1	39.1	36.0	6.3	0.1	211.8
Calaveras	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.6	0.0	0.1	0.0	0.7	0.0	0.3	1.8
Colusa	41.9	123.5	0.2	4.8	5.4	27.3	7.7	4.7	23.2	18.9	19.8	9.2	0.2	1.2	288.0
Contra Costa	4.1	0.0	0.0	0.0	8.7	4.7	3.1	4.7	3.8	3.1	0.0	5.1	0.0	1.0	38.3
Del Norte	0.2	0.0	0.0	0.0	0.0	0.0	0.0	5.9	0.0	0.7	0.0	0.0	0.0	0.0	6.8
El Dorado	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.2	0.0	2.4	0.0	0.9	5.7
Fresno	55.5	7.2	364.2	16.7	20.1	32.2	83.9	29.9	87.4	108.9	42.1	63.2	27.5	217.6	1,156.4
Glenn	34.8	81.8	0.0	8.4	13.6	12.7	16.0	25.8	0.5	3.4	17.7	15.7	5.2	1.4	237.0
Humboldt	0.0	0.0	0.0	0.0	0.2	0.1	0.1	20.4	0.0	0.7	0.0	0.1	0.0	0.0	21.6
Imperial	64.9	0.0	8.6	41.5	3.7	67.6	192.4	43.7	4.1	106.7	0.0	0.8	7.6	0.0	541.6
Inyo	0.0	0.0	0.0	0.0	0.0	0.0	4.0	7.1	0.0	0.2	0.0	0.0	0.0	0.0	11.4
Kern	57.1	0.0	292.4	8.9	2.0	24.2	85.0	6.0	3.6	79.1	100.0	22.1	44.0	83.9	808.2
Kings	57.0	0.0	260.7	3.2	25.3	55.6	31.6	11.0	8.8	7.5	7.3	16.7	0.8	4.4	489.9
Lake	0.4	1.0	0.0	0.0	0.0	0.2	0.4	3.0	0.0	0.1	0.1	8.2	0.0	2.2	15.6
Lassen	7.9	0.7	0.0	1.0	0.3	0.0	34.2	65.8	0.0	1.3	0.0	0.0	0.0	0.0	111.2
Los Angeles	1.0	0.0	0.0	0.0	0.3	0.2	4.2	0.5	0.0	5.7	0.0	1.7	2.1	0.0	15.8
Madera	28.3	0.0	51.3	0.7	13.4	4.4	32.0	9.6	0.2	5.0	60.0	18.3	7.7	84.0	314.9
Marin	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.2	0.0	0.0	0.0	0.0	1.0
Mariposa	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.7	0.0	0.0	0.0	0.2	0.0	0.1	1.7
Mendocino	0.4	0.0	0.0	0.0	0.0	0.4	0.2	6.9	0.0	0.6	0.0	4.3	0.0	12.5	25.3
Merced	46.2	5.1	80.1	11.0	54.2	9.4	80.6	57.3	19.2	29.4	68.5	24.3	0.1	15.3	500.7
Modoc	22.0	1.1	0.0	3.8	0.0	0.0	43.8	80.6	0.0	10.8	0.0	0.0	0.0	0.0	162.1
Mono	0.0	0.0	0.0	0.0	0.0	0.0	9.5	39.8	0.0	2.0	0.0	0.0	0.0	0.0	51.2
Monterey	5.8	0.0	0.0	1.4	0.0	5.1	2.1	1.7	4.2	250.1	0.0	0.7	1.1	32.0	304.2
Napa	0.1	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.3	0.0	0.3	0.0	31.2	32.9
Nevada	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.2	0.0	0.2	0.0	0.3	0.0	0.2	7.9
Orange	0.0	0.0	0.0	0.0	0.7	0.7	0.0	0.4	0.9	9.0	0.0	0.0	4.4	0.0	16.1
Placer	1.8	15.3	0.0	0.0	0.0	1.1	0.0	26.8	0.0	0.0	0.0	3.7	0.0	0.2	48.9
Plumas	0.3	0.0	0.0	0.0	0.0	0.0	5.3	31.8	0.0	0.0	0.0	0.0	0.0	0.0	37.4
Riverside	14.8	0.0	10.2	0.0	5.4	7.2	55.2	13.6	0.6	42.5	0.0	1.2	54.4	21.3	226.4
Sacramento	19.5	9.9	0.0	6.6	35.1	17.8	7.3	31.3	7.4	1.7	0.0	7.6	0.0	6.4	150.6
San Benito	8.6	0.0	0.0	0.6	0.0	4.8	1.8	1.4	2.3	15.5	0.0	7.4	0.0	1.8	44.2
San Bernardino	2.9	0.0	0.4	0.0	0.7	2.6	19.8	5.8	0.0	1.8	0.0	1.1	6.1	3.9	45.0
San Diego	0.2	0.0	0.0	0.0	0.4	0.2	0.3	3.2	2.9	13.8	0.0	1.7	62.5	0.2	85.3
San Joaquin	56.4	5.0	0.0	20.5	84.7	51.6	64.1	40.8	27.9	48.8	42.0	55.4	0.0	59.2	556.4
San Luis Obispo	1.7	0.0	0.0	0.0	0.1	1.4	12.0	6.1	0.2	35.3	0.0	1.5	2.3	10.2	70.8
San Mateo	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	4.9	0.0	0.0	0.0	0.0	5.3
Santa Barbara	4.2	0.0	0.0	0.0	1.3	6.5	4.6	6.7	0.3	61.5	0.0	1.4	13.1	10.6	110.1

Table 9. (continued) 1993 Crop Acreages by County (1,000 acres)

County	Grain	Rice	Cotton	Beets	Corn	Other Field	Alfalfa	Pas-ture	Toma-to	Other Truck	Al-Pist	Other Decid	Citrus Olive	Vine	Total
Santa Clara	5.0	0.0	0.0	0.2	1.3	1.9	0.0	1.1	2.9	7.4	0.0	5.1	0.0	1.0	25.9
Santa Cruz	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.9	0.0	15.1	0.0	4.5	0.0	0.2	20.8
Shasta	2.5	1.5	0.0	0.5	0.1	0.4	6.3	34.9	0.0	1.6	0.2	1.9	0.8	0.2	50.9
Sierra	0.3	0.0	0.0	0.0	0.0	0.0	0.9	14.1	0.0	0.1	0.0	0.0	0.0	0.0	15.4
Siskiyou	36.6	0.0	0.0	1.1	0.1	0.1	30.5	61.6	0.0	9.1	0.0	0.0	0.0	0.0	139.1
Solano	43.2	0.0	0.0	19.7	15.2	21.4	20.5	20.4	21.8	2.3	1.6	10.3	0.0	1.9	178.3
Sonoma	0.0	0.0	0.0	0.0	0.4	3.9	0.0	9.1	0.0	1.0	0.0	2.5	0.0	30.0	46.9
Stanislaus	31.2	4.7	0.0	0.6	46.8	36.8	45.2	63.4	13.6	36.2	73.3	46.2	0.2	14.7	412.9
Sutter	27.9	98.6	0.0	4.1	1.7	31.8	5.4	8.2	27.3	13.1	4.5	53.0	0.0	0.1	275.7
Tehama	6.7	1.6	0.0	0.5	2.9	2.1	3.8	29.7	0.0	0.4	8.1	23.8	12.8	0.1	92.5
Trinity	0.2	0.0	0.0	0.0	0.0	0.0	0.1	1.3	0.0	0.0	0.0	0.0	0.0	0.0	1.6
Tulare	98.0	0.0	144.1	3.2	75.6	9.1	75.4	10.9	0.6	11.3	17.6	90.3	128.0	74.8	738.9
Tuolumne	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.0	0.1	0.0	0.1	2.9
Ventura	0.1	0.0	0.0	0.0	1.1	0.3	0.7	2.2	2.3	48.6	0.0	0.2	60.2	0.0	115.7
Yolo	56.2	21.3	0.0	10.5	14.9	64.1	32.1	8.9	67.9	13.3	8.6	15.0	0.0	2.7	315.5
Yuba	1.7	34.7	0.0	0.0	1.4	0.9	0.9	14.3	0.0	0.0	1.8	28.2	0.0	0.4	84.3
Totals	**858.3**	**502.5**	**1,212.2**	**172.3**	**439.0**	**519.1**	**1,030.5**	**909.4**	**333.9**	**1,032.5**	**512.3**	**592.9**	**447.5**	**731.6**	**9,293.9**

