SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 1994-95

UNITED STATES OF AMERICA
VS.
FALLBROOK PUBLIC UTILITY DISTRICT, ET AL

CIVIL NO. 1247 - SD-T

JAMES S. JENKS
WATERMASTER
P.O. BOX 631
FALLBROOK, CA 92088

(619) 728-1028
FAX (619) 728-1990

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SECTION 1 - SUMMARY

Section 1 - A summary of the Santa Margarita River Watershed Annual Watermaster Report for the 1994-95 Water Year.

Section 2 - This Annual Watermaster Report is prepared pursuant to Section II of the U. S. District Court Order dated March 13, 1989. The Court has retained jurisdiction over all surface flows of the Santa Margarita River Watershed and all underground waters determined by the Court to be subsurface flow of streams or creeks or which is determined by the Court to add to, support or contribute to the Santa Margarita River stream system. Thus imported waters, whether in storage in Lake Skinner or being transported through the Watershed, are outside Court jurisdiction, along with local, vagrant ground waters that do not support the Santa Margarita River stream system.

Section 3 - Surface water flows were somewhat above normal in 1994-95, with long-term station flows ranging from three to five times the long-term average flow. Surface diversions to irrigation use totaled 832 acre feet compared with 835 acre feet in 1993-94. The total quantity of water in storage in the Watershed on September 30, 1995, was 69,524 acre feet, of which 29,352 acre feet was Santa Margarita River water and 40,172 acre feet was imported water.

Section 4 - Ground water extractions were 45,676 acre feet compared to 46,420 acre feet in 1993-94. Water purveyors pumped 38,907 acre feet and 6,769 acre feet were pumped by other substantial users.

Section 5 - During 1994-95, 31,203 acre feet of water were imported and distributed in the Santa Margarita River Watershed by seven water purveyors. This compares with 35,768 acre feet in 1993-94 and represents a 13 percent decrease from 1993-94. Net exports, including wastewater, were 6,428 acre feet.

Section 6 - Water rights during the 1950's and 1960's consisted primarily of riparian and overlying rights. Other rights included appropriative rights and federal reserved rights. More recently, water purveyors in the Watershed have begun exercising ground water appropriative rights. Appropriative surface water rights on file with the State Water Resources Control Board (SWRCB) amount to 906,892 gallons per day of direct diversion rights and 44,315.5 acre feet of active storage rights.

Section 7 - Total imported supplies plus local production totaled 77,711 acre feet compared to 83,022 reported in 1993-94. Of that quantity, 43,898 acre feet were used for agriculture; 3,255 acre feet were used for commercial purposes; and 25,618 acre feet were used for domestic purposes; 1,464 acre feet were discharged to Murrieta Creek and Temecula Creeks; 2,781 acre feet of fresh water were exported and 695 acre feet were defined as loss. Water loss is the result of many factors including errors in measurement, differences between periods of use and periods of production, leakage and unmeasured uses.

Section 8 - Unauthorized water uses include storage of surface water on Chihuahua Creek without an appropriative water right, and Rancho California WD use of 2,429 acre feet of water from Vail Lake for purposes and in locations not in accord with terms of Permit 7032.

Section 9 - Threats to water supply include high nitrate levels in Rainbow Creek and Anza Valley in past years, potential overdraft conditions in the Murrieta-Temecula and Anza ground water basins, salt balance issues in the upper Watershed, and a soil treatment facility.

Section 10 - Water quality data in the Watershed for 1994-95 are presented in Appendix D.

Section 11 - Projected Watermaster tasks for the next five years are described.

Section 12 - A total Watermaster budget of $256,900 is proposed for the 1996-97 Water Year. This budget includes $156,900 for the Watermaster Office and $100,000 for operation for gaging stations by the U. S. Geological Survey (U.S.G.S.).

SECTION 2 - INTRODUCTION

2.1 Background

On January 25, 1951, the United States of America filed Complaint No. 1247 in the United States District Court for the Southern District of California to seek a judicial determination of all respective water rights within the Santa Margarita River Watershed. The Final Judgment and Decree was entered on May 8, 1963, and appealed to the U. S. Court of Appeals. A Modified Final Judgment and Decree was entered on April 6, 1966. Among other things, the Decree provided that the Court:

> . . . retains continuing jurisdiction of this cause as to the use of all surface waters within the watershed of the Santa Margarita River and all underground or sub-surface waters within the watershed of the Santa Margarita River, which are determined in any of the constituent parts of this Modified Final Judgment to be a part of the sub-surface flow of any specific river or creek, or which are determined in any of the constituent parts of this Modified Final Judgment to add to, contribute to, or support the Santa Margarita River stream system.

In March 1989, the Court appointed James S. Jenks as Watermaster to administer and enforce the provisions of the Modified Final Judgment and Decree and subsequent orders of the Court. The appointing Order described the Watermaster's Powers and Duties as well as procedures for funding and operating the Watermaster's Office. Also in 1989, the Court appointed a Steering Committee which in 1994-95 was comprised of representatives from the United States, Eastern Municipal Water District, Fallbrook Public Utility District, Metropolitan Water District of Southern California, and Rancho California Water District. The purpose of the Steering Committee is to assist the Court, to facilitate litigation, and to assist the Watermaster.

2.2 Authority

Section II of the appointing Order requires that the Watermaster submit a written report containing his findings and conclusions to the Court promptly after the end of each water year.

2.3 Scope

The subjects addressed in this report are responsive to Section II of the appointing order. Information and data contained in this report are based on information reported to the Watermaster by others. Therefore, the Watermaster does not guarantee the completeness and accuracy of the information presented in this report although most of the data presented are based on measurements. Estimates by the Watermaster are so noted.

SECTION 3 - SURFACE WATER AVAILABILITY AND USE

3.1 Surface Flow

Over the years, flows in the Santa Margarita River Watershed have been measured at the stations listed on Table 3.1. A number of these stations have been discontinued. Measurements of Wilson Creek above Vail Lake were discontinued as of September 30, 1994. During Water Year 1994-95 the U.S.G.S. operated 12 stations under an agreement with the Watermaster and operated one station (Fallbrook Creek) under an agreement with Camp Pendleton. In considering the historical record of flow at each of these stations, it should be recognized that the station location may have changed from time to time. A description of these various historical locations may be found in, *Water Resources Data - California*, an annual publication by the U.S.G.S.

Monthly flows for these stations for Water Year 1994-95 are shown on Table 3.2. That table lists U.S.G.S. provisional estimates of discharges available at the time this report is published. Official U.S.G.S. estimates of discharges for 1994-95 will be published by the U.S.G.S. in its annual Water Resources Data report.

Total flow for Water Years 1993-94 and 1994-95 at long-term stations, and the average for the station for the period of record through Water Year 1994, are listed below. Average flows for the Santa Margarita River stations near Temecula and near Ysidora are shown for two periods: 1923 to 1948 before Vail Dam was constructed, and after 1948 when Vail Dam was constructed.

	TOTAL FLOW		AVERAGE FLOW
	1993-94	1994-95	Through 1994
	Acre Feet	Acre Feet	Acre Feet
Temecula Creek Near Aguanga	5,931	17,559	5,880 (1957-94)
Murrieta Creek At Temecula	4,414	33,186	9,055 (1925-94)
Santa Margarita River Near Temecula	8,379	41,718	13,658 (1949-94) 20,390 (1923-48)
Santa Margarita River Near Ysidora	18,954	132,964	25,923 (1949-94) 31,390 (1923-48)

The foregoing tabulation indicates that flows in 1994-95 ranged from three to five times the long-term average flow.

TABLE 3.1

SANTA MARGARITA RIVER WATERSHED

STREAM GAGING STATIONS

1994-95

STATION NAME	STATION NO.	AREA SQ MI	PERIOD OF RECORD 1920	1930	1940	1950	1960	1970	1980	1990
Temecula Creek Near Aguanga	11042400	131		9/57						
Wilson Creek Above Vail Lake	11042490	122							10/89	10/94
Temecula Creek At Vail Dam	11042520	320	2/23					10/77		
Vail Lake at Temecula (Reservoir Storage)	11042510	320			10/48					
Pechanga Creek Near Temecula	11042631	13.8							10/87	
Warm Springs Creek Near Murrieta	11042800	55.4							10/87	
Santa Gertrudis Creek Near Temecula	11042900	90.1							10/87	
Murrieta Creek At Temecula	11043000	222	10/25							
Santa Margarita River Near Temecula	11044000	588	2/23							
Rainbow Creek Near Fallbrook	11044250	10.3								9/89
Sandia Creek Near Fallbrook	11044350	21.1								9/89
Santa Margarita River At FPUD Sump	11044300	620	10/24						9/80	9/89
Santa Margarita River Tributary Near Fallbrook	11044600	0.52					10/61 9/65			
DeLuz Creek Neer DeLuz 1/	11044800	33				2/51	67 68	77		9/89
Santa Margarita River Near DeLuz Station	11045000	705	10/24 - 9/26							
Fallbrook Creek 2/ Near Fallbrook	11045300	6.97					10/64	9/76	12/88	
Santa Margarita River At Ysidora	11046000	723	3/23							
			1920	1930	1940	1950	1960	1970	1980	1990

All Stations Recorded by USGS

1/ Recorded by USMC, Camp Pendleton October 1966 to 1977

2/ Recorded by USMC, Camp Pendleton prior to October 1993

TABLE 3.2

SANTA MARGARITA RIVER WATERSHED

MEASURED SURFACE WATER FLOW

1994-95

Quantities in Acre Feet

GAGING STATION	DRAINAGE AREA SQ MI	MONTH OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR TOTAL	ANNUAL AVERAGE THRU 1994	YEARS OF RECORD THRU 1994
Temecula Creek Near Aguanga	131	228	299	334	3,240	3,010	6,330	1,430	1,070	731	405	238	244	17,559	5,880	37
Pechanga Creek Near Temecula	13.8	0	0	0	313	254	1,010	101	24	3	1	0	0	1,706	899	7
Warm Springs Creek Near Murrieta	55.4	2	4	4	1,580	662	2,180	99	8	0	0	0	0	4,538	4,240	7
Santa Gertrudis Creek Near Temecula	90.2	1	1	23	2,650	1,300	3,120	949	289	0	2	0	0	8,335	3,240	7
Murrieta Creek At Temecula	222	70	78	47	11,540	5,730	13,540	1,560	274	59	95	55	138	33,186	9,055	70
Santa Margarita River Near Temecula	588	204	203	183	14,460	6,430	16,550	2,220	479	237	272	226	254	41,718	13,658 20,390	46 (1949-94) 26 (1923-48)
Rainbow Creek Near Fallbrook	10.3	42	37	40	1,840	838	3,410	399	140	74	38	46	74	6,978	3,640	5
Sandia Creek Near Fallbrook	21.1	81	127	147	4,680	2,060	4,910	1,670	675	464	253	122	73	15,262	8,550	5
Santa Margarita River At FPUD Sump	620	285	293	307	20,000	7,710	21,950	3,000	1,230	759	531	438	411	56,914	46,450	5
DeLuz Creek Near DeLuz	33	0	0	20	8,080	4,760	11,610	1,950	652	356	120	45	17	27,610	3,770 N/A	25 (1951-77) Except 1968 3 (1989-90) (1992-94)
Santa Margarita River At Ysidora	723	0	73	547	42,430	19,890	55,090	8,100	3,870	1,680	593	278	213	132,964	25,923 31,390	46 (1949-94) 26 (1923-48)
Fallbrook Creek Near Fallbrook	6.97	1	8	20	1,140	201	1,470	222	107	89	45	25	12	3,340	1,453 *	12 (1965-76) 6 (1989-94)

* Includes wastewater flows
N/A - Not Applicable

Monthly flows shown in Table 3.2 consist primarily of naturally occurring surface runoff except for Rancho California WD discharges into Temecula and Murrieta Creeks. These discharges are pursuant to Section Eleventh of the 1940 Stipulated Judgment which requires maintenance of three cubic feet per second (cfs) flow at the Santa Margarita River near Temecula station between May 1 and October 31 of each year. Discharges at that station for the months of October 1994 and May through September 1995 are shown on the following tabulation:

Month	Monthly Discharge Acre Feet	Average Daily Flow CFS
October 1994	204	3.3
May 1995	479	7.8
June 1995	237	4.0
July 1995	272	4.4
August 1995	226	3.7
September 1995	254	4.3
TOTAL	1,672	4.6

During 1994-95, Rancho California WD released 1,464 acre feet into Murrieta and Temecula Creeks of which 1,046 acre feet were released between October 1 and 31, 1994 and between May 1 and September 30, 1995.

3.2 Surface Water Diversions

Surface diversions to surface water storage and ground water storage during 1993-94 and 1994-95 are shown in Table 3.3. Diversions to surface storage at Vail Lake and Lake O'Neill are computed as being equal to inflow less spill. In addition, diversion to surface storage at Vail Lake excludes inflow during the period from May 1 through October 31 when Permit 7032 does not allow such diversions. Inflow into Vail Lake during that period evaporates or is released. Representatives of the United States do not agree with this method of calculation. Surface diversions to irrigation, estimated consumptive use, losses and returns for 1994-95 are shown in Table 3.4.

3.3 Water Storage

Major water storage facilities in the Santa Margarita River Watershed are listed on Table 3.5, together with the water in storage on September 30, 1994, and September 30, 1995. Total Santa Margarita River stream system water in storage at the end of Water Year 1994-95 totaled 29,212 acre feet, compared to 22,542 acre feet at the end of the previous year. Imported water in storage in Lake Skinner operated by Metropolitan Water District of Southern California (MWD) is also shown on Table 3.5. Imported water is not under Court jurisdiction.

TABLE 3.3

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO STORAGE
1994-95
Quantities in Acre Feet

Surface Water Storage

	Vail Lake		Lake O'Neill	
	1993-94	1994-95	1993-94	1994-95
Storage end of prior year	26,340	21,870	550	670
Inflow	7,608	25,895	814[1]	4,128[2]
Spill	0	0	0	618
Diversions to Surface Storage	5,759[3]	22,149[3]	814[4]	3,510[4]
Annual Evaporation	3,609[5]	4,231	350	315
Release to GW Storage	8,469	14,904	0	3,030
Apparent Seepage to GW	0	0	344	115
Change of Storage	- 4,470	+ 6,760	+ 120	+ 50
Storage End of Year	21,870	28,630	670	720

Ground Water Storage

Recharge Release from Storage Facility	8,469	4,230	0	3,030
Direct Recharge	0	0	3,758	885

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1 0 AF diverted from the Santa Margarita River, 814 acre feet inflow from Fallbrook Creek
2 798 AF diverted from the Santa Margarita River, 3,330 AF inflow from Fallbrook Creek
3 Inflow less Spill less Inflow (Oct 1 to Oct 31 and May 1 to Sept 30)
4 Inflow less Spill
5 Revised

TABLE 3.4

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO IRRIGATION
1994-95
Quantities in Acre Feet

	Surface Diversions	Consumptive Use[1]	Losses[2]	Returns[3]
Prestininzi	18	13	2	3
Bluebird Ranch	32	22	3	7
Chambers	5	3.4	0.5	1.1
Cal June, Inc.	150	101	15	34
Cottle/Strange	338	228	34	76
Missionary Foundation	2	1.4	.2	.4
Agri-Empire, Inc.				
Chihuahua Creek	25	17	2	6
Kohler Canyon	28	19	3	6
Papac	38	26	4	8
Sage Ranch Nursery	117	79	12	26
Shirley	38	26	4	8
Margarita Land and Development Co.	41	28	4	9
TOTAL	832	563.8	83.7	184.5

1 Consumptive use equals 75% of Diversions less Losses
2 Losses equal 10% of Diversions
3 Returns equal 25% of Diversions less Losses

TABLE 3.5

SANTA MARGARITA RIVER WATERSHED
WATER IN STORAGE
1994-95
Quantities in Acre Feet

Santa Margarita River Storage	Total Capacity	Water in Storage 9/30/94	Water in Storage 9/30/95
Dunn Ranch Dam	90	0	0
Upper Chihuahua Creek Reservoir	± 47	2 E	2 E
Vail Lake	49,370	21,870	28,630
Lake O'Neill	1,200	670	720
Subtotal	50,707	22,542	29,352
Imported Water Storage			
Lake Skinner	44,000	40,931	40,172
TOTAL STORAGE	94,707	63,473	69,524

E - Estimated

SECTION 4 - SUBSURFACE WATER AVAILABILITY

4.1 General

Much of the water from the Santa Margarita River stream system is obtained by pumping subsurface water. The Court generally has identified two basic types of subsurface water in its interlocutory judgments. One type is vagrant, local, percolating waters that do not add to, support or contribute to the Santa Margarita River or its tributaries. Such waters have been determined to be outside the continuing jurisdiction of the Court. These waters are typically found in the basement complex and/or residuum deposits in the Watershed. Wells tapping these deposits typically have low yields.

Other subsurface waters were found by the Court to add to, contribute to and support the Santa Margarita River and/or its tributaries. Aquifers containing such waters have been designated by the Court as younger alluvium and older alluvium. Younger alluvial deposits are commonly located along streams. Older alluvium is found underneath younger alluvium adjacent to the younger alluvium and is not limited to areas along stream channels. The use of such subsurface water is under the continuing jurisdiction of the Court and is reported in this report.

4.2 Extractions

Production by substantial water users in the Watershed from all sources is listed on Table 4.1 by hydrologic area along with estimated consumptive use and return flows. Substantial water users include water purveyors as well as private irrigators who irrigate eight acres or more or use an equivalent quantity of water.

In 1994-95 production by purveyors totaled 38,907 acre feet, compared to 38,606 acre feet in 1993-94. Monthly quantities are shown in Appendix A and annual production for water years between 1966 and 1995 is shown in Appendix B.

Subsurface extractions by private irrigators are based on the irrigated acreage and reported in Appendix C. These ground water extractions were 6,769 acre feet in 1994-95. Of the subsurface extractions, 75 percent is estimated to have been consumed and 25 percent to have been return flow. Surface diversions are treated similarly in Table 4.1 except that 10 percent is estimated to have been lost during delivery of the water. Return flow is that portion of the total deliveries that is not consumed.

TABLE 4.1

SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATER PRODUCTION BY SUBSTANTIAL USERS

1994-95

HYDROLOGIC AREA	WATER PURVEYOR PRODUCTION ACRE FEET	OTHER IRRIGATED ACRES	IRRIGATION PRODUCTION ACRE FEET	TOTAL GROUNDWATER PRODUCTION ACRE FEET	SURFACE WATER DIVERSIONS ACRE FEET	TOTAL PRODUCTION ACRE FEET	ESTIMATED CONSUMPTIVE USE ACRE FEET 1/	ESTIMATED RETURN FLOW ACRE FEET
Wilson Creek Above Aguanga GWA Includes Anza Valley	194 *(Anza MWC, Lake Riverside, Cahuilla)*	1,742 2/	2,199	2,393	0	2,393	1,795	598
Temecula Creek Above Aguanga GWA	10 *(Butterfield Oaks MHP)*	653	1,020	1,030	91	1,121	834	287
Aguanga GWA	70 *(Thousand Trails)*	612	1,058	1,128	340	1,468	1,076	393
Upper Murrieta Creek	0	0	0	0	0	0	0	0
Lower Murrieta Creek	0	450	42	42	117	159	110	49
Temecula-Murrieta GW	33,877 *(RCWD, MCWD, EMWD, Pechanga)*	1,234	1,922	35,799	0	35,799	26,849	8,950
Santa Margarita River Below the Gorge								
Deluz Creek	3	218	411	414	92	506	373	133
Sandia Creek	0	126	80	80	150	230	161	69
Rainbow Creek	0	0	0	0	0	0	0	0
Santa Margarita River	4,753 *(USMC)*	20	37	4,790	42	4,832	929	2,732
TOTAL	**38,907**	**6,055**	**6,769**	**45,676**	**832**	**46,508**	**32,127**	**13,211**

1/ Estimated consumptiva use is equal to 75% of groundwater production plus 75% of surface diversions less 10% except for Camp Pendleton where net export of 1,170 acre feet is excluded and return flows include measured wastewater returns

2/ Includes lands overlying deep aquifer in Anza Valley

4.3 Subsurface Storage

The quantities of water in storage in the various subsurface sources in the watershed have not yet been computed. However water levels in wells throughout the watershed have been collected.

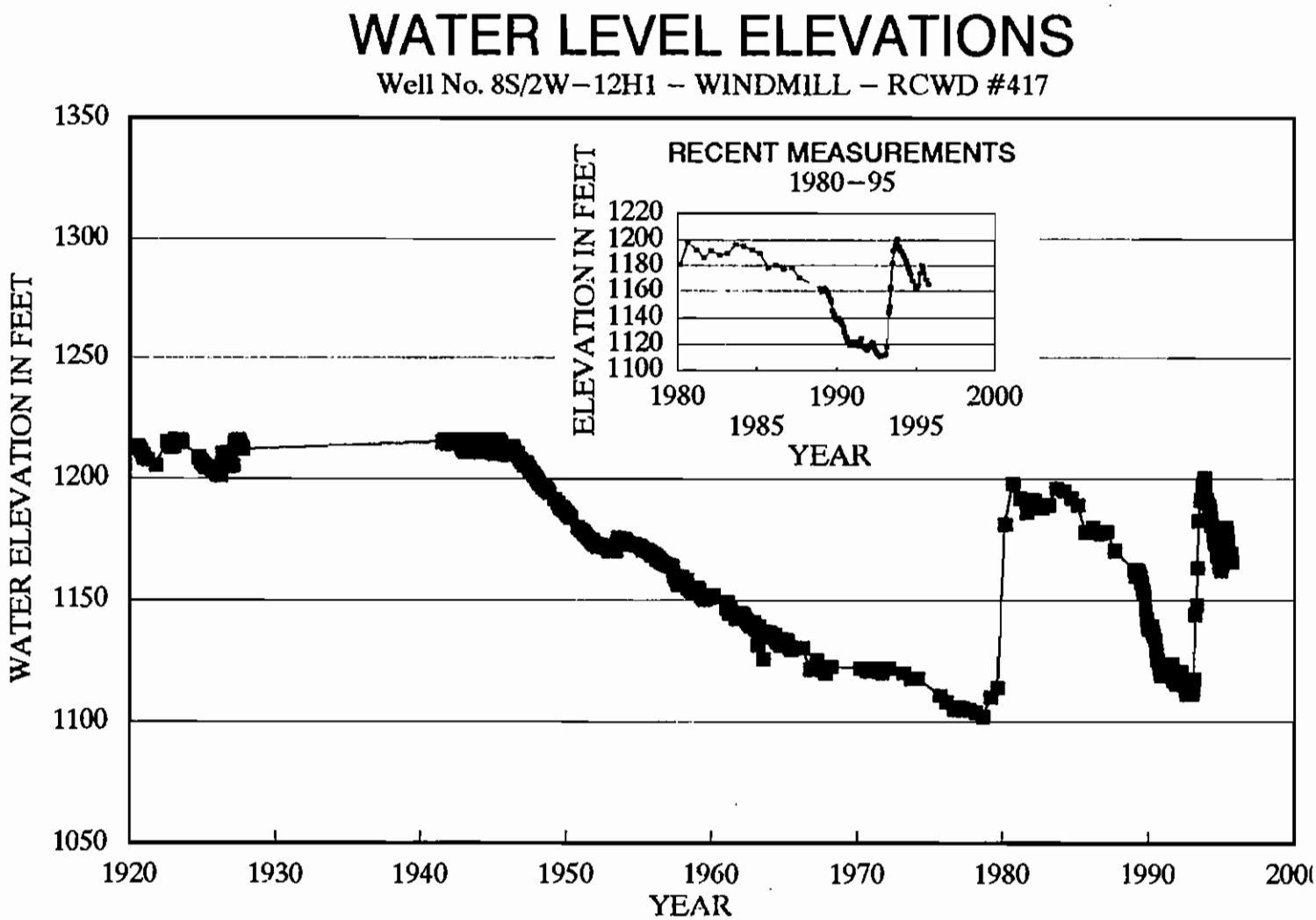
Historical water levels in four wells at various locations in the Watershed are shown on Figures 4.1, 4.2, 4.3 and 4.4. Figure 4.1 shows water levels in Well No. 8S/2W-12H1 (Windmill Well) located in the Rancho California WD Service Area downstream from Vail Lake. Note the extended drawdown from 1945 to 1978, the major recoveries during the wet years in 1980 and 1993, and the effect of dry years after 1980 and in 1994. The water level in the well at the end of 1993 was 1,198.1 feet, following a major wet year. During Water Year 1994 water levels declined 29.9 feet to 1,168.2 feet, and water levels declined an additional 2.74 in Water Year 1995. The fluctuation of water levels in this well illustrates how ground water storage is depleted during dry years and replenished during wet years.

Figure 4.2 shows water levels at Well No. 10S/4W-7J1 at Camp Pendleton, a monitoring well located in the Upper Sub-basin. Water levels between 1950 and 1995 show no long-term trends. Fluctuations in recent years illustrate recharge during the winter months and drawdown each summer, with the water levels generally between 82 and 90 feet in elevation as shown in the inset to Figure 4.2. Water levels in Well 7J1 rose 1.4 feet between the fall of 1994 and the fall of 1995.

Figure 4.3 shows water levels from production Well No. 7S/3W-20C9 (Holiday Well) in the Murrieta County Water District Service Area. Water levels in this well declined by 8.0 feet from the fall of 1994. Water levels in the Lynch Well, which serves as a monitoring well and had no production in 1994-95, declined by 2.0 feet in 1995.

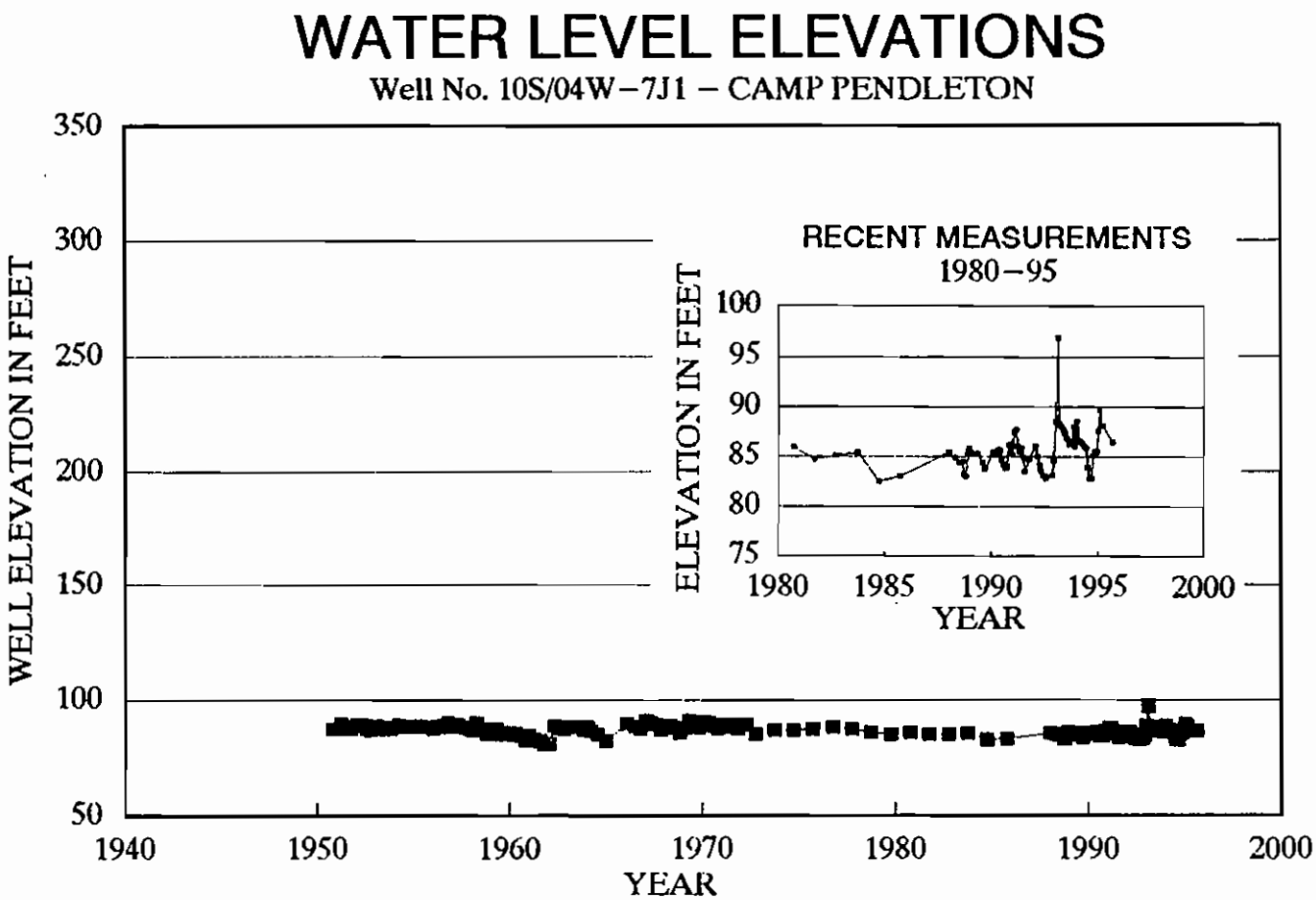
Figure 4.4 shows water levels for Well No. 7S/3E-21G1, Anza Mutual Water Company's Well No. 1, a production well located in the Anza Valley. Water levels in this well rose 18 feet this year. Recent measurements highlighted in the inset to Figure 4.4 show annual 50 foot fluctuations in ground water levels at this well, partly in response to the operation of nearby irrigation wells.

