SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

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

CIVIL NO. 51-CV-1247-GPC-RBB

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

APPENDICES

Appendix A - Production and Use Water Year 2013-14

Appendix B - Production and Use Water Years 1965-66 through 2013-14

Appendix C - Substantial Water Users 2013-14

Appendix D - Water Quality Data

SECTION 1 – SUMMARY

Section 1 - A summary of the Santa Margarita River Watershed Annual Watermaster Report for the 2013-14 Water Year.

Section 2 - This Annual Watermaster Report is prepared pursuant to 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 are determined by the Court to add to, support, or contribute to the Santa Margarita River stream system. The Watershed is adjudicated, as to all underground waters, basins, surface flow, streams and subsurface flows that add to, support, or contribute to the Santa Margarita River stream system. Local vagrant groundwaters that do not support the Santa Margarita River stream system are outside Court jurisdiction.

Section 3 - Surface water flows varied in Water Year 2013-14. Flows for long-term stations on Murrieta Creek at Temecula, Santa Margarita River near Temecula, and Santa Margarita River at Ysidora were 40%, 59% and 20% of their long-term averages, respectively. Flows at Temecula Creek near Aguanga were 9% of the long-term average. Direct surface diversions to use totaled 695 acre feet, which reflects a decline of 27 acre feet from the prior year. The total quantity of water in storage in the Watershed on September 30, 2014, was 456,393 acre feet, of which 17,884 acre feet were Santa Margarita River water and 438,509 acre feet were imported water.

Section 4 - Groundwater extractions were 41,636 acre feet during 2013-14 as shown on Table 4.1, compared to 42,621 acre feet in 2012-13. Water purveyors pumped 35,457 acre feet, and 6,179 acre feet were pumped by other substantial users. Total local production, including groundwater extractions and surface diversions in 2013-14 was 42,331 acre feet. This compares with 43,343 acre feet in 2012-13, and represents a decline of two percent. Total annual local production for use for the period 2005 through 2014 is shown on Figure 1.1.

Section 5 - During 2013-14, 81,785 acre feet of net imports were distributed for use within the Watershed, as shown on Table 5.2. This compares with 74,889 acre feet in 2012-13, and represents an increase of nine percent. Annual imports for the period 2005 through 2014 are shown on Figure 1.2 and Table 5.4. Exports of wastewater and native water for use outside the Watershed in 2013-14 were 18,518 acre feet. This compares with 18,325 acre feet in 2012-13, and represents an increase of one percent.

Section 6 - Water rights consist primarily of riparian and overlying rights. Other rights include appropriative rights and federal reserved rights. Water purveyors in the Santa Margarita River Watershed also exercise groundwater appropriative rights. Except for surface water appropriative rights, water rights generally have not been quantified in the Watershed. Appropriative surface water rights on file with the State Water Resources Control Board amount to 990,719 gallons per day. This corresponds to 1.53 cubic feet per second (cfs) or 3.04 acre feet per day of direct diversion rights and 54,313.5 acre feet of active storage rights.

Figure 1.1

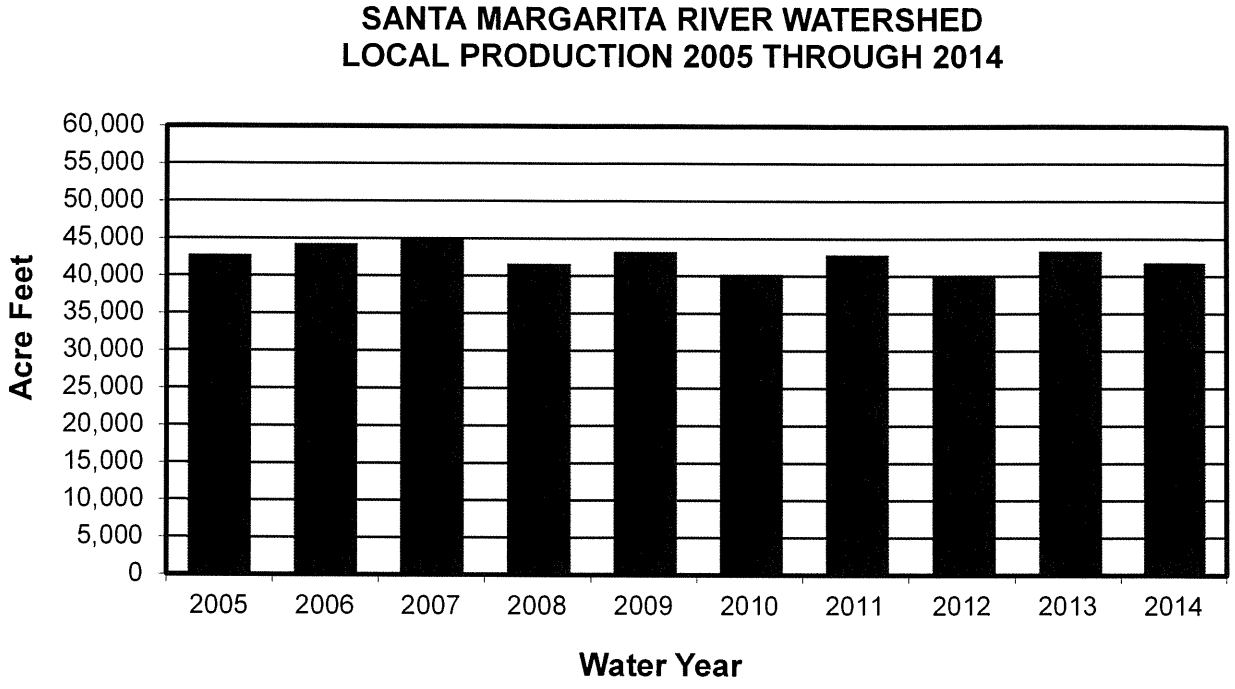
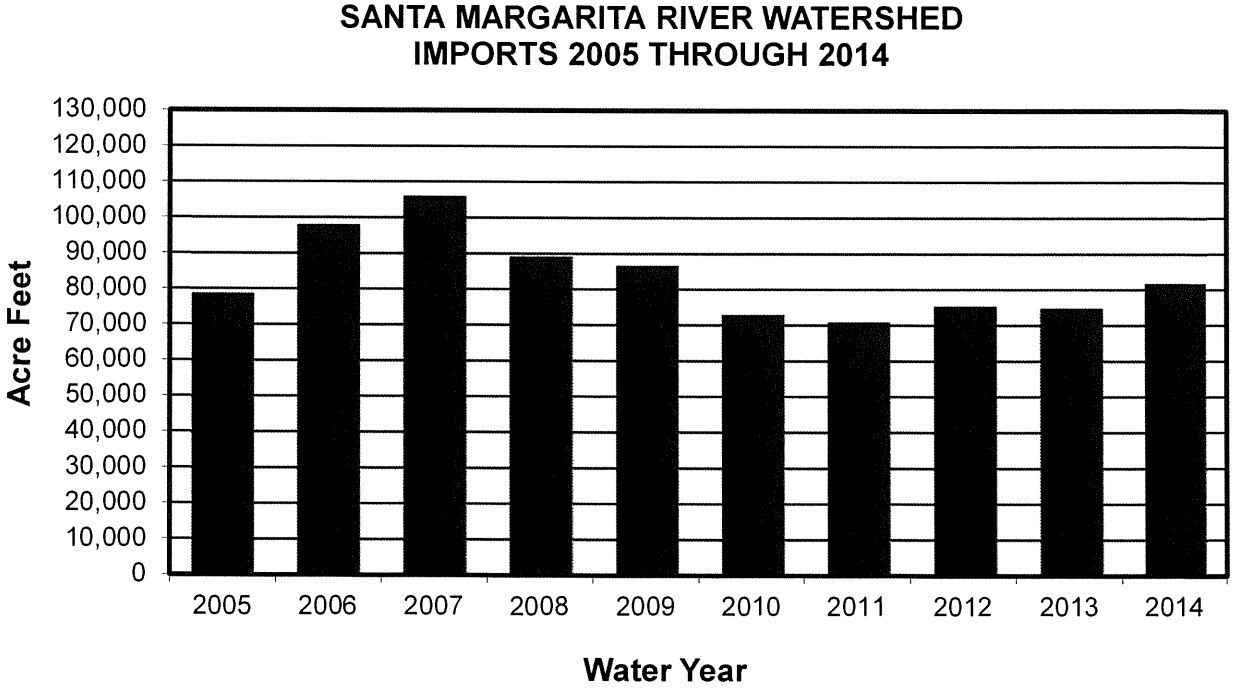


Figure 1.2

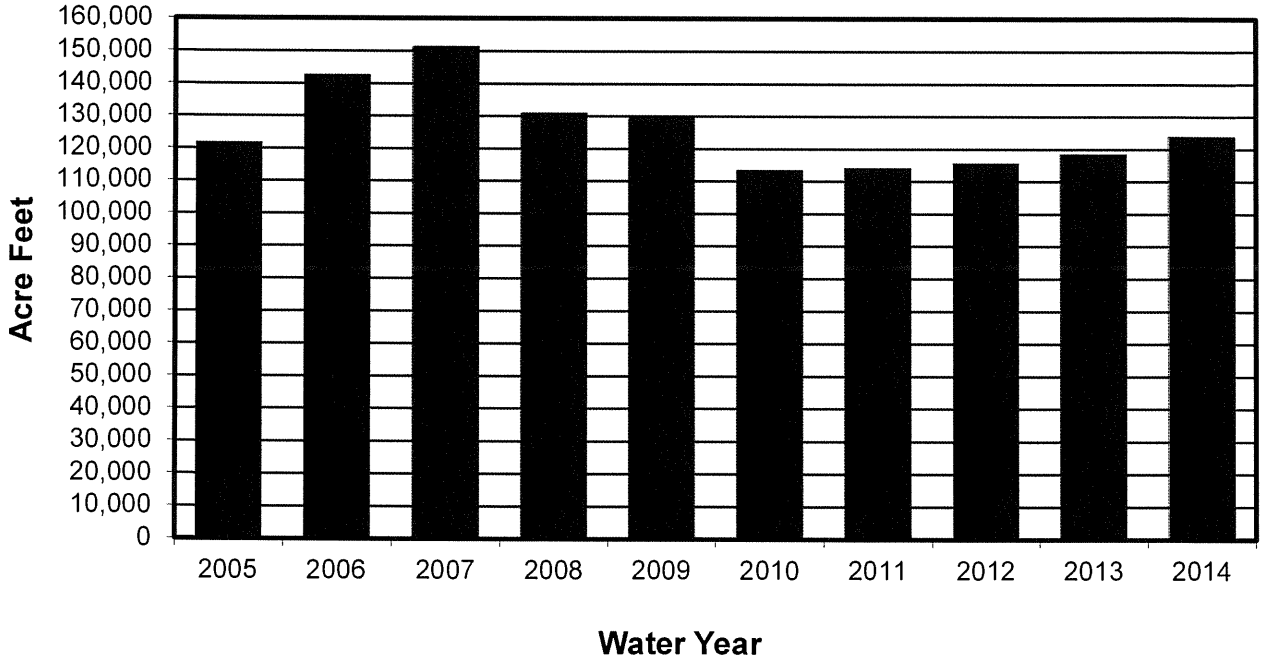


Section 7 – Total imported supplies plus local production during Water Year 2013-14 totaled 123,617 acre feet compared to 118,232 acre feet reported in 2012-13. Of that quantity, 40,288 acre feet were used for agriculture; 19,276 acre feet were used for commercial purposes; 52,587 acre feet were used for domestic purposes; 24 acre feet were discharged to Murrieta Creek; 51 acre feet were discharged to Santa Gertrudis Creek; and 4,051 acre feet were discharged by Rancho California WD from Metropolitan Water District of Southern California (MWD) Outlet WR-34 during 2013-14, pursuant to the Cooperative Water Resource Management Agreement (CWRMA). It is noted, commercial use includes 442 acre feet of recycled water and thus the commercial use of production is 18,834 acre feet. The overall system loss was 4,755 acre feet. System gain or loss is the result of many factors including errors in measurement, differences between periods of use and periods of production, leakage and unmeasured uses. These data are shown on Table 7.1.

Total annual production for the period 2005 through 2014 is shown on Figure 1.3.

Figure 1.3

SANTA MARGARITA RIVER WATERSHED
TOTAL PRODUCTION 2005 THROUGH 2014



Section 8 - Use of water from small storage ponds may be unauthorized. Camp Pendleton has taken the position that exportation of treated wastewater, the source of which is the native waters of the Santa Margarita River system, without legal authority for such exportation, is an unauthorized use of water.

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 groundwater basins, and salt balance issues in the upper Watershed. Additional threats have been recently identified, including high concentrations of nitrates, arsenic, fluoride and manganese in the Murrieta-Temecula area, as well as the discovery of the Quagga mussel in imported supplies.

Section 10 - The U. S. Geological Survey (USGS) monitored surface water quality at the Temecula gaging station on the Santa Margarita River.