Table 10. 1993 Irrigated Crops Compared to 1992 (1,000 acres)

Crop	1993	1992	Change	Percentage
Grain	858.3	894.8	(36)	(4)
Rice	502.5	433.6	69	16
Cotton	1,212.2	1,192.7	19	2
Sugar Beets	172.3	156.2	16	10
Corn	439.0	396.8	42	11
Other Field	519.1	455.2	64	14
Alfalfa	1,030.5	1,074.5	(44)	(4)
Pasture	909.4	933.0	(24)	(3)
Tomatoes	333.9	293.5	40	14
Other Truck	1,032.5	1,038.6	(6)	(1)
Almond-Pistachio	512.3	499.9	12	2
Other Deciduous	592.9	592.6	0	0
Citrus-Olive	447.5	441.2	6	1
Grapes	731.6	729.4	2	0
Total Crop Acres	**9,293.9**	**9,131.8**	**162**	**2**
Double Crop	419.3	404.1	15	4
Total Irrigated Acres	**8,874.6**	**8,727.7**	**147**	**2**

Water Use and Supplies

Urban water use is water produced for all urban needs including residential, commercial, industrial, and landscape uses. It is primarily measured at the intake of the water supplier's system and is equivalent to the amount of water delivered to customers plus losses from the delivery system. Urban water use data were analyzed on a per capita basis. For a defined service area, applied water is divided by the population to compute per capita use. Figure 4 compares monthly per capita use for water year 1993 to the water year 1992 average by hydrologic region. Per capita use during 1993 was about equal to the 1992 average. Plentiful surface supplies over much of the State allowed a phase–out of many drought mitigation programs. However, the potential for increased per capita use was countered by above normal rainfall that reduced the landscape irrigation requirement.

Environmental water use consists of: (1) instream fish flows, (2) Wild and Scenic rivers flows, (3) required Delta outflow (D1485), and (4) wetlands water use. Instream fish flows for 1993 consist of the actual flows released by project operators to meet the requirements of existing water rights permits, court decisions, congressional directives, and laws or agreements between government agencies. Instream flow requirements generally vary by year type; hence, since 1993 was above normal, actual instream flows were higher than 1992 levels (see Table 11). Wild and Scenic flows for the North Coast rivers were estimated from Bulletin 120 data at 21,308,000 acre-feet (see Table 12). The 1993 Delta outflow required under D1485 was estimated using DAYFLOW daily data, operational data for the Delta condition of balance or surplus, and the D1485 criteria for a critical year in the Delta (Table 13). Dedicated natural flows for 1993 increased to 33.0 million acre–feet, compared with 15.1 maf in 1992. Wetlands use for 1993 is tabulated in Table 14.

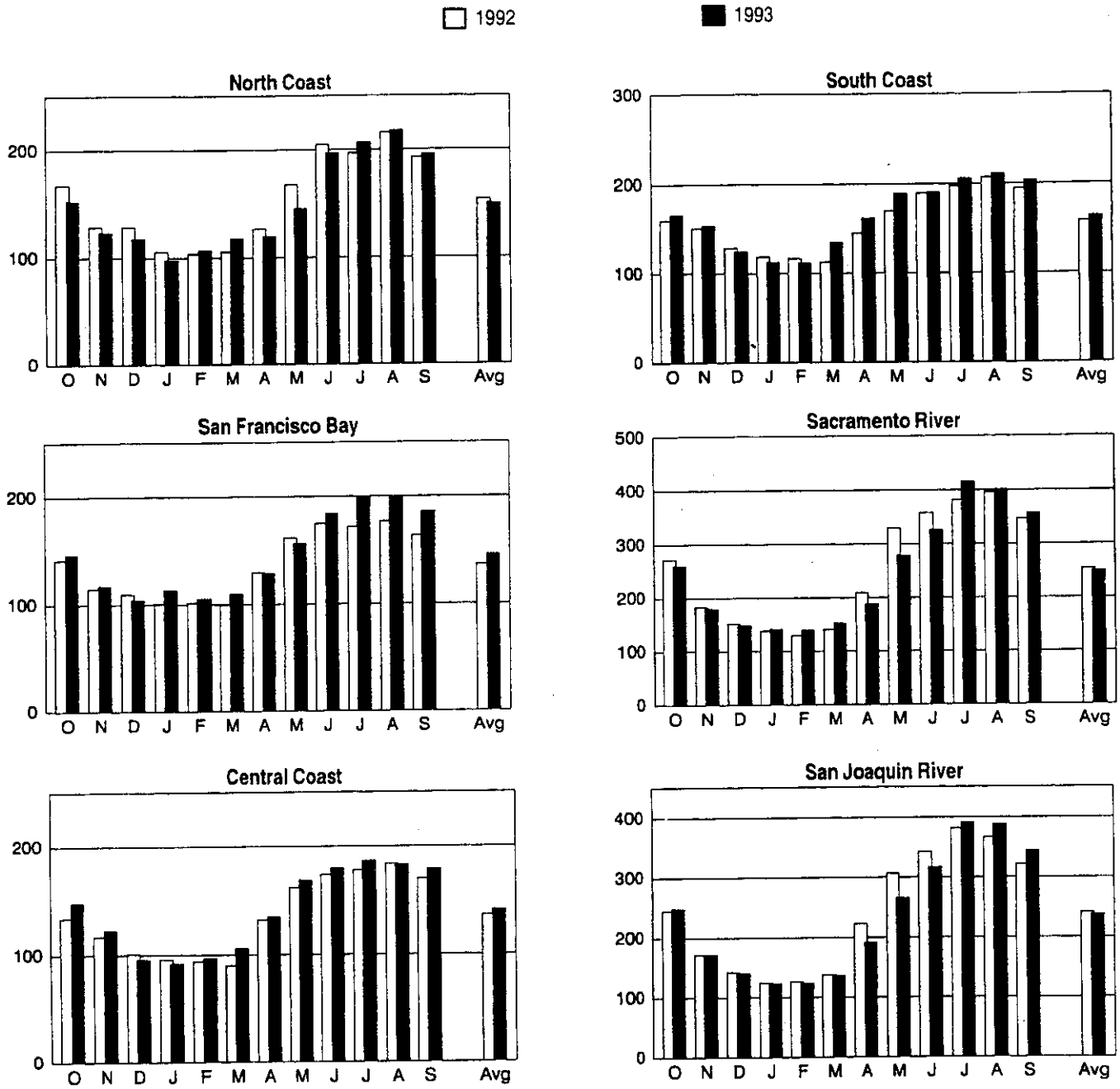
Water use in 1993 by urban, agricultural, environmental, and other sectors is tabulated in Tables 15, 16, and 17. After six consecutive years of drought, surface water supplies were plentiful and deficiencies were rare.