FIGURE 4.1



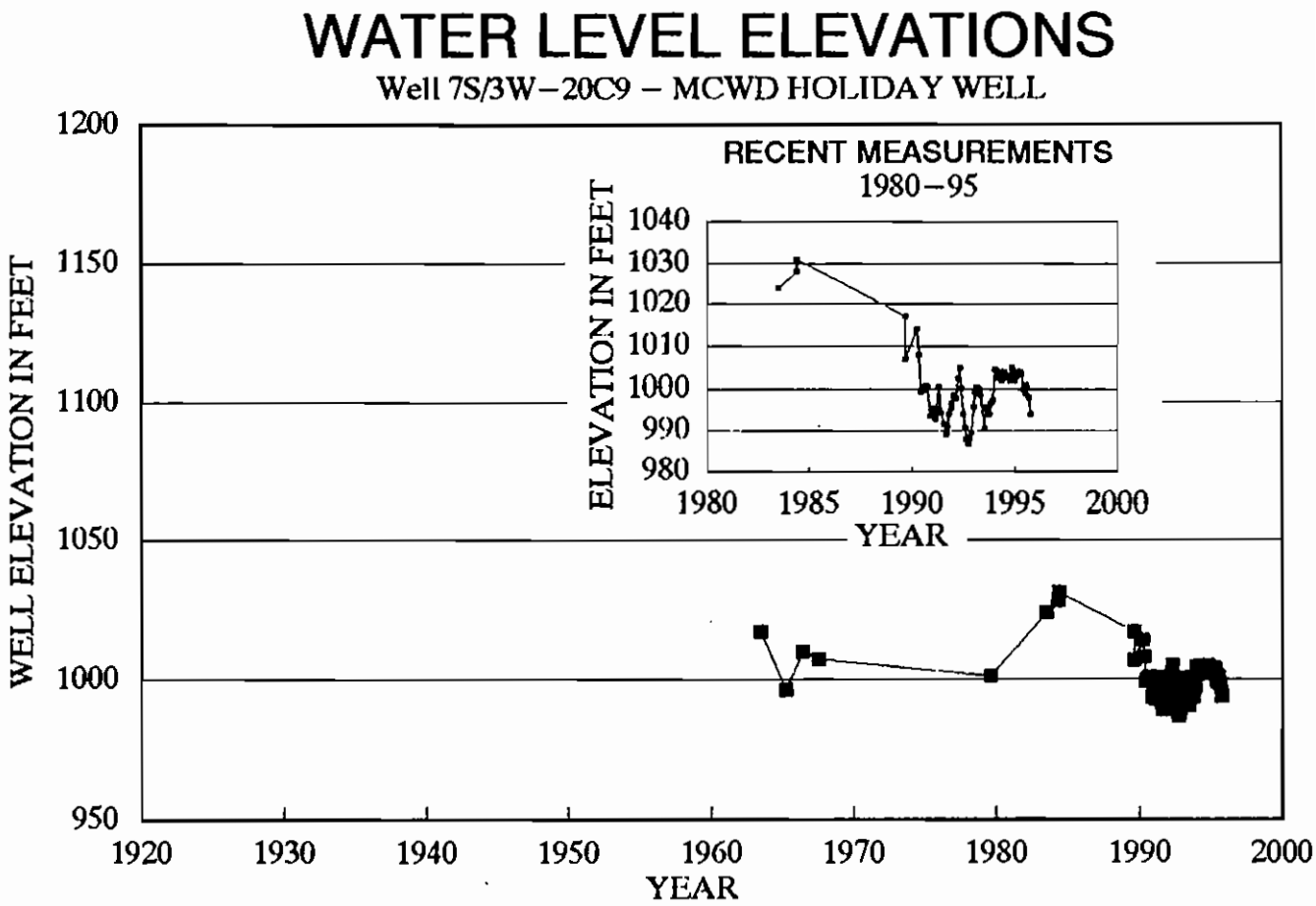
Ground El. 1216 Ft. Depth 515 Ft. Drilled in Alluvium Ref: DWR Bul 91-20 (1920-67)
RCWD Master Plan (1970-83); LH Rpt (1983-87); RCWD Reports (1989-95)

FIGURE 4.2



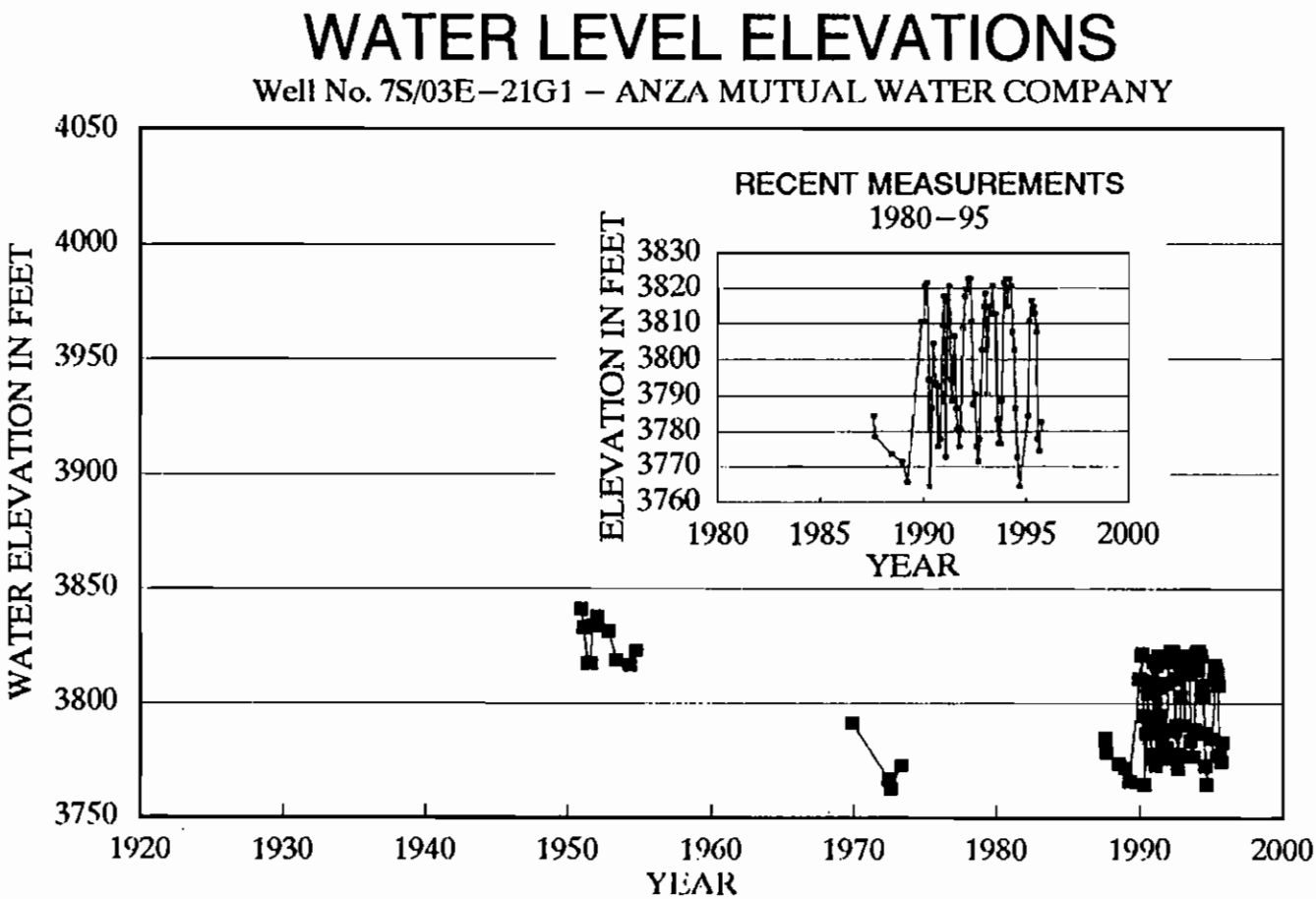
Ground El. 93 Ft Depth 138.8 Ft Perf Unknown Drilled in Alluvium
Camp Pendleton Records (1950-1972)(1988-1995) LH Study (1973-85) dates estimated

FIGURE 4.3



Ground El. 1090 Ft. Depth 307 Ft. Perf. 60 – 307 Ft.
Murrieta County Water District Records

FIGURE 4.4



Ground El. 3863 Ft Depth 260 Ft Perf 20 - 260 Ft Drilled in Old Alluvium
Anza Mutual Water Co. Well No. 1 (1987-1995); DWR Bulletin 91-22 (1950-73) dated 8/74

Changes in water levels in the above noted wells between the end of the previous water year and the end of the 1995 water year are shown below:

Well	Water Elevation 1994 Feet	Water Elevation 1995 Feet	Change in Water Level Feet
8S/2W-12H1	1168.2	1165.5	Down 2.74
10S/4W-7J1	85.1	86.5	Up 1.40
7S/3W-20C9	1002.0	994.0	Down 8.00
7S/3E-21G1	3764.6	3782.6	Up 18.00

SECTION 5 - IMPORTS/EXPORTS

5.1 General

Court Orders require the Watermaster to determine the quantities of imported water used in the Watershed. Most of the water imported into the Santa Margarita River Watershed is by MWD for sale to local districts. MWD obtains its water from the State Water Project (SWP) and the Colorado River. Both the SWP and the Colorado River system have major storage reservoirs to provide long-term carryover storage. The quantities of water in storage in the major reservoirs in each system are shown on Table 5.1. It may be seen that during Water Year 1994-95 water in storage in the SWP increased from 2.6 million acre feet on September 30, 1994, to 4.6 million acre feet on September 30, 1995. Storage on September 30, 1995, corresponds to about 87 percent of the total SWP storage capacity, the most at year end since 1990.

Similarly, water in storage in the Colorado River system increased from 44.6 million acre feet on September 30, 1994, to 51.1 million acre feet on September 30, 1995. On September 30, 1995, those reservoirs contained 79 percent of their total capacity, the most at year end since 1990.

Projections of water availability on the SWP for the coming year (1996) are prepared by the State Department of Water Resources on a monthly basis from February through May. The May 1, 1996, report indicates that statewide seasonal precipitation to date is 110 percent of average, and the SWP has approved delivery of 100 percent of 1996 requests.

The following entities imported water directly or indirectly from MWD into the Santa Margarita River Watershed:

Eastern Municipal Water District
Elsinore Valley Municipal Water District
Fallbrook Public Utility District
Rainbow Municipal Water District
Rancho California Water District
U. S. Marine Corps, Camp Pendleton
Western Municipal Water District

In addition to MWD imports, water is also imported into the Santa Margarita River Watershed from adjacent watersheds. Such importation occurs from the Santa Ana Watershed where Elsinore Valley MWD pumps water from wells outside the Santa Margarita River Watershed but delivers water to a portion of its service area that is inside the Santa Margarita River Watershed.

TABLE 5.1

SANTA MARGARITA RIVER WATERSHED
STORAGE IN STATE WATER PROJECT
AND COLORADO RIVER RESERVOIRS
Thousands of Acre Feet

Reservoir	Total Capacity	Water in Storage - September 30 1990	1991	1992	1993	1994	1995
Oroville	3,540	1,163	1,399	1,317	2,666	1,683	2,897
San Luis (State Share)	1,060	100	385	381	944	394	1,067
Pyramid	171	163	164	159	156	160	168
Castaic	324	268	296	257	263	237	297
Silverwood	73	67	68	68	68	68	54
Perris	132	116	120	117	120	110	126
Total	5,300	1,877	2,432	2,299	4,217	2,652	4,609
Percent of Capacity		35%	46%	43%	80%	50%	87%

MAJOR COLORADO RIVER RESERVOIRS

Reservoir	Total Capacity	Water in Storage - September 30 1990	1991	1992	1993	1994	1995
Flaming Gorge	3,789	3,082	3,391	3,106	3,471	2,887	3,488
Blue Mesa	941	618	700	604	720	615	782
Navajo	1,709	1,361	1,586	1,579	1,625	1,400	1,556
Powell	27,000	16,252	14,699	14,085	18,825	17,772	22,311
Mead	28,537	20,144	19,233	19,416	21,379	19,930	20,714
Mohave	1,818	1,488	1,571	1,623	1,375	1,467	1,635
Havasu	648	562	556	548	579	571	588
Total	64,442	43,507	41,736	40,961	47,974	44,642	51,074
Percent of Capacity		68%	65%	64%	74%	69%	79%

At Camp Pendleton, there is a pipeline connection to wells located in the Las Flores Creek Watershed to the north of the Santa Margarita River Watershed. Water can be either imported or exported through that line, depending on relative water demands and pumping capacities.

Exportations from the Santa Margarita River Watershed include water pumped at Camp Pendleton that is used in the San Luis Rey River Watershed to the south or in the Las Flores Creek Watershed to the north. Some of the water exported at Camp Pendleton is returned to the Watershed as wastewater. Wastewater from the Fallbrook area and the Naval Weapons Station located on Camp Pendleton is exported by the Fallbrook Public Utility District and wastewater in the Elsinore Valley MWD is exported by that district.

Eastern MWD uses a 24-inch pipeline along Winchester Road to transport wastewater from the Temecula Valley Regional Water Reclamation Facility to areas within the Watershed for reuse as well as for export of up to 10 MGD from the Watershed. A total of 3,908 acre feet of treated wastewater was exported by Eastern MWD in 1994-95.

The following paragraphs of this report describe imports during Water Year 1994-95 and during the 1966-1995 period. There is also discussion of MWD's existing Lake Skinner operations as well as proposed operations in Domenigoni Valley.

5.2 Water Year 1994-95

Water quantities imported into and exported from the Santa Margarita River Watershed for months during Water Year 1994-95 are listed on Table 5.2.

5.3 Water Years 1966-1995

Water quantities imported by districts into the Santa Margarita River Watershed during Water Years 1966-1995 are shown on Table 5.3. Total imports to these districts are measured, however some districts serve lands outside the Watershed. For these districts, which include Eastern MWD, Elsinore Valley MWD, Fallbrook PUD and Rainbow MWD, the portion delivered in the Santa Margarita River Watershed must be estimated.

Exports over the 1966-1995 period are also shown on Table 5.3. These include estimated water exports on Camp Pendleton less estimated wastewater returns, as well as an estimate of exports by the Fallbrook Public Utility District and the Naval Weapons Station after 1983, and Elsinore Valley MWD after 1986. Exports by Eastern MWD were initiated in 1992-93. Exports do not include water that naturally flows from the Santa Margarita River into the Pacific Ocean.

TABLE 5.2

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

1994-95

Quantities in Acre Feet

	IMPORTS								EXPORTS							
									------- CAMP PENDLETON -------							
YEAR MONTH	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	RAINBOW MWD	RANCHO CAL WD	U.S. NAVAL WS	WESTERN MWD 1/	TOTAL IMPORTS	EXPORTS	WASTEWATER RETURNS	NET EXPORT	U.S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD*	TOTAL EXPORTS
1994																
OCT	483	106	717	206	1,403	7	3	2,925	185	120	65	1	271	15	94	446
NOV	344	434	464	194	246	8	2	1,692	131	119	12	0	337	15	92	456
DEC	275	58	469	140	338	15	2	1,297	106	125	-19	0	357	14	90	442
1995																
JAN	261	272	154	95	0	30	1	813	114	151	-37	3	520	17	114	617
FEB	175	35	241	42	0	9	1	503	153	127	26	1	427	14	95	563
MAR	203	202	170	57	0	2	2	636	190	146	44	4	470	16	136	670
APR	224	40	348	77	230	4	2	925	182	127	55	1	350	16	115	537
MAY	301	359	501	100	333	9	2	1,605	241	126	115	1	343	15	105	579
JUNE	651	71	628	97	1,725	8	3	3,183	278	126	152	0	282	15	101	550
JULY	488	608	881	135	3,250	11	3	5,376	363	145	218	0	207	16	87	528
AUG	557	118	1,000	189	3,878	13	4	5,759	418	151	267	1	161	17	65	511
SEPT	663	814	965	329	3,705	9	4	6,489	420	148	272	0	183	15	59	529
TOTAL	4,625	3,117	6,538	1,661	15,108	125	29	31,203	2,781	1,611	1,170	12	3,908	185	1,153	6,428

1/ Improvement District A - Rainbow Canyon Only (WR-13)

* Estimated

TABLE 5.3

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

Quantities in Acre Feet

	IMPORTS								EXPORTS							
									------CAMP PENDLETON-----							
YEAR	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 1/	RAINBOW MWD	RANCHO CAL WD	U.S. NAVAL WS	WESTERN MWD 2/	TOTAL IMPORTS	EXPORTS	WASTEWATER RETURNS	NET EXPORT	U. S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	TOTAL EXPORTS
1966	1,604	N/R	3,351	1,308	0	0	24	6,287	3,299	974	2,325	0	0	0	0	2,325
1967	1,630	N/R	2,852	1,095	0	0	20	5,597	3,231	1,243	1,988	0	0	0	0	1,988
1968	1,464	N/R	3,423	1,377	0	0	27	6,291	3,427	1,214	2,213	0	0	0	0	2,213
1969	1,741	N/R	2,837	1,253	0	0 E*	25	5,856	3,414	1,170	2,244	0	0	0	0	2,244
1970	1,417	N/R	3,538	1,689	0	0 E*	31	6,675	3,894	1,113	2,781	0	0	0	0	2,781
1971	1,383	N/R	3,405	1,650	0	77 E*	34	6,549	3,549	1,090	2,459	0	0	0	0	2,459
1972	1,470	N/R	3,916	2,037	0	115 E	34	7,572	3,543	1,168	2,375	0	0	0	0	2,375
1973	1,533	N/R	3,210	1,616	0	115 E	30	6,504	3,544	1,187	2,357	0	0	0	0	2,357
1974	1,801	N/R	3,967	2,049	0	115 E	36	7,768	3,532	1,140	2,392	0	0	0	0	2,392
1975	1,969	N/R	3,597	1,247	0	115 E	34	6,962	3,098	1,530	1,568	0	0	0	0	1,568
1976	2,493	N/R	4,627	2,239	119	115 E	35	9,628	3,619	1,497	2,122	0	0	0	0	2,122
1977	2,947	N/R	5,212	2,343	1,845	115 E	24	12,486	3,194	1,416	1,778	0	0	0	0	1,778
1978	2,551	569	5,202	2,188	5,774	115 E	26	16,425	3,071	1,283	1,788	0	0	0	0	1,788
1979	1,894	712	5,723	2,348	7,009	115 E	24	17,824	4,756	1,427	3,329	0	0	0	0	3,329
1980	1,192	696	6,404	2,489	10,126	115 E	25	21,047	3,651	1,405	2,246	0	0	0	0	2,246
1981	716	798	8,543	3,153	15,282	115 E	34	28,642	3,892	1,249	2,643	0	0	0	0	2,643
1982	1,112	678	7,079	2,460	13,378	115 E	34	24,856	3,761	1,273	2,488	0	0	0	0	2,488
1983	1,211	658	6,720	2,190	5,752	115 E	26	16,672	3,000	1,242	1,758	26 E	0	0	1,003	2,787
1984	699	816	8,506	3,068	6,718	115 E	26	19,946	3,243	1,120	2,123	26 E	0	0	1,032	3,181
1985	679	808	7,831	3,410	7,158	102	27	20,015	3,377	1,200	2,177	26 E	0	0	1,060	3,263
1988	760	882	8,585	2,945	11,174	94	34	24,474	3,326	981	2,345	16 P	0	0	1,096	3,457
1987	1,155	938	8,656	3,390	7,564	116	36	21,855	3,444	1,799	1,645	26	0	4	1,129	2,805
1988	2,047	1,032	8,033	2,985	17,854	120	36	32,108	3,457	1,872	1,585	26	0	55	1,154	2,820
1989	3,746	1,341	9,067	3,003	22,895	128	24	40,204	3,418	1,446	1,972	23	0	74	1,181	3,250
1990	5,601	2,255	10,103	3,818	22,030	145	22	43,974	2,971	1,451	1,520	27	0	114	1,271	2,932
1991	9,479	2,421	7,962	2,904	21,238	109	20	44,133	2,168	1,219	949	13	0	134	960	2,056
1992	8,593	2,190	7,893	2,276	16,931	99	25	38,007	2,426	1,548	878	7	0	140	1,083	2,108
1993	5,393	1,914	6,925	1,965	11,411	117	30	27,755	2,329	1,926	403	16	1,072	150	1,255	2,896
1994	7,150	3,221	7,250	1,651	16,386	73	37	35,768	2,702	1,501	1,201	5	634	170	1,068	3,078
1995	4,625	3,117	6,538	1,661	15,108	125	29	31,203	2,781	1,611	1,170	12	3,908	185	1,153	6,428

1/ Includes DeLuz Heights MWD prior to 1991
2/ Improvement District A - Rainbow Canyon Only (WR-13)

N/R - Not Reported
* Revised data

E - Estimate
P - Partial year data

5.4 Lake Skinner

Lake Skinner is a 44,000 acre foot reservoir constructed by MWD on Tucalota Creek, within the Santa Margarita River Watershed. The purpose of Lake Skinner is to provide regulatory and emergency storage capacity for water imported to southern California.

It was recognized that the construction and operation of Lake Skinner would affect surface and subsurface flows on Tucalota Creek, so a Memorandum of Understanding and Agreement on Operation of Lake Skinner (MOU), dated November 12, 1974, was approved by the Court on January 16, 1975.

The MOU contains provisions to protect Santa Margarita River Watershed water users from potential effects of Lake Skinner on either subsurface or surface flows.

Protection against a decrease in subsurface flows caused by the dam is afforded by a provision in the MOU that requires that MWD release water from Lake Skinner into Tucalota Creek if ground water levels in Well AV-28 fall below a depth of 22.76 feet. During 1990-91, MWD replaced Well AV-28 with Well AV-28B that is located 40.72 feet west and 8.72 feet south of Well AV-28. The minimum ground water level to be maintained is an elevation of 1,356.64 feet that is equivalent to the previous water level that was expressed in terms of the depth to water from a datum.

During 1994-95, water levels in Well AV-28B reached a low of 1,359.66 feet in January 1995. No water was released in 1994-95 to maintain ground water levels.

The MOU also provides that all local surface inflow that enters Lake Skinner will be released into Tucalota Creek. In its 1980 modification the MOU provides that local surface inflow is to be determined by using the hydrologic equation for Lake Skinner that is specified in the MOU. That equation is used to determine inflow and the related release for large flood events. However, in many years the local inflow is small compared to the large quantities of imported water inflow and outflow at Lake Skinner. The error of measurement for these large inflows and outflows is larger than the local inflow in many instances. Accordingly, MWD also monitors the flow in Tucalota Creek, Rawson Creek and Middle Creek during storms and uses those observations to determine when to apply the hydrologic equation.

Since 1986, an unmeasured bypass pipeline has been used with increasing frequency in the MWD operations. Use of this pipeline reduces the accuracy of the calculated flows using the hydrologic equation. The current procedures for estimating local inflow into Lake Skinner are under review.

During 1994-95, local runoff into and releases from Lake Skinner totaled 3,223.2 acre feet. Monthly releases were as follows:

Month	Release Acre Feet
January 1995	745.2
February	484.3
March	1,335.9
April	602.8
May	50.2
June	4.8
TOTAL (1994-95)	3,223.2

In addition to releases of water mandated by the MOU, MWD also makes releases of water for maintenance or operational purposes from time to time.

5.5 Eastside Reservoir Project
(Formerly Domenigoni Valley Reservoir Project)

In 1992 MWD announced that it was proceeding with design and construction of a major new 800,000 acre foot storage facility located in Diamond and Domenigoni Valleys within the Santa Margarita River Watershed. The proposed storage facility would consist of three dams, one each at the east and west ends of the Valley and a saddle dam at the low point on the north rim. The east dam would divert surface and ground water flows from a 4.2 square mile drainage area in the Santa Margarita River Watershed, known as Goodhart Canyon, into the Santa Ana River Watershed. The west dam would intercept existing westward surface and ground water flows from an additional 13.19 square mile area. These intercepted ground water flows may or may not be offset by seepage losses from the reservoir when filled.

Interlocutory Judgment No. 36 describes the Court's findings with respect to the Warm Springs Creek Sub-watershed that includes Diamond and Domenigoni Valleys. That Judgment, made in July 1962, found as follows:

1. All surface waters within the Warm Springs Creek Sub-watershed are part of the Santa Margarita River and are subject to the continuing jurisdiction of the Court.

2. All ground waters in the younger alluvium in the Warm Springs Creek Sub-watershed downstream from the south line of Section 9, T6S, R2W, SBM, are part of

the Santa Margarita River and are subject to the continuing jurisdiction of the Court. (These are downstream from Diamond and Domenigoni Valleys.)

3. All ground waters contained in the younger alluvium north of the south line of Section 9, T6S, R2W, SBM are not a part of the waters of the Santa Margarita River system at this date, but the Court retains continuing jurisdiction to further consider such questions at such time as the elevation of such ground water may change.

4. All lands described in Exhibit A to Interlocutory Judgment No. 36 that overlie younger alluvial deposits in the Diamond and Domenigoni Basin have correlative overlying rights to the use of ground waters in the younger alluvial deposits. (Exhibit A identifies parcels of land in Diamond and Domenigoni Valleys.)

5. All lands described in Exhibit B to Interlocutory Judgment No. 36 have correlative riparian rights to the use of waters from Warm Springs Creek. (Exhibit B identifies parcels of land along Warm Springs Creek.)

6. The correlative overlying rights and correlative riparian rights described in the Judgment are subject to the continuing jurisdiction of the Court.

7. The issue of apportionment regarding waters subject to the Court's continuing jurisdiction is left open and shall be litigated by the Court if and when in the future it becomes necessary to do so.

Because of the lack of a water right to store local waters in the reservoir, and because of the Court's continuing jurisdiction, a Memorandum of Understanding and Agreement on Operation of Domenigoni Valley Reservoir (MOU) was developed by MWD and discussed at several Steering Committee meetings. Copies of the MOU were distributed to the public prior to a public hearing in Temecula on November 17, 1994. In response to comments at the hearing, the MOU was amended and on November 23, 1994, it was filed with the Court. On January 19, 1995, the Court approved the MOU. Among other things, the MOU provides:

> The quantity and quality of surface runoff that would flow past the West Dam in the absence of the Reservoir will be determined and a like quantity of water of similar quality will be released from the Reservoir or San Diego Canal (SDC) into Warm Springs Creek.

The MOU indicates that the required releases would be determined by measuring the surface inflows into a detention basin to be constructed near the East Dam. A quantity equal to 4.1 times the measured flow will be released from the West Dam into the existing drainage of Warm Springs Creek.

During January, February, March and April of 1995 several storm systems created considerable surface runoff in Domenigoni Valley. These flows filled excavations near the West Dam site where the old San Diego Canal siphons had been demolished. Initially, contractors involved with West Dam foundation pre-construction activities pumped water from the excavations into existing channels without notifying downstream landowners. When downstream landowners complained, MWD suspended releases. Facilities were not yet in place to implement the procedures called for in the MOU. However, the MOU requires that the ability to make mitigation releases must be in place when construction activities interrupt the natural drainage, so it was necessary to develop interim guidelines for the construction period. These interim guidelines provided that releases of surface water impounded in various construction-related excavations would be within reasonable and safe limits as provided in the MOU.

In addition, MWD would notify and consult with affected downstream landowners, prior to making releases as well as monitor the impacts of the releases and make adjustments as appropriate. The foregoing consultation lead to construction of certain downstream drainage improvements by MWD. Following completion of the improvements, and notification to downstream landowners, MWD resumed releases into the drainage system on or about March 15, 1995, at a rate of 3.5 cfs. Such discharge continued with some interruptions for pump repairs, etc., through May 5, 1995.

SECTION 6 - WATER RIGHTS

6.1 General

Water is used in the Santa Margarita River Watershed under a variety of water rights. In the early 1960's, the U. S. District Court in its Interlocutory Judgments described water rights in the Watershed as primarily riparian rights and overlying rights. Riparian rights belong to owners of land parcels located adjacent to streams in the Watershed or overlying younger alluvium deposits generally along the stream channels. Overlying rights were divided by the Court into two categories based on the location where the water is obtained and used. Water extracted from lands where subsurface waters add to, contribute to and support the Santa Margarita River stream system was found to be subject to the continuing jurisdiction of the Court. Lands in this category were identified by the Court and listed in Interlocutory Judgments. In general, these parcels of land overlie younger or older alluvium deposits.

The other category of overlying use applies to parcels of land where subsurface flows do not add to, contribute to or support the Santa Margarita River stream system. These parcels were also identified by the Court and found to be outside the continuing jurisdiction of the Court. In general, these lands overlie basement complex or residuum deposits.

The Court also described a number of other rights in the Watershed. These included surface water appropriative water rights that have been administered by the State of California since 1914. These rights are discussed in the following subsection of this report.

In Interlocutory Judgment No. 41, the Court found that the United States reserved rights to the use of the waters of the Santa Margarita River stream system which under natural conditions would be physically available on the Cahuilla, Pechanga and Ramona Indian Reservations, including rights to the use of ground waters sufficient for the present and future needs of the Indians residing thereon. In Interlocutory Judgment No. 44, the Court recognized and reserved water rights for lands within the Cleveland and San Bernardino National Forests and for lands being administered pursuant to the Taylor Grazing Act.

Since the early 1960's there have been substantial changes in water use in the Watershed, especially in the Murrieta-Temecula Ground Water area. During the 1950's and early 1960's when this case was under active litigation, most of the water use in the Murrieta-Temecula area consisted of individual property owners pumping water for use on their own properties. However, in 1965 the Rancho California WD was formed. The

District developed Agency Agreements with most of the landowners within the District. In these Agency Agreements, the landowners "...without transferring any water rights and privileges pertaining to said land...." designated the District as their exclusive agent for the development and management of their water supply.

Thus, many landowners within the Rancho California WD are now not exercising their overlying rights. Instead, Rancho California WD pumps ground water and uses it throughout the District area under an appropriative ground water right, with the consent of most of the overlying landowners.

A number of other water purveyors, including Murrieta CWD and Eastern MWD, also pump under ground water appropriative rights.

Another change from the early 1960's is the large scale importation of water into the Santa Margarita River Watershed by Rancho California WD. A portion of such importation finds its way into the ground water aquifers. The legal status of return flows from imported supplies as well as direct recharge of imported water was clarified by the final judgment in *City of Los Angeles v. City of San Fernando, et al.,* 1975 14 Cal. 3rd 199. This decision in the Supreme Court of the State of California made two major findings with respect to imported water.

The first was that agencies have the right to recharge and store imported water in a ground water basin and to extract the imported water for use, subject to applicable state and federal laws. In addition, agencies that import and deliver water to lands overlying a ground water basin have a continuing right to extract the return flow from such water. The return flow is that portion of the imported supply that percolates into the ground water basin. In the San Fernando case this portion was found to range from 20 percent to 35.7 percent of the imported supplies.

The Rancho Division of the Rancho California WD overlies the Murrieta-Temecula Ground Water area. Thus a portion of the import supply delivered to the Rancho Division of Rancho California WD percolates into the underlying aquifers. The first water pumped by Rancho California WD in the ensuing year constitutes recapture of such return flows.

Imported water is also supplied to the Santa Rosa Division within Rancho California WD, however only a relatively small part of this division overlies the Murrieta-Temecula Ground Water area. Thus there is less imported water return flow from the Santa Rosa Division.