Groundwater samples from wells were analyzed for water quality by Camp Pendleton, Western MWD - Murrieta Division, Rancho California WD, and the Pechanga Band during 2013-14. The two primary constituents of interest are nitrates and total dissolved solids (TDS). The Basin Plan Objective for TDS of 750 mg/l was exceeded in all seven of the wells sampled at Camp Pendleton. One well sampled by Rancho California WD showed concentrations exceeding 750 mg/l.

Section 11 - The Cooperative Water Resource Management Agreement between Camp Pendleton and Rancho California Water District was approved by the District Court on August 20, 2002. During the 2014 calendar year, Rancho California WD discharged 4,009 acre feet into the Santa Margarita River to meet flow requirements under the Agreement.

Section 12 - Projected Watermaster expenditures for the next five years are listed.

Section 13 – The actual Watermaster costs for Water Year 2013-14 were $653,001 compared to the Court approved budget of $658,840, resulting in a favorable variance of $5,839. A total Watermaster budget for Water Year 2015-16 is proposed to be $716,100. This budget includes $473,625 for the Watermaster Office and $242,475 for operation of gaging stations and groundwater monitoring by USGS.

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 an adjudication 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 provides 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 issued an Order appointing the 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 that at the conclusion of 2013-14 was comprised of representatives from the United States, Eastern Municipal Water District, Fallbrook Public Utility District, Metropolitan Water District of Southern California, Pechanga Band of Luiseño Mission Indians, Western Municipal Water District, and Rancho California Water District. The purposes of the Steering Committee are 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 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 the various water users within the Watershed and 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.

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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. During Water Year 2013-14, the USGS operated 13 stations under an agreement with the Watermaster. These include three stations where Riverside County Flood Control and Water Conservation District shares the local costs with the Watermaster. In addition to stream flows, the USGS also measures water surface elevation and precipitation at Vail Lake.

The USGS also operates several stations in the Watershed under contract with Camp Pendleton. These include stream gaging stations on Fallbrook Creek and on the outlet channel and spillway for Lake O'Neill. The USGS operated a tidal water level recorder at the mouth of the Santa Margarita River from October 1989 until October 20, 2010, when it was removed.

Monthly flows for stations in Water Year 2013-14 are shown on Table 3.2. Those flows consist of final USGS discharge determinations approved for publication by the USGS. Official USGS discharges for Water Year 2013-14 are published by the USGS at the following website: *http://waterdata.usgs.gov/ca/nwis/sw.*

In considering the historical record of flow at these stations, it should be recognized that the long-term averages include variations in Watershed conditions such as level of development, groundwater production, return flows, impoundments and vegetative use as well as hydrologic conditions, changes in gaging station locations and other factors. Descriptions of the various historical locations of gaging stations may be found in the publication, Water Resources Data - California, which was published annually by the USGS in hard copy form through Water Year 2003-04. For subsequent years, the gaging station descriptions can be found at the website provided above.

TABLE 3.1

SANTA MARGARITA RIVER WATERSHED
STREAM GAGING STATIONS THROUGH WATER YEAR 2013-14

Station Name	Station No.	Area Sq. Miles	Entity	Period Of Record
Temecula Creek Near Aguanga	11042400	131	USGS	August 1957 to Present
Wilson Creek Above Vail Lake Near Radac	11042490	122	USGS	October 1989 to September 1994
Temecula Creek At Vail Dam	11042520	320	USGS	February 1923 to October 1977
Vail Lake Near Temecula (Reservoir Storage)	11042510	320	USGS	October 1948 to Present
Pechanga Creek Near Temecula	11042631	13.1	USGS	October 1987 to Present
Warm Springs Creek Near Murrieta	11042800	55.4	USGS	October 1987 to Present
Murrieta Creek Near Murrieta	11042700	30.0	USGS	October 1997 to Present
Santa Gertrudis Creek Near Temecula	11042900	90.2	USGS	October 1987 to Present
Murrieta Creek At Temecula	11043000	222	USGS	October 1924 to Present
Santa Margarita River Near Temecula	11044000	588	USGS	February 1923 to Present
Rainbow Creek Near Fallbrook	11044250	10.3	USGS	November 1989 to Present
Santa Margarita River At FPUD Sump 1/	11044300	620	USGS	October 1989 to Present
Sandia Creek Near Fallbrook	11044350	21.1	USGS	October 1989 to Present
Santa Margarita River Tributary Near Fallbrook	11044600	0.52	USGS	October 1961 to September 1965
DeLuz Creek Near DeLuz	11044800	33.0	USGS	October 1992 to Present
DeLuz Creek Near Fallbrook 2/	11044900	47.5	USGS/ USMC	October 1951 to September 1967 October 1989 to September 1990 April 2002 to February 2003
Santa Margarita River Near DeLuz Station	11045000	705	USGS	October 1924 to September 1926
Fallbrook Creek Near Fallbrook 3/	11045300	6.97	USGS/ USMC	October 1993 to Present
Santa Margarita River At Ysidora 4/	11046000	723	USGS	February 1923 to Present

1/ Record includes measurements for Santa Margarita near Fallbrook (#11044500) for October 1924 to September 1980.
2/ Recorded by USMC, Camp Pendleton October 1967 to 1977.
3/ Recorded by USMC, Camp Pendleton for October 1964 to September 1977 and October 1989 to September 1993.
4/ Station temporarily operated as SMR at USMC Diversion Dam near Ysidora (#11045050) from February 26, 1999 to September 27, 2001.

TABLE 3.2

SANTA MARGARITA RIVER WATERSHED

MEASURED SURFACE WATER FLOW

2013-14

Quantities in Acre Feet

GAGING STATION	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	WATER YEAR TOTAL	ANNUAL AVERAGE THROUGH 2013	YEARS OF RECORD THROUGH 2013
Temecula Creek Near Aguanga (11042400)	14	35	60	59	69	172	48	11	1	0	0	0	469	5,440	56
Pechanga Creek Near Temecula 1/ (11042631)	0	0	0	0	2	0	0	0	0	0	0	0	2	444	26
Warm Springs Creek Near Murrieta (11042800)	1	1	51	0	180	997	5	3	0	0	9	0	1,247	3,050	26
Murrieta Creek Near Murrieta 2/, 3/ (11042700)	0	0	0	0	347	493	0	0	0	0	0	0	840	3,064 4,430	6 (2008-2013) 8 (1998-2005)
Santa Gertrudis Creek Near Temecula (11042900)	0	16	33	0	173	225	0	0	0	0	1	0	448	2,680	26
Murrieta Creek At Temecula (11043000)	30	7	6	3	983	3,006	10	4	4	3	3	0	4,059	10,191	89
Santa Margarita River Near Temecula (11044000)	185	179	202	606	1,996	3,822	589	326	274	264	272	244	8,959	15,292 20,390	65 (1949-2013) 26 (1923-48)
Rainbow Creek Near Fallbrook (11044250)	10	17	33	14	119	94	15	3	4	2	1	8	320	2,580	24
Santa Margarita River At FPUD Sump (11044300)	228	238	326	696	1,772	4,667	656	390	310	223	248	226	9,980	29,540	24
Sandia Creek Near Fallbrook (11044350)	66	83	105	115	140	652	202	139	96	70	81	44	1,793	6,660	24
DeLuz Creek Near DeLuz (11044800)	0	0	0	0	12	557	0	0	0	0	0	0	569	8,060	21
Fallbrook Creek Near Fallbrook (11045300)	0	1	1	0	10	84	11	1	1	1	2	1	113	1,144 1,462 5/	25 (1989-2013) 12 (1965-76)
Santa Margarita River At Ysidora (11046000)	0	0	0	0	292	5,479	295	173	0	0	0	124	6,363	31,952 4/ 31,390	65 (1949-2013) 26 (1923-48)

1/ In summer 2006, gaging location was moved upstream 0.4 miles from prior location to current location 100 feet upstream of Metropolitan Water District pipe crossing, 0.4 miles upstream of the Rainbow Canyon Road/Old Highway 395 Bridge.

2/ Previously published as Murrieta Creek at Tenaja Road.

3/ Continuous record stopped on February 22, 2005, due to bridge construction. Only discharge measurements were taken from February 2005 until September 2007.

4/ Includes record of two years at Santa Margarita River at USMC Diversion Dam near Ysidora station.

5/ Includes wastewater flows.

Total flows at four long-term stations, for Water Years 2012-13 and 2013-14, are compared with their averages in the tabulation below. Average flows for the Santa Margarita River stations near Temecula and near Ysidora are shown for two periods: before and after Vail Dam was constructed (1923 to 1948, and 1949 to 2013).

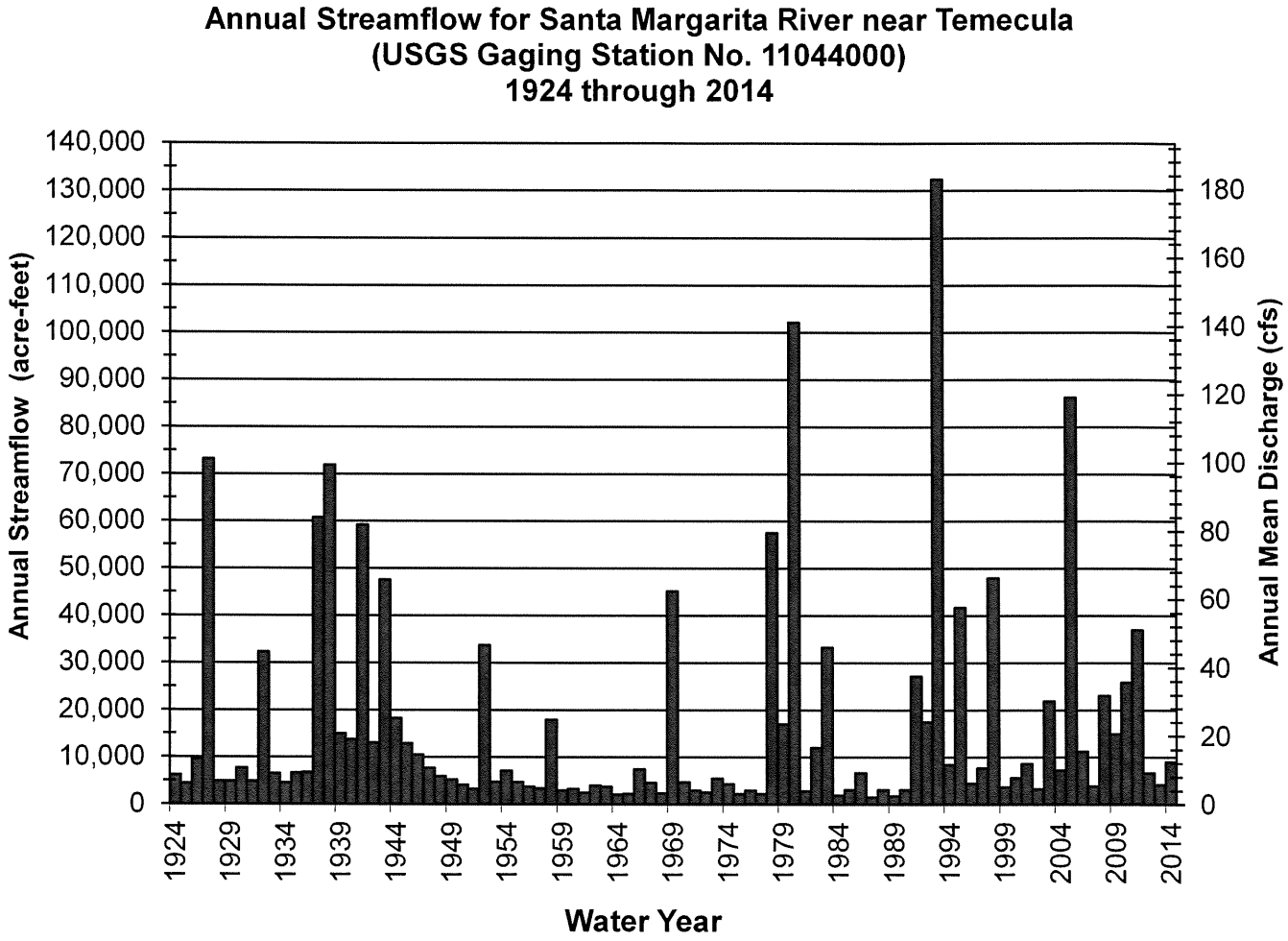
	TOTAL FLOW		AVERAGE FLOW	
	2012-13 Acre Feet	2013-14 Acre Feet	Through 2013 Acre Feet	
Temecula Creek Near Aguanga	861	469	5,440	(1957-2013)
Murrieta Creek At Temecula	1,287	4,059	10,191	(1925-2013)
Santa Margarita River Near Temecula	4,220	8,959	15,292 20,390	(1949-2013) (1923-1948)
Santa Margarita River At Ysidora*	2,266	6,363	31,952 31,390	(1949-2013) (1923-1948)

* At various locations

The foregoing tabulation indicates the flows for Water Year 2013-14 were below normal for three of the four stations. Flows for long-term stations on Temecula Creek near Aguanga, Murrieta Creek at Temecula, Santa Margarita River near Temecula and Santa Margarita River at Ysidora were 9%, 40%, 59% and 20% of their long-term averages, respectively.