Table 11. 1993 Instream Fish Flows (1,000 acre–feet)

River	Applied Water	Net Water	Depletion
Klamath	713	713	713
Trinity	355	355	355
Mad	4	4	4
Russian	170	90	90
Sacramento	2,213	2,213	0
Feather	729	729	0
Clear Creek	91	91	0
Cache Creek	7	0	0
Yuba	280	178	0
Bear	10	10	0
American	369	369	0
Putah Creek	7	0	0
Mokelumne	102	102	0
Stanislaus	92	92	0
Tuolumne	54	54	0
Merced	83	83	0
Carmel	2	0	0
San Antonio	2	0	0
Nacimiento	5	0	0
Salinas	2	0	0
Piru	4	0	0
Mono	120	120	120
Owens	25	0	0
Totals	**5,436**	**5,202**	**1,281**

Figure 5. Per Capita Water Use by Hydrologic Region, Water Years 1992 and 1993*

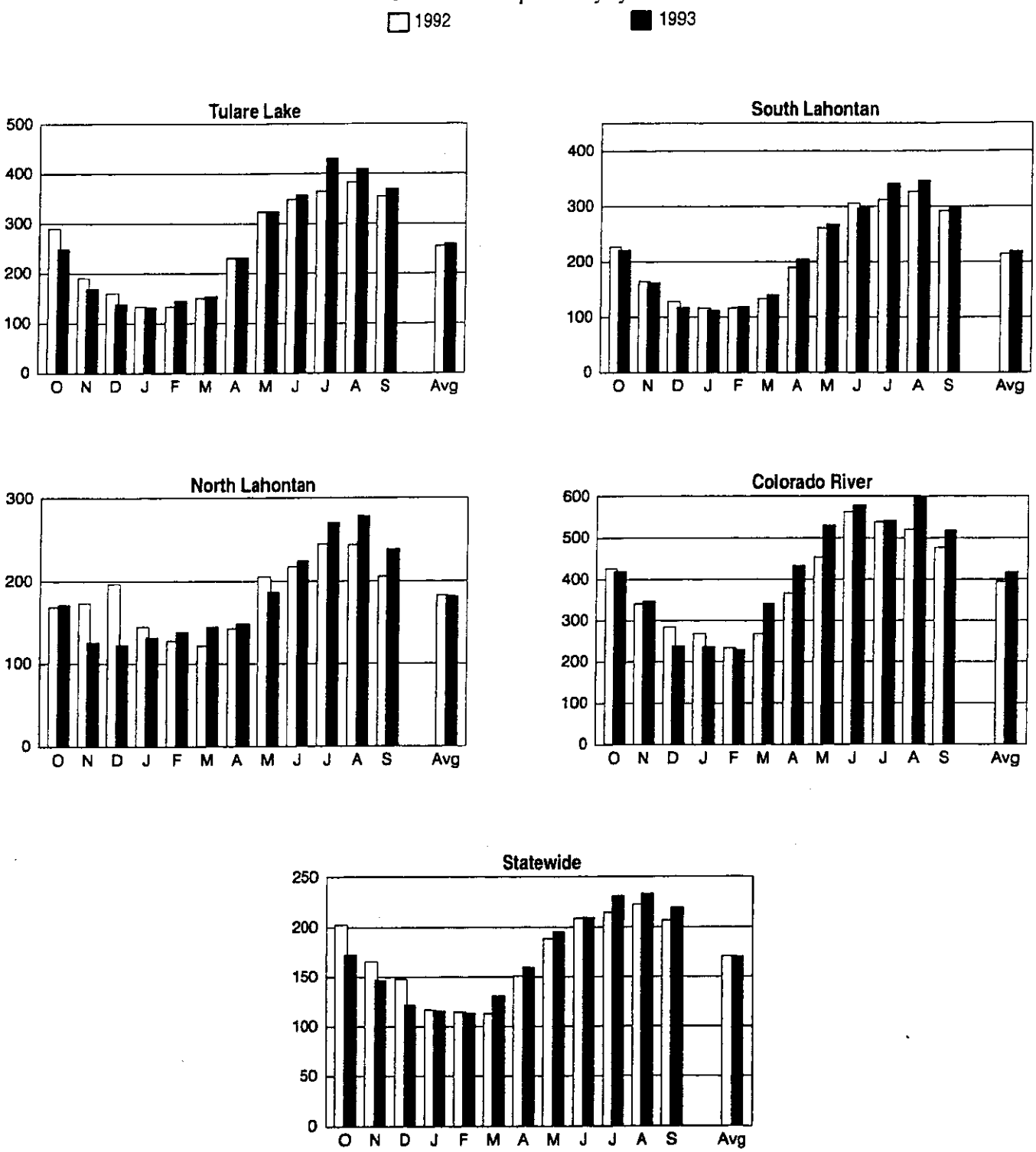
Gallons Per Capita Daily by Month



*Based on data from 297 urban water suppliers. Data does not include self-produced groundwater supplies.

Figure 5. (continued) Per Capita Water Use by Hydrologic Region, Water Years 1992 and 1993*

Gallons Per Capita Daily by Month



*Based on data from 297 urban water suppliers. Data does not include self-produced groundwater supplies.

Table 12. 1993 Wild and Scenic Rivers Flow
(1,000 acre-feet)

	Average TAF	1993	
		%	TAF
Eel River at Mouth	6,273		
Less Van Arsdale	465		
Subtotal	**5,808**	**136**	**7,876**
Klamath River at Mouth	12,982		
Less Copco	2,008		
Less Lewiston	1,273		
Less Scott R	417		
Less Shasta R	201		
Subtotal	**9,083**	**112**	**10,128**
Smith River at Mouth	2,927	113	3,305
Total	**17,818**		**21,308**

Table 13. 1993 Delta Outflow
(1,000 acre–feet)

	Total	D1485
Oct	269	269
Nov	246	246
Dec	713	713
Jan	3,559	385
Feb	3,056	898
Mar	3,933	738
Apr	2,637	452
May	1,555	797
Jun	1,617	637
Jul	588	588
Aug	585	585
Sep	321	149
Water Year	**19,080**	**6,457**

NOTE: Total Delta outflow is the computed Delta outflow from DAYFLOW. D1485 is the estimated component of total Delta outflow used to meet D1485 standards using DAYFLOW values when the Delta is in balance and the D1485 required flow when the Delta is not in balance.