Classification of Rancho California WD supplies into various water right categories is discussed in Section 7 of this Report.

6.2 Appropriative Surface Water Rights

Another broad category of water rights used in the Watershed is surface water appropriative rights. Since 1914, these rights have been administered by the SWRCB.

A list of current permits, licenses and other active rights obtained from the SWRCB is shown on Table 6.1. A permit by the SWRCB authorizes construction of a project, sets terms for the project's completion and development of water use and may impose other conditions. After the permittee demonstrates that construction is complete, water is being put to use and the permit conditions have been met, the SWRCB can issue a license. The license remains in effect as long as the license conditions are met and the water is put to beneficial use.

Total direct diversion rights and active storage rights from creeks in the Watershed are summarized below:

	Direct Diversions Gallons Per Day	Storage Acre Feet
Cahuilla Valley	720	5
Cottonwood Creek	485,000	60
Cutea Creek	5,825	---
DeLuz Creek	4,700	100
Fern Creek	213,000	100
Kohler Canyon	158,000	40
Long Canyon Spring	89	---
Rainbow Creek	---	0.5
Rattlesnake Canyon	12,000	---
Temecula Creek	25,820	40,000
Sandia Canyon	---	8
Sourdough Spring	55	---
Santa Margarita River	133	4,000
Nelson Creek	1,550	---
TOTAL	906,892	44,313.5

These direct diversion rights of 906,892 gallons per day correspond to 1.4 cfs or 2.78 acre feet per day.

TABLE 6.1

SANTA MARGARITA RIVER WATERSHED

APPROPRIATIVE WATER RIGHTS

PERMITS AND LICENSES

I.D. NO.	OWNER	FILING DATE	SOURCE OF WATER	POINT OF DIVERSION	AMOUNT	USE	STATUS
6629	William H. & Sandra J. Cyrus	4/9/30	Coahuila Valley	Sec. 4, 7S, 3E	DD-720 gpd	D	License
6893	Earl C. & Mamie LaBine	2/13/31	Temecula Creek	Sec. 20, 9S, 2E	DD-820 gpd	D/I	License
7035	Nyla Lawler	8/10/31	Cutca Creek	Sec. 29, 9S, 1E	DD-5725 gpd	D/I	License
7731	Earl C. & Mamie LaBine	11/02/33	Temecula Creek	Sec. 20, 9S, 2E	DD-7200 gpd	D/I	License
9137	Goodarz Irani	10/07/37	Temecula Creek	Sec. 12, 9S, 1E	DD-400 gpd	D	License
9291	Luis Olivos	5/13/38	Nelson Creek	Sec. 23, 8S, 5W	DD-1550 gpd	D	License
10806	James R., Phyllis & Bruce Grammer	4/22/44	Temecula Creek	Sec. 34, 9S, 2E	DD-2880 gpd	D	License
11161	Roy C. Pursche & J. Zink	9/26/45	Rattlesnake Canyon	Sec. 28, 9S, 2E	DD-12,000 gpd	D/I	License
11518	Rancho California Water District	8/16/46	Temecula Creek	Sec. 10, 8S, 1W	ST-40,000 AF	D/I/R	Permit
11587	U. S. Bureau of Reclamation	10/11/46	Santa Margarita River	Sec. 12, 9S, 4W	ST-10,000 AF	D/I/M	Permit
12178	U. S. Bureau of Reclamation	11/28/47	Santa Margarita River	Sec. 12, 9S, 4W	ST-10,000 AF	D/I/M	Permit
12179	U. S. Bureau of Reclamation	11/28/47	Santa Margarita River	Sec. 12, 9S, 4W	ST-10,000 AF	D/I/M	Permit
13505	David H. & Kathleen C. Lypps	12/12/49	Cottonwood Creek	Sec. 30, 8S, 4W	DD-0.75 cfs & ST-42 AF	R/S	License
17239	Ward Family Trust	8/15/56	Temecula Creek	Sec. 20, 9S, 2E	DD-120 gpd	D/E	License
20507	David H. & Kathleen C. Lypps	11/24/61	Cottonwood Creek	Sec. 19, 8S, 4W Sec. 30, 8S, 4W	ST-18 AF	I/R	License
20608	Richard F. & Rosabel L. Matthews	2/13/62	DeLuz Creek	Sec. 20, 8S, 4W	ST-100 AF	D/I/R	License
20742	U. S. Cleveland National Forest	4/24/62	Sourdough Spring	Sec. 25, 9S, 1E	DD-55 gpd	E	License
21074	U. S. Cleveland National Forest	12/07/62	Cutca Spring	Sec. 17, 9S, 1E	DD-100 gpd	S/W	License
21471A	U. S. Department of Navy	9/23/63	Santa Margarita River	Sec. 5, 10S, 4W Sec. 2, 11S, 5W	ST-4,000 AF	D/I/M/Z	License
21471B	U. S. Bureau of Reclamation	9/23/63	Santa Margarita River	Sec. 32, 9S, 4W	ST-165,000 AF	D/I/M/Z	Permit
27756	James R. Grammer	5/23/83	Temecula Creek	Sec. 3, 10S, 2E	DD-14,400 gpd	I/S	Permit
28133	Charles F. Ruggles	5/14/84	Cahuilla Creek	Sec. 15, 8S, 2E	ST-5AF	E/H/I/R/S	Permit

OTHER RIGHTS

05751S/Federal	U. S. Cleveland National Forest	1/01/70	Long Canyon Spring	Sec. 16, 9S, 1E	DD-89 gpd	E/R/S/W
000024/State	Judge Dial Perkins	12/26/86	Santa Margarita River	Sec. 12, 9S, 4W	DD-133.3 gpd	D
000751/State	Lawrence Butler	5/31/67	Fern Creek	Sec. 31, 8S, 4W	DD-0.33 cfs ST-100 AF	I
011411/State	Agri Empire, Inc.	5/16/84	Kohler Canyon	Sec. 33, 9S, 2E	DD-0.245 cfs ST-40 AF	I/S
012235/State	William A. & Lois D. Cunningham	8/27/85	DeLuz Creek	Sec. 4, 9S, 4W	DD-4700 gpd	D/I
001583/Stock	George F. Yackey	12/27/77	Sandia Canyon	Sec. 25, 8S, 4W	ST-8.0 AF	S
002380/Stock	Chris R. & Jeanette L. Duarte	12/16/77	Rainbow Creek	Sec. 12, 9S, 3W	ST-0.5 AF	S

KEY TO USE: *DD - Direct Diversion* *D - Domestic* *R - Recreation* *E - Fire Protection* *H - Fish Culture*
ST - Diversion to Storage *I - Irrigation* *M - Municipal* *S - Stockwatering* *Z - Other*
W - Fish & Wildlife Protection and/or Enhancement

In addition to the active storage rights shown in the previous tabulation, the SWRCB also lists 195,000 acre feet in storage rights on the Santa Margarita River held by the U. S. Bureau of Reclamation for the Santa Margarita Project.

Table 6.1 also lists other rights recognized by the SWRCB. These rights generally are based on Statements of Water Diversion and Use that have been filed with the SWRCB. Such statements include one by the United States on behalf of the Cleveland National Forest, which states that the diversion and use of water from Long Canyon Spring is made pursuant to a withdrawal and reservation of the land and resources for National Forest System purposes as of February 14, 1907.

Besides the federal filing, there are also Statements of Water Diversion and Use filed by individuals. Three of these statements represent riparian or pre-1914 appropriative diversions from DeLuz Creek, Fern Creek and Santa Margarita River that have been reported to the SWRCB. The other statement represents a pre-1914 appropriative right to divert water from a spring in Kohler Canyon into a 40 acre foot reservoir.

The last two rights noted on Table 6.1 represent filings made in 1977 pursuant to Subchapter 2.5 to Chapter 3 of Title 23 of the California Code of Regulations. That subchapter deals with Water Rights for Stockponds.

In addition to appropriative rights under SWRCB jurisdiction, there are a number of nonstatutory appropriative rights that were established prior to 1914. These rights continue to be used to support diversions of water from the Santa Margarita River stream system. Such rights, which are listed in the various Interlocutory Orders developed in this litigation, are shown on Table 6.2.

In 1990-91, in Order No. 91-07, the SWRCB revised its Order No. 89-25 entitled, "Order Adopting Declaration of Fully Appropriated Stream Systems and Specifying Conditions for Acceptance of Applications and Registrations." These Orders list the Santa Margarita River stream system as fully appropriated "from the confluence of the Santa Margarita River and the Pacific Ocean upstream including all tributaries where hydraulic continuity exists."

The consequences of this Order are as follows:

1. The Board is precluded from accepting any application to appropriate water from the Santa Margarita River System except where the proposed appropriation is consistent with conditions contained in the Declaration.

TABLE 6.2

SANTA MARGARITA RIVER WATERSHED
PRE - 1914 APPROPRIATIVE WATER RIGHTS
Listed in Interlocutory Decrees

LISTED OWNER	CURRENT OWNER	DATE OF APPROPRIATION	SOURCE OF WATER	POINT OF DIVERSION	AMOUNT	USE
Anderson, Nina B.	Nezami, Moharnmed	April 11, 1892	Fern Creek	NW 1/4 Of SE 1/4 Sec 31, T8S, R4W	32 gpm	Irrigation
Butler, Lawrence W. and Mary C.	Butler Family Trust of 1985 Fuller, Daniel W.	Sept. 23, 1896	Fern Creek	NW 1/4 Of SE 1/4 Sec 31, T8S, R4W	Capacity of 8 inch pipe	Irrigation
Wilson, Samuel M. and Hazel A.	Shirley, Robert G. and Bobbi J.	Aug. 3, 1911	DeLuz Creek	NW 1/4 Of SW 1/4 Sec 32, T8S, R4W	50 miner's inches 65 AF/Yr	Irrigation
United States	United States	1883	Santa Margarita River	Sec 5, T10S, R4W	20 cfs 1200 AF/Yr	Domestic Irrigation Stock Water

2. Initiation of a water right pursuant to the Water Rights Permitting Reform Act of 1988 (Water code Section 1228 et seq.)–that is, by registering small use domestic appropriations–is precluded, except where the proposed appropriation is consistent with conditions contained in the Declaration.

3. Pursuant to Water Code Section 1206(a) the Board is authorized, but not required, to cancel pending applications where inconsistent with conditions contained in the Declaration; previous Orders implement a procedure for disposition of such applications pending on the effective date of the Declaration.

The Order provides for reconsideration of the Order either upon petition of an interested party or upon the Board's own motion.

SECTION 7 - WATER PRODUCTION AND USE

7.1 General

Among other things the Court requires an annual report on the use of water by each substantial user within the Santa Margarita River Watershed. Substantial water users are those who irrigate eight or more acres or who produce or use an equivalent quantity of water.

Water production and use data were obtained from several types of substantial users including water purveyors, Indian Reservations, mobile home parks and private landowners.

Major water purveyors who reported production and use data in 1994-95 Water Year are listed as follows:

Anza Mutual Water Company
Eastern Municipal Water District
Elsinore Valley Municipal Water District
Fallbrook Public Utility District
Lake Riverside Estates
Murrieta County Water District
Rainbow Municipal Water District
Rancho California Water District
U. S. Marine Corps, Camp Pendleton including U.S. Naval Weapons Station, Fallbrook Annex
Western Municipal Water District

Lake Riverside Estates is listed with major water purveyors although it produces make-up water for losses from Lake Riverside and does not deliver water to customers.

In addition to the major purveyors, there are a number of smaller water systems in the Watershed. Of these, Butterfield Oaks Mobile Home Park, and Thousand Trails Resorts are substantial users.

Three Indian Reservations, the Cahuilla, Pechanga and Ramona, are noted in Interlocutory Judgment No. 41, the Judgment that deals with Water Rights on Indian Reservations in the Watershed. However estimates of water use are prepared for only the Cahuilla and Pechanga Indian Reservations. The Ramona Reservation has no reported resident population or water use.

A portion of a fourth Reservation, the Pauma Mission Reserve Tract of the Pauma Yuma Band of Mission Indians, is also located within the Watershed. However, these lands

overlie basement complex, which waters have been found by the Court to not add to, support or contribute to the Santa Margarita River stream system.

The final category of water users are private landowners who use water primarily for irrigation use.

The water use data collected for the 1994-95 Water Year are summarized on Table 7.1. Monthly production and use data for major water purveyors are attached to this report as Appendix A. Uses are listed under agricultural, commercial and domestic categories. The definition of what constitutes agricultural, commercial and domestic use varies for the different purveyors in the Watershed. Accordingly definitions of these uses for major water purveyors are shown on Table 7.2. It is noted also that much of the non-agricultural water use in the Watershed can also be considered municipal use, which includes both the domestic and commercial uses shown in tables in this report. Similar data for Water Years 1966-1995 are summarized in tables presented in Appendix B. Appendix C presents information on substantial users outside purveyor service areas.

The status of data availability from each of the water users is summarized in the following sections.

7.2 Water Purveyors

Anza Mutual Water Company

Anza Mutual Water Company's Service Area is in the eastern part of the Watershed in the Anza Valley. Production is from two wells: Well No. 1 drilled in 1951 and perforated from 20 feet to 260 feet; and Well No. 2 drilled later to a depth of 287 feet and perforated in the bottom 130 feet. Production for 1994-95 was 11 acre feet from Well No. 1 and 35 acre feet from Well No. 2 for a total production of 46 acre feet. The depth of water in Well No. 1 ranged from 46 feet to 88 feet.

Interlocutory Judgment No. 33 divides aquifers in Anza Valley at this location into two categories: the shallow aquifer and the deep aquifer. Based on information available to the Court the shallow aquifer was determined to include the younger and older alluvial deposits in the Anza Ground Water Basin and extend to a maximum but variable depth of approximately 100 feet. The deep aquifer underlies the shallow aquifer in an area about one-half mile in width and two miles in length, within portions of Sections 16, 17, 21, 22, 27 and 28 of Township 7 South, Range 3 East, SBM. Anza Mutual Water Company's wells are within the area of the deep aquifer. From the perforated intervals in the wells, it may be concluded that most of the production from Well No. 1 and all of the production from Well No. 2 are from the deep aquifer. Interlocutory Judgment No. 33 concluded that waters contained in the deep aquifer did not add to, support or contribute to the Santa Margarita River stream system and were, therefore, declared to be outside the Court's jurisdiction.

TABLE 7.1

SANTA MARGARITA RIVER WATERSHED

WATER PRODUCTION AND USE

1994-95

Quantities in Acre Feet

	PRODUCTION			USE					
	LOCAL	IMPORT	TOTAL	AG	COMM	DOM	LOSS	TOTAL	WATER RIGHT
WATER PURVEYORS									
Anza Mutual Water Company	46	0	46	0	0	41	5 1/	46	Appropriative
Eastern MWD	182	4,625	4,807	16	0	4,551	240	4,807	Appropriative
Elsinore Valley MWD	0	3,117	3,117	0	0	2,805	312 1/	3,117	----
Fallbrook PUD	3	6,538	6,541	3,518	473	2,325	225	6,541	Appropriative
Lake Riverside Estates	130	0	130	0	130	0	0	130	Appropriative
Murrieta CWD	521	0	521	12	96	312	101	521	Appropriative
Rainbow MWD	0	1,661	1,661	1,398	0	112	151	1,661	----
Rancho California WD	33,111	15,108	48,219	31,081	2,526	13,779	833 3/	48,219	Various
U.S.M.C. - Camp Pendleton	4,753	0	4,753	346	----- 4/	1,429	2,978 1/ 5/	4,753	Appropriative/ Riparian
U.S. Naval Weapons Station	0	125	125	0	----- 4/	114	11 1/	125	----
Western MWD	0	29	29	0	26	0	3 1/	29	----
INDIAN RESERVATIONS									
Cahuilla	258	0	258	240	0	18	0	258	Overlying/ Reserved
Pechanga	63	0	63	0	4	59	0	63	Overlying/ Reserved
MOBILE HOME PARKS/CAMPGROUNDS									
Butterfield Oaks Mobile Home Park	10	0	10	0	0	9	1 1/	10	Riparian/ Overlying
Thousand Trails Resorts	70	0	70	0	0	64	6 1/	70	Overlying
OTHER SUBSTANTIAL USERS	7,361 6/	0	7,361	7,287	0	0	74 7/	7,361	
TOTAL	**46,508**	**31,203**	**77,711**	**43,898**	**3,255**	**25,618**	**4,940**	**77,711**	

1/ Assumes 10% loss
2/ Recreation Use
3/ Includes 1,464 acre feet discharged into Murrieta and Temecula Creeks and a system gain of 631 acre feet
4/ Listed with Domestic uses
5/ Includes exports of 2,781 acre feet
6/ 832 acre feet for surface diversion plus 6,833 acre feet from ground water as shown in Appendix C minus 261 acre feet on the Cahuilla Reservation and minus 43 acre feet on the Pechanga Reservation
7/ 10% of surface diversions

TABLE 7.2

SANTA MARGARITA RIVER WATERSHED
DEFINITIONS OF WATER USE
BY MUNICIPAL WATER PURVEYORS
1994-95

DISTRICT	AGRICULTURAL	DOMESTIC	COMMERCIAL
EASTERN MUNICIPAL WATER DISTRICT	A commercial enterprise producing a crop/livestock on at least 5 acres and able to accept a delivery of at least 24 consecutive hours	Single family, multiple units and agricultural uses of less than 5 acres	Not reported
FALLBROOK PUBLIC UTILITY DISTRICT	AG - A commercial enterprise producing a crop/livestock/fowl on at least 1 acre fully used for ag purposes; can include incidental domestic use related to residency AG/DOM - Water used for both ag and domestic purposes	Single family, multi-unit and large domestic residences and the first 20,000 gallons used by an ag/domestic meter	Offices, businesses, schools and hydrants
RAINBOW MUNICIPAL WATER DISTRICT	AG- 1 acre or more of plantable, resalable products DOM/AG - Same as Ag with a house on the parcel	DOMESTIC - Homes	Generally no commercial use in district
RANCHO CALIFORNIA WATER DISTRICT	AG - 1 acre or more of plantable, resalable products GOLF - Outside water use at golf courses VINEYARDS - Outside irrigation for vineyards LANDSCAPE - Landscaping around freeways, parking lots, office buildings, median strips, etc.	DOMESTIC - Homes MULTIPLE - Apartments and Condominiums	COMMERCIAL - Office buildings, industrial users other than agri-businesses FLOATING - Fire hydrants used during construction CONSTRUCTION - Other fire hydrants used for grading UNMETERED - Construction accounts used for finish construction work MISCELLANEOUS - Schools, fire departments, parks, government agencies DETECTOR CK. METERS - Only used when there is a fire
MURRIETA COUNTY WATER DISTRICT	Agricultural uses and irrigation for crops	Homes and multiple units	Businesses, public agencies, schools and construction
USMC, CAMP PENDLETON	Irrigation - Water used for ag purposes, not landscaping, golf courses or parks	Camp Supply - Includes landscaping, golf courses parks and commercial use	Reported under Camp Supply

Thus, most of the water produced by the Anza Mutual Water Company is outside the Court's jurisdiction. The relatively small portion pumped from the shallow aquifer in Well No. 1 is pumped under a ground water appropriative right.

Eastern Municipal Water District

Eastern MWD is a member agency of MWD and its service area includes a portion of the Rancho California WD. Within the Watershed, the District wholesales water to Rancho California WD and also sells water directly to consumers. Water sold to Rancho California WD is listed in this report as imported water to the Rancho California WD Service Area.

Eastern MWD's service area outside Rancho California WD is located in the northern part of the Watershed as shown on the map bound at the end of this Report. Water for their service area is imported or produced locally from ground water.

Imports totaled 11,539 acre feet. A portion of that import amounting to 6,914 acre feet was exported from the Santa Margarita River Watershed resulting in net import of 4,625 acre feet. These data are shown in Appendix A.

Ground water production for the 1994-95 Water Year in the Santa Margarita River Watershed totaled 182 acre feet from Well 7S/3W-15N which is 345 feet deep. Recent static water levels in Eastern MWD's well have varied from a depth of 129 feet in July 1989, to as low as 176 feet in November, 1994. The well is generally perforated between the depths of 106 and 333 feet. The well is located within the Murrieta-Temecula Ground Water Area where the older alluvium is at ground surface. Thus the well produces water from the older alluvium and pumping is under ground water appropriative rights.

Disposition of reclaimed wastewater from the Temecula Valley Regional Water Reclamation Facility (Facility) for Water Years 1993-94 and 1994-95 is shown below:

	1993-94		1994-95	
	Quantity	Percent	Quantity	Percent
	AF	%	AF	%
Used in Santa Margarita	2,787	48	2,154	36
Exported	3,058	52	3,908	64
TOTAL PRODUCTION	5,845	100	6,062	100

It can be noted that the quantities of reclaimed wastewater used within the Santa Margarita River Watershed decreased from 2,787 acre feet in 1993-94 to 2,154 acre feet in

1994-95. During the same period the exports increased from 3,058 acre feet to 3,908 acre feet. In 1994-95, sixty-four percent of reclaimed wastewater produced at the Facility was exported.

Because of concerns about the potential export of native Santa Margarita water, the source of water supply to the Facility service area was investigated several years ago. It was concluded, based on 1990-91 and 1991-92 data that about one-third of the supply to the service area originated as ground water and, as long as exports of treated wastewater were less than two-thirds of the total production there would be no export of native water.

It can be noted from Table 7.3 that in 1993, 1994 and 1995, the proportion of ground water being supplied to the service area has increased from the one-third experienced in the earlier years to 55.4 percent in 1994-95. In 1994-95, on a proportional basis, exports in excess of 44.6 percent of the reclaimed wastewater, or 2,703 acre feet, would constitute export that is traceable to native Santa Margarita River Watershed water. Such excess exports of treated wastewater above the proportionate quantity amounted to 1,205 acre feet.

The legality of treated wastewater that is traceable to ground water pumped from within the Santa Margarita River Watershed was addressed in a legal opinion developed by Eastern MWD. The legal opinion states that Eastern MWD is not restricted in its disposition of treated wastewater and may export such water regardless of its original source.

Among other things, the opinion presents the view that Section 1211 of the Water Code (which requires SWRCB review of changes in points of discharge, place of use or purpose of use of treated wastewater) only applies to discharges into and use of natural water courses, whereas the District's discharges are to storage facilities or percolation ponds. The opinion also states that there is no current legal user of the treated wastewater who could be injured by the change.

The opinion notes that there is case law that holds that when water is separated from its original source of supply the right to the use of the water is converted from real property to personal property which, in turn, removes the water from traditional water law rules.

The opinion concludes by noting that although Eastern MWD has the right to export, the District continues to cooperate with Rancho California WD with implementation of the Demonstration Project (See Section 9.4) and remains committed to expanding use of treated wastewater within the Santa Margarita River Watershed.

TABLE 7.3

SANTA MARGARITA RIVER WATERSHED

WATER DELIVERIES TO TEMECULA VALLEY REGIONAL WATER RECLAMATION FACILITY SERVICE AREA

	WATER YEAR ENDING									
Eastern MWD	**1991**		**1992**		**1993**		**1994**		**1995**	
	AF	%	AF	%	AF	%	AF	%	AF	%
Deliveries to TVRWRF Service Area										
1. Groundwater	456		527		524		232		182	
2. Import	4,249		3,499		3,810		4,145		4,017	
3. Total	4,705		4,026		4,334		4,377		4,199	
Rancho California WD										
Deliveries to TVRWRF Service Area										
1. Groundwater	2,470		3,469		4,920		6,320		7,041	
2. Import	3,231		2,656		2,145		1,926		1,806	
3. Total	5,701		6,125		7,065		8,246		8,847	
Total Deliveries to TVRWRF Service Area										
1. Groundwater	2,926	28.1%	3,996	39.4%	5,444	47.8%	6,552	51.9%	7,223	55.4%
2. Import	7,480	71.9%	6,155	60.6%	5,955	52.2%	6,071	48.1%	5,823	44.6%
3. Total	10,406	100.0%	10,151	100.0%	11,399	100.0%	12,623	100.0%	13,046	100.0%

It is understood that implementation of the Demonstration Project would reduce treated wastewater exports by about 1.1 million gallons per day. That rate is equivalent to 1,233 acre feet per year which may be sufficient to avoid export of the portion traceable to Santa Margarita River ground water.

The United States has indicated that it questions the legality of exporting that portion of the treated wastewater that is traceable to ground water from the Santa Margarita River Watershed and is currently developing a legal opinion in support of its position. It is anticipated that the United States' opinion will be available in 1995-96.

Estimates of water production and use for the period 1966-1995 are shown in Appendix B.

Elsinore Valley Municipal Water District

Elsinore Valley MWD provides water to its service area around Lake Elsinore, a portion of which is within the Santa Margarita River Watershed. Elsinore Valley MWD obtains its supply from ten wells, all located outside the Santa Margarita River Watershed, and also imports MWD water through Western MWD.

The District reports that 3,117 acre feet were imported into the portion of their service area that is inside the Santa Margarita River Watershed in 1994-95. Also during 1994-95, approximately 185 acre feet of wastewater were exported from that same area.

Fallbrook Public Utility District

In 1994-95, Fallbrook PUD imported 11,620 acre feet through its contract with the San Diego County Water Authority as shown in Appendix A. Of this quantity, 2,208 acre feet were delivered to the former DeLuz area which is entirely within the Santa Margarita River Watershed. Of the remaining importations it is estimated that 46 percent, or 4,330 acre feet, were delivered to lands inside the Santa Margarita River Watershed. The remainder was delivered to lands in the adjacent San Luis Rey River Watershed. Thus, imports to the Watershed totaled 6,538 acre feet in 1994-95.

In addition to importations, the District has three wells that have supplied water since 1977. In 1994-95 these wells produced 3 acre feet.

All three of these wells are located along the East Fork of DeLuz Creek in an area that has younger alluvium at the ground surface. Interlocutory Judgment No. 32 indicates that this stringer of alluvium varies in width from 100 feet to one-fourth mile and at no place is greater than 50 feet in depth. The well logs for these wells indicate depths of alluvium of 32 feet, 31 feet and 32 feet respectively. Below these depths the wells penetrate fractured granite that composes the basement complex. These wells are cased and sealed with

cement grout to depths of 50, 51 and 51.5 feet respectively. Thus it may be concluded that all of the water from these wells originates in the granite fractures. Interlocutory Judgment No. 32 declares that waters found in the basement complex (fractured granite) are vagrant, local, percolating waters not part of the Santa Margarita River stream system and outside the Court's jurisdiction.

Production during the period 1966 to 1995 included direct diversions from the Santa Margarita River for water years before 1972 as well as imported water and well production as shown in Appendix B.

Lake Riverside Estates

Lake Riverside Estates pumps water from Well No. 7S/2E-32C1, into Lake Riverside to make up evaporation losses. Production for 1994-95 was 130 acre feet. The production well was drilled in 1962 and is located in an area of younger alluvium in the Cahuilla Ground Water Basin. The driller's log shows sand and clay for the entire well depth of 338 feet.

Interlocutory Judgment No. 33 indicates that the owners of lands in the Cahuilla Ground Water Basin have correlative overlying rights to the use of the ground water that is the basis for this production.

Murrieta County Water District

Murrieta CWD serves the area in the vicinity of the town of Murrieta in Riverside County. In Water Year 1994-95, Murrieta CWD produced 521 acre feet of water as shown in the following tabulation and in Appendix A.

Well Designation	Well Name	1994-95 Production Acre Feet	Casing Depth Feet	Water Depth Feet	Well Depth Feet	Perforated Interval Feet
7S/3W-20C9	Holiday	160	25	85 - 96	307	60 - 307
7S/3W-20G5	House	76	50	112 - 127	298	120 - 252
7S/3W-17R2	Lynch	0	26	53 - 58	212	172 - 212
7S/3W-18J2	North	100	50	141 - 155	650	240 - 260 500 - 640
7S/3W-20D	South	185	50	120 - 131	446	120 - 446

All of these wells are located in the Murrieta-Temecula Ground Water Area. Interlocutory Judgment No. 30 indicates that in Murrieta Valley the younger alluvium deposits extend in various depths to a maximum of approximately 30 feet from the ground

surface. The finding of the maximum depth of the younger alluvium was based, in part, on U. S. Exhibit 16, which includes a geologic cross section along the length of Murrieta Valley. This geologic section defines the depth of the younger alluvium based on geologic logs from six wells. These wells are listed below along with the depth of the younger alluvium and the characteristic of the well log that defines that depth.

Murrieta Valley Wells Shown on U. S. Exhibit 16 Township / Range - Section	Younger Alluvium Depth Feet	Log Characteristic *
6S/4W-35P2	64	Top of 17 feet of light gray clay
7S/4W-12B1	28	Top of 6 feet of brown sediment
7S/3W- 18A3 (Projected)	12	Top of 52 feet of clay
7S/3W-27N2	18	Top of 28 feet of sandy soft clay
7S/3W-35P1 (Projected)	26	Top of 3 feet of clay
8S/3W-13R1	0	16 feet adobe at top of log

* Logs shown in State of California Department of Water Resources Bulletin 91-20 entitled, *Water Wells and Springs in the Western Part of Upper Santa Margarita River Watershed,* dated August 1971.

It may be noted that the depth of the younger alluvium is less than 30 feet for all wells in the previous tabulation except 6S/4W 35P2 which lists 64 feet to the first major clay layer, and shows 64 feet to younger alluvium on Exhibit 16.

The reason for not recognizing well 35P2 in determining a maximum depth for younger alluvium is not clear. However it may be noted that the well is near the boundary of the Watershed and perhaps it was believed that it was not representative of the Murrieta Valley. Another point worth noting is that U. S. Exhibit 15L, which is the geologic map of the Murrieta-Temecula area, shows many wells in the Murrieta Valley within the area mapped as younger alluvium in addition to the six noted on U. S. Exhibit 16. Well logs for many of these wells are listed in State of California Department of Water Resources Bulletin 91-20 dated August 1971.

Bulletin 91-20 lists geologic logs for 21 wells in 7S/3W Section 17 that is located in Murrieta Valley. Review of these logs reveals depths of younger alluvium less than 30 feet being clearly shown in all but two wells. One well showed sand to 35 feet (7S/3W 17E2) and another indicated fine sand to 55 feet (7S/3W 17F4).

The Court noted that it was impossible, based on evidence available in 1962, to determine with exactness the depth of the younger alluvial deposits throughout the Valley. However, it did decide that subsequent findings could be made, if needed, because the Court would retain continuing jurisdiction. Older alluvial deposits are found below the younger alluvium.