The Santa Margarita River near Temecula station is of particular interest relative to discharge requirements specified in the CWRMA between Camp Pendleton and Rancho California WD, as described in Section 11. The long-term time series for annual streamflow for Santa Margarita River near Temecula is provided on Figure 3.1, showing the 2013-14 flows were in the third quartile and 212% greater than the flows for the prior year.

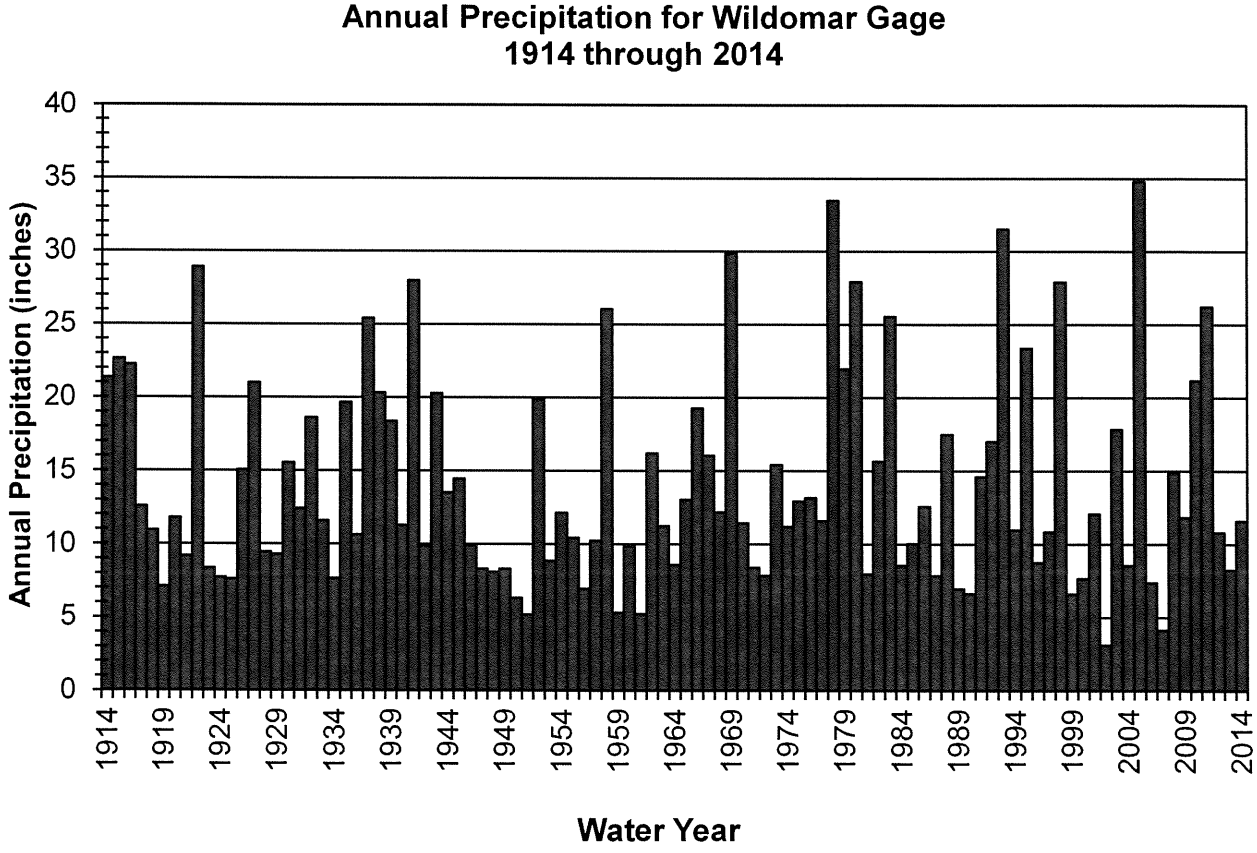
Figure 3.1



It is also interesting to review long-term precipitation records relative to long-term streamflow. Figure 3.2 shows the long-term time series for annual precipitation for the Wildomar gage maintained by the Riverside County Flood Control and Water Conservation District. The Wildomar gage is specified in the CWRMA for determining hydrologic year types in establishing Rancho California WD discharge requirements to meet flows for the Santa Margarita River near Temecula. The long-term average precipitation for the Wildomar gage for the period 1914 through 2014 is 14.03 inches. The reported precipitation for Water Year 2013-14 is 11.60 inches, which is in the second quartile for the period of record.

Monthly flows shown on Table 3.2 consist primarily of naturally occurring surface runoff, including return flows, except for Rancho California WD discharges into the Santa Margarita River and Murrieta Creek. Most of the Rancho California WD discharges are pursuant to the CWRMA. During Water Year 2013-14, the total discharges from MWD Meter WR-34 into the Santa Margarita River equaled 4,051 acre feet. The outlet from WR-34 is located just upstream from the Santa Margarita River near Temecula gaging station. In 2009, Rancho California WD extended a pipeline from its distribution system to discharge at the same location as the outlet WR-34. During Water Year 2013-14, there were no discharges from the potable connection to the Santa Margarita River and no discharges to Murrieta Creek from the System River Meter.

Figure 3.2



During 2013-14, Rancho California WD also released 24 acre feet from wells into Murrieta Creek, and 51 acre feet from wells into Santa Gertrudis Creek.

3.2 Surface Water Diversions

Surface diversions to surface water storage and groundwater storage are shown on Table 3.3 for Vail Lake and Table 3.4 for Lake O'Neill. In general, diversions to surface storage at Vail Lake and Lake O'Neill are computed as being equal to inflow less spill, however, 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 to Vail Lake is calculated as the sum of evaporation, spill, releases and change of storage. Inflow into Vail Lake during the period when diversions are not permitted is released and not credited to groundwater storage.

Direct surface diversions for Water Year 2013-14 are shown on Table 3.5. The use is primarily irrigation. Estimated consumptive uses, losses and returns are also shown.

3.3 Water Storage

Major water storage facilities in the Santa Margarita River Watershed are listed on Table 3.6, together with the water in storage on September 30, 2013 and September 30, 2014. Total Santa Margarita River stream system water in storage at the end of Water Year 2013-14 totaled 17,884 acre feet, compared to 21,224 acre feet at the end of the previous year. Imported water in storage in Lake Skinner and Diamond Valley Lake, both operated by MWD, is also shown on Table 3.6.

TABLE 3.3

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO STORAGE FOR VAIL LAKE
2013-14
Quantities in Acre Feet

	Surface Water Storage		
	2011-12	**2012-13**	**2013-14**
Storage End of Prior Year	29,390	26,560	20,780
Inflow - Total	2,964	1,947	1,662
Inflow to be Bypassed [1/]	906	645	726
Spill	0	0	0
Diversions to Surface Storage [2/]	2,058	1,302	936
Annual Evaporation	4,893	4,468	4,161
Releases - Total	901	3,259	811
Release to GW Storage [3/ 4/]	(5)	2,614	85
Change of Storage	(2,830)	(5,780)	(3,310)
Storage End of Year	26,560	20,780	17,470
	Groundwater Storage		
Recharge Release from Vail Lake	0	2,614	85
Recovered Vail Lake Recharge Water from GW Storage [5/]	5	2,614	85

Data reported by Rancho California WD except end of year storage reported by USGS.

1/ Inflow to be bypassed Oct 1 through Oct 31 and May 1 through Sept 30.

2/ Inflow less Spill less Inflow to be Bypassed.

3/ Total Release less Inflow to be Bypassed.

4/ Vail Lake operations shown in Table 3.3 reflect water year operations to be consistent with reporting in the Annual Watermater Report. However, Permit 7032 specifies calendar year reporting and a continuous operating season of May through October for bypasses overlapping two water years. The value of 85 acre feet for Release to GW Storage is correct but misleading because the bypass season continues into October 2014. Inspection of Rancho California WD records for May through October 2014 shows total Inflow to be Bypassed in the amount of 650 acre feet with total Releases of 749 acre feet, resulting in 99 acre feet of excess releases during the Permit bypass season of May through October 2014.

5/ See Table 7.4.

TABLE 3.4

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO STORAGE FOR LAKE O'NEILL
2013-14
Quantities in Acre Feet

	Surface Water Storage		
	2011-12 7/	**2012-13** 7/	**2013-14**
Storage End of Prior Year	642	646	444
Inflow - Total	2,248 1/	1,832 2/	1,669 3/
Spill	8	0	0
Diversions to Surface Storage	2,240 4/	1,832 4/	1,669 4/
Annual Evaporation	364	379	405
Releases - Total	107	792	825
Release to GW Storage	107	792	825
Apparent Seepage to GW	1,765 5/	863 5/	469 5/
Change of Storage	4	(202)	(30)
Storage End of Year	646	444	414
	Groundwater Storage		
Recharge Release from Lake O'Neill	1,872 6/	1,655 6/	1,294 6/
Deliveries to Recharge Ponds	559	420	156
Indirect Recharge from Ditch System	881	1,170	1,236
TOTAL	3,312	3,245	2,686

1/ 1,657 AF diverted from the Santa Margarita River, 341 AF estimated inflow from Fallbrook Creek, 141 AF from local runoff, and 109 AF from rainfall on lake surface.
2/ 1,505 AF diverted from the Santa Margarita River, 159 AF estimated inflow from Fallbrook Creek, 77 AF from local runoff, and 91 AF from rainfall on lake surface.
3/ 1,449 AF diverted from the Santa Margarita River, 113 AF estimated inflow from Fallbrook Creek, 36 AF from local runoff, and 71 AF from rainfall on lake surface.
4/ Inflow less Spill.
5/ Includes seepage losses, leakage through flashboards and gates, and unaccounted for water.
6/ Includes Release to GW Storage and Apparent Seepage to GW from Lake O'Neill.
7/ Dredging operations for Lake O'Neill occurred during Water Year 2012. The preparation for and the actual dredging operation affected various operations for Lake O'Neill during Water Years 2011, 2012, and 2013 to varying levels within each particular year, including timing and amount of diversions from Santa Margarita River for both deliveries to Lake O'Neill and the recharge ponds, and Recharge Release from Lake O'Neill.

TABLE 3.5

SANTA MARGARITA RIVER WATERSHED
SURFACE WATER DIVERSIONS TO USE
2013-14
Quantities in Acre Feet

DIVERTER	Surface Diversions	Consumptive Use 1/	Loss 2/	Return 3/
Blue Bird Ranch	31.5	21.2	3.2	7.1
James Carter	52.0	35.1	5.2	11.7
Chambers Family, LLC	8.0	5.4	0.8	1.8
Serafina Holdings, LLC	0.0	0.0	0.0	0.0
Sage Ranch Nursery	100.0	67.5	10.0	22.5
Rose Lake, LLC	0.0	0.0	0.0	0.0
Val Verde Partners	56.8	38.3	5.7	12.8
Wilson Creek Development, LLC	400.0	270.0	40.0	90.0
Cahuilla Indian Reservation	5.6	3.8	0.6	1.2
San Diego State University	41.3	27.9	4.1	9.3
TOTAL	695.2	469.2	69.6	156.4

1/ Consumptive Use equals 75% of Diversions less Losses.
2/ Losses equal 10% of Diversions.
3/ Returns equal 25% of Diversions less Losses.

TABLE 3.6

SANTA MARGARITA RIVER WATERSHED
WATER IN STORAGE
2013-14
Quantities in Acre Feet

Santa Margarita River Storage	Total Capacity 1/	Water in Storage 9/30/2013	Water in Storage 9/30/2014
Dunn Ranch Dam	90	0	0
Upper Chihuahua Creek Reservoir	47	0	0
Vail Lake	49,370	20,780	17,470
Lake O'Neill	1,670	444	414
SUBTOTAL	**51,177**	**21,224**	**17,884**
Imported Water Storage			
Lake Skinner	44,000	39,741	33,547
Diamond Valley Lake	810,000	603,304 R	404,962
SUBTOTAL	**854,000**	**643,045**	**438,509**
TOTAL STORAGE	**905,177**	**664,269**	**456,393**

1/ Capacity shown is current capacity reported by owner. Original capacity or decreed capacity may not be reflected in this table.
R - Revised

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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 has identified two basic types of subsurface water in the interlocutory judgments incorporated into the 1966 Modified Final Judgment and Decree. 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.

Other subsurface waters were found by the Court to add to, support and contribute to 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 exposed along streams and in valleys. Older alluvium may be found underneath younger alluvium and is not limited to areas along stream channels. Older alluvium may or may not be exposed at ground surface. The use of subsurface water found in younger and older alluvium is generally under the continuing jurisdiction of the Court and is reported upon in this report.

4.2 Extractions

Total production of Santa Margarita River water 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. Recovery of imported water that has been directly recharged is not included on Table 4.1. 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 2013-14, production by water purveyors totaled 35,457 acre feet, compared to 35,998 acre feet in 2012-13. Monthly quantities are shown in Appendix A and annual production for the period 1966 through 2014 is shown in Appendix B.