Table 14. Wetlands Water Use (1,000 acre–feet)

Wetland	Applied Water	Net Water	Depletion
Lower Klamath NWR	115.1	115.1	69.4
Clear Lake NWR	73.6	73.5	50.0
Tule Lake NWR	149.7	149.7	53.3
Butte Valley WA	10.2	10.2	10.2
Shasta Valley WA	3.9	3.2	2.2
Arcata Marsh	2.0	2.0	2.0
Modoc NWR	19.5	17.2	15.2
Ash Creek	12.9	12.3	12.2
Sacramento NWR	29.6	27.4	13.1
Colusa NWR	13.1	12.1	5.5
Delevan NWR	18.6	17.2	8.2
Colusa Basin Private	95.6	84.8	37.3
Gray Lodge WA	44.0	40.0	21.3
Upper Butte Basin	56.3	52.5	28.0
Butte Basin Private	113.9	84.2	41.1
Honey Lake WA	14.3	14.3	14.3
Willow Creek WA	2.5	2.5	2.5
Butte Sink NWR	2.2	0.5	0.5
Sutter NWR	9.1	4.3	4.3
American Basin	30.7	30.7	7.4
Sutter Basin	15.8	15.8	4.4
Yolo Basin	24.0	21.7	6.2
Sherman Island	9.3	9.3	1.9
Suisun Marsh	150.0	150.0	150.0
Hayward Marsh	10.0	10.0	10.0
Delta	40.0	40.0	7.4
San Luis NWR	14.0	8.0	8.0
Volta WA	7.2	6.0	4.0
Los Banos WA	13.4	11.0	8.0
Kesterson NWR	12.1	6.0	6.0
Grasslands RCD	148.0	118.0	97.0
North Grasslands WA	5.2	4.0	4.0
Merced NWR	10.5	6.0	6.0
Kern NWR	7.3	3.0	3.0
Tulare Basin Private	5.2	4.0	4.0
Pixley NWR	2.7	2.0	2.0
Mendota WA	26.1	21.0	12.0
San Jacinto WA	2.5	2.5	2.5
Temescal Creek	0.9	0.0	0.0
Santee Lakes	1.1	1.1	1.1
Sepulvada Pond	5.3	5.3	5.3
Lake Balboa	10.0	10.0	10.0
Research Facility	1.1	0.0	0.0
Sepulvada Japanese Garden	5.6	5.6	5.6
Salton Sea NWR	7.2	7.2	7.2
Imperial WA	24.6	24.6	24.6
Private	5.3	5.3	5.3
Total	**1,381.1**	**1,251.1**	**793.5**

Table 15. Water Use by Planning Subarea (1,000 acre–feet)

North Coast	Upper Klamath	Lower Klamath	Coastal	Russian River	Total
Urban					
AW	11	14	57	69	151
NWU	11	14	57	69	151
Depletion	5	8	50	21	85
Agricultural					
AW	422	32	68	104	626
NWU	141	30	62	90	323
Depletion	307	24	50	77	459
Environmental					
AW	353	14,500	7,881	170	22,903
NWU	352	14,500	7,881	90	22,823
Depletion	185	14,500	7,881	90	22,656
Other					
AW	0	0	0	0	0
NWU	32	0	0	0	32
Depletion	11	0	0	0	11
Totals					
AW	785	14,546	8,006	343	23,679
NWU	536	14,544	8,001	249	23,329
Depletion	508	14,532	7,982	188	23,211

San Francisco	North Bay	South Bay	Total
Urban			
AW	134	830	964
NWU	137	830	967
Depletion	130	789	919
Agricultural			
AW	64	29	93
NWU	67	29	96
Depletion	64	28	92
Environmental			
AW	6,607	10	6,617
NWU	6,607	10	6,617
Depletion	6,607	10	6,617
Other			
AW	0	89	89
NWU	2	101	103
Depletion	2	11	13
Totals			
AW	6,805	958	7,763
NWU	6,813	970	7,783
Depletion	6,803	838	7,641

Table 15. (continued) Water Use by Planning Subarea
(1,000 acre–feet)

Central Coast	Northern	Southern	Total
Urban			
AW	154	101	255
NWU	131	80	211
Depletion	120	62	181
Agricultural			
AW	796	474	1,270
NWU	605	370	976
Depletion	596	370	967
Environmental			
AW	4	7	11
NWU	0	0	0
Depletion	0	0	0
Other			
AW	24	16	40
NWU	24	16	40
Depletion	2	16	18
Totals			
AW	978	598	1,576
NWU	760	466	1,226
Depletion	718	448	1,166

South Coast	Santa Clara	Metro LA	Santa Ana	San Diego	Total
Urban					
AW	153	1,568	961	554	3,237
NWU	129	1,506	770	546	2,951
Depletion	125	1,433	650	525	2,733
Agricultural					
AW	218	15	242	292	767
NWU	191	13	198	280	682
Depletion	191	13	198	280	682
Environmental					
AW	4	21	5	1	30
NWU	0	21	3	1	25
Depletion	0	21	3	1	25
Other					
AW	8	52	21	4	85
NWU	18	116	71	41	246
Depletion	18	116	71	41	246
Totals					
AW	383	1,656	1,229	851	4,119
NWU	338	1,656	1,041	868	3,903
Depletion	334	1,583	922	847	3,685

Table 15. (continued) Water Use by Planning Subarea
(1,000 acre–feet)

Sacramento River	Shasta Pit	NW Valley	NE Valley	C Basin W	C Basin E	S.E.	S.W.	Delta Serv Area	Total
Urban									
AW	13	54	54	64	457	74	7	16	740
NWU	13	54	54	64	464	82	7	18	757
Depletion	6	20	27	23	166	23	4	5	273
Agricultural									
AW	441	405	262	2,643	2,841	318	62	433	7,405
NWU	381	397	269	1,901	2,572	316	61	402	6,298
Depletion	326	290	201	1,728	1,751	226	45	293	4,859
Environmental									
AW	2,245	91	0	188	931	729	7	9	4,200
NWU	2,243	91	0	163	785	729	0	9	4,020
Depletion	27	0	0	70	107	0	0	2	207
Other									
AW	0	0	0	0	0	0	0	1	1
NWU	0	54	21	135	187	39	0	40	476
Depletion	0	7	2	23	28	4	0	4	69
Totals									
AW	2,699	550	316	2,895	4,229	1,121	76	459	12,346
NWU	2,636	596	344	2,264	4,008	1,167	68	469	11,551
Depletion	359	316	230	1,844	2,052	253	48	304	5,407

San Joaquin River	Sierra Foothill	E Vly Floor	Delta Srv Area	Western Uplands	E Side Uplands	Valley E Side	Valley W Side	Total
Urban								
AW	44	66	30	37	12	302	20	510
NWU	52	66	31	38	5	160	10	362
Depletion	12	18	8	4	5	143	10	200
Agricultural								
AW	26	875	715	39	7	3,209	1,435	6,305
NWU	29	841	662	40	4	2,851	1,275	5,701
Depletion	20	630	537	29	4	2,330	1,100	4,650
Environmental								
AW	54	234	0	0	0	94	200	581
NWU	54	234	0	0	0	89	153	530
Depletion	0	7	0	0	0	6	127	140
Other								
AW	0	16	0	0	4	0	4	24
NWU	6	21	0	0	4	31	141	202
Depletion	0	0	0	0	4	17	139	159
Totals								
AW	124	1,191	745	76	22	3,604	1,659	7,421
NWU	141	1,162	693	78	13	3,130	1,578	6,795
Depletion	32	655	545	33	13	2,496	1,375	5,149

Table 15. (continued) Water Use by Planning Subarea
(1,000 acre–feet)

Tulare Lake	Uplands	KKT	San Luis Westside	Western Uplands	Kern Vly Floor	Total
Urban						
AW	14	351	11	2	199	576
NWU	6	148	5	1	77	236
Depletion	6	148	5	1	77	236
Agricultural						
AW	28	5,113	1,473	0	2,481	9,095
NWU	19	4,001	1,323	0	1,993	7,335
Depletion	19	3,981	1,323	0	1,993	7,316
Environmental						
AW	0	29	0	0	13	41
NWU	0	23	0	0	7	30
Depletion	0	14	0	0	7	21
Other						
AW	6	1	9	0	320	336
NWU	6	56	33	0	392	487
Depletion	6	56	33	0	158	252
Totals						
AW	48	5,493	1,493	2	3,012	10,048
NWU	31	4,227	1,360	1	2,469	8,087
Depletion	31	4,199	1,360	1	2,235	7,825