Four of the five Murrieta CWD wells are perforated at depths of 120 feet or more. One of the Murrieta CWD wells has perforations beginning at a depth of 60 feet. This depth is well below the maximum depth of younger alluvium found by the Court in 1962. In addition, water depths in the well with perforations below 60 feet ranged from 85 to 96 feet in 1994-95. Accordingly all of Murrieta CWD well production is from the older alluvium under a ground water appropriative right.

Production for the period between 1966 and 1995 is shown in Appendix B.

Rainbow Municipal Water District

Rainbow MWD is located in San Diego County in the south-central part of the Watershed. In recent years about ten percent of the District's imported supply is delivered to the portion of the District's service area inside the Watershed. Most of the District is in the San Luis Rey River Watershed. As shown in Appendix A, total deliveries of imported water in the Watershed in 1994-95 amounted to 1,661 acre feet.

Total imports to the District, for years between 1966 and 1995, as well as the estimated portion served inside the Santa Margarita River Watershed, are shown in Appendix B.

Rancho California Water District

Rancho California WD serves water to a 99,600 acre service area in the central portion of the Watershed. The District produced water from 46 wells in 1994-95 and also imported water, as shown in Appendix A. Use is also shown in Appendix A under the categories of agriculture, commercial and domestic. In Water Year 1994-95, 33,111 acre feet of local supplies were pumped from the Murrieta-Temecula Ground Water Area and 15,108 acre feet were imported for total production of 48,219 acre feet not including 14,904 acre feet of water released from Vail Dam for recharge. During 1994-95, 1,464 acre feet were released into the Santa Margarita River system: 1,306 acre feet into Murrieta Creek and 158 acre feet into Temecula Creek.

The District reclaimed 1,753 acre feet of wastewater during the year that were all reused within the Watershed.

Rancho California WD produces ground water under a variety of rights as follows:

1. Recovery of water appropriated at Vail Lake
2. Recovery of import return flows and recharged imported water
3. Ground water appropriative rights

Vail Appropriation

Rancho California WD's Vail Dam appropriative rights are described in Application No. 11518 as amended on June 17, 1947, and Permit 7032. That right provides that the District may store up to 40,000 acre feet in Vail Reservoir each year between November 1 and April 30, subject to applicable limitations, and that the water so stored may be used for irrigation and domestic uses incidental to farming operations on 3,797 acres of land between May 1 and October 31. Such use may be by direct diversion from Vail Lake or by recovery with wells of water released from Vail and spread downstream in Pauba Valley.

The place of use for irrigation and domestic use is described as follows:

Sections 5, 6, 7 and 18; T8S, R1W
Sections 1, 10 through 21, 28 and 29; T8S, R2W
Sections 13 and 24; T8S, R3W.

In 1971, the Permit was amended to add recreational use at Vail Reservoir within Section 10, T8S, R1W.

As previously mentioned, 14,904 acre feet were released from Vail during 1994-95. Releases from Vail for ground water recharge for the period 1980 to 1995 are shown on Table B-6.

Water use in the Permit 7032 service area is shown on Table 7.4. This use will be compared with well production from the younger alluvium in a later section of this report.

United States' representatives have indicated that storage of water in Vail Lake, and the related recharge and rediversion operations, may exceed Rancho California WD's share of the Santa Margarita River flow as allocated under the 1940 Stipulated Judgment.

TABLE 7.4

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
PERMIT 7032 AREA WATER USE
1994-95

Quantities in Acre Feet

MONTH YEAR	AG	COMM	DOM	TOTAL
1994				
OCT	152	5	105	261
NOV	84	5	79	168
DEC	35	33	51	120
1995				
JAN	35	7	42	84
FEB	15	4	31	50
MAR	12	4	30	45
APR	8	4	25	37
MAY	39	5	46	90
JUNE	91	10	64	165
JULY	136	9	102	247
AUG	113	15	104	232
SEPT	149	13	116	277
TOTAL	869	113	794	1,776

Imported Water Return Flows

During 1994-95, Rancho California WD imported 15,108 acre feet of water compared to 16,386 acre feet in 1993-94. Quantities of imported water delivered to the Rancho Division and the Santa Rosa Division are shown below for Water Years 1993-94 and 1994-95.

Month	Rancho Division Imports		Santa Rosa Division Imports		Total Imports	
	1994	1995	1994	1995	1994	1995
October	633	270	1,119	1,133	1,752	1,403
November	170	27	655	219	825	246
December	56	0	537	338	593	338
January	51	0	557	0	608	0
February	0	0	0	0	0	0
March	35	0	286	0	321	0
April	283	35	353	195	636	230
May	35	27	44	306	79	333
June	745	708	1,683	1,017	2,428	1,725
July	1,028	1,189	2,051	2,061	3,079	3,250
August	1,092	1,392	2,465	2,486	3,557	3,878
September	630	1,245	1,878	2,460	2,508	3,705
Total	4,758	4,893	11,628	10,215	16,386	15,108

Return flows for 1994-95 based on imported water use in the Rancho Division are computed as shown on Table 7.5 and on Table 7.6 for the Santa Rosa Division.

In those tables, imported water is allocated to agricultural, commercial and domestic uses in each of eight hydrogeologic areas in the Rancho Division service area. This allocation is the proportion of the total deliveries to each use that is made up of imported water. In 1994-95, 19.15 percent of the supply to the Rancho Division was imported and 45.07 percent of the supply to the Santa Rosa Division was imported.

In general the Santa Rosa Division does not overlie the ground water area. However there are several areas classified as being in the Santa Rosa Division that do overlie the ground water area and generate return flows from imported supplies. Data from most of these lands have been reported since December 1991.

TABLE 7.5

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
1994-1995
RANCHO DIVISION
Quantities in Acre Feet

	HYDROGEOLOGIC AREAS								
	0 UNCLASSIFIED	1 MURRIETA WOLF 1/2 QYAL 1/2 QTOAL	2 SANTA GERTRUDIS QYAL	3 LOWER MESA QTOAL	4 PAUBA QYAL	5 SOUTH MESA QTOAL	6 UPPER MESA QTOAL	7 PALOMAR QTOAL	TOTAL
AGRICULTURAL *									
Total Use	1,913.85	838.78	241.11	1,946.79	1,013.77	1,507.67	1,853.32	1,477.75	10,793.05
% Import	19.15	19.15	19.15	19.15	19.15	19.15	19.15	19.15	19.15
Import Use	366.46	160.61	46.17	372.77	194.11	288.68	354.87	282.96	2,066.62
% Credit	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00	33.00
Credit	120.93	53.00	15.24	123.01	64.06	95.27	117.11	93.38	681.98
COMMERCIAL									
Total Use	11.64	874.39	311.76	770.65	13.37	124.48	24.66	0.78	2,131.73
% Import	19.15	19.15	19.15	19.15	19.15	19.15	19.15	19.15	19.15
Import Use	2.23	167.43	59.69	147.56	2.56	23.84	4.72	0.15	408.18
% Credit	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Credit	0.22	16.74	5.97	14.76	0.26	2.38	0.47	0.01	40.82
DOMESTIC									
Total Use	524.92	1,671.86	362.91	6,559.89	262.62	1,147.18	603.48	262.71	11,395.56
% Import	19.15	19.15	19.15	19.15	19.15	19.15	19.15	19.15	19.15
Import Use	100.51	320.12	69.49	1,256.07	50.29	219.66	115.55	50.30	2,181.99
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
Credit	25.13	80.03	17.37	314.02	12.57	54.91	28.89	12.58	545.50
TOTAL USE	2,450.41	3,385.03	915.79	9,277.33	1,289.76	2,779.33	2,481.47	1,741.24	24,320.35
TOTAL									
Total Import	469.20	648.16	175.35	1,776.39	246.96	532.18	475.14	333.41	4,656.78
Total Credit	146.28 **	149.77	38.58	451.79	76.88	152.56	146.47	105.97	1,268.30
Total Credit Qyal		74.89	38.58		76.88				190.35
Total Credit Qtoal		74.89		451.79		152.56	146.47	105.97	931.67

* Includes golf course and landscape irrigation
** This credit not applied to either Qyal or Qtoal

TABLE 7.6

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
1994-1995
SANTA ROSA DIVISION
Quantities in Acre Feet

	HYDROGEOLOGIC AREAS			
	1 MURRIETA WOLF 1/2 QYAL 1/2 QTOAL	3 LOWER MESA QTOAL	8 RTS 279, 280 & 285 1/4 QYAL 3/4 QTOAL	TOTAL
AGRICULTURAL *				
Total Use	30.74	0.00	984.73	1,015.48
% Import	45.07	45.07	45.07	
Import Use	13.86	0.00	443.81	457.67
% Credit	33.00	33.00	33.00	
Credit	4.57	0.00	146.46	151.03
COMMERCIAL				
Total Use	1.60	3.24	259.55	264.40
% Import	45.07	45.07	45.07	
Import Use	0.72	1.46	116.98	119.16
% Credit	10.00	10.00	10.00	
Credit	0.07	0.15	11.70	11.92
DOMESTIC				
Total Use	0.25	0.00	1,030.32	1,030.57
% Import	45.07	45.07	45.07	
Import Use	0.11	0.00	464.36	464.47
% Credit	25.00	25.00	25.00	
Credit	0.03	0.00	116.09	116.12
TOTAL USE	32.60	3.24	2,274.60	2,310.45
TOTAL				
Total Import Use	14.69	1.46	1,025.15	1,041.31
Total Credit	4.67	0.15	274.25	279.07
Total Credit Qyal	2.34		68.56	70.90
Total Credit Qtoal	2.34	0.15	205.68	208.17

* Includes golf course and landscape irrigation

The percentage of imported water that becomes return flow varies according to the use as follows:

Agricultural Use	33%
Commercial Use	10%
Domestic Use	25%

Based on the foregoing factors, the return flow credit for 1994-95 is computed to be 1,268.28 acre feet for the Rancho Division and 279.07 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

Some of the hydrogeologic areas overlie older alluvium and some overlie younger alluvium. Comparison of exposures of younger alluvium with maps of the District's hydrogeologic areas indicates that the Santa Gertrudis, Pauba and half of the Murrieta-Wolf areas overlie younger alluvium. The area of the Santa Rosa Division that overlies the ground water area is one-fourth in the younger alluvium and three-fourths in the older alluvium. Import return flows in these areas can be credited against pumping from the younger alluvium. These credits for 1994-95 for the Rancho Division are 190.36 acre feet and 70.90 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6 respectively.

There was no recharge of imported water in 1994-95.

Division of Local Water

During 1994-95, Rancho California WD pumped 33,111 acre feet of ground water. Some of this water was pumped from the younger alluvium and some from the older alluvium. The Court has determined that water in the younger alluvium is part of the Santa Margarita River stream system, whereas production from the older alluvium is considered to be from ground water. Production from the younger alluvium must be supported by various quantities of import return flows, import recharge and Vail recharge, thus it is necessary to identify the portion of RCWD production that is from the younger alluvium.

The younger alluvial deposits were determined by the Court to be those deposits laid down by stream action after the course of the Santa Margarita River shifted to its present westerly flow through the Temecula Gorge to the Pacific Ocean. The areal extent of the younger alluvium is shown on various maps developed during the litigation such as U. S. Exhibit 15L. The depth of the younger alluvial deposits could not be determined by the Court with exactness. However the Court did indicate that based on evidence available to the Court in 1962, the maximum depth of the younger alluvium in the Murrieta Valley was approximately 30 feet. Similarly in Pauba Valley, the Court stated that the evidence indicated a maximum depth of 130 feet. The Court also noted that it would retain continuing jurisdiction in the case so that subsequent findings could be made if required.

Identification of the younger alluvium during the litigation was based on the finding that the younger alluvium was part of the surface stream system. Thus the underground channel banks were formed by the contact with the older alluvium and the bed of the channel was defined as the first significant clay layer. The well logs that were used to identify the depth of the younger alluvium on U. S. Exhibit 16 were reviewed. These logs indicated that the top of clay layers varying in thickness from 2 to 205 feet had been used to define the depth of the younger alluvium.

U. S. Exhibit 16 also shows that the depth of the younger alluvium progressively thins to the west so that the deepest younger alluvium was found in the easterly portion of the Pauba Valley. Subsequent to the Court's findings in the early 1960's, additional wells have been constructed by Rancho California WD and many additional geologic studies have been conducted.

In 1995 well logs and geophysical logs of all Rancho California WD wells were reviewed by representatives of the United States and Rancho California WD to determine the depths of the younger alluvium.

There was general agreement between the parties about the depth of the younger alluvium in production wells, except for the ten wells shown on Table 7.7.

The remaining disagreements relate to differences about the magnitude of the clay layer needed to define the base of the younger alluvium, the importance of neighboring wells, and general concepts about the overall geologic setting.

The depths of younger alluvium used in this report to determine the Rancho California WD production from the younger alluvium are shown on Table 7.8, together with each well location, seal depth, perforated interval and the percent of each well which produces from the younger alluvium.

There are a number of factors that can be considered in allocating total well production between the younger alluvium and older alluvium. These factors include relative permeability of the younger and older alluvium, water levels, perforated intervals and the presence of clay layers.

Although the Court has found that the younger alluvium is more permeable than the older alluvium, few data are available to indicate the magnitude of such differences. Even if tests had been conducted at one well, there could be significant variations at other locations in the ground water area.

TABLE 7.7

SANTA MARGARITA RIVER WATERSHED
PRODUCTION WELLS WHERE THERE IS DISAGREEMENT ABOUT THE DEPTH OF THE YOUNGER ALLUVIUM
1994-95

RCWD WELL NO.	WATERMASTER DEPTH	US DEPTH	RCWD DEPTH	BASIS FOR DETERMINATION
109	75	170	120	Driller's log shows brown clay and gravel 75' - 105'; coarse yellow sand 105' - 120'; firm sand 120' - 135'; coarse sand and clays 170' - 223'; RCWD determination based on geophysical log of well 143.
123	135	135	115	Driller's log shows black rock from 115' - 125' and brown sandy clay from 135' - 210'. RCWD determination based on first appearance of basalt fragments which identifies top of Pleistocene volcanics.
141	104	195	104	Driller's log shows silt and sand 104' - 185' and silt increases with less sand and gravel 185' - 221'. US and RCWD determination based on geophysical log.
154	N/A	120	100	Driller's log shows med/large gravel, fine sand and some clay 80' - 102'; dark chips of rock, fine sand also white, brown and tan chips 102' - 105'; Got out of hard rock 105' - 110'; med/coarse gravel with cobbles; coarse gravel with fine sand 110-139'. RCWD determination based on first appearance of basalt fragments.
158	N/A	128	100	Driller's log shows fine to coarse sand and gravel 70' - 128'; fine coarse sand mixed with silty clay 128' - 139'. RCWD findings based on first appearance of basalt fragments.
223	60	185	140	Driller's log shows fine to coarse sand 0' - 185'; sandy clay 185' 208'. Nearby Exhibit 16 well 17Q has depth at 62'.
224	106	209	123	Driller's log shows clay 106' - 138'; gravel and clay 209' - 232'. RCWD determination based on geophysical log.
231	35	140	140	Driller's log shows clay 20' - 23'; 35' - 41'; sand and cobbles to 320'. US interprets from Well 223. RCWD relying on geology of lower valley.
232	135	135	88	Driller's log shows sand and clay 28' - 46'; sand and clay 48' - 80'; coarse sand and clays 82' - 88'; cobbles 88' - 90'; coarse sand and clay 90' - 102'; coarse sand and clay 135' - 155'. US and RCWD findings based on geophysical log
234	125	212	113	Driller's log shows sand with clay 35' - 70'; sand and clay 125' - 140'; brown clay and sand 140' - 180'; sand with clay 200 ' - 220'. US and RCWD findings based on geophysical log.

TABLE 7.8

SANTA MARGARITA RIVER WATERSHED
DEPTH OF YOUNGER ALLUVIUM IN RANCHO CALIFORNIA WATER DISTRICT WELLS

RCWD WELL NO.	LOCATION TOWNSHIP/ RANGE/ SECTION	SEAL DEPTH FEET	PERFORATED INTERVAL FEET	DEPTH YOUNGER ALLUVIUM FEET	PERCENT YOUNGER ALLUVIUM %		REMARKS
106	7S/3W-26R1	55	130-210; 250-310; 340-440; 700-740; 780-980	0	0.0%	Murrieta	No. 108 Winchester, clay 0'-40'
107	7S/3W-26J1	55	60-120; 190-260; 280-300; 390-590	58	0.0%	Murrieta	No. 105 - gravel & clay 58'-84'
108	7S/3W-25E1		60-110; 190-280, 350-410, 430-450, 470-490; 530-590	55	0.0%	Murrieta	Formerly No. 109 gravel/sandy clay 55'-70'
109	8S/2W-17J1	52	70-150; 170-210	75	5.6%		Brown clay and gravel 75' to 105'
110	8S/1W-6K1	54	70- 150; 200-240; 320-360; 420-460	165	39.4%		Clay 165'-190'
113	7S/2W-25H1	52	96-136; 275-462; 482-542	Shallow	0.0%		
115	8S/1W-6H	Unknown	60-120; 140-160; 226-326	150	45.5%		See No. 116
116	8S/1W-6J	Unknown	60-120; 140-200; 220-260; 270-330; 370-390	150	46.7%		Clay 150'-170'
119	8S/2W-19J	55	170-260; 300-470		0.0%	Wolf Valley	Perforated below 170'
123	8S/1W-7B	55	100-260; 300-380; 420-500	135	18.9%		Brown Sand Clay 135'-210'
129	7S/2W-20L	Unknown	180-290; 416-480; 520-600	Shallow	0.0%	Santa Gertrudis Creek	Qyal very shallow along Santa Gertrudis Creek
132	8S/1W-7D	55	70-390; 430-500	135	25.5%		Brown Clay Streaks 135'-175'
135	7S/3W-27M10	55	70-170	50	0.0%	Murrieta Valley	Silty clay 50'-69'
141	8S/2W-11P	55	120-190, 215-235; 270-380; 430-510	104	0.0%		Silt & sand 104'-185'; Well 11L1 is 112'
144	7S/3W-27D	55	983-1123; 1143-1283; 1343-1483; 1503-1743	25	0.0%	Murrieta Valley	Sand with silty clay 25'-45'
154	8S/1W-5L2	50	50-220	110	35.3%		Basalt fragments Geophysical log
205	7S/3W-35A	96	150-1000	10	0.0%	Santa Gertrudis/ Murrieta Valley	Sandy clay 10'-20'
210	8S/2W-12K	None	48-228	160	93.3%		Clay cobblestones 160'-167', 175'-227'
218	8S/2W-20B5	27	48-289	40	0.0%		Old 28; clay with sand layer 40'-60'; now monitoring wells 427, 426 and 429
466	8S/3W-1P2	Unknown	106-822	49	0 0%	Long Canyon	Old 219, Cantarini, hard clay 49'-60'
220	7S/3W-26O1	34	114-450	58	0.0%		Clay 58' - 73'
467	8S/2W-12K1	Unknown	50-100; 100-140	140	100.0%		Old 221, JK, Exh 16, Monitoring well since 1983
223	8S/2W-20C1	Unknown	48-250	60	7.5%	Wolf Valley	CAT Well; east of Wildomar Fault, nearby Exh 16 wells 17Q @62' & 17M @55' are also east of the Wildomar Fault
224	8S/2W-15D	Unknown	48-250	106	37.4%		Old Well 50, clay 106'-138'
230	8S/2W-11J1	Unknown	24-31; 32.5-34; 35-40; 61-65; 70-76; 80-65; 86.5-91, 92.5-98.5	>119	100.0%		Old Well 30, depth of well is 119'
231	8S/2W-20B6	55	80-120; 150-270	35	0.0%		Old 104, P-34, Clay 20'-23'; 35'-41', East of Wildomar Fault
232	8S/2W-11J3	51	95-135; 175-215; 235-295	135	28.6%		Old 111, 105, P-31; coarse sand & clay 135' - 155'
233	8S/2W-12K2	51	95-135; 175-215, 235-295	145	28.6%		Old 112, P32, sand and clay at 145'-220'
234	8S/2W-11P1	52	80-100; 120-140; 200-240, 280-320, 340-400	125	15.6%		Brown Clay at 125', sand and clay at 125'-140'
235	8S/3W-1Q1	55	Unknown	Shallow	0 0%	Long Canyon	
240	8S/2W-11L1	Unknown	48-298	112	27.8%		Old Well No 40, clay 112'-136'
301	7S/3W-18Q1	93	140-280; 280-520; 540-640	26	0 0%	Murrieta	Old JR1, blue clay 26'-32'

The allocation of production could be based on the saturated thickness of the younger alluvium relative to the saturated thickness in the older alluvium. This approach would reduce the quantities estimated from the younger alluvium if water levels lower. Water levels vary throughout the year and are influenced by the rate of well production and the time between well shut off and the time of measurement.

Thus, use of saturated thickness would complicate the computation and require use of water level data that may have errors of measurement.

In this report the portion of production from the younger alluvium is computed using the ratio of the perforated interval in younger alluvium to the net perforated interval throughout the well. The net perforated interval was computed for each well by subtracting the thickness of clay layers located within the perforated interval from the total perforated interval. In this way a single percentage can be computed for each well to apply to all production from the well. The influences of permeability and water levels are considered to be generally offsetting.

Production from the younger alluvium and older alluvium for 1994-95 using the percentages noted in Table 7.8 is presented in Table 7.9. It may be noted that 3,559 acre feet were pumped from the younger alluvium and 29,552 were pumped from the older alluvium in 1994-95.

Representatives of the United States dispute the foregoing presentation of the depth of and production from the younger alluvium in the Pauba, and Murrieta Valleys.

This production of 3,559 acre feet from the younger alluvium as shown on Table 7.9 may be compared with import return flows shown on Tables 7.5 and 7.6, with recharge from Vail into the younger alluvium, and with deliveries to the service area permitted under Permit 7032.

In 1994-95 there were total return flow credits of 261.26 acre feet. Deducting this from the younger alluvium pumpage leaves 3,298 acre feet of production under the Vail appropriation right. In 1994-95, 14,904 acre feet were recharged. That recharge plus the unrecovered portions of recharge in prior years means there was ample water stored underground in the Pauba Valley to support the withdrawals. As shown on Table 7.4, 869 acre feet were used for agricultural purposes within the service area designated in Permit 7032.

TABLE 7.9

SANTA MARGARITA RIVER WATERSHED

RANCHO CALIFORNIA WATER DISTRICT
WELL PRODUCTION FROM YOUNGER AND OLDER ALLUVIUM

1994-95

Quantities in Acre Feet

WELL NO.	QYAL	QTOAL	TOTAL
101	0.00	453.00	453.00
102	0.00	202 00	202.00
105	0.00	3.00	3.00
106	0.00	379.00	379.00
108	0.00	541.00	541.00
109	9.02	151.98	161.00
110	470.83	724.17	1,195.00
113	0.00	500.00	500.00
117	0.00	0.00	0.00
118	0.00	773.00	773.00
119	0.00	0.00	0.00
120	0.00	1,155.00	1,155.00
121	0.00	64.00	64.00
122	0.00	0.00	0.00
123	0.00	0.00	0.00
124	0.00	552.00	552.00
125	0 00	407.00	407.00
126	0.00	1,383 00	1,383.00
128	0.00	1,127.00	1,127.00
129	0.00	0.00	0.00
130	0 00	621.00	621.00
131	0.00	1,114.00	1,114.00
132	474.56	1,386.45	1,861.00
133	0.00	728.00	728.00
135	0.00	944.00	944.00
138	0.00	1,396.00	1,396.00
139	0.00	536.00	536.00
140	0.00	973.00	973.00
141	0.00	505.00	505.00
143	0 00	725.00	725.00
144	0.00	399.00	399.00
145	0 00	880.00	880.00
149	0.00	0.00	0.00
151	0.00	0.00	0.00
155	0 00	329.00	329.00
201	0.00	55.00	55.00
203	0 00	311.00	311.00
204	0.00	0.00	0.00
205	0.00	579.00	579.00
207	0.00	140.00	140.00
208	0.00	124.00	124 00
209	0 00	14.00	14.00
210	1,548 78	111.22	1,660.00
211	0.00	466.00	466.00
212	0.00	0.00	0.00
215	0.00	127.00	127.00
216	0.00	23.00	23.00
217	0.00	909.00	909.00
231	0.00	158.00	158.00
232	412.70	1,030.30	1,443.00
233	643.21	1,605.79	2,249.00
234	0.00	0.00	0.00
235	0.00	1,241.00	1,241.00
301	0.00	33 00	33.00
302	0.00	666.00	666.00
309	0.00	3,007.00	3,007.00
TOTAL	**3,559.09**	**29,551.91**	**33,111.00**

The remaining production of 2,429 acre feet may be considered to have been used outside the designated service area for irrigation purposes or partly used within the designated service area for domestic use. In either event, 2,429 acre feet were used outside the place of use and/or used for a purpose not specified in Permit 7032. Rancho California WD has recognized the situation and has petitioned the SWRCB for a change in the place and type of use under Permit 7032.

Western Municipal Water District

Western MWD wholesales imported water to Rancho California WD and also serves water to its Improvement District A near the southern boundary of Riverside County along I-15 freeway. Deliveries to Rancho California WD are included under Rancho California WD.

In Water Year 1994-95, imports to Improvement District A amounted to approximately 29 acre feet.

Deliveries to Improvement District A through turnout WR-13 for the period 1966 to 1995 are shown in Table 5.3.

U. S. Marine Corps - Camp Pendleton

Camp Pendleton is located on the coastal side of the Santa Margarita River Watershed. Water is provided by 14 wells that produced 4,753 acre feet in Water Year 1994-95. This production is from the younger alluvium and is based on riparian and appropriative rights. Of this quantity, 2,781 acre feet were exported out of the Watershed as shown in Appendix A.

A portion of the exported water amounting to 1,611 acre feet was returned to the Santa Margarita River Watershed as wastewater.

Production and estimated use inside and outside the Watershed, as well as wastewater returns, are shown in Appendix B for the period 1966-1995.

In addition to the operations at Camp Pendleton involving diversions from the Santa Margarita River, water is also imported by the Naval Weapons Station (NWS). The NWS occupies about 9,148 acres in the north eastern part of Camp Pendleton. Since 1969 the NWS has relied on imported water delivered via Fallbrook PUD for its supply. Wastewater is exported from the NWS and the Watershed via an outfall line also used by the Fallbrook Public Utility District. In 1994-95, 125 acre feet were imported of which 12 acre feet of wastewater were exported, as shown in Appendix A. Imports and use between 1969 and 1995 are shown in Appendix B.

7.3 Indian Reservations

Water use information about the three Indian Reservations in the Watershed is described in the following sections:

Cahuilla Indian Reservation

In general, water use on the Cahuilla Indian Reservation is not measured, however Reservation representatives report that 127 people reside on the Reservation. These residents use water primarily for domestic purposes as well as for livestock watering and grazing. Annual domestic water use, based on 125 gallons per capita per day, amounts to a total annual use of about 18 acre feet from wells listed in Appendix C.

The foregoing estimate is for total domestic water use on the Reservation. A portion of this use may not be under Court jurisdiction, but the estimate will be used until individual well production quantities are available to allow determination of the portion under Court jurisdiction. The estimated domestic use is included on Table 4.1 under water purveyor production.

In 1994-95, 136 acres were leased for irrigation use. Crops included 56 acres of potatoes and 80 acres of grain. Water was supplied from the Agri-Empire, Inc. water system that includes six wells at various locations in the Anza Valley based on overlying and reserved rights. One of the wells in the Agri-Empire water system (7S/3E-27D1) is located on the Reservation.

Pechanga Indian Reservation

Reservation representatives report that about 420 people reside on the Reservation. Based on use of 125 gallons per capita per day, annual use from wells listed in Appendix C amounts to approximately 59 acre feet per year for domestic purposes. There is no reported irrigation use.

In addition to the foregoing domestic use, approximately one acre foot was used for commercial purposes at a newly constructed casino and three acre feet were used for construction water.

The foregoing estimates describe total water use on the Reservation. A portion of this use may not be under Court jurisdiction, but the total use will be described until individual well production quantities are available to allow determination of the portion under Court jurisdiction. The estimated uses are included on Table 4.1 under water purveyor production.

Ramona Indian Reservation

The Ramona Indian Reservation occupies 560 acres of land of which 321 acres are inside the Watershed. The Ramona Reservation has no reported resident population or water use.

7.4 Mobile Homes/Campgrounds

There are a number of mobile home parks in the Watershed. These range from relatively permanent structures, to those catering to recreational vehicles and campgrounds. Water production from wells is shown on Table 7.1 for Butterfield Oaks Mobile Home Park, and Thousand Trails Resorts.

7.5 Irrigation Water Use

Estimated water production reported by substantial users for irrigation in the Santa Margarita River Watershed is shown on Table 7.1 to be 7,361 acre feet. This estimate was based on reported irrigated acreage and includes 832 acre feet of surface diversions as shown in Appendix C.

SECTION 8 - UNAUTHORIZED WATER USE

8.1 General

From time to time there are complaints of unauthorized water uses of various types in the Watershed. Such complaints are investigated when they are brought to the attention of the Watermaster. The status of the current list of unauthorized uses is described as follows:

8.2 Dams on Chihuahua Creek

In 1986, Agri-Empire, Inc. filed Application No. 28930 with the SWRCB for water rights to store water at three dams previously built on Chihuahua Creek. The application was protested by downstream interests.

Subsequently, on March 20, 1995, the SWRCB rejected and canceled the application on the grounds that the Santa Margarita River System is fully appropriated.

During the January 1993 storms the two lower dams were destroyed and the downstream embankment of the upper dam was severely eroded. Following the storm the embankment of the upper dam was repaired and a new spillway was constructed on the north side of the dam, which reduced the reservoir capacity to less than 50 acre feet.

Since there is no right to store water in the upper reservoir, Agri-Empire advised the SWRCB that henceforth the reservoir would be used for storage of water for less than 30 days. They further advised the SWRCB that the Watermaster would oversee their operations to confirm that the reservoir is only used for regulatory storage (30 days or less).

A draft Memorandum of Understanding (MOU) has been developed which would provide requirements for reporting data to the Watermaster. However during 1994-95 final processing of the MOU awaited a finding by the Department of Water Resources that the reservoir's capacity had been reduced to less than 50 acre feet, thereby officially removing the dam from the State's jurisdiction.