The quantities of subsurface extractions by private irrigators are based on the irrigated acreage and the crop type. These quantities are reported in Appendix C to total 6,179 acre feet in 2013-14. Of the subsurface extractions, 75 percent is estimated to have been consumptively used and 25 percent to have been return flow. Return flow is that portion of the total deliveries that is not consumed. Although return flows average about 25 percent, such flows are affected with the type of use (domestic, commercial and irrigation), the type of irrigation application (drip, micro-sprinkler, furrow), and exports from watersheds.

TABLE 4.1

SANTA MARGARITA RIVER WATERSHED

SANTA MARGARITA RIVER WATER PRODUCTION BY SUBSTANTIAL USERS

2013-14

HYDROLOGIC AREA	WATER PURVEYOR PRODUCTION ACRE FEET	OTHER IRRIGATED ACRES *	OTHER IRRIGATION PRODUCTION ACRE FEET *	TOTAL GROUNDWATER PRODUCTION ACRE FEET	SURFACE WATER DIVERSIONS ACRE FEET *	TOTAL PRODUCTION ACRE FEET	ESTIMATED CONSUMPTIVE USE ACRE FEET 1/, 2/	ESTIMATED RETURN FLOW ACRE FEET 2/
Wilson Creek	465	689 [3/]	1,769	2,234	6	2,240	1,680	560
Above Aguanga GWA	*(Lake Riverside,*							
Includes Anza Valley	*(Anza MWC, Cahuilla, Ramona)*							
Temecula Creek	27	310	961	988	0	988	741	247
Above Aguanga GWA	*(Quiet Oaks MHP)*							
Aguanga GWA	635	483	1,612	2,247	457	2,704	1,994	710
	(Outdoor Resorts, Jojoba Hills)							
Upper Murrieta Creek	0	0	0	0	0	0	0	0
(Warm Springs Creek above 7S/3W-14)								
Lower Murrieta Creek	0	310	44	44	100	144	100	44
(Santa Gertrudis/Tucalota Creek above 7S/2W-18 -- Includes FPUD Diversion from Lake Skinner)								
Murrieta-Temecula GWA	28,516	710	1,175	29,691	52	29,743	22,303	7,440
	*(RCWD**, WMWD (Murrieta Division), EMWD, Pechanga and Hawthorn)*							
Santa Margarita River Below the Gorge								
DeLuz Creek	0	326	484	484	39	523	389	134
Sandia Creek	0	65	130	130	0	130	98	32
Rainbow Creek	0	0	0	0	0	0	0	0
Santa Margarita River	5,814	20	4	5,818	41	5,859	1,923	645
	(USMC)							
TOTAL	**35,457**	**2,913**	**6,179**	**41,636**	**695** [4/]	**42,331**	**29,228**	**9,812**

1/ Estimated consumptive use is equal to 75% of Total Groundwater Production plus 75% of Surface Diversions less 10% (CU = .75{GW + .90 * SW}).
2/ Camp Pendleton consumptive use and return flow calculated for portion of production used within Santa Margarita River Watershed.
3/ Includes lands overlying deep aquifer in Anza Valley.
4/ Includes surface water diversion for irrigation, commercial and domestic use.
* Data taken from Appendix C.
** RCWD pumped an additional 289 AF that was exported to the San Mateo Watershed.

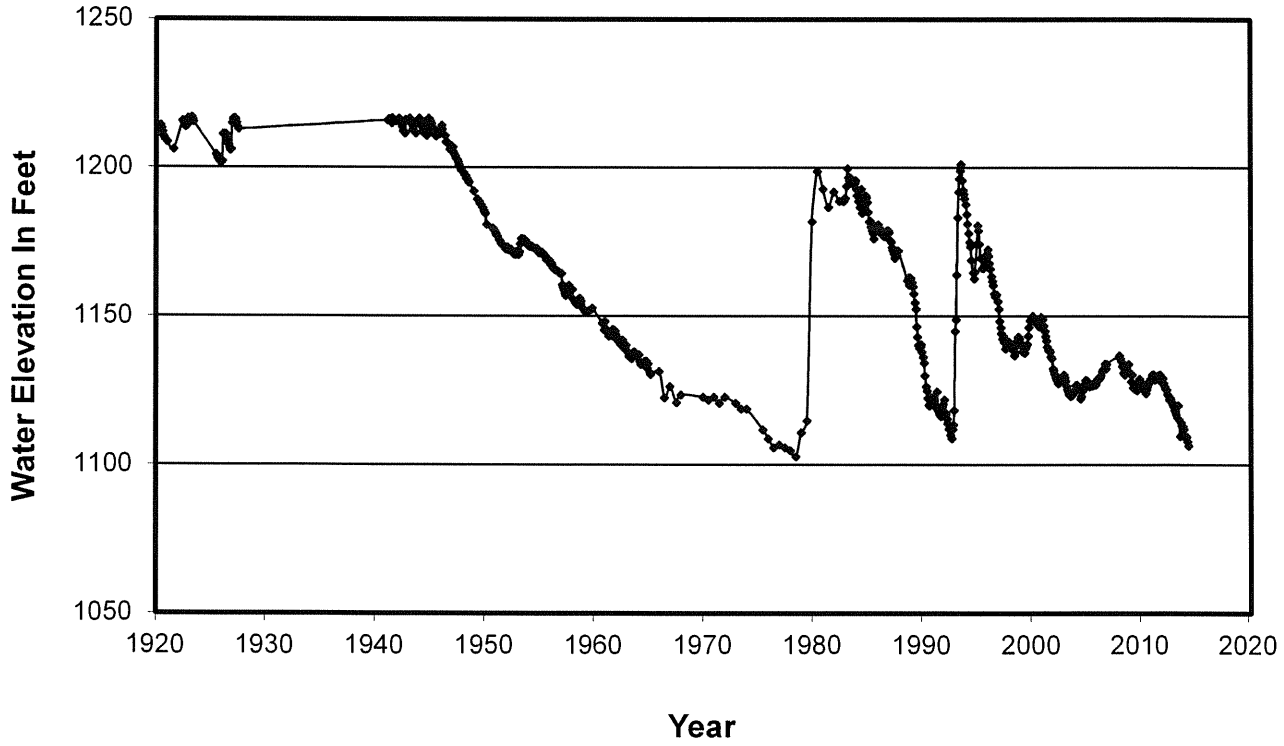
4.3 Water Levels

Water levels in selected wells in the Watershed are measured periodically by various entities. Historical water levels in five wells at various locations in the Watershed are shown in this report on Figures 4.1, 4.2, 4.3, 4.4 and 4.5.

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 relatively dry years after 1980 and after 1993. Water levels declined by 13.7 feet between September 30, 2013 and September 30, 2014. It should be noted that the Windmill Well is located in Pauba Valley about 1.5 miles downslope from the Valle de los Caballos (VDC) recharge area, where releases from Vail Lake as well as imported water are recharged. In Water Year 2013-14, 12,069 acre feet of imported water were recharged in the VDC of which 100 percent was recovered in the same year. As shown on Appendix Table A-7, an additional 264 acre feet of previously recharged import water was recovered from groundwater storage in Water Year 2013-14.

Figure 4.1

WATER LEVEL ELEVATIONS
8S/2W-12H1 - RCWD WINDMILL WELL NO. 417

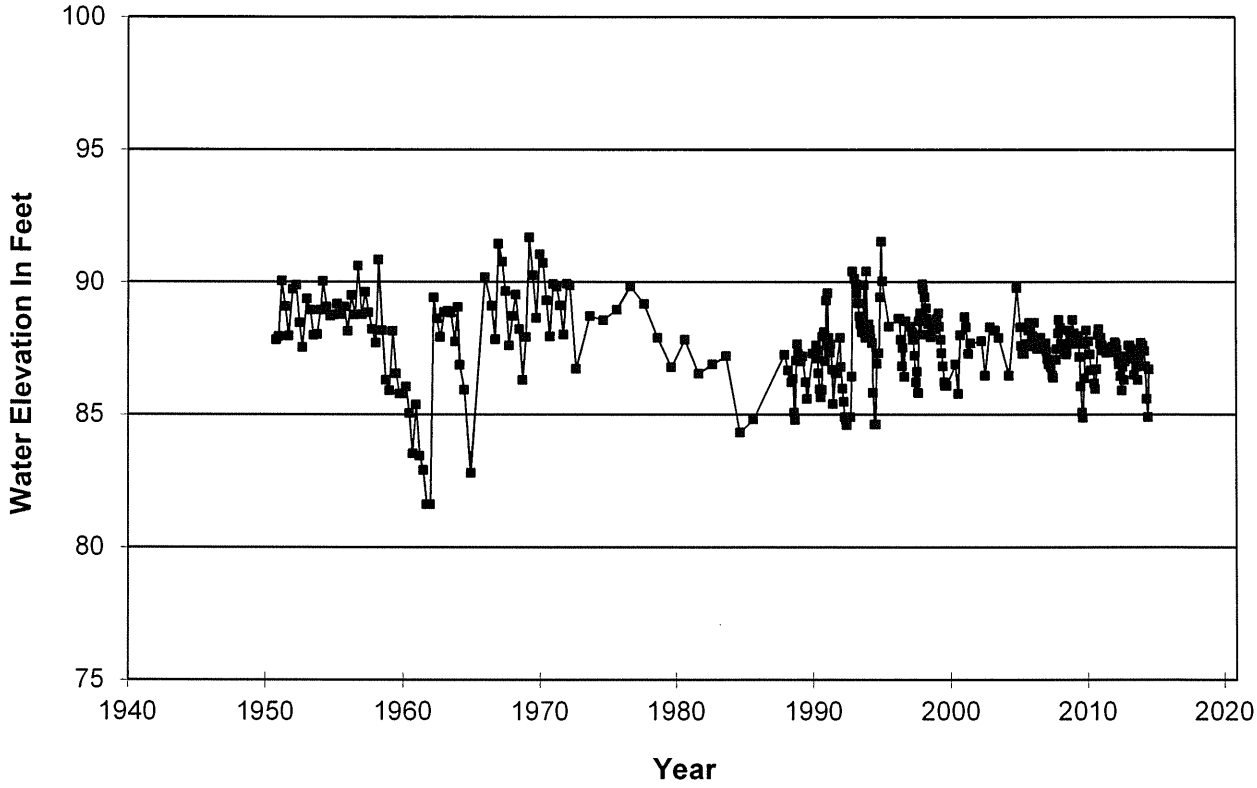


Collar El. 1216.7 Feet; Depth 515 Feet; Drilled in Alluvium
Ref: RCWD reports (1920-2013)

Figure 4.2 shows water levels at Camp Pendleton in Well No. 10S/4W-7J1, a monitoring well located in the Upper Sub-basin. Fluctuations in recent years illustrate recharge during the winter months and drawdown each summer, with the water levels ranging from approximately 82 to 92 feet in elevation. Water levels in Well 7J1 declined 0.5 feet in the period between September 2013 and September 2014.

Figure 4.2

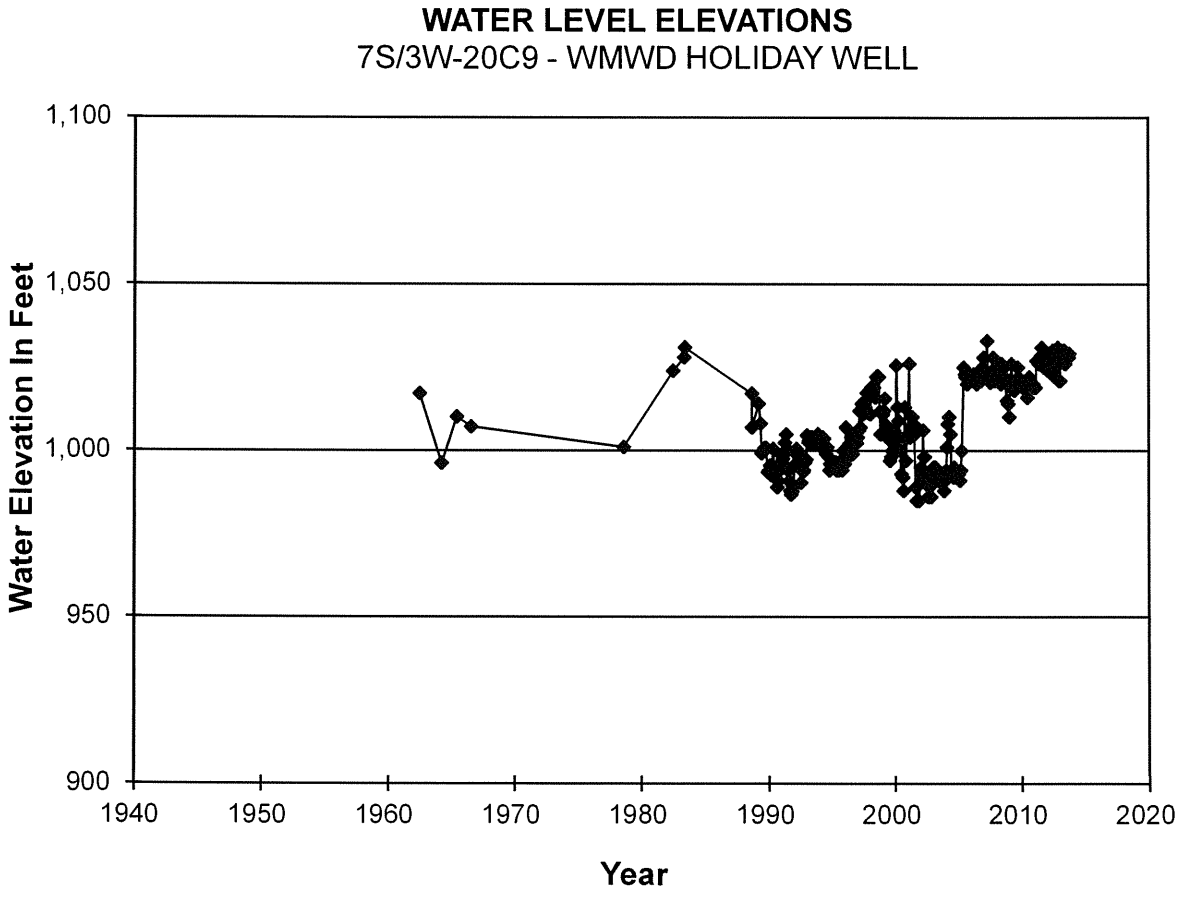
WATER LEVEL ELEVATIONS
10S/4W-7J1 - CAMP PENDLETON *