North Lahontan	Lassen Group	Alpine Group	Total
Urban			
AW	17	21	38
NWU	17	22	39
Depletion	7	7	14
Agricultural			
AW	331	176	507
NWU	294	175	469
Depletion	258	97	355
Environmental			
AW	17	0	17
NWU	17	0	17
Depletion	17	0	17
Other			
AW	0	0	0
NWU	0	0	0
Depletion	0	0	0
Totals			
AW	364	197	561
NWU	328	197	525
Depletion	282	104	386

Table 15. (continued) Water Use by Planning Subarea
(1,000 acre–feet)

South Lahontan	Mono Owens	Death Valley	Indian Wells	Antelope Valley	Mojave River	Total
Urban						
AW	13	0	12	110	78	213
NWU	8	0	7	74	49	138
Depletion	8	0	7	74	49	138
Agricultural						
AW	141	11	13	63	88	316
NWU	128	10	11	59	78	287
Depletion	128	10	11	59	78	287
Environmental						
AW	144	0	0	0	0	144
NWU	120	0	0	0	0	120
Depletion	120	0	0	0	0	120
Other						
AW	0	3	1	1	4	10
NWU	0	3	1	6	5	15
Depletion	0	3	1	6	5	15
Totals						
AW	299	14	26	174	170	683
NWU	255	13	19	139	132	559
Depletion	255	13	19	139	132	559

Colorado River	29 Palms Lanfair	Chuck Walla	Colorado River	Coach	Borrego	Imperial Valley	Total
Urban							
AW	11	1	12	138	3	31	194
NWU	6	0	7	90	2	31	136
Depletion	6	0	7	90	2	31	136
Agricultural							
AW	25	15	552	338	37	2,232	3,199
NWU	23	15	456	271	37	2,232	3,033
Depletion	23	15	456	271	37	2,232	3,033
Environmental							
AW	0	0	0	0	0	37	37
NWU	0	0	0	0	0	37	37
Depletion	0	0	0	0	0	37	37
Other							
AW	1	0	3	77	0	77	158
NWU	1	0	3	117	0	397	518
Depletion	1	0	3	117	0	397	518
Totals							
AW	37	16	567	552	39	2,377	3,588
NWU	30	15	466	478	38	2,697	3,724
Depletion	30	15	466	478	38	2,697	3,724

Table 16. Water Use In California by Region (1,000 acre–feet)

	NC	SF	CC	SC	SR	SJ	TL	NL	SL	CR	CA
Urban											
AW	151	964	255	3,237	740	510	576	38	213	194	6,878
NWU	151	967	211	2,951	757	362	236	39	138	136	5,946
Depletion	85	919	181	2,733	273	200	236	14	138	136	4,914
Agricultural											
AW	626	93	1,270	767	7,405	6,305	9,095	507	316	3,199	29,583
NWU	323	96	976	682	6,298	5,701	7,335	469	287	3,033	25,200
Depletion	459	92	967	682	4,859	4,650	7,316	355	287	3,033	22,699
Environmental											
AW	22,903	6,617	11	30	4,200	581	41	17	144	37	34,582
NWU	22,823	6,617	0	25	4,020	530	30	17	120	37	34,218
Depletion	22,656	6,617	0	25	207	140	21	17	120	37	29,840
Other											
AW	0	89	40	85	1	24	336	0	10	158	741
NWU	32	103	40	246	476	202	487	0	15	518	2,117
Depletion	11	13	18	246	69	159	252	0	15	518	1,299
Totals											
AW	23,679	7,763	1,576	4,119	12,346	7,421	10,048	561	683	3,588	71,784
NWU	23,329	7,783	1,226	3,903	11,551	6,795	8,087	525	559	3,724	67,481
Depletion	23,211	7,641	1,166	3,685	5,407	5,149	7,825	386	559	3,724	58,752

Table 17. Environmental Water Use in California by Region (1,000 acre–feet)

Environmental	NC	SF	CC	SC	SR	SJ	TL	NL	SL	CR	CA
Instream											
AW	1,241	0	11	4	3,706	331	0	0	144	0	5,436
NWU	1,162	0	0	0	3,590	331	0	0	120	0	5,202
Depletion	1,162	0	0	0	0	0	0	0	120	0	1,281
Wild & Scenic											
AW	21,308	0	0	0	0	0	0	0	0	0	21,308
NWU	21,308	0	0	0	0	0	0	0	0	0	21,308
Depletion	21,308	0	0	0	0	0	0	0	0	0	21,308
Refuges											
AW	355	160	0	27	495	250	41	17	0	37	1,381
NWU	354	160	0	25	430	199	30	17	0	37	1,251
Depletion	187	160	0	25	207	140	21	17	0	37	794
D1485											
AW	0	6,457	0	0	0	0	0	0	0	0	6,457
NWU	0	6,457	0	0	0	0	0	0	0	0	6,457
Depletion	0	6,457	0	0	0	0	0	0	0	0	6,457
Totals											
AW	22,903	6,617	11	30	4,200	581	41	17	144	37	34,582
NWU	22,823	6,617	0	25	4,020	530	30	17	120	37	34,218
Depletion	22,656	6,617	0	25	207	140	21	17	120	37	29,840

Table 18. 1993 State Water Project Delivery Summary (1,000 acre–feet)

	Region	SWP	Non–SWP	Total	Region Total
Napa Co FC&WCD	SF	3,669		3,669	109,540
Solano Co WA		12,820		12,820	
Alameda Co FC&WCD		26,976		26,976	
Alameda Co WD		7,835		7,835	
Santa Clara Valley WD		58,240		58,240	
San Luis Obispo Co FC&WCD	CC	0		0	0
Santa Barbara Co FC&WCD		0		0	
San Bernardino Valley MWD	SC	4,291		4,291	674,679
San Gabriel Valley MWD		15,167		15,167	
San Gorgonio Pass WA		0		0	
Ventura Co FCD		0		0	
Castaic Lake WA		12,880		12,880	
Metropolitan WD		637,341	5,000	642,341	
City of Yuba City	SR	746		746	1,481
County of Butte		273		273	
Plumas Co FC&WCD		462		462	
Oak Flat WD	SJ	2,773		2,773	2,773
Empire West Side ID	TL	196		196	1,064,913
Tulare Lake Basin WSD		42,980	381	43,361	
Dudley Ridge WD		19,190		19,190	
Kern Co WA		850,877	2,537	853,414	
Castaic Lake WA (Devil's Den)		3,377		3,377	
County of Kings		2,456		2,456	
Westlands WD		92,919		92,919	
Semitropic WSD		50,000		50,000	
Littlerock Creek ID	SL	715		715	56,460
Crestline Lake Arrowhead WA		452		452	
Antelope Valley East Kern WA		42,958		42,958	
Mojave WA		6,559		6,559	
Palmdale WD		5,776		5,776	
Coachella Valley WD	CR	17,932		17,932	47,509
Desert WA		29,577		29,577	
Recreation/F&W Water		2,441	58	2,499	2,499
Total		**1,951,878**	**7,976**	**1,959,854**	**1,959,854**

Source: Table 6–2, bulletin 132–93 and Table 10–4, Bulletin 132–94.