8.3 Unauthorized Small Storage Ponds

In addition to the dams on Chihuahua Creek, many other small dams and reservoirs have been constructed on streams in the Watershed. The legal basis for these ponds is described in the 1988-89 Watermaster Report. Basically, the Court has held that storage of water in ponds less than 10 acre feet in capacity and used for stock watering is a valid use of riparian water. The Court has also held that:

> The temporary or non-seasonal impoundment by riparian owners for the purpose of providing a head for irrigation or for the purpose of temporarily accumulating sufficient water to make possible efficient irrigation is a proper riparian use of water.

Criteria for determining non-seasonal storage of irrigation water have yet to be developed.

8.4 Rancho California Water District Water Use

A number of unauthorized water use issues have been raised by the United States. These issues and action to investigate and/or correct the issues are as follows:

1. Violation of the 1940 Stipulated Judgment - United States' representatives have indicated their belief that the provisions of the 1940 Stipulated Judgment have been violated in two respects by Rancho California WD:

   A. Storage of water in Vail Lake and the related recharge and rediversion operations exceeds the portion of the Santa Margarita River flow allocated to Rancho California WD by the Stipulated Judgment.

   B. Production of water by Rancho California WD from the older alluvium should be included with surface water in determining whether water use by Rancho California WD exceeds that portion allocated to Rancho California WD by the Stipulated Judgment.

   Rancho California WD disagrees with each of these contentions.

During 1994-95 representatives of Rancho California WD and the United States continued to discuss these issues in meetings of an Attorneys' Group and a Technical Committee. The purpose of the Attorneys' Group is to develop solutions to the water right issues that have divided the two parties. The Technical Group is to agree on technical facts that can assist the Attorney' Group in resolving issues related to the 1940 Stipulated Judgment, as well as Permit 7032 issues described in the following section.

2. Rediversion and Use Not in Accord with Terms of Permit 7032 - As noted in Section 7 of this report, the place of use, rediversion facilities and the type of use of water appropriated under Rancho California WD's Application No. 11518 and Permit 7032 have changed since the Application was filed in 1947.

   Use of water under Permit 7032 is limited to irrigation, domestic use incidental to farming operations and recreation. Such use for municipal and industrial purposes represents an unauthorized use.

   During 1994-95, after import return flow credits were considered, 3,298 acre feet were produced from the younger alluvium by Rancho California WD under Permit 7032. Table 7.4 indicates that 869 acre feet were used within the 7032 Service Area for agricultural purposes. The remaining 2,429 acre feet were either used outside the designated place of use or partially used within the designated Service Area for commercial and/or domestic use, neither of which is authorized under Permit 7032.

   Rancho California WD initiated the process of changing Permit 7032 on September 1, 1992, by filing a Notice of Intent to Adopt a Negative Declaration for a Petition for Change to the SWRCB, Division of Water Rights, relative to Appropriations Water Permit 7032.

   Subsequently, on January 13, 1993, the District filed a Petition for Change in the points of rediversion, the place of use and the purpose of use with the SWRCB. The Petition for Change was protested by Camp Pendleton, U. S. Fish and Wildlife Service, the U. S. Bureau of Indian Affairs, and the California Sportfishing Alliance.

On January 15, 1993, the United States alleged that the District had violated the California Environmental Quality Act (CEQA) in a petition filed with the Superior Court of the State of California for Riverside County. On April 12, 1994, the Court denied the United States' petition and declared that Rancho California WD had complied with CEQA by adopting the Negative Declaration. On August 11, 1994, the parties jointly requested an extension of time for the filing of an appeal pending current settlement negotiations. The appellate Court granted an extension of the process to August 15, 1995. Subsequently, the extension of the process was extended to August 15, 1996.

In March 1993, Camp Pendleton filed a Complaint with the SWRCB that Rancho California WD was violating the terms of Permit 7032 regarding place, season and purpose of use. On May 25, 1993, the SWRCB advised that it would process the Complaint prior to acting on the District's Petition for Change.

A representative from the SWRCB visited the area in July 1993 and completed a draft staff Report of Investigation. Prior to release of the staff report the SWRCB agreed to a joint request by the parties that the issuance of the report be deferred to allow the parties to continue to negotiate a settlement of the issues. In 1995, the SWRCB again agreed to a joint request that the SWRCB hold in abeyance any actions related to the United States' complaint against Rancho California WD. The SWRCB's agreement was based on the fact that the parties are actively seeking a negotiated settlement to all outstanding issues. The SWRCB requested that they be provided with a status report on the negotiations prior to August 1, 1996.

8.5 Other Potential Unauthorized Uses

United States' representatives also contend that water is being pumped from the younger alluvium without permit outside Pauba Valley and that there is pumping in violation of Court adjudications from the older alluvium.

SECTION 9 - THREATS TO WATER SUPPLY

9.1 General

General threats to the long-term water supply in the Santa Margarita River Watershed, which have been described in previous Watermaster Reports, are as follows:

1. High nitrate concentrations in Rainbow Creek and in Anza Valley.

2. Potential overdraft conditions at various locations in the Santa Margarita River Watershed.

3. Potentially adverse salt balance conditions in the upper Santa Margarita River area.

4. Construction of a soil treatment facility on the Cahuilla Indian Reservation.

In past years, a proposal to site a landfill within the watershed on Aspen Road has been a concern. Discussions with representatives of the San Diego County Solid Waste Division indicate that siting efforts in the North San Diego County area are on hold due to several recent developments, including dramatically lower trash volumes because of recycling, low cost opportunities to dispose of trash in Orange County, and availability of existing landfill capacity at the other sites because of the lowered trash volumes.

In summary, the Division sees no need for a landfill in North County in the foreseeable future.

9.2 High Nitrate Concentrations

In past years high concentrations of nitrate have been measured on Rainbow Creek and in Anza Valley. However, during 1994-95 no samples were collected for analysis at either location.

In August 1992 a grant to the Mission Resource Conservation District for the "Rainbow Creek Non-Point Source Nitrate Reduction Project" was approved by the SWRCB. After delays the project contract was received by the District in 1994. The project provides for installation of a stream gaging station on Rainbow Creek, however the station was not in place during 1994-95. It is understood that nitrate concentration data will be collected as part of the project. The project also includes distribution of educational literature and a public information program.

9.3 Potential Overdraft Conditions

Previous Watermaster reports have noted concerns about overdraft conditions in Anza Valley and in the Temecula-Murrieta area.

The 1989-90 Watermaster Report described a water supply study, conducted by a consultant to Riverside County, which concluded that Anza Valley water use in 1986 was approximately equal to the perennial yield and that as of 1986 useable ground water in storage approximated 56,000 acre feet. No further studies relative to ground water use in Anza Valley have been conducted.

Ground water levels for Anza Mutual Water Company's Well No. 1 (7S/3E-21G1) rose 18 feet between September 1994 and October 1995. A graph showing water levels in this well is included in this Report as Figure 4.4. It can be noted that the water levels this year are within the general range observed since 1989.

No published studies of safe yield are available for the Temecula-Murrieta area. Ground water resources in much of the area are being managed by Rancho California WD. The District has indicated that it operates the basin so as to develop its maximum perennial yield.

Ground water levels throughout the basin area are being monitored by the District and the Watermaster Office. The District uses the record of well production and the related water levels to prepare and implement its annual ground water production program so as to avoid continual declines in ground water levels. Water level data collected each year are plotted on graphs in the Watermaster's office. In this way long-term trends in ground water levels can be monitored. If there is no continual decline in water levels or other adverse impact, then overdraft conditions do not exist.

Data reported in Section Four of this Report indicate that the Windmill Well (8S/2W-12H1) located at the eastern part of Pauba Valley fell 2.7 feet in 1994-95. Well 7S/3W-20C9 in the Murrieta CWD area declined 8 feet.

9.4 Salt Balance

A key issue in management of a ground water basin is potential build up of salts that decreases the usability of waters in the basin. Thus consideration must be given to measures that allow export of salt from the basin to offset the salt load in water entering the ground water basin.

During 1991-92 the Regional Water Quality Control Board (RWQCB) adopted Resolutions 92-03 and 92-09 issuing National Pollutant Discharge Elimination System (NPDES) permits to Eastern MWD and Rancho California WD. These permits would allow

Live Stream Discharge of treated wastewater into the Santa Margarita River stream system. The U. S. Environmental Protection Agency (EPA) objected to some of the terms of the permits and assumed responsibility for the permits.

More recently, a 2 MGD Demonstration Project has been proposed. If implemented, this project would provide cost-effective disposal of wastewater for the upper Santa Margarita River area, as well as assist in controlling salt balance in the Watershed.

9.5 Soil Treatment Facility

In 1991 a soil treatment facility was constructed on lands in the Cahuilla Indian Reservation. This facility receives and treats regulated wastes that include soils which contain petroleum hydro-carbons (Non-RCRA hazardous waste).

The site is within the Watershed tributary to Cahuilla Creek and surface flows of Cahuilla Creek are subject to the continuing jurisdiction of the Court. The operator has installed a berm around the perimeter of the site as well as holding ponds to collect runoff that falls within the treatment facility. The operator reported that no spill from the drainage control system occurred during the January 1993 storms.

In March 1995, the operator submitted a draft drainage control plan for containment of runoff under 100-year rainfall conditions. That plan was finalized in May 1995, and has been implemented at the site. In addition, no contaminating constituents were found in ground water samples collected in December 1994 and April 1995.

SECTION 10 - WATER QUALITY

10.1 Surface Water Quality

Water quality data for surface streams sampled by Rancho California WD are shown in Appendix Table D-2. During 1994-95, Rancho California WD collected weekly samples from the Santa Margarita River at the Temecula gaging station. These samples were analyzed for nitrate. The maximum concentration of nitrate noted was a single sample of 4.8 mg/l as N compared to a drinking water standard of 10 mg/l as N. All other samples ranged between 0.1 and 1.7 mg/l as N.

In 1993-94 Camp Pendleton ended its off-base water quality sampling program. Water quality data collected in prior years are shown on Appendix Table D-1 of the 1992-93 Report.

In prior years, Eastern MWD has collected samples at various locations along the Santa Margarita River under a number of programs. These data are listed in earlier Watermaster Reports.

10.2 Ground Water Quality

During 1994-95 water quality data were collected from wells by Murrieta County WD, Rancho California WD, the U.S.G.S. for wells on Indian Reservations, and the U.S.M.C. at Camp Pendleton.

Water quality samples were collected from four wells in Murrieta County Water District as shown in Appendix Table D-3. All samples were analyzed for nitrates. The samples from the House, North and South wells showed concentrations of less than 3 mg/l of NO_3 while the samples from the Holiday well showed concentrations varying from 11 to 32 mg/l of NO_3 as compared to a drinking water standard of 45 mg/l as NO_3.

Water quality data for Rancho California WD wells are shown in Appendix Table D-4. New data were collected from 33 wells during 1994-95. Of the 33 wells, samples from 17 wells were analyzed for nitrates only. In these wells, nitrate concentrations ranged from less than one to 24 mg/l as NO_3, with the drinking water standard being 45 mg/l as NO_3. In the remaining 16 wells, which were subjected to a standard chemical analysis, TDS concentrations increased in eight wells, decreased in seven wells and one well had no change from the previous analysis. The increases in concentrations ranged from 20 to 340 mg/l and averaged 100 mg/l. Decreases ranged from 10 to 395 mg/l and averaged 116 mg/l.

Appendix Table D-5 shows water quality data collected by the U.S.G.S. from wells on Indian Reservations. In 1994-95 samples were collected from five wells on the Pechanga Indian Reservation. Concentrations of the various constituents analyzed in these samples were consistent with historical results.

During 1994-95 samples of ground water were collected from nine wells at Camp Pendleton as shown on Appendix Table D-6. In last year's report a significant decline in sodium concentration was noted in the sample from Well T10S/R5W-26C1 and a significant increase in sodium was noted in the sample from well T10S/R4W-18M4. This year's results show concentrations in both wells returning to the approximate concentrations observed prior to the 1993-94 results.

Changes in nitrate concentrations in the same two wells are also noteworthy. In well 26C1 nitrate decreased from 4.23 mg/l as NO_3 in 1994, to less than 0.04 mg/l as NO_3, a level more consistent with 1989-1993 values.

Conversely, concentrations of nitrate in well 18M4 increased from very low concentrations in recent years to 13.8 mg/l as NO_3. A similar increase may be noted in well T10S/R4W-18E3 and well T10S/R5W-13R2. These concentrations of about 14 mg/l as NO_3 are far below the drinking water standard of 45 mg/l as NO_3, but nitrate concentrations in these wells should be monitored over the next few years.

During 1994-95, the U.S.G.S. released Water Resources Investigation Report 94-4127 entitled, *Geohydrology, Water Quality, and Nitrogen Geochemistry in the Saturated and Unsaturated Zones Beneath Various Land Uses, Riverside and San Bernardino Counties, California, 1991-93.* Among other things, the report published comprehensive analysis of two samples from each of two wells in Domenigoni Valley, as shown in Appendix Table D-11. The two wells are T6S/R1W-06G1 and T6S/R2W-01F1 that were each sampled in January 1991 and April 1992.

Well 6G1 is 112 feet deep with depth to water ranging from 73 to 77 feet. Total dissolved solids were 1,100 mg/l. Concentrations of sulfate were 430 and 300 mg/l in the two samples as compared to a secondary drinking water standard of 250 mg/l. Well 1F1 is 130 feet deep with depth to water of about 92 feet. Total dissolved solids were 1,040 mg/l. Concentrations of sulfate were 320 and 300 mg/l in the two samples compared to a secondary drinking water standard of 250 mg/l.

SECTION 11 - FIVE YEAR PROJECTION OF WATERMASTER OFFICE TASKS, EXPENDITURES AND REQUIREMENTS

11.1 General

Projected tasks over the next five years are listed below in two categories: normal tasks, which are part of the usual Watermaster office operation; and additional tasks, which are foreseen but are not part of the normal office operations.

11.2 Normal Tasks

Tasks that are normally part of the Watermaster Office operation are briefly described as follows:

1. Update List of Substantial Users - A basic list of substantial water users is shown in Appendix C. This task includes adding new users to the list and monitoring the users on the current list.

2. Collect Water Production, Use, Import and Availability Data - This task includes collection of the quantities of water diverted, extracted, impounded, exported, imported, used or reclaimed by water districts and by other substantial users. As shown in Appendices A and B, water use is categorized among agricultural, domestic and commercial uses. This task also includes collection of data on surface diversions, and related consumptive use, return flows and losses.

3. Collect Well Location, Construction and Water Level Data This task includes collection of information on well location, well construction data, and water levels.

4. Administer Water Rights - Water users in the Watershed employ a wide variety of water rights. Activities in this task include researching the bases of existing water rights and comparing water rights with water use.

5. Collect Water Quality Data - This task includes collection of surface and ground water quality data needed to assess water quality trends and salt balance conditions.

6. Monitor Water Quality and Water Right Activities - This task provides for investigating unauthorized water appropriations and water quality violations in the Watershed.

7. Administer Lake Skinner and Domenigoni Valley Reservoir MOU's - This task provides for monitoring the operation of Lake Skinner and the Domenigoni Valley Reservoirs to ensure compliance with the provisions of the Memorandum of Understanding on the Operation of Lake Skinner and the Memorandum of Understanding and Agreement on Operation of Domenigoni Valley Reservoir which have been adopted by the Court.

8. Administer Steering Committee Matters - This task involves administration of quarterly Steering Committee meetings, including distribution of notices and agendas, preparation of minutes, attendance at meetings, and dealing with various Steering Committee matters.

9. Prepare Court Reports/Budgets - This task includes preparation of an annual report which is required to be forwarded to the Court.

10. Monitor Streamflow and Water Quality Measuring Stations Stream gaging stations are operated and maintained by the U.S.G.S. under contract with the Watermaster Office. Water quality monitoring stations are operated and maintained by others. Data collected at these stations are reported to the Watermaster and included in the annual Watermaster report.

11. Data Management - This task provides for maintaining a data base of various types of water-related data and for use by others.

11.3 Additional Tasks

Tasks that have been identified but which are not part of normal operations are briefly described as follows:

1. Assist with RCWD/Camp Pendleton Technical Committee -This task includes participation on a Technical Committee formed to assist in resolving water rights issues between the United States and Rancho California Water District.

2. Determine Changes in Subsurface Storage - In this task, well construction and water level data will be used to determine trends in levels, as well as quantities in storage in various hydrologic subunits. This determination will include estimates of quantities of water in storage and the source and quantity of recharge.

3. Determine Salt Balance - Following collection of water quality data and understanding of subsurface recharge the salt balances for various hydrologic subunits will be determined. This work follows the water level and storage change analysis.

4. Prepare List of All Water Users Under Court Jurisdiction This major task involves preparing a list of all private water users within certain areas in the Watershed. It can best be prepared using the assessor rolls as a starting point and then determining if there is any water use on the property. This list will also include a description of vested rights and appropriative priority dates if required.

5. Prepare Inventory of Ponds and Reservoirs - In recent years numerous small ponds and reservoirs have been constructed along streams in the Watershed. Some of these store water appropriated using SWRCB procedures. Other impoundments may constitute unauthorized water appropriations. In this task an inventory of ponds would be developed as a first step in determining which are authorized and which are not.

11.4 Projected Expenditures

Projected expenditures over the next five years are listed as follows:

		Projected Expenditures		
		Watermaster Office	Gaging Station	Total
Current Year	1995/96	$153,700	$ 90,000	$243,700
Projected Years	1996/97	$156,900	$100,000	$256,900
	1997/98	$165,000	$105,000	$270,000
	1998/99	$173,000	$110,000	$283,000
	1999/2000	$182,000	$116,000	$298,000
	2000/2001	$191,000	$121,800	$312,800

SECTION 12 - WATERMASTER OFFICE BUDGET 1996-97

A proposed total Watermaster Budget of $256,900 for the Water Year ending September 30, 1997, is included in this report as Table 12.1.

This budget includes $156,900 for the Watermaster Office and $100,000 for U.S.G.S. gaging station operations. The estimated cost for gaging station operation is based on the annual renewal of an existing agreement between the Watermaster and the U. S. Geological Survey.

TABLE 12.1

SANTA MARGARITA RIVER WATERSHED
PROPOSED WATERMASTER OFFICE BUDGET
Water Year Ending September 30, 1997

	APPROVED BUDGET CURRENT YEAR 1995-1996	PROPOSED BUDGET 1996-1997
Watermaster Office	$	$
Rent	7,000	9,600
Accounting Services	4,000	4,000
Supplies	700	1,000
Insurance		
General Liability & Professional	4,000	3,400
Printing	1,100	1,300
Audit	2,400	2,700
Publications	500	800
Clerical/Data Management	41,000	41,500
Utilities		
Telephone	1,500	1,300
Miscellaneous Operating/Maintenance	2,000	1,000
Mileage/Travel	1,000	500
Watermaster		
Consulting Services	75,000	76,000
Automobile Expense	3,000	2,800
Travel Reimbursements	7,500	8,500
Equipment		
Computer/Software	1,500	1,500
Equipment Maintenance - Copy Machine	1,500	1,000
SUBTOTAL WATERMASTER OFFICE	$ 153,700	$ 156,900
Estimated Cost of USGS Gaging Station Operation	90,000	100,000
TOTAL	**$ 243,700**	**$ 256,900**

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 1994-95

APPENDIX A

WATER PRODUCTION AND USE

WATER YEAR 1994-95

JULY 1996

TABLE A-1

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT

1994-95
Quantities in Acre Feet

	PRODUCTION					USE						RECLAIMED WASTEWATER				
MONTH YEAR	WELLS	IMPORT 1/	EXPORT FROM SMRW	NET IMPORT	TOTAL	AG 2/	COMM	DOM 3/	TOTAL	LOSS	TOTAL USE	REUSE IN SMRW	EXPORT	RELEASE TO RIVER	RECHARGE	TOTAL
1994																
OCT	15	789	306	483	498	0	0	473	473	25	498	251	328	0	0	579
NOV	0	1,029	685	344	344	0	0	326	326	18	344	148	889	0	0	1,037
DEC	0	383	108	275	275	0	0	261	261	14	275	127	0	0	0	127
1995																
JAN	0	246	(15)	261	261	0	0	248	248	13	261	9	589	0	0	598
FEB	0	474	299	175	175	0	0	165	165	10	175	33	525	0	0	558
MAR	0	304	101	203	203	0	0	193	193	10	203	54	474	0	0	528
APR	0	1,089	865	224	224	0	0	213	213	11	224	143	489	0	0	632
MAY	0	1,234	933	301	301	0	0	709	709	(408)	301	173	349	0	0	522
JUNE	0	1,499	848	651	651	16	0	602	618	33	651	236	303	0	0	539
JULY	52	1,834	1,346	488	540	0	0	513	513	27	540	319	283	0	0	602
AUG	57	1,475	918	557	614	0	0	583	583	31	614	338	233	0	0	571
SEPT	58	1,183	520	663	721	0	0	685	685	36	721	323	245	0	0	568
TOTA	182	11,539	6,914	4,625	4,807	16	0	4,551	4,567	240	4,807	2,154	4,707	0	0	6,861

1/ Does not include deliveries to Rancho California Water District or Elsinore Valley Municipal Water District

2/ Figures are 95% of water pumped and imported to allow for 5% loss

3/ Figures are 95% of water pumped and imported to allow for 5% loss

TABLE A-2

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

1994-95
Quantities in Acre Feet

	PRODUCTION							USE						WASTEWATER		
MONTH YEAR	WELLS	TOTAL DISTRICT IMPORT	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	SMRW IMPORT 1/	TOTAL SMRW IMPORT	TOTAL PRODUCTION	AG	COMM	DOM	TOTAL IN SMRW	LOSS*	TOTAL USE IN SMRW	FROM SMRW	FROM U.S.N.W.S.	EXPORTED FROM SMRW
1994																
OCT	1	1,263	252	1,011	465	717	718	433	56	285	774	(56)	718	95	1	94
NOV	2	809	171	638	293	464	466	318	44	190	552	(66)	466	92	<1	92
DEC	0	782	202	580	267	469	469	294	33	190	517	(48)	469	90	<1	90
1995																
JAN	0	310	20	290	134	154	154	77	24	125	226	(72)	154	117	3	114
FEB	0	462	53	409	188	241	241	52	21	114	187	54	241	96	1	95
MAR	0	350	18	334	154	170	170	36	19	95	150	20	170	140	4	136
APR	0	734	19	715	329	348	348	80	26	136	242	106	348	116	1	115
MAY	0	897	164	733	337	501	501	225	36	141	402	99	501	106	1	105
JUNE	0	1,082	240	842	388	628	628	342	41	217	600	28	628	101	<1	101
JULY	0	1,559	304	1,255	577	881	881	448	52	221	721	160	881	87	<1	87
AUG	0	1,734	375	1,359	625	1,000	1,000	577	58	321	956	44	1,000	66	1	65
SEPT	0	1,638	392	1,246	573	965	965	636	63	290	989	(24)	965	59	<1	59
TOTAL	3	11,620	2,208	9,412	4,330	6,538	6,541	3,518	473	2,325	6,316	225	6,541	1,165	12	1,153

1/ Approximately 46% of the Fallbrook area is within the Santa Margarita River Watershed

*Loss = Total production less total use

TABLE A-3

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

MURRIETA COUNTY WATER DISTRICT

1994-95

Quantities in Acre Feet

	PRODUCTION	USE					
MONTH YEAR	WELLS	AG *	COMM	DOM	TOTAL DELIVERED	LOSS **	TOTAL USE
1994							
OCT	43	1	10	33	44	(1)	43
NOV	32	1	9	25	35	(3)	32
DEC	30	1	6	18	25	5	30
1995							
JAN	23	0	6	17	23	0	23
FEB	23	0	1	4	5	18	23
MAR	23	1	5	14	20	3	23
APR	35	1	6	18	25	10	35
MAY	42	2	8	23	33	9	42
JUNE	54	2	8	30	40	14	54
JULY	67	3	11	40	54	13	67
AUG	80	0	14	46	60	20	80
SEPT	69	0	12	44	56	13	69
TOTAL	521	12	96	312	420	101	521

* Rounded to nearest acre foot

** Loss = Total production less total delivered

TABLE A-4

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT
1994-95
Quantities in Acre Feet

	PRODUCTION			USE				
MONTH YEAR	LOCAL	IMPORT TO WATERSHED	TOTAL IN WATERSHED	AG	COMMERCIAL/ DOMESTIC	TOTAL DELIVERIES	LOSS*	TOTAL USE
1994								
OCT	0	206	206	174	14	188	18	206
NOV	0	194	194	167	10	177	17	194
DEC	0	140	140	118	9	127	13	140
1995								
JAN	0	95	95	78	8	86	9	95
FEB	0	42	42	34	4	38	4	42
MAR	0	57	57	48	4	52	5	57
APR	0	77	77	64	6	70	7	77
MAY	0	100	100	84	7	91	9	100
JUNE	0	97	97	79	9	88	9	97
JULY	0	135	135	110	12	122	13	135
AUG	0	189	189	158	14	172	17	189
SEPT	0	329	329	284	15	299	30	329
TOTAL	0	1,661	1,661	1,398	112	1,510	151	1,661

*Loss = 10% of use

TABLE A-5

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

1994-95

Quantities in Acre Feet

	PRODUCTION					USE									RECLAIMED WASTEWATER		
	-------LOCAL-------																
MONTH YEAR	WELLS IN GWA	WELLS OUT GWA	VAIL RELEASE	IMPORT	TOTAL	AG	COMM	DOM	SMR RELEASE (1)	VAIL RECHARGE	IMPORT RECHARGE	TOTAL USE	LOSS (2)	TOTAL	REUSE IN SMRW	EXPORT	RECHARGED
1994																	
OCT	3,350	0	72	1,403	4,825	4,354	292	1,674	29	72	0	6,421	(1,596)	4,825	176	0	0
NOV	2,622	0	552	246	3,420	3,105	245	1,246	0	552	0	5,148	(1,728)	3,420	105	0	0
DEC	2,509	0	620	338	3,467	1,914	245	907	0	620	0	3,686	(219)	3,487	58	0	0
										0							
1995										0							
JAN	696	0	1,782	0	2,478	1,761	168	826	0	1,782	0	4,537	(2,059)	2,478	11	0	0
FEB	1,359	0	1,210	0	2,569	364	116	544	0	1,210	0	2,234	335	2,569	28	0	0
MAR	957	0	2,185	0	3,142	531	123	593	0	2,185	0	3,432	(290)	3,142	23	0	0
APR	3,197	0	2,596	230	6,023	669	133	532	418	2,596	0	4,348	1,675	6,023	96	0	0
MAY	3,557		331	333	4,221	1,630	157	893	258	331	0	3,269	952	4,221	156	0	0
JUNE	3,308	0	0	1,725	5,033	2,662	222	1,165	119	0	0	4,168	865	5,033	227	0	0
JULY	3,941	0	710	3,250	7,901	3,968	244	1,551	172	710	0	6,645	1,256	7,901	289	0	0
AUG	3,717	0	1,884	3,878	9,479	4,629	281	1,830	177	1,884	0	8,801	678	9,479	295	0	0
SEPT	3,898	0	2,962	3,705	10,565	5,494	300	2,018	291	2,962	0	11,065	(500)	10,565	287	0	0
TOTAL	33,111	0	14,904	15,108	63,123	31,081	2,526	13,779	1,464	14,904	0	63,754	(631)	63,123	1,753	0	0

(1) 158 AF into Temecula Creek from Wells 109 and 231; 1,277 AF into Murrieta Creek from Wells 101, 102, 106, 108 118, 121 and 135; and 29 AF from System River Meter

(2) Loss = Total production less total use

TABLE A-6

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

U.S.M.C. - CAMP PENDLETON
1994-95
Quantities in Acre Feet

	PRODUCTION			USE						RECLAIMED WASTEWATER		
MONTH YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE 1/ IN SMRW	AGRICULTURE 1/ OUT SMRW	CAMP SUPPLY 2/ IN SMRW	CAMP SUPPLY 2/ OUT SMRW	TOTAL EXPORT	TOTAL 3/ IN SMRW	RECHARGED IN SMRW 4/	IMPORT 5/ RECHARGED IN SMRW	TOTAL RECHARGED IN SMRW
1994												
OCT	153	157	310	60	93	65	92	185	125	82	120	202
NOV	42	179	221	16	26	74	105	131	90	79	119	198
DEC	14	158	172	5	9	61	97	106	66	81	125	206
1995												
JAN	14	158	172	5	9	53	105	114	58	81	151	232
FEB	0	265	265	0	0	112	153	153	112	75	127	202
MAR	22	314	336	9	13	137	177	190	146	81	146	227
APR	35	284	319	14	21	123	161	182	137	78	127	205
MAY	38	380	418	15	23	162	218	241	177	78	126	204
JUNE	61	422	483	24	37	181	241	278	205	77	126	203
JULY	145	478	623	56	89	204	274	363	260	88	145	233
AUG	231	482	713	90	141	205	277	418	295	105	151	256
SEPT	230	491	721	90	140	211	280	420	301	75	148	223
TOTAL	985	3,768	4,753	384	601	1,588	2,180	2,781	1,972	980	1,611	2,591

1/ Agricultural water use is divided with 39% used inside the SMRW and 61% used outside

2/ Camp Supply water use inside the SMRW equals 44% of sum of Camp Supply production plus Naval Weapons Station Import, minus the NWS Import (SMRW CS = .44 {CS+NWS Imp} - NWS Imp.)