Ground El. 93.8 Feet; Depth 141 Feet; Perf. Unknown; Drilled in Alluvium
Camp Pendleton Records (1950-72) (1988-2013); Leeds Hill Study (1973-85) Dates Estimated
* Data shown for Well No. 10S/4W-7J1 except for period October 1999 through September 2007 data shown for Well No. 10S/4W-7J4.

Figure 4.3 shows water levels from Holiday Well No. 7S/3W-20C9 in the Murrieta Division service area of Western MWD. The Holiday Well was used as a production well until February 2006, but now is used only as a monitoring well. Water levels in this well rose by three feet between September 30, 2013 and September 30, 2014.

Figure 4.3

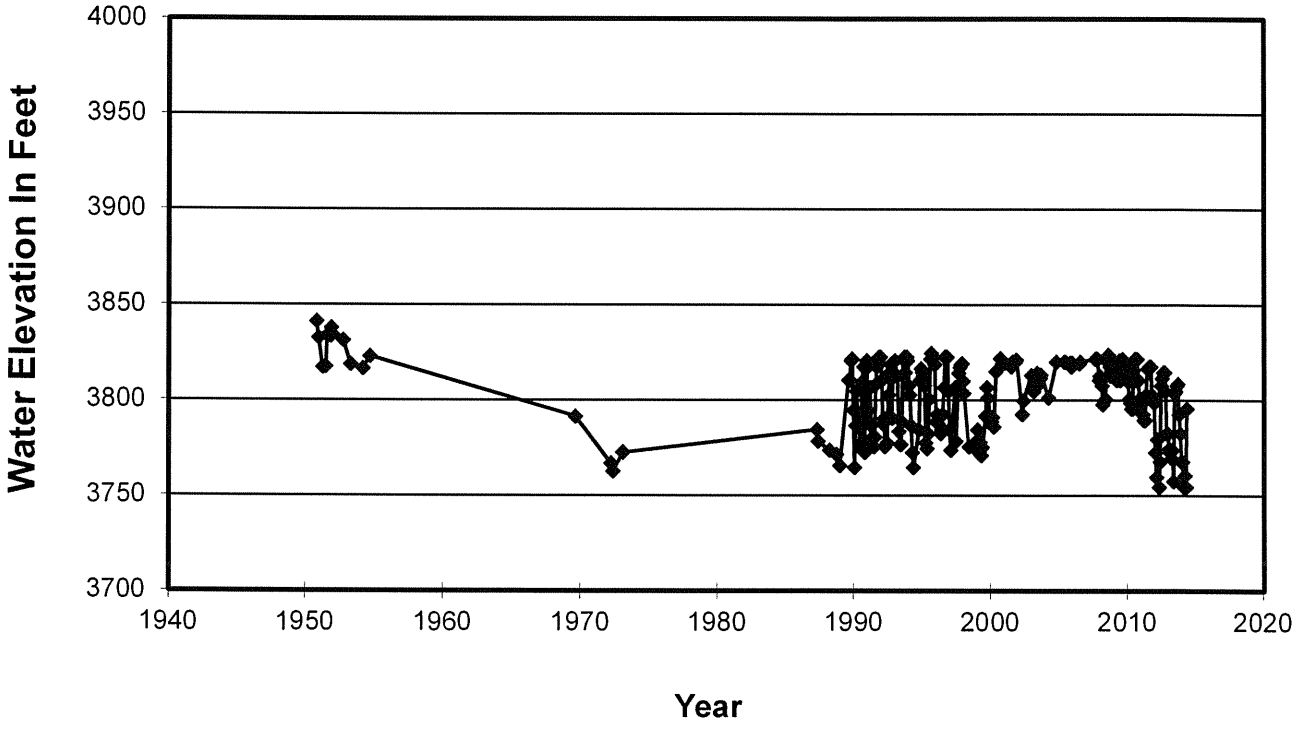


Ground El. 1090 Feet; Depth 307 Feet; Perf. 60 - 307 Feet
Western Municipal Water District

Figure 4.4 shows water levels for Well No. 7S/3E-21G1, Anza Mutual Water Company Well No. 1, a production well located in the Anza Valley. Water levels in this well rose by 38 feet between September 30, 2013 and September 30, 2014. As may be noted from Figure 4.4, recent measurements show annual 50 foot fluctuations in groundwater levels at this well, partly in response to the operation of nearby irrigation wells.

Figure 4.4

WATER LEVEL ELEVATIONS [1]
7S/3E-21G1 - ANZA MUTUAL WATER COMPANY WELL NO. 1

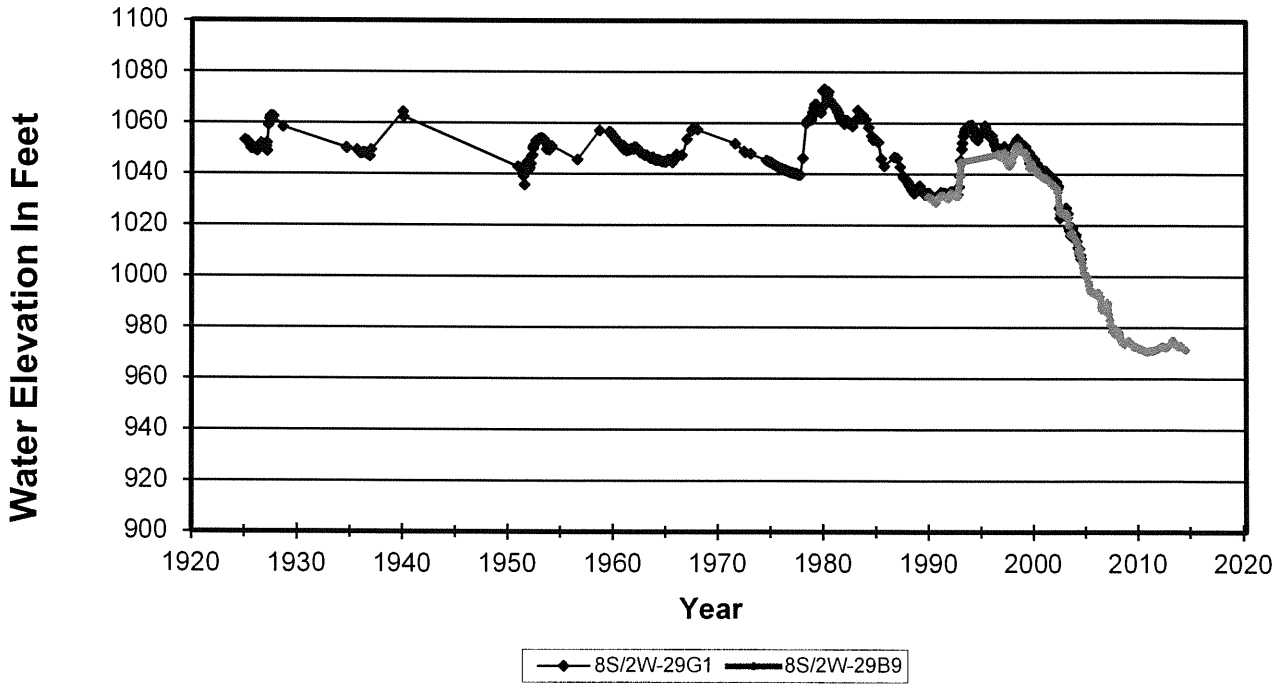


[1] Static water levels plotted after April 1999
Ground El. 3862.6 Feet; Depth 260 Feet; Perf. 20 - 260 Feet; Drilled in Alluvium
Anza Mutual Water Co. Well No. 1 (1987-2013); DWR Bulletin 91-22 (1950-73)

Figure 4.5 shows water levels at Well No. 8S/2W-29G1, located in Wolf Valley on the Kelsey Tract of the Pechanga Indian Reservation. The well is not used for water production. Water levels collected since 1925 reflect unconfined groundwater levels. As shown on Figure 4.5, the groundwater levels have fluctuated within an approximate 40 foot range above and below elevation 1,050 feet in response to wet years and dry periods until recently. In November 2004, this well went dry due to the preceding relatively dry hydrological conditions and pumping of the nearby New Kelsey Well on the Pechanga Reservation. In order to continue to monitor water levels on the Pechanga Indian Reservation, water levels for Well No. 8S/2W-29B9 are also shown on Figure 4.5. Well No. 8S/2W-29B9 is completed in the younger alluvium. As shown on Figure 4.5, water levels for Well No. 8S/2W-29B9 coincide with water levels for the common period of record for Well No. 8S/2W-29G1. Water levels in Well 8S/2W-29B9 declined by 2.7 feet in 2013-14.

Figure 4.5

WATER LEVEL ELEVATIONS
PECHANGA INDIAN RESERVATION WELLS



8S/2W-29G1: Ground El. 1091.1 Feet; Depth 159.1 Feet
8S/2W-29B9: Ground El. 1075.93 Feet; Depth 113.0 Feet
U.S. Geological Survey Records

Changes in water levels in the above noted wells between the end of the previous water year and the end of the 2013-14 Water Year are shown below:

Well	Water Elevation 2013 Feet	Water Elevation 2014 Feet	Change in Water Level Feet	
RCWD 8S/2W-12H1	1,120.0	1,106.3	Down	13.7
USMC 10S/4W-7J1	87.2	86.7	Down	0.5
WMWD 7S/3W-20C9	1,026.0	1,029.0	Up	3.0
Anza MWC 7S/3E-21G1	3,757.6	3,795.6	Up	38.0
Pechanga IR 8S/2W-29B9	*974.1	971.4	Down	2.7

* Revised

4.4. Groundwater Storage

Bulletin 118 Update 2003 prepared by the State of California Department of Water Resources describes three groundwater basins in the Santa Margarita River Watershed: Santa Margarita Valley, Temecula Valley, and Coahuila (Cahuilla) Valley. These basins are also known as the Santa Margarita Groundwater Basin, the Murrieta-Temecula Groundwater Basin, and the Anza Groundwater Basin. Groundwater storage in each of these basins is described in this section.

4.4.1 Santa Margarita Groundwater Basin

The Santa Margarita Groundwater Basin is located along the Santa Margarita River at Camp Pendleton and includes three sub-basins: Upper, Chappo, and Ysidora. Useable groundwater storage is summarized on Table 4.2. Table 4.2 shows that the total combined storage for all the sub-basins between the depths of 5 and 100 feet is 48,100 acre feet. However, much of that storage is below sea level. Thus, the useable capacity is considered to be 28,700 acre feet as shown on Table 4.2. In 2013-14, useable groundwater storage in place was computed for all three sub-basins to be 24,911 acre feet. The useable storage in place for the three sub-basins amounted to 24,677 acre feet in 2012-13. Thus, there was an increase in groundwater storage in place of 234 acre feet for the water year. It may be noted that classification of storage as useable is made without allowances for maintenance of riparian habitat.