Table 19. U.S. Bureau of Reclamation Delivery Summary
(1,000 acre–feet)

	AG	M&I	Waterfowl	Total
Black Butte Unit	1,245	269		1,514
Cachuma Dam	16,152	9,960		26,112
Clear Creek South	3,702	2,292		5,994
Colusa Basin Drain	30,888			30,888
Contra Costa Canal	7,811	87,918		95,729
Corning Canal	24,983			24,983
Cow Creek Unit	6,987	3,850		10,837
Cross Valley Canal	385			385
Delta		194		194
Delta Mendota Canal	171,132	7,831		178,963
Exchange Contractors	737,549			737,549
Folsom Lake	8,551	74,342		82,893
Folsom South Canal	1,028	52,083		53,111
Friant–Kern Canal	1,551,216	72,202		1,623,418
Lake Berryessa		246		246
Lower American		43,621		43,621
Madera Canal	398,154			398,154
Mendota Pool	65,702			65,702
Millerton Lake		195		195
Putah South Canal	137,892	35,297		173,189
Sacramento River	1,421,012	70,631	45,026	1,536,669
San Felipe Div	24,871	56,421		81,292
San Joaquin Valley	6,150			6,150
San Luis Canal	1,137,723	14,166	217	1,152,106
Shasta Lake	0	1,467		1,467
Sly Park Unit	22,815	3,258		26,073
Spring Creek Conduit		647		647
Tehama Colusa Canal	201,025			201,025
Toyon Pipeline		2,056		2,056
Tulelake–P–Canal	6,825			6,825
Upper American River	1,312	7,784		9,096
Waterfowl Conservation	0		119,339	119,339
Waterfowl Dist			43,153	43,153
Total	**5,985,110**	**546,730**	**207,735**	**6,739,575**

Source: USBR Repayments Section, 2800 Cottage Way, Sacramento,"Water Deliveries and Revenues, Oct 1, 1992, Thru Sep 30, 1993."

Table 20. Water Budgets by Planning Subarea (1,000 acre–feet)

North Coast Region					
Net Use	**Upper Klamath**	**Lower Klamath**	**Coastal**	**Russian River**	**NC Total**
Urban	11	14	57	69	151
Ag	141	30	62	90	323
Environmental	352	14,500	7,881	90	22,823
Other	32	0	0	0	32
Total Net Use	**536**	**14,544**	**8,001**	**249**	**23,329**
Supplies					
Local	171	30	64	99	364
Imports by Local	0	0	0	0	0
Groundwater	109	14	55	60	238
Reclaimed	0	0	2	0	2
Colorado River	0	0	0	0	0
CVP	0	0	0	0	0
Other Federal	255	0	0	0	255
SWP	0	0	0	0	0
Dedicated Natural Flow	0	14,500	7,879	90	22,469
Total Supplies	**536**	**14,544**	**8,001**	**249**	**23,329**

San Francisco Bay Region

Net Use	**North Bay**	**South Bay**	**SF Total**
Urban	137	830	967
Ag	67	29	96
Environmental	6,607	10	6,617
Other	2	101	103
Total Net Use	**6,813**	**970**	**7,783**
Supplies			
Local	216	275	491
Imports by Local	27	410	437
Groundwater	25	22	47
Reclaimed	5	28	33
Colorado River	0	0	0
CVP	0	116	116
Other Federal	51	0	51
SWP	32	119	151
Dedicated Natural Flow	6,457	0	6,457
Total Supplies	**6,813**	**970**	**7,783**

Table 20. Water Budgets by Planning Subarea (1,000 acre–feet)

Central Coast Region			
Net Use	**Northern**	**Southern**	**Total**
Urban	131	80	211
Ag	605	370	976
Environmental	0	0	0
Other	24	16	40
Total Net Use	**760**	**466**	**1,226**
Supplies			
Local	51	11	62
Imports by Local	0	0	0
Groundwater	647	367	1,014
Reclaimed	1	19	20
Colorado River	0	0	0
CVP	61	0	61
Other Federal	0	70	70
SWP	0	0	0
Dedicated Natural Flow	0	0	0
Total Supplies	**760**	**466**	**1,226**

South Coast Region

Net Use	**Santa Clara**	**Metro LA**	**Santa Ana**	**San Diego**	**SC Total**
Urban	129	1,506	770	546	2,951
Ag	191	13	198	280	682
Environmental	0	21	3	1	25
Other	18	116	71	41	246
Total Net Use	**338**	**1,656**	**1,041**	**868**	**3,903**
Supplies					
Local	89	25	91	158	364
Imports by Local	0	289	0	0	289
Groundwater	133	535	519	76	1,263
Reclaimed	4	73	72	22	171
Colorado River	0	410	249	450	1,109
CVP	0	0	0	0	0
Other Federal	0	0	0	0	0
SWP	111	324	109	162	707
Dedicated Natural Flow	0	0	0	0	0
Total Supplies	**338**	**1,656**	**1,041**	**868**	**3,903**

Table 20. (continued) Water Budgets by Planning Subarea (1,000 acre–feet)

Sacramento River Region

Net Use	Shasta Pit	NW Valley	NE Valley	C Basin W	C Basin E	S.E.	S.W.	Delta Srv Area	Total
Urban	13	54	54	64	464	82	7	18	757
Ag	381	397	269	1,901	2,572	316	61	402	6,298
Environmental	2,243	91	0	163	785	729	0	9	4,020
Other	0	54	21	135	187	39	0	40	476
Total Net Use	**2,636**	**596**	**344**	**2,264**	**4,008**	**1,167**	**68**	**469**	**11,551**
Supplies									
Local	345	20	91	336	1,773	356	13	321	3,254
Imports by Local	0	0	0	0	0	7	0	0	7
Groundwater	78	257	209	664	1,014	65	55	67	2,409
Reclaimed	0	0	0	0	0	0	0	0	0
Colorado River	0	0	0	0	0	0	0	0	0
CVP	0	153	44	1,139	662	2	0	81	2,081
Other Federal	0	74	0	119	0	7	0	0	201
SWP	0	0	0	6	2	1	0	0	9
Dedicated Natural Flow	2,213	91	0	0	557	729	0	0	3,590
Total Supplies	**2,636**	**596**	**344**	**2,264**	**4,008**	**1,167**	**68**	**469**	**11,551**

San Joaquin River Region

Net Use	Sierra Foothill	E Vly Flr	Delta Srv Area	Western Uplands	E Side Uplands	Vly E Side	Vly W Side	Total
Urban	52	66	31	38	5	160	10	362
Ag	29	841	662	40	4	2,851	1,275	5,701
Environmental	54	234	0	0	0	89	153	530
Other	6	21	0	0	4	31	141	202
Total Net Use	**141**	**1,162**	**693**	**78**	**13**	**3,130**	**1,578**	**6,795**
Supplies								
Local	68	215	634	23	12	1,984	102	3,038
Imports by Local	1	0	0	4	0	0	0	5
Groundwater	16	583	44	4	1	579	200	1,427
Reclaimed	0	0	0	0	0	0	0	0
Colorado River	0	0	0	0	0	0	0	0
CVP	0	16	15	47	0	475	1,273	1,827
Other Federal	2	154	0	0	0	9	0	165
SWP	0	0	0	0	0	0	3	3
Dedicated Natural Flow	54	194	0	0	0	83	0	331
Total Supplies	**141**	**1,162**	**693**	**78**	**13**	**3,130**	**1,578**	**6,795**