3/ Assumes no losses

4/ Discharge from Plant Nos. 3 plus 8 plus 29.17 acre feet per month from Plant No. 13

5/ Discharge from Plant No. 1 plus excess of Plant No. 13 over 29.17 acre feet per month

TABLE A-7

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

1994-95

Quantities in Acre Feet

	PRODUCTION			USE				WASTEWATER
MONTH YEAR	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMMERCIAL/ DOMESTIC	LOSS 2/	TOTAL USE	EXPORTED
1994								
OCT	0.0	6.6	6.6	0.0	6.0	0.6	6.6	0.5
NOV	0.0	8.1	8.1	0.0	7.3	0.8	8.1	0.4
DEC	0.0	14.9	14.9	0.0	13.5	1.4	14.9	0.4
1995								
JAN	0.0	30.2	30.2	0.0	27.4	2.8	30.2	2.7
FEB	0.0	9.2	9.2	0.0	8.4	0.8	9.2	0.9
MAR	0.0	2.4	2.4	0.0	2.2	0.2	2.4	3.6
APR	0.0	4.3	4.3	0.0	3.9	0.4	4.3	0.9
MAY	0.0	9.1	9.1	0.0	8.3	0.8	9.1	0.6
JUNE	0.0	7.9	7.9	0.0	7.2	0.7	7.9	0.4
JULY	0.0	10.7	10.7	0.0	9.7	1.0	10.7	0.4
AUG	0.0	12.5	12.5	0.0	11.4	1.1	12.5	0.5
SEPT	0.0	9.1	9.1	0.0	8.3	0.8	9.1	0.4
TOTAL	0.0	125.0	125.0	0.0	113.6	11.4	125.0	11.7

1/ - Import via Fallbrook Public Utility District

2/ - Loss = 10% of Use

TABLE A-8

SANTA MARGARITA RIVER WATERSHED
MISCELLANEOUS WATER PRODUCTION AND IMPORTS

1994-95
Quantities in Acre Feet

	IMPORT	PRODUCTION			
MONTH YEAR	WESTERN MWD IMPORTS TO IMPROVEMENT DISTRICT A	ANZA MUTUAL WATER CO.	THOUSAND TRAILS	BUTTERFIELD OAKS MOBILE HOME PARK	LAKE RIVERSIDE ESTATES
1994					
OCT	3.20	3.06 E	4.07	0.15	18.50
NOV	1.70	2.30 E	3.15	0.11	9.79
DEC	2.00	1.27 E	6.93	0.10	4.03
1995					
JAN	1.20	2.11 E	3.54	0.12	3.91 A
FEB	1.30	1.56	3.33	0.13	3.90 A
MAR	1.80	0.98	0.60	0.16	3.90 A
APR	1.70	12.40	5.39	0.15	3.90 A
MAY	2.30	2.26	3.75	0.21	3.90 A
JUNE	2.70	3.43	7.98	0.20	3.90 A
JULY	3.30	5.93	9.12	0.22	3.91 A
AUG	3.90	6.11	11.30	0.24	51.52
SEPT	4.00	4.28	10.38	0.23	18.90
SUBTOTAL				2.01 7.50 *	
TOTAL	29.10	45.69	69.54	9.51	130.06

E indicates an estimate

A indicates an averaged figure

* Estimated non-metered lawn watering

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 1994-95

APPENDIX B

WATER PRODUCTION AND USE

WATER YEAR 1965-66 TO WATER YEAR 1994-95

JULY 1996

TABLE B-1

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT

Quantities in Acre Feet

	PRODUCTION					USE						RECLAIMED WASTEWATER				
WATER YEAR	WELLS	IMPORT 1/	EXPORT FROM SMRW	NET IMPORT	TOTAL	AG 2/	COMM	DOM 3/	TOTAL	LOSS	TOTAL USE	REUSE IN SMRW	EXPORT	RELEASE TO RIVER	RECHARGE	TOTAL
1966	0	1,604	0	1,604	1,604	1,520	0	4	1,524	80	1,604	0	0	0	100	100
1967	0	1,630	0	1,630	1,630	1,544	0	4	1,548	82	1,630	0	0	0	100	100
1968	0	1,464	0	1,464	1,464	1,386	0	5	1,391	73	1,464	0	0	0	100	100
1969	0	1,741	0	1,741	1,741	1,648	0	6	1,654	87	1,741	0	0	0	100	100
1970	0	1,417	0	1,417	1,417	1,340	0	7	1,346	71	1,417	0	0	0	101	101
1971	0	1,383	0	1,383	1,383	1,306	0	8	1,314	69	1,383	0	0	0	119	119
1972	0	1,470	0	1,470	1,470	1,388	0	8	1,396	74	1,470	0	0	0	242	242
1973	0	1,533	0	1,533	1,533	1,447	0	10	1,456	77	1,533	0	0	0	217	217
1974	0	1,601	0	1,601	1,601	1,511	0	10	1,521	80	1,601	0	0	0	193	193
1975	0	1,969	0	1,969	1,969	1,859	0	11	1,871	98	1,969	0	0	0	253	253
1976	145	2,493	0	2,493	2,638	2,356	0	150	2,506	132	2,638	134	0	0	155	289
1977	431	2,947	0	2,947	3,378	2,723	64	423	3,209	169	3,378	244	0	0	70	314
1978	375	2,551	0	2,551	2,926	2,409	0	371	2,780	146	2,926	300	0	0	75	375
1979	289	1,894	0	1,894	2,183	1,784	0	290	2,074	109	2,183	350	0	0	147	497
1980	281	1,192	0	1,192	1,473	1,116	0	283	1,399	74	1,473	375	0	0	220	595
1981	282	716	0	716	998	663	0	285	948	50	998	375	0	0	304	679
1982	321	1,112	0	1,112	1,433	1,036	0	323	1,381	72	1,433	375	0	0	386	761
1983	106	1,211	0	1,211	1,317	1,131	0	120	1,251	66	1,317	375	0	0	466	841
1984	236	699	0	699	935	644	0	244	888	47	935	400	0	0	525	925
1985	314	679	0	679	993	624	0	319	943	50	993	450	0	0	565	1,015
1986	229	760	0	760	989	700	0	239	940	49	989	600	0	0	509	1,109
1987	89	1,155	0	1,155	1,244	638	0	543	1,182	62	1,244	650	0	0	554	1,204
1988	4	2,047	0	2,047	2,051	524	0	1,424	1,948	103	2,051	650	0	0	650	1,300
1989	685	3,746	0	3,746	4,431	1,148	0	3,064	4,209	222	4,431	1,058	0	0	1,636	2,694
1990	492	8,578	2,977	5,601	6,093	978	0	4,810	5,788	305	6,093	1,567	0	0	2,160	3,727
1991	456	16,621	7,142	9,479	9,935	851	0	8,587	9,438	497	9,935	1,282	0	0	2,272	3,554
1992	527	13,486	4,893	8,593	9,120	29	0	8,635	8,664	456	9,120	1,323	0	245	2,385	3,953
1993	524	7,287	1,894	5,393	5,917	36	0	5,585	5,621	296	5,917	1,876 *	539 *	192	2,020 *	4,627
1994	232	10,082	2,932	7,150	7,382	0	0	7,013	7,013	369	7,382	2,787 *	3,058 *	0	0	5,845
1995	182	11,539	6,914	4,825	4,807	16	0	4,551	4,567	240	4,807	2,154	3,908	0	0	6,062

1/ Does not include deliveries to Rancho California Water District or Elsinore Valley Municipal Water District

2/ Figures are 95% of water pumped and imported to allow for 5% loss

3/ Figures are 95% of water pumped and imported to allow for 5% loss

* - Revised

TABLE B-2

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

	PRODUCTION							USE				
WATER YEAR	WELLS	TOTAL DISTRICT IMPORT	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	SMRW IMPORT 1/	TOTAL SMRW IMPORT	TOTAL PRODUCTION	AG	COMM/ DOM	TOTAL IN SMR	LOSS /2	TOTAL USE IN SMRW
1966	176	11,169	0	11,169	3,351	3,351	3,404	2,735	328	3,063	341	3,404
1967	16	9,508	0	9,508	2,852	2,852	2,857	2,253	319	2,572	285	2,857
1968	13	11,411	0	11,411	3,423	3,423	3,427	2,554	531	3,085	342	3,427
1969	178	9,458	0	9,458	2,837	2,837	2,891	1,787	814	2,601	290	2,891
1970	305	11,794	0	11,794	3,538	3,538	3,630	2,649	617	3,266	364	3,630
1971	7	11,350	0	11,350	3,405	3,405	3,407	2,386	681	3,067	340	3,407
1972	0	13,054	0	13,054	3,916	3,916	3,916	2,749	775	3,524	392	3,916
1973	0	10,610	38	10,572	3,172	3,210	3,210	2,156	732	2,888	322	3,210
1974	0	12,911	134	12,777	3,833	3,967	3,967	2,703	868	3,571	396	3,967
1975	0	11,492	213	11,279	3,384	3,597	3,597	2,420	816	3,236	361	3,597
1976	0	13,147	431	12,716	4,196	4,627	4,627	3,200	965	4,165	462	4,627
1977	20	13,435	587	12,848	4,625	5,212	5,232	3,536	1,174	4,710	522	5,232
1978	97	12,626	651	11,975	4,551	5,202	5,299	3,504	1,265	4,769	530	5,299
1979	187	12,865	961	11,904	4,762	5,723	5,910	3,820	1,498	5,318	592	5,910
1980	192	13,602	1,191	12,411	5,213	6,404	6,596	4,258	1,678	5,936	660	6,596
1981	87	16,878	1,994	14,884	6,549	8,543	8,630	5,688	2,144	7,832	798	8,630
1982	0	13,270	1,805	11,465	5,274	7,079	7,079	4,614	1,862	6,476	603	7,079
1983	0	12,298	1,969	10,329	4,751	6,720	6,720	4,320	1,871	6,191	529	6,720
1984	0	15,429	2,609	12,820	5,897	8,506	8,506	5,814	2,077	7,891	615	8,506
1985	0	14,256	2,358	11,898	5,473	7,831	7,831	5,187	2,135	7,322	509	7,831
1986	0	15,383	2,794	12,589	5,791	8,585	8,585	5,698	2,319	8,017	568	8,585
1987	0	15,313	2,986	12,327	5,670	8,656	8,656	5,793	2,281	8,074	582	8,656
1988	28	14,460	2,559	11,901	5,474	8,033	8,061	5,181	2,348	7,529	532	8,061
1989	94	16,179	3,007	13,172	6,059	9,066	9,160	5,620	2,706	8,326	834	9,160
1990	15	17,568	3,745	13,823	6,358	10,103	10,118	6,275	2,878	9,153	965	10,118
1991	46	13,939	2,871	11,068	5,091	7,962	8,008	5,146	2,314	7,460	548	8,008
1992	45	13,698	2,950	10,748	4,943	7,893	7,938	5,285	2,201	7,486	452	7,938
1993	86	12,695	2,010	10,685	4,915	6,925	7,011	4,329	2,349	6,678	333	7,011
1994	83	13,124	2,246	10,878	5,004	7,250	7,333	4,282	2,666	6,948	385	7,333
1995	3	11,620	2,208	9,412	4,330	6,538	6,541	3,818	2,798	6,316	225	6,541

/1 Total SMRW production equals SMRW Import plus 30% local (1966-1971)

/2 Loss = Total production less total use
(Neglects change in Storage at Red Mtn After 1985)

TABLE B-3

SANTA MARGARITA RIVER WATERSHED
ANNUAL WASTEWATER PRODUCTION AND DISTRIBUTION

FALLBROOK PUBLIC UTILITY DISTRICT
Quantities in Acre Feet

WATER YEAR	TOTAL WASTEWATER PRODUCTION	PERCENT WASTEWATER FROM SMRW	WASTEWATER FROM SMRW	WASTEWATER FROM U.S.N.W.S.		WASTEWATER EXPORTED FROM SMRW	PERCENT WASTEWATER FROM SLR WATERSHED 1/	WASTEWATER IMPORTED FROM SLR WATERSHED
1966	395	81	320	0		0	19	75
1967	460	80	368	0		0	20	92
1968	524	80	419	0		0	20	105
1969	588	79	465	0		0	21	123
1970	652	78	509	0		0	22	143
1971	717	78	559	0		0	22	158
1972	782	77	602	0		0	23	180
1973	847	76	644	0		0	24	203
1974	912	75	684	0		0	25	228
1975	976	75	732	0		0	25	244
1976	1,040	74	770	0		0	26	270
1977	1,105	73	807	0		0	27	298
1978	1,170	72	842	0		0	28	328
1979	1,234	72	888	0		0	28	346
1980	1,298	71	922	0		0	29	376
1981	1,363	70	954	0		0	30	409
1982	1,428	69	985	0		0	31	443
1983	1,492	69	1,029	26	E	1,003	0	0
1984	1,556	68	1,058	26	E	1,032	0	0
1985	1,621	67	1,086	26	E	1,060	0	0
1986	1,685	66	1,112	18	P	1,094	0	0
1987	1,750	66	1,155	27		1,128	0	0
1988	1,815	65	1,180	25		1,155	0	0
1989	1,881	64	1,204	22		1,182	0	0
1990	1,952	66	1,298	27		1,271	0	0
1991	1,622	60	973	11		962	0	0
1992	1,730	63	1,090	7		1,083	0	0
1993	2,051	62	1,271	16		1,255	0	0
1994	1,834	58	1,073	5		1,068	0	0
1995	1,941	60	1,165	12		1,153	0	0

NOTE: Measured quantities available for Total Wastewater in Water Year 1969 and July 1989
All other quantities are estimated
Prior to 1983, Wastewater was discharged into Fallbrook Creek.
After 1983, Wastewater is discharged into an ocean outfall

1/ - San Luis Rey Watershed
E - Estimated
P - Partial Year Data

TABLE B-4

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

MURRIETA COUNTY WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION	USE					
WATER YEAR	WELLS	AG	COMM	DOM	TOTAL DELIVERED	LOSS *	TOTAL USE
1966	41	0	0	37	37	4	41
1967	45	0	0	41	41	4	45
1968	54	0	0	49	49	5	54
1969	54	0	0	49	49	5	54
1970	73	0	0	66	66	7	73
1971	83	3	0	72	75	8	83
1972	111	10	0	91	101	10	111
1973	92	11	0	72	84	8	92
1974	132	14	0	107	120	12	132
1975	153	18	0	121	139	14	153
1976	117	22	0	84	106	11	117
1977	170	21	0	134	155	15	170
1978	169	19	0	135	154	15	169
1979	197	19	0	160	179	18	197
1980	218	20	0	178	198	20	218
1981	265	30	0	211	241	24	265
1982	230	21	0	188	209	21	230
1983	216	14	0	182	196	20	216
1984	304	26	0	250	276	28	304
1985	308	19	0	261	280	28	308
1986	305	22	0	255	277	28	305
1987	326	23	0	273	296	30	326
1988	303	13	35	262	275	28	303
1989	286	11	72	262	344	(4)	340
1990	465	13	76	266	355	110	465
1991	459	15	88	250	353	106	459
1992	492	6	122	302	430	62	492
1993	508	4	105	323	432	76	508
1994	512	10	103	324	437	75	512
1995	521	12	86	312	420	101	521

* Loss = Total production less total delivered

TABLE B-5

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION			USE				
WATER YEAR	LOCAL	IMPORT TO WATERSHED	TOTAL IN WATERSHED 1/	AG 2/	COMMERCIAL/ DOMESTIC 3/	TOTAL DELIVERIES	LOSS 4/	TOTAL USE
1966	0	14,538	1,308	1,049	140	1,189	119	1,308
1967	0	12,167	1,095	878	117	995	100	1,095
1968	0	15,301	1,377	1,104	147	1,252	125	1,377
1969	0	13,917	1,253	1,005	134	1,139	114	1,252
1970	0	18,764	1,689	1,354	181	1,535	154	1,689
1971	0	18,338	1,650	1,324	177	1,500	150	1,650
1972	0	22,633	2,037	1,634	218	1,852	185	2,037
1973	0	17,955	1,616	1,296	173	1,469	147	1,616
1974	0	22,768	2,049	1,643	219	1,863	186	2,049
1975	0	13,856	1,247	1,000	133	1,134	113	1,247
1976	0	24,878	2,239	1,796	240	2,035	204	2,239
1977	0	26,038	2,343	1,879	251	2,130	213	2,343
1978	0	24,312	2,188	1,755	234	1,989	199	2,188
1979	0	26,084	2,348	1,883	251	2,134	213	2,347
1980	0	27,660	2,489	1,997	266	2,263	226	2,489
1981	0	35,036	3,153	2,529	337	2,866	287	3,153
1982	0	27,334	2,460	1,973	263	2,236	224	2,460
1983	0	24,957	2,190	1,735	256	1,991	199	2,190
1984	0	32,526	3,068	2,483	306	2,789	279	3,068
1985	0	28,612	3,410	2,798	302	3,100	310	3,410
1986	0	29,023	2,945	2,353	324	2,677	268	2,945
1987	0	29,449	3,390	2,765	317	3,082	308	3,390
1988	0	29,070	2,985	2,372	342	2,714	271	2,985
1989	0	32,034	3,003	2,385	345	2,730	273	3,003
1990	0	34,612	3,818	3,003	468	3,471	347	3,818
1991	0	27,754	2,904	2,276	364	2,640	264	2,904
1992	0	26,056	2,277	1,877	193	2,070	207	2,277
1993	0	23,766	1,965	1,655	132	1,787	178	1,965
1994	0	22,173	1,651	1,368	133	1,501	150	1,651
1995	0	20,935	1,661	1,398	112	1,510	151	1,661

1/ 1966 through 1982 estimated to be 9% of total district imports

2/ 1966 through 1982 estimated to be 80.2% of total deliveries to watershed

3/ 1966 through 1982 estimated to be 10.7% of total deliveries to watershed

4/ Loss = 10% of use

TABLE B-6

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

Quantities in Acre Feet

	PRODUCTION						USE									RECLAIMED WASTEWATER		
	LOCAL																	
WATER YEAR	WELLS IN GWA	WELLS OUT GWA	VAIL RELEASE	VAIL IRRIGATION	IMPORT	TOTAL 2/	AG	COMM	DOM	SMR RELEASE	VAIL RECHARGE	IMPORT RECHARGE	TOTAL USE	LOSS 3/	TOTAL	REUSE IN SMRW	EXPORT	RECHARGE
1966		0	0	185 *	0	185					0	0						
1967	4,288	0	0	1,136 *	0	5,424					0	0			5,424	0	0	0
1968	5,100	0	0	398 *	0	5,498					0	0			5,498	0	0	0
1969	3,617	0	0	697 *	0	4,314					0	0			4,314	0	0	0
1970	6,721	0	0	840 *	0	7,561					0	0			7,561	0	0	0
1971	7,960	0	0	1,541 *	0	9,501 **					0	0			9,501	0	0	0
1972	8,369	0	0	203 *	0	8,572 **					0	0			8,572	0	0	0
1973	7,726	0	0	524 *	0	8,250					0	0			8,250	0	0	0
1974	10,163	0	0	1,066 *	0	11,229					0	0			11,229	0	0	0
1975	10,357	0	0	369 *	0	10,726					0	0			10,726	0	0	0
1976	11,809	0	0	50 *	119	11,978					0	0			11,978	0	0	0
1977	10,522	0	0	0	1,845	12,367					0	0			12,367	0	0	0
1978	8,930	0	0	0	5,774	14,704					0	0			14,704	0	0	0
1979	11,371	0	0	0	7,009	18,380					0	0			18,380	0	0	0
1980	12,621	0	10,944	0	10,126	33,691					10,944	0			33,691	0	0	0
1981	15,612	0	6,802	0	15,282	37,696					6,602	0			37,696	0	0	0
1982	12,631	0	6,058	0	13,378	32,067					6,058	0			32,067	0	0	0
1983	16,577	98	12,113	715	5,752	35,255					12,113	0			35,255	0	0	0
1984	25,660	4	6,612	1,144	6,716	40,136					6,612	0			40,136	0	0	0
1985	24,373	0	5,027	1,201	7,158	37,759					5,027	0			37,759	0	0	0
1988	26,997	0	8,722	1,053	11,174	47,946					8,722	0			47,946	0	0	0
1987	33,735	0	8,089	273	7,564	49,661					8,089	0			49,661	48	0	0
1988	21,367	0	4,844	0	17,854	44,065					4,844	0			44,065	82	0	0
1989	26,131	0	0	0	22,895	49,026	25,533	3,316	13,198	852	0	2,294	45,193	3,833	49,026	168	0	0
1990	33,241	0	0	0	22,030	55,271	27,643	3,940	14,916	902	0	0	47,401	7,870	55,271	133	0	0
1991	26,503	0	6,253	0	21,238	53,994	32,924	2,941	10,603	785	6,253	701	54,207	(213)	53,994	352	0	0
1992	29,968	0	2,244	0	16,931	49,143	30,651	2,406	9,672	683	2,244	0	45,656	3,487	49,143	374	0	0
1993	31,029	0	31,704	0	11,411	74,144	29,265	2,141	10,618	519	31,704	0	74,247	(103)	74,144	378	0	0
1994	32,725	0	8,469	0	16,386	57,580	32,534	2,322	12,370	467	8,469	0	56,162	1,418	57,580	1,936	0	0
1995	33,111	0	14,904	0	15,108	63,123	31,081	2,526	13,779	1,464	14,904	0	63,754	(631)	63,123	1,753	0	0

1/ Figures from 1966 to 1972 supplied by USGS; 1972 to 1994 supplied by RCWD
2/ Total production = Wells, Total Diversions and Import
3/ Loss = Total production less total use
* - Irrigation 1966 to 1976 by pumping from Vail Lake
** - Revised data

TABLE B-7

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

U.S.M.C. - CAMP PENDLETON
EXCLUDING NAVAL WEAPONS STATION SHOWN ON B-8

Quantities in Acre Feet

	PRODUCTION			USE						RECLAIMED WASTEWATER		
WATER YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE 1/ IN SMRW	AGRICULTURE 1/ OUT SMRW	CAMP SUPPLY 2/ IN SMRW	CAMP SUPPLY 2/ OUT SMRW	TOTAL EXPORT	TOTAL 3/ IN SMRW	RECHARGED IN-SMR 4/	IMPORT 5/ RECHARGED IN SMRW	TOTAL RECHARGED IN SMRW
1966	1,101	4,605 *	5,706 *	429	672	2,026 *	2,579 *	3,251 *	2,455 *	919	974	1,893
1967	796	4,811 *	5,607 *	310	486	2,117 *	2,694 *	3,180 *	2,427 *	914	1,243	2,156
1968	986	4,939 *	5,925 *	385	601	2,172 *	2,767 *	3,368 *	2,557 *	866	1,214	2,080
1969	940	4,821 *	5,761 *	367	573	2,058 *	2,763 *	3,276 *	2,485 *	1,019	1,170	2,189
1970	1,106	5,481 *	6,587 *	431	675	2,347 *	3,134 *	3,809 *	2,778 *	1,032	1,113	2,145
1971	819	5,291 *	6,110 *	319	500	2,264 *	3,028 *	3,527 *	2,583 *	921	1,090	2,011
1972	817	5,323	6,140	319	498	2,278	3,045	3,543	2,597	900	1,168	2,068
1973	1,003	5,121	6,124	391	612	2,189	2,932	3,544	2,580	949	1,187	2,137
1974	909	5,202	6,111	355	554	2,224	2,978	3,532	2,579	915	1,140	2,055
1975	757	4,593	5,350	295	462	1,957	2,636	3,098	2,252	989	1,530	2,519
1976	885	5,384	6,269	345	540	2,305	3,079	3,619	2,650	949	1,497	2,447
1977	994	4,506	5,500	388	606	1,918	2,588	3,194	2,306	942	1,416	2,358
1978	176	5,177	5,353	69	107	2,213	2,964	3,071	2,282	1,164	1,283	2,446
1979	1,070	7,213	8,283	417	653	3,109	4,104	4,756	3,527	1,065	1,427	2,493
1980	835	5,495	6,330	326	509	2,353	3,142	3,651	2,679	1,101	1,405	2,506
1981	1,464	5,240	6,704	571	893	2,241	2,999	3,892	2,812	1,119	1,249	2,368
1982	1,447	5,024	6,471	564	883	2,146	2,878	3,761	2,710	982	1,273	2,254
1983	942	4,215	5,157	367	575	1,790	2,425	3,000	2,157	1,252	1,242	2,494
1984	1,078	4,501	5,579	420	658	1,916	2,585	3,243	2,336	1,323	1,120	2,443
1985	1,069	4,764	5,833	417	652	2,039	2,725	3,377	2,456	1,419	1,200	2,619
1986	953	4,807	5,760	372	581	2,062	2,745	3,326	2,434	1,259	981	2,240
1987	1,098	4,838	5,936	428	670	2,064	2,774	3,444	2,492	1,367	1,799	3,166
1988	1,223	4,721	5,944	477	746	2,010	2,711	3,457	2,487	1,523	1,872	3,396
1989	856	5,044	5,900	334	522	2,148	2,896	3,418	2,482	1,301	1,446	2,747
1990	855	4,228	5,083	333	522	1,779	2,449	2,971	2,112	1,277	1,451	2,728
1991	554	3,159	3,713	216	338	1,329	1,830	2,168	1,545	1,070	1,219	2,289
1992	898	3,254	4,152	350	548	1,376	1,878	2,426	1,726	933	1,548	2,481
1993	1,067	2,879	3,946	416	651	1,201	1,678	2,329	1,617	1,049	1,926	2,975
1994	1,471	3,150	4,621	574	897	1,345	1,805	2,702	1,919	1,034	1,501	2,535
1995	985	3,768	4,753	384	601	1,588	2,180	2,781	1,972	980	1,611	2,591

* Revised Data

1/ Agricultural water use is divided with 39% used inside the SMRW and 61% used outside.

2/ Camp Supply water use inside the SMRW equals 44% of sum of Camp Supply production plus Naval Weapons Station Import, less the NWS Import for years beginning 1969. Prior to 1969 44% was used inside the SMRW and 56% was used outside.

3/ Assumes No Losses

4/ Wastewater Recharged in SMR equals effluent from Plants 3, 8 and 13 (partial).

5/ Wastewater Import Recharged in SMRW equals effluent from Plant 1 plus the portion of the effluent from Plant 2 returned to the SMRW via Pond 2 plus the portion of the effluent from Plant 13 not included in 4/.
No record available for effluent from Plant 2 returned to SMRW for 1966-1974 and 1982 - June 1990.
Calculation of import recharged in Santa Margarita River from Plant 2 is based on zero when no record is available.

TABLE B-8

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

Quantities in Acre Feet

	PRODUCTION			USE				WASTEWATER
WATER YEAR	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMMERCIAL DOMESTIC	LOSS 2/	TOTAL USE	EXPORTS
1966	87 *	0	87 *	0	79 *	9 *	87 *	0
1967	92 *	0	92 *	0	83 *	9 *	92 *	0
1968	108 *	0	108 *	0	97 *	11 *	108 *	0
1969	138 *	0 *	138 *	0	113 *	25 *	138 *	0
1970	152 *	0 *	152 *	0	125 *	27 *	152 *	0
1971	39 P*	76 E	115	0	100 *	15 *	115	0
1972	0	115 E	115	0	105	10 *	115	0
1973	0	115 E	115	0	105	10	115	0
1974	0	115 E	115	0	105	10	115	0
1975	0	115 E	115	0	105	10	115	0
1976	0	115 E	115	0	105	10	115	0
1977	0	115 E	115	0	105	10	115	0
1978	0	115 E	115	0	105	10	115	0
1979	0	115 E	115	0	105	10	115	0
1980	0	115 E	115	0	105	10	115	0
1981	0	115 E	115	0	105	10	115	0
1982	0	115 E	115	0	105	10	115	0
1983	0	115 E	115	0	105	10	115	26 E
1984	0	115 E	115	0	105	10	115	26 E
1985	0	102	102	0	93	9	102	26 E
1986	0	94	94	0	85	9	94	18 P
1987	0	116	116	0	105	11	116	27
1988	0	120	120	0	109	11	120	25
1989	0	128	128	0	116	12	128	22
1990	0	145	145	0	132	13	145	27
1991	0	109	109	0	99	10	109	11
1992	0	99	99	0	90	9	99	7
1993	0	117	117	0	106	11	117	16
1994	0	73	73	0	66	7	73	5
1995	0	125	125	0	114	11	125	12

1/ - Estimate 1969-1984 - Records not available
2/ - Loss = 10% of Use
* - Revised data
E - Estimate
P - Partial year data

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 1994-95

APPENDIX C

SUBSTANTIAL USERS OUTSIDE

ORGANIZED WATER SERVICE AREAS

JULY 1996

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA								
Clawson, Gary A.	43425 Sage Road Aguanga, Ca. 92536	917-050-009 917-050-007 581-070-013 581-150-013 581-150-016 581-070-014	309.74 82.19 43.10 120.58 25.37 158.08	Total | of | | 30.00	Alfalfe	8S/1E-7N(1) 8S/1E-7N(2) 8S/1E-7Q(1) 8S/1E-7Q(2)	Total of | 90.00	
Cottle, Thomas C.	42551 Hwy 79 Aguanga, Ca. 92536	583-040-028 583-040-029 583-040-024 583-040-025 583-040-026 583-040-027	25.52 19.89 23.48 23.12 23.16 22.64	Total | of | 46.00 and 20.00	 Oats Pasture	8S/1E-19K 8S/1E-19G4 8S/1E-29L Diversion	79.40	88.00
Strange, Owen W. and Elizabeth G. Trustees, Strange Living Trust of 4-15-88	m/t P.O. Box 1974 Rancho Santa Fe, Ca. 92067 43023 Hwy 79 Aguanga, CA 92536	583-040-022 583-040-021 583-130-001-3 583-120-001-2 583-060-003-9	97.78 13.45 80.00 120.00 41.60	Total of 80.00 | 40.00	 Oats & Barley Alfalfa and Permanent pasture	8S/1E-19Q(1) 8S/1E-29L Diversion	150.00 Domestic	250.00
Twin Creek Ranch/ Chester M. Mason Family Trust	c/o Jim Holden P. O. Box 519 Corona, Ca. 91718 44201 Hwy 79 Aguanga 44735 Hwy 79 Aguanga	583-120-081 583-120-083 583-120-084 583-150-001 583-140-014 583-140-015 583-140-016 583-140-018 583-140-020 583-140-019	17.29 68.09 179.39 80.00 48.03 40.00 40.00 10.09 10.15 10.00	15.00 65.00 30.00 15.00 15.00 15.00 35.00 38.00 0.00 0.00 0.00	Small Grains Small Grains Small Grains Row Crops Small Greins Row Crops Row Crops Small Grains	8S/1E-28N1 8S/1E-28N(2) 8S/1E-29H 8S/1E-33F 8S/1E-33G1 8S/1E-33B	Total | | of | | | | 553.00	
Vrieling, Gerrit J. and Betty J.	m/t 15015 Cheshire La Mirada, Ca. 90638 45203 Hwy 371 Aguanga	583-240-022	10.00	9.00	Pistachios	8S/1E-23N	9.90	