TABLE 4.2

SANTA MARGARITA RIVER WATERSHED
GROUNDWATER STORAGE AT CAMP PENDLETON
2013-14
Quantities in Acre Feet

	Sub-basin			
	Upper	Chappo	Ysidora	Total
I. Available Storage				
A. Total Storage [1/]	12,500	27,000	8,600	48,100
B. Useable Storage	12,500	15,000 [2/]	1,200 [3/]	28,700
II. Unused Storage				
A. Wells used for Depth	10S/4W-7J1	10S/4W-18L1 [4/]	11S/5W-11D4	
B. Land Surface Elevation - Feet [5/]	93.8	75.9	18.8	----
C. Depth to Water - Feet [6/]	7.1	13.8	10.5	----
D. Depth below 5 Feet	2.1	8.8	5.5	----
E. Average Area - Acres [7/]	840	2,520	1,060	----
F. Specific Yield [8/]	0.216	0.130	0.090	----
G. Unused Storage below 5 Feet	381	2,883	525	3,789
III. Useable Storage in Place [9/]	12,119	12,117	675	24,911
IV. Useable Storage in Place 2012-13	12,210	11,782	685	24,677
V. Change in Storage 2013-14	(91)	335	(10)	234

1/ Computed by USGS (Worts, F. C., Jr. and Boss, R. F., *Geology and Ground-Water Resources of Camp Pendleton, CA, July 1954)* as the storage between depths of 5 and 100 feet.
2/ Storage between 5 foot depth and sea level.
3/ Storage between 5 foot depth and 10 feet above sea level.
4/ Well 10S/4W-18L1 was destroyed during 2012, depth to water extrapolated from measurements for Well 10S/5W-13G1.
5/ Reported by Camp Pendleton based on NAVD88 datum.
6/ Reported by Camp Pendleton as average values for month of September unless noted otherwise.
7/ Average area estimated over depth interval for unused storage.
8/ From Worts and Boss for depth interval of 5 to 50 feet.
9/ Useable storage includes stored water reserved for riparian habitat; however specific amount stored for such purposes not delineated.

4.4.2 Murrieta-Temecula Groundwater Basin

The Murrieta-Temecula Groundwater Basin is located along Murrieta and Temecula creeks in the Upper Santa Margarita River Watershed. Total groundwater storage at the end of Water Year 2001 was computed for each of 22 hydrologic sub-areas that make up the Groundwater Basin. These computations were based on the areal extent of each sub-area, the thickness of each of three aquifers, (younger alluvium, Pauba aquifer and Temecula aquifer), a specific yield for each aquifer, and the depth to water in each aquifer at the end of the water year. Specific yields were based on unconfined conditions for all aquifers. The total groundwater storage in the uppermost 500 feet as of September 30, 2001, was estimated at 1,340,556 acre feet.

Since 2001, annual changes in groundwater storage have been computed using two different methodologies for comparison; a water budget method and a groundwater level method.

The water budget method determines the change in storage as the difference between the major elements of inflow and outflow for the groundwater area. Table 4.3 shows the changes for Water Years 2010 through 2014. The change in groundwater storage for Water Year 2013-14, using the water budget method, is calculated as a decline of 12,895 acre feet.

The groundwater level method is based on the changes in water levels in key wells in hydrologic sub-areas. Changes in storage under the groundwater level method for Water Years 2010 through 2014 are shown on Table 4.4. The change in groundwater storage for Water Year 2013-14, using the groundwater level method, is calculated as a decline of 10,477 acre feet.

The foregoing two methods are based on independent measurements and estimates. The estimates from the two methods are generally comparable for the period 2001 through 2014. However, the estimates from the two methods for certain years indicate differences in the results. It will take testing over a number of years under varying hydrologic conditions to refine these approaches. Such testing may include comparing the estimates obtained from these two methods with values computed with the groundwater model that is used for implementation of the CWRMA between Camp Pendleton and Rancho California WD.

TABLE 4.3

SANTA MARGARITA RIVER WATERSHED
CHANGES IN GROUNDWATER STORAGE
MURRIETA-TEMECULA GROUNDWATER AREA
Water Budget Method
Quantities in Acre Feet

Elements of Inflow	Water Year Ending				
	2010	2011	2012	2013	2014
Releases from Vail [1/]	1,372	3,732	901	3,259	811
Releases from Lake Skinner [2/]	156	471	0	51	61
Freshwater Releases to Stream [3/]	3,913	4,399	3,708	2,530	4,126
Reclaimed Water Released to Stream [4/]	0	0	0	0	0
Recharged Imported Water [5/]	12,858	13,873	14,643	11,395	12,069
Return Flow from RCWD Groundwater Production [6/]	8,441	8,409	8,984	8,904	9,048
Return Flow from Import Direct Use [7/]	2,999	2,668	3,015	3,457	3,920
Return Flow from Applied Wastewater [8/]	1,582	1,391	1,288	1,349	1,399
Underflow and Tributary Inflow [9/]	30,674	47,957	4,119	2,149	6,777
Subtotal	61,995	82,900	36,658	33,094	38,211
Elements of Outflow					
Riparian Evapotranspiration and Underflow [10/]	508	508	508	508	508
Total RCWD Groundwater Production [11/]	36,698	36,560	39,060	38,763	39,413
Net Pumping by Others [12/]	2,042	2,002	2,138	2,277	2,226
Surface Outflow [13/]	25,894	36,922	6,737	4,220	8,959
Subtotal	65,142	75,992	48,443	45,768	51,106
Change in Groundwater Storage	(3,147)	6,908	(11,785)	(12,674)	(12,895)

1/ Table 3.3, Total Releases.
2/ Section 5.4.
3/ Table A-7, SMR Release.
4/ Table A-7, Reclaimed Wastewater, Murrieta Creek Discharge (ceased October 18, 2002).
5/ Table A-7, Footnote 3.
6/ Table 7.8, Total Production less releases to streams, times 0.23.
7/ Rancho Division Direct Use Imports, Table A-7 Footnote 4, times 0.23.
8/ The sum of: (Reclaimed Wastewater Table A-7, Reuse in SMRW) plus (Table A-1, Reuse in SMRW), times 0.23.
9/ Murrieta Creek at Temecula Flow times 1.6697 which is based on a correlation between Murrieta Creek at Temecula flow and Tributary Inflow, Areal Recharge and Subsurface Inflow for the period 1977-1998 as shown in Table II-10, Vol. II, Geology and Hydrology, Surface and Ground Water Model of the Murrieta-Temecula Ground Water Basin, California, dated January 31, 2003.
10/ Table II-10, Vol. II, Geology and Hydrology, Surface and Ground Water Model of the Murrieta-Temecula Ground Water Basin, California, dated January 31, 2003.
11/ Table 7.8 Total Production.
12/ The sum of Groundwater Production from: [Table A-1 (EMWD), A-5 (Pechanga IR), A-10 (WMWD Murieta Division, previously A-5), Appendix C, Murrieta-Temecula Groundwater Area], times .77.
13/ Table 3.2 Santa Margarita River near Temecula.

TABLE 4.4

SANTA MARGARITA RIVER WATERSHED
CHANGES IN GROUNDWATER STORAGE
MURRIETA-TEMECULA GROUNDWATER AREA
Groundwater Level Method

Sub-area	Key Aquifer	Specific Yield/ Storativity	Key Well		Aquifer Area Acres	Water Depth at End of Water Year, Feet					Change in Depth, Feet					Change in Storage in Water Year, Acre Feet				
						2010	2011	2012	2013	2014	2010	2011	2012	2013	2014	2010	2011	2012	2013	2014
1	Temecula	0.0036	510	6/	1371	199.60	211.71	215.40	225.00	233.50	(1.58)	(12.11)	(3.69)	(9.60)	(8.50)	(8)	(60)	(18)	(47)	(42)
2	Pauba	0.0398	439		479	28.67	26.00	30.75	37.40	42.40	6.06	2.67	(4.75)	(6.65)	(5.00)	116	51	(91)	(127)	(95)
3	Pauba	0.0309	146		802	28.62	26.22	29.61	33.52	39.44	5.76	2.40	(3.39)	(3.91)	(5.92)	143	59	(84)	(97)	(147)
4	Pauba	0.0350	101	2/, 3/	694	79.04	161.11	175.15	175.32	155.87	34.33	(82.07)	(14.04)	(0.17)	19.45	834	(1,993)	(341)	(4)	472
5	Pauba	0.0319	102	2/, 4/	1322	119.52	84.98	62.05	79.20	128.18	0.22	34.54	22.93	(17.15)	(48.98)	9	1457	967	(723)	(2,066)
6	Pauba	0.0698	495		1562	96.55	89.12	78.76	70.80	64.80	9.40	7.43	10.36	7.96	6.00	1025	810	1130	868	654
7	Pauba	0.0012	211		719	153.00	118.00	108.66	101.00	118.00	7.02	35.00	9.34	7.66	(17.00)	6	30	8	7	(15)
8	Qyal	0.20	492		339	28.47	28.60	27.79	28.03	28.85	(0.12)	(0.13)	0.81	(0.24)	(0.82)	(8)	(9)	55	(16)	(56)
	Pauba	0.0891	492		496	28.47	28.60	27.79	28.03	28.85	(0.12)	(0.13)	0.81	(0.24)	(0.82)	(5)	(6)	36	(11)	(36)
9	Temecula	0.0036	410		2066	333.96	338.00	318.00	321.08	336.80	0.64	(4.04)	20.00	(3.08)	(15.72)	5	(30)	149	(23)	(117)
10	Qyal	0.20	426		1438	38.29	33.04	40.05	39.60	38.70	2.83	5.25	(7.01)	0.45	0.90	814	1510	(2,016)	129	259
	Pauba	0.0746	426		1165	38.29	33.04	40.05	39.60	38.70	2.83	5.25	(7.01)	0.45	0.90	246	456	(609)	39	78
11	Qyal	0.20	422		1405	63.39	62.60	65.00	67.20	71.19	(1.07)	0.79	(2.40)	(2.20)	(3.99)	(301)	222	(674)	(618)	(1,121)
	Pauba	0.0634	422		1413	63.39	62.60	65.00	67.20	71.19	(1.07)	0.79	(2.40)	(2.20)	(3.99)	(96)	71	(215)	(197)	(357)
12	Qyal	0.20	417		1769	92.65	87.66	93.00	96.74	111.15	(1.46)	4.99	(5.34)	(3.74)	(14.41)	(517)	1765	(1,889)	(1,323)	(5,098)
	Pauba	0.0422	417		752	92.65	87.66	93.00	96.74	111.15	(1.46)	4.99	(5.34)	(3.74)	(14.41)	(46)	158	(169)	(119)	(457)
13	Qyal	0.20	484	2/, 5/	898	50.58	27.48	55.25	77.16	74.12	(0.01)	23.10	(27.77)	(21.91)	3.04	(2)	4149	(4,987)	(3,935)	546
	Pauba	0.0198	484	2/, 5/	398	50.58	27.48	55.25	77.16	74.12	(0.01)	23.10	(27.77)	(21.91)	3.04	0	182	(219)	(173)	24
14	Temecula	0.0036	462		2084	416.80	408.50	409.80	421.20	364.57	6.40	8.30	(1.30)	(11.40)	56.63	48	62	(10)	(86)	425
15	Temecula	0.0036	464		1347	326.00	328.50	329.60	330.20	332.40	(0.70)	(2.50)	(1.10)	(0.60)	(2.20)	(3)	(12)	(5)	(3)	(11)
16	Temecula	0.0036	509	7/	1967	511.70	521.60	527.30	532.20	543.70	(8.10)	(9.90)	(5.70)	(4.90)	(11.50)	(57)	(70)	(40)	(35)	(81)
17	Temecula	0.0036	139	1/	2008	512.74	530.39	536.90	547.74	570.91	---	(17.65)	(6.51)	(10.84)	(23.17)	---	(128)	(47)	(78)	(167)
18	Pauba	0.0967	129		1546	221.44	225.96	230.25	234.11	240.48	(4.05)	(4.52)	(4.29)	(3.86)	(6.37)	(605)	(676)	(641)	(577)	(952)
19	Temecula	0.0036	466		1562	314.00	325.22	336.22	325.26	340.81	(16.30)	(11.22)	(11.00)	10.96	(15.55)	(92)	(63)	(62)	62	(87)
20	Pauba	0.0738	493		3231	274.78	275.51	279.64	279.49	286.12	(4.03)	(0.73)	(4.13)	0.15	(6.63)	(961)	(174)	(985)	36	(1,581)
21	Pauba	0.1392	463		2303	54.80	53.80	54.40	56.00	57.40	0.66	1.00	(0.60)	(1.60)	(1.40)	212	321	(192)	(513)	(449)
*	Pauba	0.0325	Lynch	1/	1008	71.00	72.00	77.00	**	**	(2.00)	(1.00)	(5.00)	---	---	(66)	(33)	(164)	---	---
TOTAL																**691**	**8,049**	**(11,113)**	**(7,564)**	**(10,477)**

1/ Well not measured for year with dashes; Sub-area excluded for change in storage calculation for years with no measurement.
2/ Data for Wells 101, 102, and 484 were revised for years 2009 and 2010.
3/ Key Well 101 designated for Sub-area 4 in Year 2011; previously Well 401 designated as the Key Well.
4/ Key Well 102 designated for Sub-area 5 in Year 2011; previously Well 402 designated as the Key Well.
5/ Key Well 484 designated for Sub-area 13 in Year 2011; previously Well 414 designated as the Key Well.
6/ Key Well 510 for Sub-area 1 renamed in Year 2012; previously the well was named as Well 301.
7/ Key Well 509 for Sub-area 16 renamed in Year 2012; previously the well was named as Well 209.
* Sub-area is located within Murrieta Division of Western MWD; Sub-areas 1 through 21 are located in Rancho California WD.
** No water level data for the Lynch Well was provided by Western Municipal Water District for Water Year 2012-13, due to incorrect groundwater level readings.