Table 20. (continued) Water Budgets by Planning Subarea (1,000 acre–feet)

Tulare Lake Region

Net Use	Uplands	KKT	San Luis Westside	Western Uplands	Kern Vly Floor	Total
Urban	6	148	5	1	77	236
Ag	19	4,001	1,323	0	1,993	7,335
Environmental	0	23	0	0	7	30
Other	6	56	33	0	392	487
Total Net Use	**31**	**4,227**	**1,360**	**1**	**2,469**	**8,087**
Supplies						
Local	16	2,355	0	0	584	2,955
Imports by Local	0	0	0	0	3	3
Groundwater	11	520	503	1	378	1,412
Reclaimed	0	0	0	0	0	0
Colorado River	0	0	0	0	0	0
CVP	0	1,303	735	0	552	2,590
Other Federal	0	0	0	0	0	0
SWP	4	49	123	0	953	1,128
Dedicated Natural Flow	0	0	0	0	0	0
Total Supplies	**31**	**4,227**	**1,360**	**1**	**2,469**	**8,087**

North Lahontan Region

Net Use	Lassen Group	Alpine Group	Total
Urban	17	22	39
Ag	294	175	469
Environmental	17	0	17
Other	0	0	0
Total Net Use	**328**	**197**	**525**
Supplies			
Local	180	147	327
Imports by Local	0	0	0
Groundwater	145	45	190
Reclaimed	3	5	8
Colorado River	0	0	0
CVP	0	0	0
Other Federal	0	0	0
SWP	0	0	0
Dedicated Natural Flow	0	0	0
Total Supplies	**328**	**197**	**525**

Table 20. (continued) Water Budgets by Planning Subarea (1,000 acre–feet)

South Lahontan Region

Net Use	Mono Owens	Death Valley	Indian Wells	Antelope Valley	Mojave River	Total
Urban	8	0	7	74	49	138
Ag	128	10	11	59	78	287
Environmental	120	0	0	0	0	120
Other	0	3	1	6	5	15
Total Net Use	**255**	**13**	**19**	**139**	**132**	**559**
Supplies						
Local	52	0	0	3	0	55
Imports by Local	0	0	0	0	0	0
Groundwater	83	13	18	78	119	311
Reclaimed	1	0	1	6	6	13
Colorado River	0	0	0	0	0	0
CVP	0	0	0	0	0	0
Other Federal	0	0	0	0	0	0
SWP	0	0	0	53	7	60
Dedicated Natural Flow	120	0	0	0	0	120
Total Supplies	**255**	**13**	**19**	**139**	**132**	**559**

Colorado River Region

Net Use	29 Palms Lanfair	Chuck Walla	Colo River	Coach	Borrego	Imperial Valley	Total
Urban	6	0	7	90	2	31	136
Ag	23	15	456	271	37	2,232	3,033
Environmental	0	0	0	0	0	37	37
Other	1	0	3	117	0	397	518
Total Net Use	**30**	**15**	**466**	**478**	**38**	**2,697**	**3,724**
Supplies							
Local	0	0	0	6	0	0	6
Imports by Local	0	0	0	0	0	0	0
Groundwater	28	15	13	111	6	0	172
Reclaimed	2	0	0	6	0	0	8
Colorado River	0	0	453	315	32	2,697	3,497
CVP	0	0	0	0	0	0	0
Other Federal	0	0	0	0	0	0	0
SWP	0	0	0	41	0	0	41
Dedicated Natural Flow	0	0	0	0	0	0	0
Total Supplies	**30**	**15**	**466**	**478**	**38**	**2,697**	**3,724**

Table 21. Water Budgets by Region (1,000 acre–feet)

Net Use	NC	SF	CC	SC	SR	SJ	TL	NL	SL	CR	CA
Urban	151	967	211	2,951	757	362	236	39	138	136	5,946
Ag	323	96	976	682	6,298	5,701	7,335	469	287	3,033	25,200
Environmental	22,823	6,617	0	25	4,020	530	30	17	120	37	34,218
Other	32	103	40	246	476	202	487	0	15	518	2,117
Total Net Use	**23,329**	**7,783**	**1,226**	**3,903**	**11,551**	**6,795**	**8,087**	**525**	**559**	**3,724**	**67,481**
Supplies											
Local	364	491	62	364	3,254	3,038	2,955	327	55	6	10,915
Imported by Local	0	437	0	289	7	5	3	0	0	0	741
Ground Water	238	47	1,014	1,263	2,409	1,427	1,412	190	311	172	8,484
Reclaimed	2	33	20	171	0	0	0	8	13	8	254
Colorado River	0	0	0	1,109	0	0	0	0	0	3,497	4,606
CVP	0	116	61	0	2,081	1,827	2,590	0	0	0	6,674
Other Federal	255	51	70	0	201	165	0	0	0	0	741
SWP	0	151	0	707	9	3	1,128	0	60	41	2,099
Dedicated Natural Flow	22,469	6,457	0	0	3,590	331	0	0	120	0	32,967
Total Supplies	**23,329**	**7,783**	**1,226**	**3,903**	**11,551**	**6,795**	**8,087**	**525**	**559**	**3,724**	**67,481**

Table 22. Groundwater Changes

Northern District, Spring 1992 to Spring 1993

PSA	DAU	County	Basin	Change Elev (Feet)	Change Storage (1,000 AF)
Upper Klamath	Lost River	Modoc	Klamath River Valley	0.1	0.3
		Siskiyou	Klamath River Valley	(1.8)	(14.7)
	Butte Valley	Siskiyou	Siskiyou Butte Valley	(1.4)	(30.1)
	Scott Valley	Siskiyou	Scott River Valley	6.7	23.9
	Shasta Valley	Siskiyou	Shasta Valley	4.0	61.0
Lower Klamath	Trinity	Humboldt	Hoopa Valley	4.0	0.8
	Lower Klamath	Del Norte	Klamath River Mouth	1.0	0.6
		Humboldt	Prairie Creek	1.8	0.1
	Smith River	Del Norte	Smith River Plain	5.2	16.4
Coastal	Lower Eel	Humboldt	Eel River	2.0	10.2
	Van Duzen	Humboldt	Eel River	2.0	0.6
	S.F. Eel	Mendocino	Laytonville	2.3	1.3
	Upper Eel	Mendocino	Covelo Round Valley	3.9	4.1
		Mendocino	Little Lake Valley	1.3	1.0
	Redwood Creek	Humboldt	Prairie Creek	1.8	1.8
		Humboldt	Redwood Creek	1.2	0.2
	Mad–Trinidad	Humboldt	Humboldt Big Lagoon	4.7	0.7
		Humboldt	Mad River Valley	4.6	1.3
	Eureka Plain	Humboldt	Eureka Plain	2.3	6.1
		Humboldt	Mad River Valley	3.7	8.8
Shasta Lake	Goose Lake	Lassen	Alturas	0.7	0.1
		Modoc	Alturas	0.7	7.4
	Alturas	Modoc	Goose Lake	3.1	10.4
	Big Valley	Lassen	Big Valley	1.4	7.5
		Modoc	Big Valley	1.9	3.5
		Modoc	Round Valley	1.1	0.8
	MacArthur	Lassen	Fall River Valley	2.2	1.2
	Hat Creek	Shasta	Fall River Valley	1.1	5.3
Northwest Valley	Redding West	Shasta	Redding	2.6	19.7
		Tehama	Redding	1.5	3.4
	Red Bluff–Orland	Glenn	Sacramento Valley	3.3	26.6
		Tehama	Sacramento Valley	6.0	208.7
Northeast Valley	Redding East	Shasta	Redding	4.3	30.1
		Tehama	Redding	4.3	2.4
	Los Molinos	Butte	Sacramento Valley	5.6	32.9
		Tehama	Sacramento Valley	3.0	23.1