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA (Cont)								
Harris, Homer N. and Dolores G.	44444 Sage Road Aguanga, CA 92536	581-160-014	17.73	15.00	Citrus	8S/1E-18J(2)	Total	
						8S/1E-18J(1)	|	
		581-160-015	7.42	5.00	Fruit		|	
		581-150-009	7.00	10.00	Walnuts	8S/1E-18H(1)	of	
						8S/1E-18H(2)	|	
		581-180-002	20.00	0.00			|	
		581-180-004	20.00	0.00			|	
		581-180-014	21.40	0.00		8S/1E-17M	45.00	
						8S/1E-17E	32.30	
Riverside County	4080 Lemon Street Riverside, CA 92501	581-170-006	8.57	8.50	Grass	Used 8S/1E-17E owned by Harris		
Missionary Foundation, Inc.	m/t 1625 Tonia Ct. Riverside, CA 92506-5346	581-170-006	310.00	100.00	Row Crops	8S/1E-17B		
						8S/1E-17H		
	44200 Sage Rd Aguanga, CA 92536	581-180-009	120.00	0.00				
		581-190-001	320.00	0.00				
		581-120-006	200.00	5.00	Citrus	8S/1E-8K2	98.00	
				10.00	Deciduous Fruit			
				5.00	w Crops and Grapes			
		581-070-005	640.00	0.00		8S/1E-9Q - Diversion		2.00
TOTAL AGUANGA GROUNDWATER AREA				**611.50**			**1,057.60**	**340.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA								
Agri-Empire, Inc.	m/l P. O. Box 490	113-090-01	377.07	Total				
	San Jacinto, CA 92383	113-090-03	21.46	|				
		113-090-05	541.22	|				
		113-100-01	389.81	|		9S/2E-11B - Diversion (E)		25.00
		113-130-01	150.09	|		9S/2E-17		
E - Estimated		113-140-03	196.54	of		9S/2E-16N2	120.00	
				|		9S/2E-16M	63.00	
				|		9S/2E-16F1	0.00	
				|		9S/2E-16N1	0.00	
				|		9S/2E-16F2	39.00	
				|		9S/2E-16K - Diversion		28.00
		113-140-04	503.24	|				
		113-140-05	45.09	|				
		113-140-06	93.94	|				
		114-020-09	37.16	255.00	Potatoes			
		114-030-08	331.79	|	and	9S/2E-22	148.00	
		114-030-26	42.87	185.00	Grain			
* Land leased from	37126 Hwy 79	113-140-01 *	358.62	Total		9S/2E-16B(1)	Total	
Arlie W. and	Warner Springs, CA 92086			of		9S/2E-16B(2)	of	
Coral R. Bergman				|		9S/2E-16G	183.00	
		113-140-02 *	38.75	80.00	Potatoes			
		114-020-12	108.78	0.00				
		114-030-10	41.51	0.00				
		113-130-03	115.75	0.00				
		113-130-04	39.65	0.00				
Ward, Alvis A	m/l 2 Rue Biarritz	112-030-58	69.83	20.00	Pasture	9S/1E-1Q(1)	315.40	
	Newport Beach, CA 92660			33.00	Grain/Grass	9S/1E-1Q(2)	Domestic	
	38790 Highway 79	112-030-22	24.77	10.00	Pasture			
	Warner Springs, CA 92086	112-030-38	40.00	10.00	Pasture	9S/1E-12A	Domestic	
Ward, Donald F.	38790 Highway 79	112-030-67	67.41	10.00	Oats/Sudan	Used 9S/1E-1Q(1) on		
	Warner Springs, CA 92086					Alvis Ward's Property		
		112-030-59	160.00	0.00	Pasture	9S/1E-1M - Diversion		0.00

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA (Cont)								
Papac, Andrew and Olge	m/t 2030 Santa Anita Ave South El Monte, CA 91733 38642 Highway 79 Warner Springs, CA 92086	113-060-012	63.21	20.00	Bermuda Grass	9S/2E-7D 9S/2E-7E - Diversion	38.00	38.00
Templeton, Robert D. and Linda K.	35490 Highway 79 Warner Springs, CA 92086	114-120-042	78.41	0.00		9S/2E-35D1 9S/2E-35D1		
		114-070-007	76.42	20.00	Pasture	9S/2E-27R1 9S/2E-27R2 9S/2E-27J	Total of 114.00	
		114-090-014	42.51	10.00	Pasture			
		114-080-013	21.30	0.00				
TOTAL TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA				**653.00**			**1,020.40**	**91.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY								
Greenwald, Alvin G.	6010 Wilshire Blvd #500	573-180-001	156.38	156.36	Pasture	7S/3E-17E	625.52	
	Los Angeles, CA 90036	576-070-001	70.00	70.00	Pasture	7S/3E-20N	266.00	
Agri-Empire, Inc.	P.O. Box 490							
	San Jacinto, CA 92383							
	Section 8	573-090-005	45.17	Total of				
		573-100-002	27.79	70.00	Grain			
	Section 10	575-050-044	14.38	0.00				
		575-050-405	14.36	0.00				
		575-060-002	113.49	0.00		7S/3E-11N4	205.00	
						7S/3E-11P3	283.00	
	Section 13	575-100-037	57.80	0.00				
	Section 14	575-110-021	143.75	Total of		7S/3E-14D1	192.00	
		575-110-027	54.45	200.00	Potatoes & Grain			
		575-310-002	39.09	0.00		7S/3E-14C2	202.00	
		575-310-011	80.00	0.00				
		575-310-012	80.00	0.00				
		575-310-013	17.46	0.00				
		575-310-027	17.46	0.00				
	Section 15	575-080-014	9.92	Total				
		575-080-015	4.35	|				
		575-080-017	9.75	|				
		575-080-018	10.13	|				
		575-080-019	31.29	|				
		575-080-021	20.00	|				
		575-080-022	20.00	|				
		575-080-024	20.00	|				
		575-080-027	20.00	|				
		575-090-010	38.80	170.00	Grain			
	Section 17	573-180-011	39.74	0.00				
* Land leased from		573-200-004 *	18.24	Total				
Linus W. & Helen M. Miller		573-200-005 *	18.50	Grown				
P. O. Box 602		573-200-006 *	18.89	On				
Anza, CA 92306		573-200-007 *	18.88	Miller				
		573-200-008 *	18.31	Lease				
		573-200-009 *	36.40	Is				
		573-200-010 *	18.68	125.00	Potatoes			

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY (Cont)								
Agri-Empire, Inc. (Cont)								
	Section 20	576-060-009	8.26	Total				
		576-060-031	16.09	of				
		576-060-033	79.45	140.00	Potatoes			
		576-060-037	41.41	|				
		576-070-003	80.00	end				
		576-070-005	116.57	105.00	Grain			
				and				
	Section 21	576-080-003	133.72	190.00	Grain			
		576-100-029	40.00	40.00	Grain			
* Land leased from		576-110-001 *	160.00	40.00	Grain and			
Louise Phebe Hamilton Tr				40.00	Potatoes			
P. O. Box 102, Anza, CA 92306								
		576-110-002	28.00	Total				
		576-110-004	50.00	|				
		576-110-006	19.29	|		7S/3E-21R3	130.00	
		576-110-007	17.82	of				
		576-110-008	17.00	|				
		576-110-009	18.41	35.00	Grain			
	Section 22	575-120-012	88.03	Total of	Potatoes			
		575-130-003	19.55	of	and			
		575-130-006	40.89	140.00	Grain			
		575-130-008	18.56	Total				
		575-130-009	20.06	|				
		575-130-010	20.07	|				
		575-130-011	19.19	|				
		575-130-012	18.18	of				
		575-130-013	19.02	|				
		575-130-014	19.00	|				
		575-130-015	17.56	35.00	Grain			
	Section 23	575-140-019	105.04	0.00				

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY (Cont)								
Agri Empire, Inc. (Cont)								
Cahuilla Indian Reservation	Section 26	576-130-002 *	640.00	80.00 and	Grain			
* Land leased to Agri-Empire, Inc.	Section 27	576-130-001 *	640.00	56.00	Potatoes	7S/3E-27D1	240.00	
	Domestic Wells Reported by Bureau of Indian Affairs						Total	
	Wells in Basement Complex	Wells out of SMR Watershed		Wells with QYAL and/or QTOAL				
	7S/2E-26B2	8S/3E-2A1		7S/2E-14M1	7S/3E-27C1			
	7S/2E-34E1	8S/3E-2D1		7S/2E-14M2	7S/3E-27C2			
	7S/2E-36A1	8S/3E-2E1		7S/2E-23G1	7S/3E-27D1			
	7S/2E-36J1			7S/2E-23H1	7S/3E-27M1			
	7S/3E-26A1			7S/2E-23K1	7S/3E-28A1			
	7S/3E-29Q1			7S/2E-23M1	7S/3E-28D1		of	
	7S/3E-31N1			7S/2E-23P1	7S/3E-29M1			
	7S/3E-31Q1			7S/2E-23Q1	7S/3E-3OP1			
	8S/3E-6B1			7S/2E-25C1	7S/3E-3OQ1			
				7S/2E-25F1	7S/3E-31L2			
				7S/2E-28Q1	7S/3E-34N1			
				7S/2E-33C1	7S/3E-34Q1			
				7S/2E-33N1	8S/2E-4P1			
					8S/2E-6J1			
							18.00	
SUBTOTAL ANZA VALLEY				1,692.38			2,161.52	0.00
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
LEWIS VALLEY								
Green Shell Company	39850 Sage Road Hemet, CA 92343	571-080-012	80.00	50.00	Olive Trees	7S/1E-20Q	55.00	
SUBTOTAL LEWIS VALLEY				50.00			55.00	0.00
TOTAL WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA				1,742.38			2,216.52	0.00

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
MURRIETA-TEMECULA GROUNDWATER AREA								
Poyorena, Thomas J.	m/t 22145 Grand Ave Wildomar, CA 92395 21853 Palomar St.	369-510-022	18.79	14.00	Pasture	8S/4W-35P	53.20	
International Immunology, Inc.	m/t 25549 Adams Ave Murrieta, CA 92362	909-060-020 909-170-010 909-170-011	9.33 9.55 27.77	 25.00	 Pasture	 7S/3W-21K	 22.40	
Temecula Ranchos c/o Chester Rowell and Roger Rowell	m/t 2100 Tulare St #405 Fresno, CA 93271 45055 Rio Linda Road Rancho California Road La Serena Way Temecula, CA 92390	952-240-001 952-230-002 943-230-001 943-230-003 942-230-003 943-040-006 943-060-001 943-060-002	429.43 48.92 109.34 14.17 37.83 20.00 94.49 26.50	378.46 41.20 107.00 13.00 37.00 18.00 89.00 29.00	Citrus Citrus Citrus Citrus Citrus Citrus Citrus Citrus	8S/2W-14P1 8S/2W-14F 7S/2W-26L 7S/2W-28L	265.00 220.00 240.00 220.00	
Anza Grove	c/o McMillan Farm Mgt. 29379 Rancho Cal. Rd #201 Temecula, CA 92390	942-180-002 942-240-003 942-240-004 942-240-005	40.28 40.83 40.83 39.31	Total of 155.00 and 6.00	 Citrus Grapes	 7S/2W-26B1	 299.50	
Bear Valley Vineyard Co., Ltd. AND Manley Bear Valley Partners	c/o McMillan Farm Mgt. 29379 Rancho Cal. Rd #201 Temecula, CA 92390	904-050-080 904-030-021 904-030-020 904-060-009 904-060-008 904-060-010	17.51 90.12 2.38 129.46 48.00 153.47	0.00 90.00 0.00 0.00 36.00 0.00	 Wine Grapes Wine Grapes 	 7S/3W-18Q 	 139.00 	
DiBernardo, Louis J.	m/t 35925 Rancho Cal. Rd Temecula, CA 92591 38695 Highway 79 Warner Springs, CA 92086	917-240-015-7 917-240-014-6 917-150-006-1	20.00 60.00 120.00	Total of 105.00 10.00	 Citrus and Apples	 8S/1W-21K(1) 8S/1W-21K(2) 8S/1W-21P(1) 8S/1W-21P(2)	 Total of 260.00	
Boots, Clydene	P. O. Box 321 Murrieta, CA 92362 25555 Washington Ave Murrieta, Ca. 92564	909-090-019 909-100-017	16.66	14.00	Pasture	7S/3W-21P	53.20	

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
MURRIETA-TEMECULA GROUNDWATER AREA (Cont)								
Rancho California Association No. 2	3146 Quiet Hills Escondido, CA 92025 42835 Ivy St., Murrieta	906-240-007 904-040-071-5	53.66 3.02	56.00 Total	Pasture and Olive Trees	7S/3W-19R	110.00	
Carson, David M. and Carol J.	25471 Hayes Ave Murrieta, CA 92362	909-260-036 909-260-042	8.87 4.31	7.00 3.50	Pasture Pasture	7S/3W-29G	39.90	
Pechanga Indian Reservation								
	Domestic Wells Reported by Bureau of Indian Affairs						Total	
	Wells in Basement Complex	Wells out of SMR Watershed		Wells with QYAL and/or QTOAL				
				8S/2W-28P1	8S/2W-34E1			
				8S/2W-28Q2	8S/2W-34F1		of	
				8S/2W-28Q6	8S/2W-34F2			
				8S/2W-28R1	8S/2W-34F3			
				8S/2W-29A1	8S/2W-34F4			
				8S/2W-34B3	8S/2W-34F7			
				8S/2W-34C1	8S/2W-35D1			
				8S/2W-34D1				
					Domestic Use		59.00	
					Commercial Use		4.00	
					TOTAL USE			63.00
TOTAL MURRIETA-TEMECULA GROUNDWATER AREA				**1,234.16**			**1,985.20**	**0.00**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
SANTA MARGARITA RIVER BELOW GORGE								
DE LUZ CREEK								
Ezor, Albert E. and Sylvia L.	m/t 31421 Cavendish Dr. Los Angeles, CA 90064	101-271-17	47.79	8.00 2.00	Avocados Kiwi	8S/4W-29D(1) 8S/4W-29D(2)	23.00 Total	
Bryant, Warren and Lori	40724 DeLuz Rd Fallbrook, CA 92028	101-271-19 101-271-20 101-271-21 101-271-22	19.08 5.02 11.66 6.41	Total of 8.00	Pasture	8S/4W-29E(1) 8S/4W-29E(2)	30.40 Total	
Prestininzi, Pete and Dorothy N.	2525 E. Mission Road Fallbrook, CA 92028 Richmond Truck Trail and DeLuz Murrieta Road	101-220-12 101-210-53	31.63 50.44	12.00	Avocados and Citrus	8S/4W-20A(1) 8S/4W-20H(1) 8S/4W-20H(2) 8S/4W-20A(2) 8S/4W-20H(3) 8S/4W-20A - Diversion	6.00 6.00 6.00	18.00
Raley, Harold R. and Mary E.	41125 DeLuz Rd Fallbrook, CA 92028	101-210-11	15.23	8.50 0.50	Avocados Citrus	8S/4W-20Q(1) 8S/4W-20Q(2)	21.35 Total	
Herbel, John and Jeraldine	41257 DeLuz Rd Fallbrook, CA 92028	101-210-12	30.28	10.00 18.00 2.00	Avocados Citrus Row crops	8S/4W-20Q(1) 8S/4W-20Q(2) 8S/4W-20Q(3)	Total of 66.20	
Wagner, Wilbur A. and Shirley A.	m/t 14539 San Dieguito La Mirada, CA 90638 DeLuz Road, Fallbrook	101-210-23 101-210-22	17.19 4.55	11.00 0.50 3.00 3.00	Avocados Citrus Persimmons Persimmons	8S/4W-20P(1) 8S/4W-20P(2) 8S/4W-20P(3)	0.00 0.00 30.00	
Chambers, Robert R. and Clytia M.	m/t 11439 Laurelcrest Dr. Studio City, CA 91604 40888 DeLuz-Murrieta Rd.	101-571-03	41.72	19.00	Flowers	8S/4W-28A 8S/4W-28A - Diversion	40.00	5.00
Shirley, Robert G. and Bobbi J.	39948 DeLuz Road Fallbrook, CA 92028	101-561-06 101-561-04	18.43 5.40	10.00	Bermuda Grass	8S/4W-32E - Diversion		38.00
Welburn, Douglas J. and Sue	40787 DeLuz Murriete Rd. Fallbrook, CA 92026 40751 DeLuz Murrieta Rd	101-571-08	26.98	8.00	Row Crops	8S/4W-28G1	20.00	
Nezami, Mohammed Bluebird Ranch	2193 Calle Rociada Fallbrook, CA 92028	101-312-02 101-312-01	58.17 82.29	45.00 7.00 42.00	Flowers Avocados Flowers	8S/4W-31K(1) 8S/4W-31K(2) 8S/4W-31K(3) 8S/4W-31L 8S/4W-31L - Diversion	Total of 162.18	31.48
SUBTOTAL DELUZ CREEK				**217.50**			**411.13**	**92.48**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
SANTA MARGARITA RIVER BELOW GORGE (Cont)								
SANDIA CREEK								
Cal June, Inc.	P. O. Box 9551 No. Hollywood, CA 91609 40376 Sandia Creek Fallbrook, CA 92028	101-360-40	126.32	50.00 75.00 1.00	Avocados Fruit Citrus	8S/4W-25P(1) 8S/4W-25P(2) 8S/4W-25P(3) 8S/4W-25P(4) 8S/4W-25P(5) 8S/4W-25P - Diversion	Total Well Production of 80.00	150.00
SUBTOTAL SANDIA CREEK				**126.00**			**80.00**	**150.00**
SANTA MARGARITA RIVER								
Henderson, Leland	m/l Margarita Land & Development PO Box 584 Fallbrook, CA 92088 47981 & 47991 Willow Glen Rd Temecula, CA 92390	918-040-10 918-060-17	120.00 40.00	Total of 20.00	Citrus and Avocados	8S/3W-33Q1 8S/3W-33Q(2) 8S/3W-33Q - Diversion	33.52 3.70	41.36
SUBTOTAL SANTA MARGARITA RIVER				**20.00**			**37.22**	**41.36**
TOTAL SANTA MARGARITA RIVER BELOW GORGE				**363.50**			**528.35**	**283.84**

APPENDIX C

SANTA MARGARITA RIVER WATERSHED
SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 94-95	IRRIGATED CROP 94-95	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
LOWER MURRIETA								
Robertson, Richard and Janice (Sage Ranch Nursery)	m/t P. O. Box 7060 Hemet, CA 92545 42525 E. Benton Rd.	571-020-046	81.09	0.00				
		571-020-047	40.80	0.00				
		571-020-048	36.75	0.00				
		571-020-049	148.86	Total		7S/3E-7D	4.00	
		571-520-007	109.50	|				
		571-520-008	99.43	of				
		571-520-009	80.23	|				
		571-520-010	78.20	40.00	Row Crops			
		470-210-007	53.62	|	and			
		470-220-004	121.00	400.00	Olive trees	7S/3E-7E - Diversion		117.00
Zamora, John and Linda	39800 E. Benton Rd. Temecula, CA 92390	915-120-18	37.74	10.00	Pasture	7S/1W-10R(1) 7S/1W-10R(2) 7S/1W-10R(3) 7S/1W-10R(4) 7S/1W-10R(5) 7S/1W-10R(6)	Total of | 38.00 Domestic	
TOTAL LOWER MURRIETA				**450.00**			**42.00**	**117.00**
GRAND TOTAL				**5,054.54**			**6,850.07**	**831.84**
GRAND TOTAL	(Not including Indian Reservation Domestic and Commercial Use)			**5,054.54**			**6,769.07**	**831.84**

WATERMASTER
SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 1994-95

APPENDIX D

WATER QUALITY DATA

JULY 1996

TABLE D-2

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

SURFACE STREAMS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
			Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Temecula Creek	03/13/87	575	—	—	76	—	68	—	—	<.1 @N
At Hwy 79	05/08/87	750	—	—	115	—	78	—	—	<.1 @N
	09/04/87	895	—	—	134	—	110	—	—	.2 @N
	01/20/88	370	—	—	55	—	43	—	—	.2 @N
DeLuz Creek	08/21/86	760	*94	44	92	2	193	165	204	17
At Dios Rio Road	11/25/86	740	92	42	92	4	175	195	146	39
	03/13/87	670	—	—	85	—	165	—	—	4 @N
	05/08/87	700	—	—	94	—	200	—	—	9 @N
	09/04/87	755	—	—	92	—	95	—	—	3.4 @N
	01/20/88	775	—	—	100	—	142	—	—	11.7 @N
Sandia Creek at	08/21/86	680	88	42	78	2	174	140	198	15
Buenos Campos	11/25/86	685	92	44	73	2	165	150	207	16
	03/13/87	660	—	—	73	—	160	—	—	2.7 @N
	05/08/87	725	—	—	80	—	182	—	—	14 @N
	09/04/87	690	—	—	75	—	90	—	—	3.4 @N
	01/20/88	720	—	—	99	—	132	—	—	5.6 @N
Murrieta Creek	08/21/86	510	66	15	96	4	96	135	372	10
At Gaging Station	11/25/86	520	62	18	103	3	109	81	259	3
	04/02/87	515	—	—	99	—	104	—	—	.2 @N
	05/08/87	790	—	—	102	—	9	—	—	.2 @N
	09/04/87	445	—	—	84	—	45	—	—	.7 @N
	01/20/88	525	—	—	85	—	109	—	—	.7 @N

* - Laboratory reported as 940

TABLE D-2 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

SURFACE STREAMS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
			Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Santa Margarita	08/21/86	540	70	15	96	2	110	115	198	5
River at	11/25/86	600	110	24	85	3	103	105	311	4
Gaging Station	04/02/87	660	—	—	87	—	107	—	—	.7 @N
	05/08/87	630	—	—	93	—	98	—	—	1.1 @N
	09/04/87	640	—	—	88	—	100	—	—	<1 @N
	01/20/88	400	—	—	84	—	89	—	—	.7 @N
	06/29/94	—	—	—	—	—	—	—	—	0.3 @N
	07/06/94	—	—	—	—	—	—	—	—	0.3 @N
	07/13/94	—	—	—	—	—	—	—	—	<0.1 @N
	07/20/94	—	—	—	—	—	—	—	—	0.3 @N
	07/27/94	—	—	—	—	—	—	—	—	0.1 @N
	08/03/94	—	—	—	—	—	—	—	—	0.2 @N
	08/16/94	—	—	—	—	—	—	—	—	<0.1 @N
	08/24/94	—	—	—	—	—	—	—	—	0.6 @N
	08/31/94	—	—	—	—	—	—	—	—	0.4 @N
	09/07/94	—	—	—	—	—	—	—	—	0.3 @N
	09/14/94	—	—	—	—	—	—	—	—	0.9 @N
	09/21/94	—	—	—	—	—	—	—	—	0.7 @N
	09/27/94	—	—	—	—	—	—	—	—	0.4 @N
	10/06/94	—	—	—	—	—	—	—	—	<0.1 @N
	10/11/94	—	—	—	—	—	—	—	—	0.4 @N
	10/19/94	—	—	—	—	—	—	—	—	0.4 @N
	10/26/94	—	—	—	—	—	—	—	—	0.7 @N
	11/02/94	—	—	—	—	—	—	—	—	0.6 @N
	11/09/94	—	—	—	—	—	—	—	—	0.5 @N
	11/16/94	—	—	—	—	—	—	—	—	0.6 @N
	11/23/94	—	—	—	—	—	—	—	—	0.5 @N
	11/30/94	—	—	—	—	—	—	—	—	0.6 @N
	12/07/94	—	—	—	—	—	—	—	—	0.7 @N
	12/14/94	—	—	—	—	—	—	—	—	0.8 @N
	12/21/94	—	—	—	—	—	—	—	—	1.0 @N
	12/29/94	—	—	—	—	—	—	—	—	0.8 @N
	01/04/95	—	—	—	—	—	—	—	—	0.6 @N
	01/11/95	—	—	—	—	—	—	—	—	0.7 @N
	01/18/95	—	—	—	—	—	—	—	—	4.8 @N
	01/26/95	390	—	—	—	—	—	—	—	0.5 @N

TABLE D-2 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

SURFACE STREAMS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
			Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Santa Margarita River at Gaging Station (cont'd)	02/01/95	750	—	—	—	—	—	—	—	1.0 @N
	02/08/95	940	—	—	—	—	—	—	—	1.5 @N
	02/15/95	440	—	—	—	—	—	—	—	1.1 @N
	02/22/95	765	—	—	—	—	—	—	—	0.9 @N
	03/01/95	765	—	—	—	—	—	—	—	1.1 @N
	03/08/95	575	—	—	—	—	—	—	—	1.3 @N
	03/15/95	625	—	—	—	—	—	—	—	1.1 @N
	03/22/95	600	—	—	—	—	—	—	—	0.8 @N
	03/29/95	680	—	—	—	—	—	—	—	0.9 @N
	04/05/95	715	—	—	—	—	—	—	—	0.3 @N
	04/12/95	645	—	—	—	—	—	—	—	0.9 @N
	04/19/95	550	—	—	—	—	—	—	—	1.0 @N
	04/26/95	765	—	—	—	—	—	—	—	1.2 @N
	05/03/95	735	—	—	—	—	—	—	—	1.0 @N
	05/10/95	760	—	—	—	—	—	—	—	0.7 @N
	05/17/95	760	—	—	—	—	—	—	—	0.9 @N
	05/24/95	835	—	—	—	—	—	—	—	1.1 @N
	05/31/95	910	—	—	—	—	—	—	—	1.2 @N
	06/07/95	950	—	—	—	—	—	—	—	1.7 @N
	06/14/95	900	—	—	—	—	—	—	—	0.8 @N
	06/21/95	1000	—	—	—	—	—	—	—	1.5 @N
	06/28/95	940	—	—	—	—	—	—	—	1.3 @N
	07/06/95	880	—	—	—	—	—	—	—	0.9 @N
	07/12/95	910	—	—	—	—	—	—	—	0.9 @N
	07/19/95	910	—	—	—	—	—	—	—	0.8 @N
	07/26/95	895	—	—	—	—	—	—	—	0.8 @N
	08/02/95	980	—	—	—	—	—	—	—	1.4 @N
	08/09/95	935	—	—	—	—	—	—	—	1.4 @N
	08/16/95	925	—	—	—	—	—	—	—	0.7 @N
	08/23/95	905	—	—	—	—	—	—	—	0.8 @N
	08/30/95	865	—	—	—	—	—	—	—	0.8 @N
	09/06/95	740	—	—	—	—	—	—	—	<0.2 @N
	09/13/95	870	—	—	—	—	—	—	—	1.0 @N
	09/20/95	885	—	—	—	—	—	—	—	0.5 @N
	09/27/95	900	—	—	—	—	—	—	—	0.7 @N

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY MURRIETA COUNTY WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Holiday Well	06/16/89	1300	775	122	39	100	2	178	66	372	40
7S/3W-20C09	10/18/91	---	---	---	---	---	---	---	---	---	25
	11/15/91	---	---	---	---	---	---	---	---	---	26
	12/13/91	---	---	---	---	---	---	---	---	---	28
	01/10/92	---	---	---	---	---	---	---	---	---	27
	02/07/92	---	---	---	---	---	---	---	---	---	27
	05/01/92	---	---	---	---	---	---	---	---	---	32
	05/29/92	---	---	---	---	---	---	---	---	---	28
	08/21/92	---	---	---	---	---	---	---	---	---	27
	01/22/93	960	605	83	29	83	2	130	84	278	33
	10/15/93	---	---	---	---	---	---	---	---	---	32
	03/30/94	---	---	---	---	---	---	---	---	---	44
	06/22/94	---	---	---	---	---	---	---	---	---	35
	09/14/94	---	---	---	---	---	---	---	---	---	31
	12/07/94	---	---	---	---	---	---	---	---	---	30
	03/01/95	---	---	---	---	---	---	---	---	---	32
	06/21/95	---	---	---	---	---	---	---	---	---	11
	09/13/95	---	---	---	---	---	---	---	---	---	27
House Well	06/16/89	660	345	34	3	95	2	87	60	153	<1
7S/3W-20G06	02/27/91	770	---	---	---	---	---	110	65	168	<1
	03/01/91	730	---	---	---	---	---	110	---	---	<1
	03/08/91	680	420	42	5	90	2	110	68	122	<1
	05/10/91	750	---	---	---	---	---	---	---	---	<1
	10/11/91	---	---	---	---	---	---	---	---	---	<1
	11/08/91	---	---	---	---	---	---	---	---	---	<1
	05/22/92	---	---	---	---	---	---	---	---	---	<1
	08/14/92	---	---	---	---	---	---	---	---	---	<1
	01/22/93	720	415	40	5	106	2	100	68	168	<1
	09/07/94	---	---	---	---	---	---	---	---	---	<1
	12/27/95	---	---	---	---	---	---	---	---	---	<1
	03/22/95	---	---	---	---	---	---	---	---	---	<1
	06/14/95	---	---	---	---	---	---	---	---	---	<1
	09/06/95	---	---	---	---	---	---	---	---	---	<1
Lynch Well	06/16/89	760	410	70	17	55	1	86	30	262	8
7S/3W-17R02											

TABLE D-3 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY MURRIETA COUNTY WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
North Well	06/16/89	730	390	40	7	98	2	98	45	201	<1
7S/3W-18J02	10/25/91	---	---	---	---	---	---	---	---	---	<1
	11/22/91	---	---	---	---	---	---	---	---	---	<1
	05/08/92	---	---	---	---	---	---	---	---	---	<1
	08/28/92	---	---	---	---	---	---	---	---	---	<1
	01/22/93	680	405	39	8	99	2	100	51	183	<1
	10/22/93	---	---	---	---	---	---	---	---	---	<1
	07/08/94	810	520	---	---	87	---	130	53	---	<1
	09/21/94	---	---	---	---	---	---	---	---	---	<1
	12/14/94	---	---	---	---	---	---	---	---	---	<1
	03/08/95	---	---	---	---	---	---	---	---	---	<1
	06/28/95	---	---	---	---	---	---	---	---	---	<1
	09/20/95	---	---	---	---	---	---	---	---	---	<1
South Well	09/07/90	690	405	62	17	68	2	83	56	229	4
7S/3W-20D	10/04/91	---	---	---	---	---	---	---	---	---	2
	11/01/91	---	---	---	---	---	---	---	---	---	3
	11/26/91	---	---	---	---	---	---	---	---	---	2
	05/15/92	---	---	---	---	---	---	---	---	---	<1
	10/01/93	---	---	---	---	---	---	---	---	---	2
	09/28/94	---	---	---	---	---	---	---	---	---	1
	12/21/94	---	---	---	---	---	---	---	---	---	3
	03/15/95	---	---	---	---	---	---	---	---	---	2
	06/07/95	---	---	---	---	---	---	---	---	---	2
	09/27/95	---	---	---	---	---	---	---	---	---	2
Alson Well	06/06/90	1520	915	138	46	110	1	250	81	433	31
7S/3W-7M											
Morris Well	09/07/90	530	280	38	7	68	3	50	49	168	3