4.4.3 Anza Groundwater Basin

The Anza Groundwater Basin is located along Cahuilla Creek in the upper portion of the Santa Margarita River Watershed.

The most recent study that determined storage volumes was conducted by Riverside County in 1990. That study concluded that the groundwater storage of about 182,200 acre feet in 1950 had decreased to about 165,000 acre feet in 1986. The study also concluded that ". . . basin hydrogeologic features, production facilities' conditions, and locations/depths of storage . . ." limited the useable portion to 40% of the groundwater storage or about 56,200 acre feet in 1986.

During Water Years 2005 through 2009, groundwater level measurements were made by the USGS in Anza Valley under contract with the Bureau of Indian Affairs. In 2013, the USGS resumed groundwater level measurements as part of a study on behalf of the High Country Conservancy as the Local Project Sponsor under a California Department of Water Resources Integrated Regional Water Management (IRWM) Planning Grant. Rancho California WD is the managing agency for the Upper Santa Margarita Watershed IRWM Planning Region and contracted with the USGS to conduct the groundwater level measurements. The data from these measurements are available at the USGS website: *http://nwis.waterdata.usgs.gov/ca/nwis/gwlevels*.

The wells included in the program can be located by selecting the latitude-longitude box selection criteria and specifying the following bounds:

North Latitude - 33° 37' 00"
South Latitude - 33° 30' 00"
West Longitude - 116° 48' 00"
East Longitude - 116° 38' 00"

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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 delivered by Metropolitan Water District of Southern California (MWD) 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 at the end of the water year in the major reservoirs in each system are indicated on Table 5.1. Total storage in the SWP for the last ten years is shown graphically on Figure 5.1. Similarly, total storage for the Colorado River Reservoirs for the last ten years is shown on Figure 5.2. It may be seen from Table 5.1 that during Water Year 2013-14, water in storage in the SWP decreased from 2.51 million acre feet on September 30, 2013, to 1.69 million acre feet on September 30, 2014. Storage on September 30, 2014 corresponds to about 32 percent of the total SWP storage capacity.

Water in storage in the Colorado River system remained at the same level as the prior year at 29.6 million acre feet on September 30, 2014. On September 30, 2014, those reservoirs contained 46 percent of their total combined capacity.

The California Department of Water Resources prepares projections of water availability in the SWP for the coming year (2015) on a monthly basis from February through May. The report DWR Bulletin 120-4-15 dated May 1, 2015, indicated that statewide precipitation October 1 through April 30, 2015 was 70 percent of average compared to 50 percent last year. As of May 1, 2015, the SWP allocation for 2015 will meet twenty percent of contractors' 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. Naval Weapons Station – Fallbrook Annex
Western Municipal Water District

TABLE 5.1

SANTA MARGARITA RIVER WATERSHED
STORAGE IN STATE WATER PROJECT AND COLORADO RIVER RESERVOIRS
Thousands of Acre Feet 1/

STATE WATER PROJECT RESERVOIRS

Reservoir	Total Capacity	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Oroville	3,540	2,877	2,833	1,568	1,097	1,337	1,755	3,045	1,977	1,633	1,076
San Luis (State Share)	1,060	925	911	445	200	224	415	874	389	283	214
Pyramid	171	160	163	166	163	166	164	164	169	167	168
Castaic	324	306	266	313	268	200	260	284	264	285	108
Silverwood	73	72	72	73	71	70	70	71	71	72	71
Perris	132	82	72	66	69	62	61	66	72	73	55
Total	5,300	4,422	4,317	2,631	1,868	2,059	2,725	4,504	2,942	2,513	1,692
Percent of Capacity		83%	81%	50%	35%	39%	51%	85%	56%	47%	32%

MAJOR COLORADO RIVER RESERVOIRS

Reservoir	Total Capacity	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Flaming Gorge	3,789	3,177	3,130	3,063	3,024	3,394	3,154	3,467	3,030	2,818	3,284
Blue Mesa	941	588	667	687	650	651	609	699	340	348	599
Navajo	1,709	1,516	1,420	1,510	1,319	1,314	1,412	1,327	1,035	933	1,081
Powell	27,000	11,939	11,917	11,929	14,509	15,463	15,267	17,593	13,929	10,934	12,286
Mead	28,537	15,219	13,887	12,505	12,013	10,933	10,092	12,977	13,135	12,362	10,121
Mohave	1,818	1,573	1,584	1,545	1,586	1,501	1,575	1,610	1,606	1,624	1,645
Havasu	648	554	555	576	584	564	560	585	561	560	583
Total	64,442	34,566	33,160	31,815	33,685	33,820	32,669	38,258	33,636	29,579	29,599
Percent of Capacity		54%	51%	49%	52%	52%	51%	59%	52%	46%	46%

1/ Storage reported for end of water year on September 30.

Figure 5.1

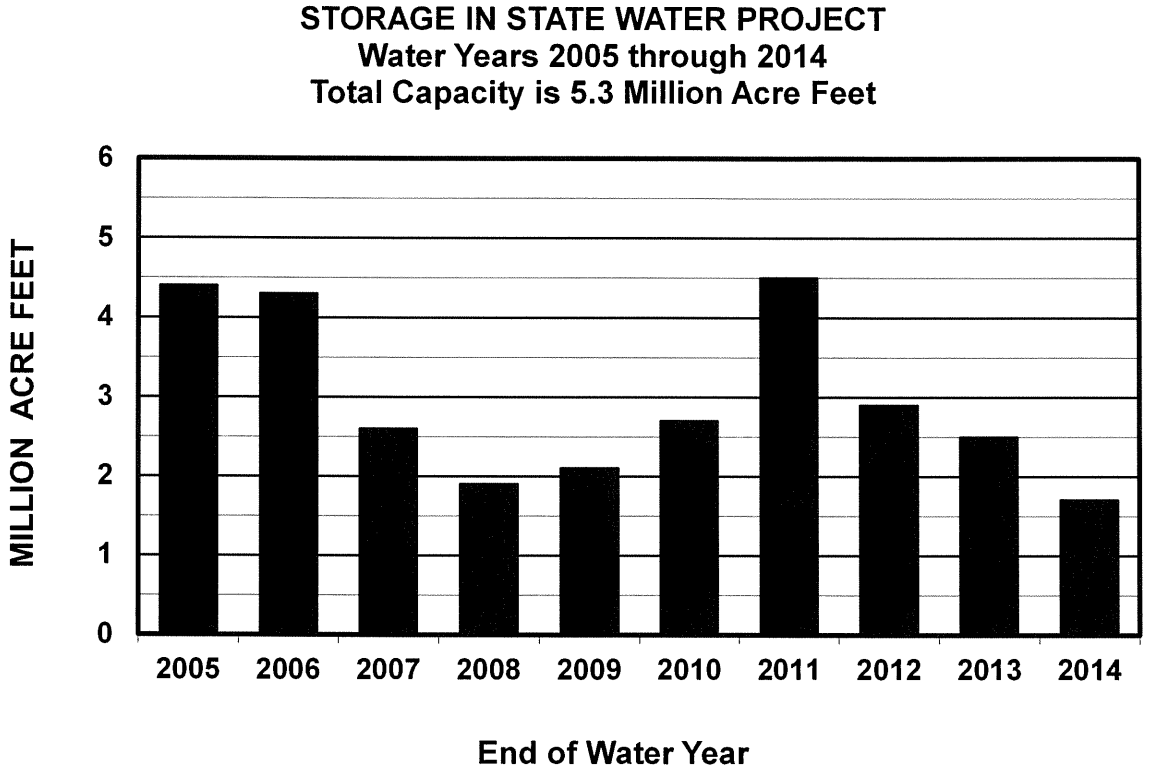
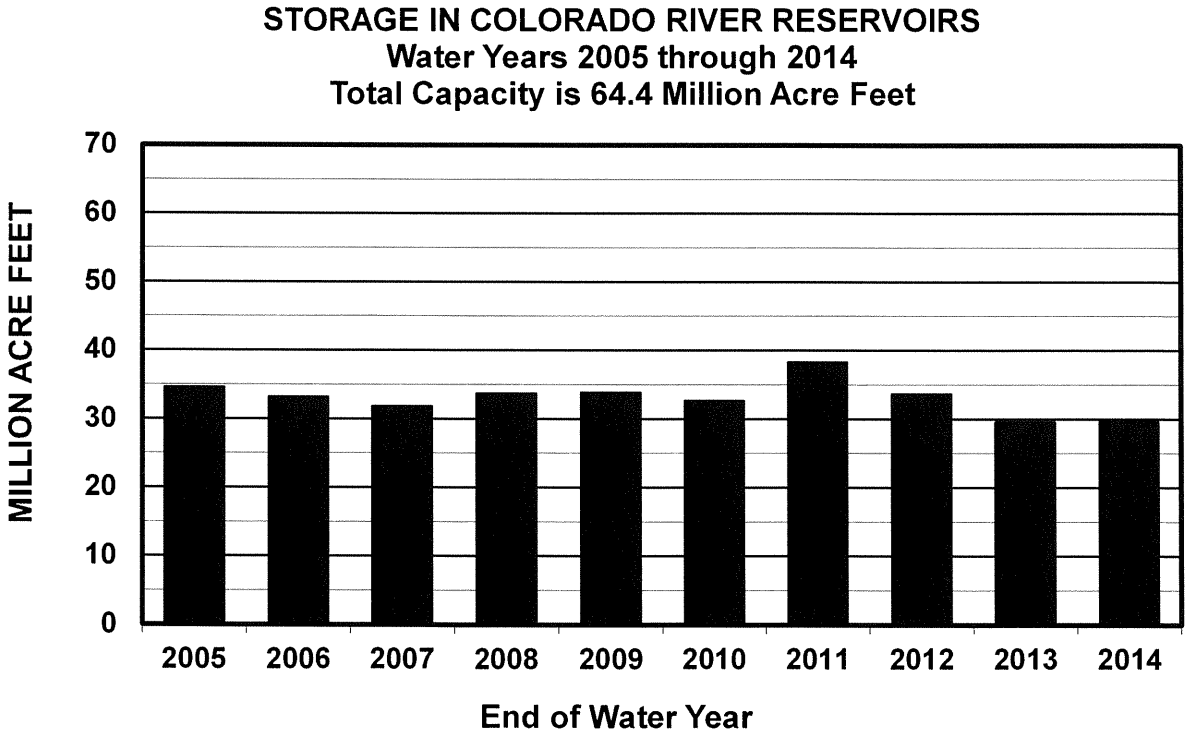


Figure 5.2



In addition to net deliveries through member agencies, MWD, pursuant to a Court Order, imported 1,074 acre feet of water into the Santa Margarita River Watershed for irrigation of lands in Domenigoni Valley during 2013-14.

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 delivers water to a portion of its service area that is inside the Santa Margarita River Watershed. Elsinore Valley MWD obtains its supply from imports or from wells outside the Santa Margarita River Watershed.

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. The wastewater that is derived from the exported potable water is returned to the Watershed for treatment at the Southern Region Tertiary Treatment Plant. Recycled water is used for irrigation both within and outside the Watershed. Treated wastewater in excess of recycled use is exported for discharge at the Oceanside Outfall. Wastewater from the Fallbrook area and the Naval Weapons Station is exported by the Fallbrook Public Utility District and wastewater in the Elsinore Valley MWD is exported by Elsinore Valley MWD. Rancho California WD exports water into the San Mateo Creek Watershed.

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. Eastern MWD uses a second, 48-inch pipeline along Palomar Valley for delivery of recycled water for reuse and export from the Watershed. Rancho California WD also delivers wastewater to the Palomar Pipeline under an agreement with Eastern MWD to provide coordinated operation of their respective wastewater systems and thus such wastewater originating from Rancho California WD can also be reused or exported through the operation of the Palomar Pipeline by Eastern MWD. The exported wastewater can be reused outside the Watershed, delivered to storage facilities or discharged to Temescal Creek. In 2013-14, Eastern MWD did not export wastewater for discharge to Temescal Creek. During 2013-14, Rancho California WD had no deliveries of wastewater to the Palomar Pipeline and thus no export of wastewater for discharge to Temescal Creek can be attributed to wastewater originating from Rancho California WD.

The following paragraphs of this report describe imports and exports during Water Year 2013-14 and during the period 1966 through 2014. A discussion of MWD's Lake Skinner and Diamond Valley Lake operations is also provided.

5.2 Water Year 2013-14

During Water Year 2013-14, a total of 81,785 acre feet of net imported supplies were distributed for use in the Watershed. This compares with 74,889 acre feet in 2012-13 and represents an increase of approximately nine percent. The term net imports is used because several entities report gross imports into the Santa Margarita River Watershed but due to system configurations and operations, a portion of the gross imports may be transported to serve areas outside of the Watershed. Thus, the net imports reflect the quantities of imported supplies used within the Santa Margarita River Watershed. Net imports into the Watershed are listed on Table 5.2 for Water Year 2013-14.