Table 22. (continued) Groundwater Changes

Northern District, Spring 1992 to Spring 1993

PSA	DAU	County	Basin	Change Elev (Feet)	Change Storage (1,000 AF)
Southeast Valley	Feather River	Plumas	Almanor	1.0	0.4
		Plumas	Mohawk Valley	1.2	0.4
		Plumas	Sierra Valley	1.8	7.4
		Sierra	Sierra Valley	2.3	5.0
Central Basin West	Willows–Arbuckle	Colusa	Sacramento Valley	1.4	40.8
		Glenn	Sacramento Valley	2.2	54.8
	Glenn–Knights Ld	Colusa	Sacramento Valley	2.7	20.0
Central Basin East	Durham–Sutter	Butte	Sacramento Valley	2.4	30.7
		Glenn	Sacramento Valley	0.2	0.2
	Butte City	Butte	Sacramento Valley	2.3	3.5
		Colusa	Sacramento Valley	3.3	9.7
		Glenn	Sacramento Valley	4.8	10.1
	Yuba City–Gridley	Butte	Sacramento Valley	1.4	9.8
	Honcut Valley	Butte	Sacramento Valley	2.1	6.6
Southwest Valley	Cache Creek	Lake	Burns Valley	1.6	0.1
		Lake	High Valley	8.6	1.2
		Lake	Kelseyville Valley	3.9	5.2
		Lake	Scotts Valley	2.3	0.5
		Lake	Upper Lake	1.2	0.8
	Putah Creek	Lake	Coyote Valley	6.0	1.7
		Lake	Middletown–Collayomi Vall	(0.4)	(0.1)
Lassen Group	Surprise Valley	Lassen	Surprise Valley	(3.7)	(0.5)
		Modoc	Surprise Valley	(3.7)	(57.5)
	Madeline Plains	Lassen	Termo–Madeline Plains	(0.3)	(3.6)
	Susanville	Lassen	Honey Lake	1.2	16.3
	Herlong	Lassen	Honey Lake	0.3	1.7
		Lassen	Long Valley	1.0	2.6
		Sierra	Long Valley	4.3	2.7
	Upper Honey Lake	Lassen	Secret Valley	3.7	9.8
		Lassen	Willow Creek Valley	1.9	1.7

Table 22. (continued) Groundwater Changes

Central District, Spring 1992 to Spring 1993			
		Change	
PSA	Basin	Elev (Feet)	Storage (1,000 AF)
Central Basin E	Sutter	2.7	33.3
	North Yuba	4.6	32.6
	South Yuba	4.1	28.3
	North American	1.6	36.1
	South American	0.8	13.7
Central Basin W	Solano	4.1	130.2
	Yolo	6.0	109.1
	Colusa	5.1	69.5
Eastern Valley Floor	Cosumnes	0.9	19.4
	E. San Joaquin	(0.3)	(17.6)
Delta Service Area Western Uplands	Tracy	0.5	13.9
Alpine Group	El Dorado		
Russian R– Marin	Potter Valley		
	Ukiah Valley	(0.5)	(1.6)
	Sanel Valley	(0.2)	(0.1)
	Alexander Valley	(1.2)	(4.2)
	Santa Rosa Valley	2.1	14.8
North Bay	Petaluma Valley	(0.3)	(0.4)
	Sonoma Valley	(0.7)	(1.6)
	Napa Valley	1.6	2.0
	Suisun–Fairfield	2.2	3.1
South Bay	Pittsburg Plain	1.3	1.7
	Clayton Valley	6.5	8.7
	Ygnacio Valley	(2.3)	(3.1)
	Half Moon Bay	2.3	2.6
	San Gregorio Valley	0.5	0.2
	Pescadero Valley	0.8	0.3
	Santa Clara Valley		
	Coyote		
	Llagas		

Table 22. (continued) Groundwater Changes

San Joaquin District, Spring 1992 to Spring 1993

PSA/DAU	Change Elev (Feet)	Change Storage (1,000 AF)
Valley East Side	(2.0)	(339)
206 Modesto–Oakdale	(0.6)	(12)
207 Modesto Reservoir	(2.0)	(10)
208 Turlock	(1.4)	(37)
209 Turlock Lake	(1.4)	(12)
210 Merced	(1.9)	(37)
211 Merced Stream Group	(1.0)	(2)
212 El Nido–Stevinson	(0.8)	(13)
213 Madera–Chowchilla	(5.8)	(120)
214 Adobe	(2.3)	(42)
215 Gravelly Ford	(3.1)	(54)
Valley West Side	(1.1)	(62)
216 West Side	(1.1)	(62)
Kings–Kaweah–Tule	(3.4)	(815)
233 Fresno	(1.4)	(50)
234 Academy	(1.7)	(6)
235 Raisin	(1.3)	(27)
236 Consolidated	(2.8)	(83)
237 Lower Kings River	(4.6)	(79)
238 Hanford–Lemoore	(2.3)	(42)
239 Alta	(1.6)	(20)
240 Orange Cove	0.8	2
241 Tulare Lake	(3.2)	(18)
242 Kaweah Delta	(5.9)	(273)
243 Tule Delta	(4.5)	(218)
San Luis West Side	(0.8)	(23)
244 Westlands	(1.1)	(23)
245 Kettleman Plain	0.0	0
246 South Tulare Lake	(0.1)	0
Kern Valley Floor	(3.0)	(476)
254 Kern Delta	(6.0)	(281)
255 Semitropic	(1.1)	(38)
256 North Kern	(5.0)	(109)
257 Northeastern Kern	1.1	1
258 Arvin–Edison	(2.2)	(17)
259 Antelope Plain	(4.3)	(29)
260 Buena Vista Valley	(3.2)	(2)
261 Wheeler Ridge–Maricopa	(0.7)	(1)
Central Coast North		
48 Pressure	5.9	N/A
49 East Side	3.5	N/A
50 Forebay	8.8	N/A
51 Upper Valley	1.5	N/A

NOTE: Based on water levels in unconfined aquifers between 0 and 300 foot depth. PSA water level change is based on areal weighting of DAU data.

Table 22. (continued) Groundwater Changes

Southern District, Spring 1992 to Spring 1993

Basin	Change	
	Elev (Feet)	Storage (1,000 AF)
Central	11	
West Coast	1	
Montibello Forebay		46
Main San Gabriel	33	
San Gabriel Canyon	(24)	
Pomona	(34)	
Raymond	14	
San Fernando	5	106
Santa Clara	(16)	
Antelope Valley	(8)	
Mojave River	(11)	
Chino	(13)	
Bunker Hill	10	
Colton–Riverside	19	
Warren Valley	12	
Yucaipa	8	
Temecula	(4)	
San Diego County	1	
Orange Co WD	−10 to 40	25
Oxnard Plain		
Pressure Area	28	
Non–Pressure Area	27	
Arroyo Grande	3	
Nipomo	3	
Santa Maria Valley	2	
Carpinteria	(9)	
Santa Barbara	(4)	
Santa Ynez	(2)	

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