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 101	06/01/88	810	495	76	15	79	8	116	16	314	—
7S/3W-34G1	08/05/88	—	—	—	—	—	—	—	—	—	<1
	05/23/90	630	365	30	6	91	2	101	35	107	3
	08/04/93	860	465	76	14	78	2	120	22	275	<1
No. 102	01/04/89	695	370	9	2	134	1	101	25	195	<1
8S/3W-2Q1	01/15/92	930	615	38	4	160	3	160	55	250	<1
	05/17/95	850	475	21	1	144	1	120	130	98	<1
	06/20/95	1190	700	26	2	207	2	150	220	131	<1
No. 105	07/06/89	500	280	30	6	66	2	71	22	134	14
7S/3W-25M1	03/17/93	480	310	17	2	80	2	67	22	110	14
No. 106	06/29/88	920	485	38	5	143	3	182	66	70	16
7S/3W-26R1	05/13/92	880	515	35	4	142	2	180	72	110	17
	05/16/95	870	495	32	3	138	2	160	57	116	14
No. 107	04/11/88	490	365	19	4	73	2	69	22	116	15
7S/3W-26J1	05/29/91	950	535	63	15	104	3	130	120	171	11
No. 108	05/25/88	780	455	51	11	96	2	120	68	153	14
7S/3W-25E1	05/29/91	930	500	59	14	104	3	130	110	153	10
	05/13/94	640	395	23	5	100	2	120	51	104	7
	05/16/95	—	—	—	—	—	—	—	—	—	5
No. 109	06/01/88	1400	920	136	35	120	4	100	300	296	—
8S/2W-17J1	08/05/88	—	—	—	—	—	—	—	—	—	10
	06/12/91	1330	800	110	26	120	5	120	270	275	9
	06/22/94	1370	1010	138	32	124	5	140	320	287	7
	06/06/95	—	—	—	—	—	—	—	—	—	8
No. 110	03/31/88	1100	630	70	23	132	6	115	163	268	3
8S/1W-06K1	03/11/93	1010	610	60	21	124	5	110	200	201	3
	04/27/95	—	—	—	—	—	—	—	—	—	1
No. 113	03/28/88	700	400	41	12	87	2	11	20	192	18
7S/2W-25H01	03/21/91	570	290	21	5	79	2	88	17	119	11
	03/03/94	700	410	46	13	86	2	120	25	189	19
	04/27/95	—	—	—	—	—	—	—	—	—	24

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 118	08/08/90	715	480	14	1	162	1	120	79	101	1
8S/3W-11B	09/26/90	---	---	---	---	---	---	---	---	---	1
	09/10/93	860	525	19	1	178	1	130	94	198	<1
	06/20/95	---	---	---	---	---	---	---	---	---	<1
No. 120	06/20/90	570	330	6	1	116	1	82	31	113	11
8S/2W-17G	06/10/93	590	340	6	<1	122	1	85	35	104	12
No. 121	10/27/89	900	475	63	14	99	2	109	28	290	<1
7S/3W-34J	05/19/92	1000	560	72	17	120	3	170	56	270	<1
No. 123	06/06/90	1100	690	69	27	132	6	130	170	281	4
8S/1W-7B	06/10/93	1120	690	74	25	136	6	120	190	250	5
No. 124	06/20/90	660	380	38	4	92	3	97	48	153	13
8S/2W-11R1	07/22/93	690	430	42	5	89	3	90	57	159	17
	07/18/95	---	---	---	---	---	---	---	---	---	11
No. 125	06/20/90	740	425	17	5	132	3	99	54	186	4
8S/2W-12H	06/10/93	770	450	18	5	140	3	150	60	131	3
	06/20/95	---	---	---	---	---	---	---	---	---	2
No. 126	05/04/88	480	290	4	<1	106	<1	53	14	64	<1
8S/2W-15H	07/06/89	500	270	2	1	108	<1	55	11	98	<1
	07/18/95	540	315	1	<1	122	<1	72	11	122	<1
No. 128	07/06/89	400	230	27	3	54	2	59	7	101	25
7/3W-36M	07/08/92	390	230	21	2	59	2	55	1	110	24
	07/20/95	380	275	16	2	66	1	65	10	101	19
No. 129	11/29/89	430	260	16	3	66	2	71	16	92	9
7S/2W-20L	08/08/90	440	280	20	5	64	2	72	14	119	10
	04/01/92	---	---	---	---	---	---	---	---	---	12
	09/10/93	470	275	24	6	60	2	74	16	110	13

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 130	02/17/88	650	365	16	1	132	1	69	64	0	4
8S/2W-11R	02/14/91	640	365	4	<1	132	1	68	56	122	---
	04/24/91	---	---	---	---	---	---	---	---	---	3
	02/09/94	650	410	3	<1	148	1	81	72	146	4
	05/16/95	---	---	---	---	---	---	---	---	---	4
No. 131	03/10/88	530	270	4	<1	108	1	57	52	31	1
8S/1W-12J	03/21/91	630	335	7	<1	120	1	74	65	98	3
	03/03/94	660	345	9	<1	124	2	86	73	119	2
	03/30/95	---	---	---	---	---	---	---	---	---	2
No. 132	04/18/88	1000	620	94	13	103	6	109	153	235	2
8S/1W-07D	05/08/91	920	590	64	19	110	5	100	160	201	<1
	05/13/94	730	460	50	15	78	5	73	110	195	1
	05/16/95	---	---	---	---	---	---	---	---	---	<1
	07/18/95	860	520	59	17	100	4	90	130	223	1
No. 133	03/28/90	970	605	50	20	112	5	120	131	235	3
8S/1W-7C	03/11/93	970	580	48	19	120	4	110	140	204	3
	06/06/95	---	---	---	---	---	---	---	---	---	2
	07/18/95	850	680	26	10	142	2	120	100	174	2
No. 135	05/24/89	2450	1390	122	65	300	2	410	225	464	33
7S/3W-27M	06/06/90	1540	945	73	36	215	1	250	150	323	13
	12/11/90	4400	2670	270	109	480	4	1030	380	314	<1
No. 138	10/30/90	460	240	19	2	74	2	71	13	113	18
8S/2W-6F	10/06/93	420	240	11	<1	70	1	56	10	92	14
No. 139	12/29/87	460	295	24	7	65	1	60	11	104	7
7S/2W-32G	11/23/92	450	275	32	9	46	2	60	13	134	20

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 140	02/18/88	560	325	33	10	65	2	77	14	153	13
7S/2W-33F	01/15/92	450	235	11	2	88	1	68	18	107	2
	02/28/95	560	325	36	11	58	2	94	14	140	12
No. 141	01/06/88	780	440	64	11	82	3	65	91	217	13
8S/2W-11P	01/30/92	820	500	63	13	95	3	79	110	238	19
	03/30/95	840	490	58	11	100	3	70	97	241	14
No. 143	01/15/88	670	345	8	2	134	1	91	57	95	11
8S/2W-17J	10/17/90	660	345	25	4	112	2	89	62	140	12
	03/03/94	690	370	24	3	114	2	93	68	131	11
	03/30/95	---	---	---	---	---	---	---	---	---	11
No. 144	09/14/88	610	335	8	<1	114	1	95	33	92	<1
7S/3W-27D3											
No. 145	10/04/90	800	490	43	8	110	2	110	78	171	<1
7S/3W-28C	10/06/93	650	375	23	3	106	1	85	58	146	<1
No. 149	06/15/93	---	---	---	---	---	---	---	---	---	5
8S/1W-2C											
No. 149A	08/26/88	950	540	71	211	96	1	115	47	302	18
7S/3W-28A	10/31/91	800	480	36	13	122	3	93	110	195	---
No. 150	09/29/88	1950	1235	134	29	225	2	290	220	390	15
7S/3W-27P	12/21/91	1000	590	74	17	108	4	130	110	207	---
No. 151	09/20/88	5780	3410	280	114	840	5	1660	670	369	<1
7S/3W-34B											
Abandoned											
No. 151	07/25/91	860	485	53	16	103	4	90	130	183	---
8S/2W-2G	07/28/91	730	400	39	12	100	3	91	58	177	---
	07/29/91	600	340	9	2	122	5	63	34	204	---
	10/17/91	510	295	3	<1	118	1	45	10	137	---
	08/10/94	550	340	3	<1	110	1	59	22	119	<1

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 153 8S/1W-5K3	12/29/93	804	485	53	18	92	5	86	120	214	<1
No. 154 8S/1W-5L2	01/28/94	930	530	46	20	106	6	89	130	214	3
No. 155	09/16/93	680	355	22	2	108	1	90	64	104	<1
7S/3W-28C	02/23/95	760	445	30	3	126	1	120	82	140	4
	06/06/95	---	---	---	---	---	---	---	---	---	5
No. 158	06/21/94	1090	620	67	23	124	7	120	170	259	---
No. 201	03/28/91	530	315	19	6	83	2	83	16	110	2
7S/2W-27J	03/11/93	460	300	8	2	87	1	51	20	146	<1
No. 202 7S/2W-36J1	12/11/88	740	440	47	18	84	3	97	48	223	17
No. 203	05/18/88	960	580	50	39	110	4	96	115	275	---
8S/1W-6P1	06/29/88	970	530	44	36	112	4	120	123	250	5
	06/12/91	800	415	21	17	108	3	91	90	174	2
	06/22/94	980	645	59	38	99	4	130	130	256	4
	06/07/95	---	---	---	---	---	---	---	---	---	5
No. 204	05/22/91	740	425	50	12	85	3	120	18	198	19
7S/2W-26G	05/13/94	690	375	37	7	85	3	130	19	125	19
No. 205	03/28/88	500	290	23	3	81	2	83	27	107	21
7S/3W-35A	03/13/91	490	275	22	3	75	2	62	23	113	21
	03/03/94	510	275	20	2	72	2	72	24	104	20
	04/26/95	---	---	---	---	---	---	---	---	---	22

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 207	09/01/88	510	245	1	<1	108	<1	54	26	82	<1
8S/2W-14B	09/14/88	480	305	3	<1	106	<1	58	23	24	1
	08/14/91	480	245	1	<1	100	<1	52	28	55	<1
	08/10/94	440	285	2	<1	91	1	56	29	76	2
No. 208	09/01/88	680	415	44	15	77	3	119	14	186	18
7S/2W-35M	09/14/88	690	440	44	14	77	3	129	14	183	16
	08/14/91	600	340	23	7	89	2	85	18	162	4
	08/10/94	560	370	22	6	89	2	93	20	156	5
	06/06/95	---	---	---	---	---	---	---	---	---	4
No. 209	05/22/91	790	435	40	14	105	2	150	35	162	8
7S/2W-28J	05/13/94	760	525	64	22	48	3	150	15	153	25
	06/20/95	---	---	---	---	---	---	---	---	---	5
No. 210	03/28/88	1030	575	76	22	93	5	99	143	247	4
8S/2W-12K	09/25/91	1040	600	74	20	120	5	120	160	238	5
	09/19/94	645	460	52	14	79	4	70	100	198	2
No. 212	03/28/88	640	330	42	2	74	3	81	33	146	14
8S/2W-11N	09/25/91	600	320	41	2	82	4	86	35	146	14
No. 215	08/15/90	650	380	40	13	71	3	100	14	162	11
7S/2W-34M	09/26/90	---	---	---	---	---	---	---	---	---	13
	06/22/94	630	400	41	13	67	2	110	16	159	11
No. 216	06/01/88	480	280	25	4	65	2	71	11	134	---
8S/2W-7W	06/29/88	480	275	29	5	59	3	81	7	110	26
	06/12/91	500	285	30	5	59	2	76	9	113	23
	05/27/92	470	285	33	6	53	2	72	10	119	20
No. 217	03/28/88	580	285	8	1	108	1	81	20	113	15
8S/2W-17M1	08/10/88	570	280	8	1	105	1	82	20	55	13
	08/14/91	570	305	17	2	99	2	74	28	134	16
	08/10/94	610	365	20	3	97	2	82	38	134	16

TABLE D-4 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 231	08/15/90	1280	805	126	18	120	5	100	310	244	9
8S/2W-20B6	09/26/90	—	—	—	—	—	—	—	—	—	6
	03/04/92	1700	1270	180	51	160	6	140	510	332	5
	06/20/95	1640	1300	171	44	124	6	75	520	287	5.3
No. 232	08/15/90	960	590	71	19	110	5	98	130	235	30
8S/2W-11J3	09/26/90	—	—	—	—	—	—	—	—	—	35
	09/25/91	980	565	74	19	106	5	98	120	244	37
	09/19/94	805	495	54	14	92	4	80	110	207	15
No. 233 (Old 112)	06/15/88	900	535	71	21	100	5	96	136	247	4
8S/2W-12K2	03/27/91	1020	580	66	19	114	5	95	140	247	12
	03/03/94	740	425	50	14	75	4	71	100	186	2
	04/27/95	—	—	—	—	—	—	—	—	—	6
No. 234 (Old 114)	03/31/88	840	480	54	15	100	4	61	109	241	18
8S/2W-11P	03/27/91	1020	605	69	19	114	5	77	138	256	37
	06/20/95	—	—	—	—	—	—	—	—	—	11
No. 235 (Old 137)	06/24/88	460	310	40	10	41	2	58	10	140	15
8S/3W-1P4	06/20/90	420	230	22	4	56	2	50	6	128	18
	06/10/93	370	235	15	2	65	2	51	9	113	17
No. 301	07/29/92	500	290	20	6	80	1	45	56	143	<1
7S/3W-18Q1											
No. 302	04/11/88	690	360	36	6	100	1	77	65	192	<1
7S/3W-18H	05/15/91	760	425	58	9	87	2	83	72	220	<1
	05/14/92	—	270	12	2	90	<1	48	48	—	—
	05/05/94	870	530	69	16	84	2	110	88	238	<1
	05/16/95	—	—	—	—	—	—	—	—	—	<1
No. 309	08/15/90	690	370	19	3	119	2	140	25	73	5
7S/3W-27H	04/11/91	—	—	—	—	—	—	—	—	—	<.001
	09/25/91	730	365	19	2	122	2	150	27	82	5
	08/11/94	730	430	20	2	120	2	160	30	73	5
	02/16/95	—	—	—	—	—	—	—	—	—	18

TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Pechanga Indian Reservation											
8S/2W-28R01	08/03/89	495	286	41	4.0	60	0.9	37	13	177	1.1 @N
	07/26/90	525	296	48	4.8	54	1.0	45	14	191	1.5 @N
	07/17/91	462	261	31	3.2	66	0.8	44	12	155	.8 @N
	07/27/93	445	269	44	4.4	43	0.5	28	14	170	1.9 @N
	08/15/94	421	232	32	3.3	55	0.9	28	11	156	1.5 @N
	08/30/95	375	200	21	2.2	55	0.6	31	11	129	.7 @N
8S/2W-35D01	08/03/89	660	347	43	5.5	87	1.2	78	35	169	.35 @N
	07/26/90	669	384	41	4.9	92	1.5	82	36	176	.40 @N
	07/17/91	641	371	40	4.4	98	1.7	81	36	175	.39 @N
	07/27/93	638	374	49	5.9	79	1.8	71	27	199	.34 @N
	08/16/94	601	334	30	3.2	95	1.5	71	29	163	.16 @N
	08/30/95	587	322	33	4	81	1.5	68	25	178	.11 @N
8S/2W-29A01	08/02/89	346	207	31	11	24	0.4	18	7.0	131	2.0 @N
	07/24/90	354	193	32	11	25	0.4	24	6.7	133	2.0 @N
	07/18/91	361	194	32	10	26	0.4	25	6.0	134	1.8 @N
	08/15/94	363	216	33	12	25	0.5	24	7.7	132	2.6 @N
	08/31/95	363	---	32	11	23	0.4	21	8.1	137	2.6 @N
8S/2W-34B04	10/05/89	600	---	---	---	---	---	---	---	198	.47 @N
	07/26/90			50	8	65	1	61	31		
	07/18/91	564	339	46	7.4	67	1	53	27	185	.87 @N
	07/27/93	267	170	18	2.8	34	0.5	14	9.7	96	1.10 @N
8S/2W-28Q02	10/05/89	629	378	48	19	49	0.7	76	14	169	4.2 @N
	07/26/90	613	383	48	18	47	0.6	75	12	171	3.9 @N
	07/18/91	618	379	49	18	49	0.6	83	14	172	3.0 @N
	07/28/93	620	400	51	20	47	0.7	63	15	174	9.6 @N
	08/17/94	641	396	51	21	50	0.8	60	17	179	11.0 @N
	08/31/95	653	396	53	21	48	0.7	60	19	184	12.0 @N
8S/2W-28Q06	09/17/93	312	200	19	2.9	43	1	16	2.8	126	1.0 @N
	08/30/95	310	174	16	3.4	46	0.6	16	3.8	131	
8S/2W-20J01	08/15/90	1130	596	100	22	110	2.3	110	200	236	1.3 @N
	12/20/93	868	---	80	16	76	1.4	86	110	---	3.6 @N
8S/2W-20J02	08/15/90	404	216	42	6.3	38	0.8	27	12	159	1.2 @N
	12/20/93	408	---	42	6.0	35	0.8	29	12	---	1.2 @N

* - Alkalinity as CAC03

TABLE D-5 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Pechanga Indian Reservation (Continued)											
8S/2W-29B01	07/28/93	421	241	13	0.68	73	0.7	55	16	109	.08 @N
8S/2W-29B02	03/01/90	456	257	5.5	0.14	89	0.8	66	22	100	—
	03/06/90	456	256	5.9	0.13	90	0.7	66	20	99	<0.1 @N
8S/2W-29B03	03/06/90	478	275	14	1.9	84	0.8	65	16	123	<0.1 @N
8S/2W-29B05	03/02/90	397	229	29	9.5	43	1.2	35	4.9	141	1.8 @N
8S/2W-29B06	03/02/90	406	259	34	11	38	0.8	38	10	143	—
	03/06/90	427	240	32	11	40	1.0	40	8.1	148	1.2 @N
8S/2W-29B07	03/07/90	396	230	8.6	2.5	71	0.9	51	11	102	<0.1 @N
	08/16/90	371	199	8.4	1.8	69	0.8	50	14	106	<0.1 @N
8S/2W-29B08	03/07/90	464	272	31	9.4	52	1.2	58	12	134	0.45 @N
	08/16/90	458	261	34	9.1	48	1.1	59	17	135	0.4 @N
8S/2W-29B09	03/07/90	343	210	21	9.2	39	1.0	24	6.7	131	1.3 @N
	08/17/90	317	197	26	10	26	1.1	22	3.4	130	1.6 @N
Cahuilla Indian Reservation											
8S/3E-2K01	07/20/89	531	323	46	11	41	3.4	60	22	136	3.6 @N
	08/01/90	508	310	46	11	38	3.3	60	19	134	3.8 @N
	07/16/91	522	306	50	10	39	3.3	61	21	139	3.7 @N
7S/3E-21L01	08/02/89	1050	675	90	19	100	3.5	84	190	216	3.1 @N
	08/01/90	1020	610	87	18	100	3.4	85	180	217	3.0 @N
	07/17/91	995	636	93	18	100	3.7	95	180	206	2.5 @N
7S/2E-33N	08/02/89	355	206	16	2.1	53	3.5	48	15	78	.73 @N
7S/3E-34E01	07/20/89	338	204	30	5.6	26	5.0	29	7.0	98	3.3 @N
	07/31/91	337	109	31	5.5	25	4.5	31	6.3	99	3.5 @N
	07/16/91	335	209	31	5.9	26	4.7	32	6.3	99	3.5 @N

* - Alkalinity as CAC03

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-26C1	06/89	1302	734	78.1	23.0	85.9	—	136	145	212	<0.4
(Bldg 2201)	01/91	1271	—	81	36.1	152	—	166	—	—	<0.04
	06/91	1290	752	99	32.4	133	—	167	136	237	<0.4
	03/92	1210	792	91	29.8	146	—	159	135	279	<0.4
	06/93	1290	764	68.3	27.5	149	—	168	130	265	<0.4
	03/94	1210	783	100	37.1	100	—	145	167	—	2.2
	08/94	1160	741	87.5	35.5	96.1	—	141	187	—	4.23
	06/95	1330	806	97.7	37.4	142	—	207	166	—	<0.04
10S/5W-23J1	06/89	1139	662	71.5	21.7	80.8	—	117	128	209	<0.4
(Bldg 2301)	01/90	1150	632	90.6	32.4	102	—	160	170	214	<0.5
	01/91	1112	—	73.7	32	128	—	136	136	—	<0.04
	06/91	1090	662	87.4	29.7	117	—	140	121	204	<0.4
	03/92	1080	644	74.2	25.8	133	—	127	118	282	1.3
	03/93	1210	674	72.8	24.5	117	—	127	124	261	<0.4
	06/93	1090	670	63.9	25.7	119	—	117	128	237	<0.4
	03/94	1120	683	73.9	27	121	—	141	130	—	<0.4
	08/94	1160	707	78.9	28.2	129	—	139	153	—	<0.44
	06/95	1160	742	88.2	28.8	131	—	165	147	—	<0.04
10S/4W-18M4	06/89	1156	688	74.6	24.4	67.9	—	130	138	197	8.9
(Bldg 2373)	01/90	1120	630	86.4	32.3	101	—	156	166	210	<0.05
	04/90	1160	720	98.8	34.8	107	—	152	146	218	1.4
	01/91	1202	—	84.1	40.5	117	—	162	153	—	<0.04
	06/91	1180	736	102	37.1	106	—	163	138	197	<0.4
	03/94	1020	658	69.6	27.8	104	—	135	140	—	0.89
	08/94	1110	684	81.4	32.2	178	—	144	157	—	<0.44
	06/95	1170	679	95.3	35.2	113	—	145	116	—	13.8
10S/4W-18E3	06/89	1166	758	80.5	28.1	67.4	—	132	157	198	9.5
(Bldg 2393)	01/90	1230	748	97.4	39.7	106	—	178	179	226	<0.05
	04/90	1190	733	99.6	37.5	112	—	159	156	207	2.5
	06/91	1130	680	97.6	37.6	100	—	139	142	166	2.7
	02/94	1180	731	83.3	35.5	104	—	142	159	—	11.1
	08/94	1150	725	84.3	35.2	102	—	147	164	—	1
	06/95	932	636	75.4	29.1	86.6	—	102	140	—	14
10S/4W-7R2	06/89	1281	765	76.5	25.1	82.4	—	149	153	209	10.3
(Bldg 2603)	04/89	1270	788	104	36.5	126	—	173	161	215	2.6
	06/91	1400	836	111	41.1	130	—	195	155	215	0.04
	02/94	1260	738	83.3	32	131	—	169	155	—	<0.04
	08/94	1260	738	84.3	33.7	129	—	166	149	—	<0.44
	06/95	1290	897	93.6	35.2	129	—	202	164	—	0.69

TABLE D-6 (cont'd)

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Tested	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7H2	06/89	1137	826	79.1	28.5	85.5	—	157	158	246	12.6
(Bldg 2671)	01/90	1290	772	96.3	38.6	116	—	184	179	252	0.9/1.2
	04/90	1320	817	109	42.1	128	—	177	167	249	5.4
	01/91	401	—	87.3	44.4	103	—	20.5	179	—	1.07
	03/93	1500	824	92.6	33.1	136	—	194	154	277	1.8
	03/94	1370	827	103	36.4	135	—	163	145	—	0.9
	08/94	1270	762	91.1	35.5	129	—	162	172	—	5.64
	06/95	1260	771	100	35.8	127	—	197	178	—	2.8
10S/4W-7A2	06/89	1073	688	72.1	23.9	59.6	—	120	140	184	15.9
(Bldg 2673)	01/89	1080	572	91.2	34.2	80.2	—	151	178	174	1.4
	04/90	1130	718	111	42.1	91	—	148	167	175	9.1
	06/91	1190	718	113	40.3	93.8	—	173	180	160	7.5
	03/93	1370	708	86.9	32.8	93.3	—	147	93.3	200	4.9
	03/94	1210	783	100	37.1	100	—	145	167	—	2.2
	08/94	1160	741	87.5	35.5	96.1	—	141	184	—	4.23
	06/95	1200	788	99.4	37.5	101	—	173	200	—	2.9
10S/5W-23K2	06/89	1207	698	75.6	22.8	84	—	138	137	231	<0.4
(Bldg 33924)	04/89	1240	728	100	32.9	129	—	158	148	245	1.3
	01/91	1193	—	80.6	35.2	131	—	21.3	146	—	<0.04
	06/91	1160	676	88.1	29.6	118	—	141	129	224	<0.04
	03/92	1130	705	76.7	26	126	—	149	125	279	<0.4
	06/92	1130	717	66.8	26.7	124	—	146	140	232	<0.4
	03/93	1285	331	72.1	23.8	115	—	131	122	273	<0.4
10S/5W-13R2	01/90	1030	540	*96	26.6	94.8	—	141	130	200	0.7
(Bldg 2363)	06/91	1150	702	98.7	32	109	—	149	125	288	1.3
	06/93	1130	705	72	28.4	107	—	140	139	262	0.9
	03/94	1020	658	69.6	27.8	104	—	135	140	—	0.89
	06/95	1140	636	92.5	30.7	115	—	149	151	—	14.2
10S/5W-23G3	06/91	1160	684	83.4	28.3	125	—	145	124	223	<0.04
(Bldg 33926)	03/92	1060	674	75.9	24.1	127	—	139	111	269	<0.4
	03/93	1182	584	67.8	21.1	110	—	135	101	274	<0.4
	06/93	1020	623	60.5	22.4	116	—	125	107	225	<0.4
	03/94	1120	665	80	25	122	—	129	117	—	1.8
	08/94	1150	699	78.7	26.4	125	—	141	118	—	<0.44
	06/95	1060	673	75.9	23.1	118	—	158	114	—	<0.04

* - Reported as .96

TABLE D-11

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

COLLECTED BY THE U.S.G.S. FOR WELLS IN DOMENIGONI VALLEY

Element	Unit	Well No. 6S/1W-06G1 Date 01/17/91	Well No. 6S/1W-06G1 Date 04/17/92	Well No. 6S/2W-01F1 Date 01/16/91	Well No. 6S/2W-01F1 Date 04/16/92
Water level	(ft below land surface)	77	73.15	92.1	---
Depth of well, total	(ft)	112	112	130	130
Elevation of lsd	(ft above sea level)	1547	1547	1520	1520
Specific Conductance	(uS/cm)	1870	1650	1460	1530
pH	(std. units)	7	7.3	7.1	7.1
Temperature	oC	21.5	21.5	19.5	21.5
Hardness, total	(mg/L as CaCO3)	620	530	550	580
Calcium, dissolved	(mg/L)	170	150	150	160
Magnesium, dissolved	(mg/L)	47	38	42	43
Sodium, dissolved	(mg/L)	170	150	85	93
Alkalinity	(mg/L as CaCO3)	262	---	162	---
Sulfate, dissolved	(mg/L)	430	300	320	330
Chloride, dissolved	(mg/L)	230	200	190	190
Fluoride, dissolved	(mg/L)	0.2	0.3	0.2	0.3
Bromide, dissolved	(mg/L)	1.2	0.74	0.53	0.52
Silica, dissolved	(mg/L)	44	42	47	44
Solids, residue at 180 C, dissolved	(mg/L)	---	1100	---	1040
Nitrogen, nitrite, dissolved	(mg/L as N)	<.010	<.010	<.010	<.010
Nitrogen, NO2 + NO3, dissolved	(mg/L)	11	12	11	9.9
Nitrogen, ammonia, dissolved	(mg/L as N)	<.01	0.01	<.01	0.02
Nitrogen, ammonia + organic, dissolved	(mg/L as N)	0.5	<.2	0.5	<.2
Phosphorus, dissolved	(mg/L as P)	0.04	0.02	0.02	0.04
Phosphorus, orthos, dissolved	(mg/L as P)	0.04	0.03	0.03	0.04
Barium, dissolved	(ug/L)	37	24	57	54
Beryllium, dissolved	(ug/L)	<.5	<.5	<.5	<.5
Boron, dissolved	(ug/L)	140	130	80	90
Cadmium, dissolved	(ug/L)	<1.0	1	<1	<1
Chromium, dissolved	(ug/L)	<5	<5	<5	<5
Cobalt, dissolved	(ug/L)	<3	<3	<3	<3
Copper, dissolved	(ug/L)	<10	<10	<10	<10
Iron, dissolved	(ug/L)	20	6	40	15
Lead, dissolved	(ug/L)	<10	<10	<10	<10
Lithium, dissolved	(ug/L)	22	18	25	24
Manganese, dissolved	(ug/L)	2	<1	2	<1
Molybdenum, dissolved	(ug/L)	<10	<10	<10	<10
Nickel, dissolved	(ug/L)	<10	<10	<10	<10
Selenium, dissolved	(ug/L)	7	7	6	8
Silver, dissolved	(ug/L)	<1.0	1	<1	<1
Strontium, dissolved	(ug/L)	750	600	690	670
Vanadium, dissolved	(ug/L)	6	7	<6	<6
Zinc, dissolved	(ug/L)	150	68	4	4

EASTERN MUNICIPAL WATER DISTRICT

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

MURRIETA COUNTY WATER DISTRICT

RANCHO CALIFORNIA WATER DISTRICT

PECHANGA INDIAN RESERVATION

FALLBROOK PUBLIC UTILITY DISTRICT

WESTERN MUNICIPAL WATER DISTRICT

RAINBOW MUNICIPAL WATER DISTRICT

RAMONA INDIAN RESERVATION

CAHUILLA INDIAN RESERVATION

SANTA ROSA INDIAN RESERVATION

ORANGE COUNTY

RIVERSIDE COUNTY
SAN DIEGO COUNTY

CAMP PENDLETON

Statute Miles

Graphical Scale

LEGEND

Santa Margarita River Watershed Boundary

Stream Gaging Stations

NOTE:

The Western Municipal Water District Service Area also includes Elsinore Valley Municipal Water District and portions of Rancho California Water District and Murrieta County Water District.

The Eastern Municipal Water District Service Area also includes portions of Rancho California Water District and Murrieta County Water District.

SANTA MARGARITA RIVER WATERSHED
WATERMASTER

MAJOR WATER PURVEYORS

JSME
John S. Mark Engineers, Inc.
7770 El Camino Real
Carlsbad, CA 92009-5306
(619) 942-2100