The water exported from the Watershed for 2013-14 primarily includes wastewater except for Camp Pendleton and Rancho California WD. As described in Section 7, Camp Pendleton exports native water for use outside the Watershed. Also, Rancho California WD exports groundwater as part of a blended water supply to serve customers in the San Mateo Watershed. Exports from the Watershed for 2013-14 were 18,518 acre feet as shown on Table 5.2. This compares to 18,325 acre feet in 2012-13 and represents an increase of about one percent.

The quality of the water supplies imported through the MWD system in 2013-14 is indicated by the average monthly total dissolved solids at the Skinner Treatment Plant effluent line as shown on Table 5.3. The table also shows the percent of imported water obtained from the SWP.

5.3 Water Years 1966 through 2014

Water quantities imported by districts into the Santa Margarita River Watershed during Water Years 1966 through 2014 are shown on Table 5.4. 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.

Review of the historical trend of total imports shown on Table 5.4 indicates significant year-to-year variations with relatively low imports in wet years and higher imports in dry years, combined with an underlying growth rate to serve increasing municipal water demands in the Murrieta-Temecula area.

Exports over the period 1966 through 2014 are also shown on Table 5.4. These include estimated water exports on Camp Pendleton less estimated wastewater returns, as well as an estimate of exports by Fallbrook PUD and the Naval Weapons Station after 1983, and Elsinore Valley MWD after 1986. Exports by Eastern MWD were initiated in 1992-1993, and Rancho California WD began quantifying export of water in 2002-03. 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

2013-14

Quantities in Acre Feet

	NET IMPORTS										EXPORTS 3/							
YEAR MONTH	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	MWD 1/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD	U. S. NAVAL WS	WESTERN MWD 2/	TOTAL NET IMPORTS	CAMP PENDLETON EXPORTS 4/	CAMP PENDLETON WASTEWATER RETURNS 5/	CAMP PENDLETON NET EXPORT	U.S. NAVAL WS	EASTERN MWD 6/	ELSINORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD 7/	TOTAL EXPORTS
2013																			
OCT	1,416	1,071	733	96	133	192	3,438	4	3	7,086	469	97	372	0	1,034	111	81	35	1,633
NOV	1,208	503	600	61	107	161	2,221	3	2	4,866	413	78	335	0	1,058	106	82	36	1,617
DEC	914	259	372	22	68	89	1,782	5	2	3,513	394	75	319	0	1,112	110	76	17	1,634
2014																			
JAN	1,053	538	514	45	95	95	3,080	4	3	5,426	427	79	348	0	1,010	108	77	19	1,562
FEB	1,020	456	571	51	79	103	2,252	3	2	4,536	387	72	315	0	832	97	62	31	1,337
MAR	801	380	362	62	87	104	2,268	4	2	4,070	411	82	329	1	1,124	109	83	17	1,663
APR	1,122	508	464	111	127	98	4,084	4	3	6,521	407	83	324	0	967	104	77	13	1,485
MAY	1,565	663	675	150	190	135	5,499	5	3	8,885	494	114	380	1	989	108	77	20	1,575
JUNE	1,621	771	793	110	136	197	5,733	6	4	9,371	514	109	405	1	886	103	79	18	1,492
JULY	1,759	798	788	120	141	180	6,152	6	4	9,948	529	112	417	1	928	119	74	22	1,561
AUG	1,803	748	871	141	120	211	4,997	7	4	8,902	464	96	368	1	937	119	70	36	1,531
SEPT	1,602	718	835	105	124	167	5,097	7	3	8,659	466	102	364	1	867	113	58	25	1,428
TOTAL	15,884	7,413	7,578	1,074	1,407	1,732	46,603	58	35	81,785	5,375	1,099	4,276	6	11,744	1,307	896	289	18,518

1/ Metropolitan Water District direct deliveries in Domenigoni Valley as shown on Table A-4.

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

3/ All exports are wastewater except as noted for Camp Pendleton and Rancho California WD.

4/ Agricultural and Camp Supply use outside the SMRW, recycled use outside the SMRW, plus export to Oceanside Outfall as shown on Table A-8.

5/ Estimated as recycled percentage of Camp Supply use outside the SMRW as shown on Table A-8.

6/ Includes Other Reuse shown on Table A-1, which includes changes of storage in Winchester and Sun City storage ponds, evaporation and percolation losses, and discharges to Temescal Creek in the Santa Ana Watershed.

7/ Includes groundwater used in San Mateo Watershed and wastewater exported via Palomar Valley pipeline.

TABLE 5.3

SANTA MARGARITA RIVER WATERSHED
TOTAL DISSOLVED SOLIDS
CONCENTRATION OF IMPORTED WATER

YEAR MONTH	TOTAL DISSOLVED SOLIDS MG/L 1/		PERCENT STATE PROJECT WATER 2/	
	2012-13	2013-14	2012-13	2013-14
2013				
OCT	358	513	66	18
NOV	342	520	77	15
DEC	336	526	78	12
2014				
JAN	345	560	80	10
FEB	391	576	65	0
MAR	399	538	64	15
APR	482	574	36	6
MAY	523	574	22	8
JUNE	528	493	18	32
JULY	522	411	20	55
AUG	524	451	18	46
SEPT	516	551	21	25

1/ As measured in the Skinner Treatment Effluent line.

2/ Skinner Plant treated a blend of California State Project Water and Colorado River water.

TABLE 5.4

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

Quantities in Acre Feet

	NET IMPORTS										EXPORTS 5/									
WATER YEAR	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 1/	MWD 2/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD 3/	U.S. NAVAL WS	WESTERN MWD 4/	TOTAL IMPORTS	CAMP PENDLETON			U.S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD 7/	TOTAL EXPORTS
											EXPORTS	WASTEWATER RETURNS	NET EXPORT						
1966	1,604	N/R	3,351	0	0	1,308	0	0	24	6,287	3,251	974	2,277	0	0	0	0	N/R	2,277
1967	1,630	N/R	2,852	0	0	1,095	0	0	20	5,597	3,180	1,243	1,937	0	0	0	0	N/R	1,937
1968	1,464	N/R	3,423	0	0	1,377	0	0	27	6,291	3,368	1,214	2,154	0	0	0	0	N/R	2,154
1969	1,741	N/R	2,837	0	0	1,253	0	0 E	25	5,856	3,276	1,170	2,106	0	0	0	0	N/R	2,106
1970	1,417	N/R	3,538	0	0	1,689	0	0 E	31	6,675	3,809	1,113	2,696	0	0	0	0	N/R	2,696
1971	1,383	N/R	3,405	0	0	1,650	0	76 E	34	6,548	3,527	1,090	2,437	0	0	0	0	N/R	2,437
1972	1,470	N/R	3,916	0	0	2,037	0	115 E	34	7,572	3,543	1,168	2,375	0	0	0	0	N/R	2,375
1973	1,533	N/R	3,210	0	0	1,616	0	115 E	30	6,504	3,544	1,187	2,357	0	0	0	0	N/R	2,357
1974	1,601	N/R	3,967	0	0	2,049	0	115 E	36	7,768	3,532	1,140	2,392	0	0	0	0	N/R	2,392
1975	1,969	N/R	3,597	0	0	1,247	0	115 E	34	6,962	3,098	1,530	1,568	0	0	0	0	N/R	1,568
1976	2,493	N/R	4,627	0	0	2,239	119	115 E	35	9,628	3,619	1,497	2,122	0	0	0	0	N/R	2,122
1977	2,947	N/R	5,212	0	0	2,343	1,845	115 E	24	12,486	3,194	1,416	1,778	0	0	0	0	N/R	1,778
1978	2,551	569	5,202	0	0	2,188	5,774	115 E	26	16,425	3,071	1,283	1,788	0	0	0	0	N/R	1,788
1979	1,894	712	5,723	0	0	2,348	7,009	115 E	24	17,824	4,756	1,427	3,329	0	0	0	0	N/R	3,329
1980	1,192	696	6,404	0	0	2,489	10,126	115 E	25	21,047	3,651	1,405	2,246	0	0	0	0	N/R	2,246
1981	716	798	8,543	0	0	3,153	15,282	115 E	34	28,642	3,892	1,249	2,643	0	0	0	0	N/R	2,643
1982	1,112	678	7,079	0	0	2,460	13,378	115 E	34	24,856	3,761	1,273	2,488	0	0	0	0	N/R	2,488
1983	1,211	658	6,720	0	0	2,190	5,752	115 E	26	16,672	3,000	1,242	1,758	26 E	0	0	1,003	N/R	2,787
1984	699	816	8,506	0	0	3,068	6,716	115 E	26	19,946	3,243	1,120	2,123	26 E	0	0	1,032	N/R	3,181
1985	679	808	7,831	0	0	3,410	7,158	102	27	20,015	3,377	1,200	2,177	26 E	0	0	1,060	N/R	3,263
1986	760	882	8,585	0	0	2,945	11,174	94	34	24,474	3,326	981	2,345	16 P	0	0	1,096	N/R	3,457
1987	1,155	938	8,656	0	0	3,390	7,564	116	36	21,855	3,444	1,799	1,645	26	0	4	1,129	N/R	2,805
1988	2,047	1,032	8,033	0	0	2,985	17,854	120	36	32,108	3,457	1,872	1,585	26	0	55	1,154	N/R	2,820
1989	3,746	1,341	9,066	0	0	3,003	22,895	128	23	40,202	3,418	1,446	1,972	23	0	74	1,181	N/R	3,250
1990	5,601	2,255	10,103	0	0	3,818	22,030	145	22	43,974	2,971	1,451	1,520	27	0	114	1,271	N/R	2,932
1991	9,479	2,421	7,962	0	0	2,904	21,238	109	21	44,134	2,168	1,219	949	13	0	134	960	N/R	2,056
1992	8,593	2,190	7,893	0	0	2,277	16,931	99	25	38,008	2,426	1,548	878	7	0	140	1,083	N/R	2,108
1993	5,393	2,964 R	6,925	0	0	1,965	11,411	117	31	28,806 R	2,329	1,926	403	16	705	150	1,255	N/R	2,529
1994	7,150	3,232 R	7,250	0	0	1,651	16,386	73	37	35,779 R	2,702	1,501	1,201	5	3,159	170	1,068	N/R	5,603
1995	4,625	3,127 R	6,538	547	0	1,661	15,108	125	29	31,760 R	2,781	1,611	1,170	12	3,908	185	1,153	N/R	6,428
1996	4,960	4,197 R	7,993	1,005	0	1,815	23,600	100	35	43,705 R	3,577	1,493	2,084	5	2,993	213	1,035	N/R	6,330
1997	3,284	4,296 R	7,894	3,521	0	1,429	26,992	109	30	47,555 R	3,643	1,932	1,711	6	3,201	226	1,021	N/R	6,165
1998	5,117	5,100	6,382	5,023	0	1,601	19,584	97	31	42,935	3,742	2,073	1,669	8	4,513	247	1,482	N/R	7,919
1999	4,327	6,133 R	7,430	3,781	0	1,727	34,490	111	41	58,040 R	3,558	2,130	1,428	5	4,133	254	1,377	N/R	7,197
2000	7,256	7,174 R	9,365	712	0	2,217	55,409	104	42	82,279 R	4,072	2,115	1,957	7	3,649	279	1,419	N/R	7,311
2001	5,948	6,215 R	8,398	689	0	1,804	41,823	73	59	65,009 R	3,653	2,075	1,578	8	4,457	310	1,392	N/R	7,745
2002	8,117	7,596	9,580	595	0	1,676	54,148	97	64	81,873	3,701	1,950	1,751	9	5,325	412	1,225	N/R	8,722
2003	9,062	7,091	9,130	495	102	1,510	50,744	88	42	78,264	3,767	1,688	2,079	10	7,636	483	1,359	64	11,631
2004	9,138	8,438	11,749	766	330	1,888	62,408	73	50	94,840	4,951 6/	0	4,951	8	9,115	600	1,329	312	16,315
2005	10,858	8,215	8,108	556	75	1,610	47,614	40	62	77,138	4,625 6/	0	4,625	16	11,676	927	1,417	1,574	20,235
2006	14,161	9,819	10,573	506	316	1,851	60,611	64	66	97,967	4,912 6/	0	4,912	8	10,906	938	1,395	1,379	19,538
2007	15,398	10,811	12,292	660	723	2,262	63,818	70	45	106,079	5,152 6/	0	5,152	12	10,553	837	891	364	17,809

TABLE 5.4

SANTA MARGARITA RIVER WATERSHED

IMPORTS/EXPORTS

Quantities in Acre Feet

	NET IMPORTS										EXPORTS 5/								
											CAMP PENDLETON								
WATER YEAR	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD 1/	MWD 2/	MURRIETA DIVISION WESTERN MWD	RAINBOW MWD	RANCHO CAL WD 3/	U.S. NAVAL WS	WESTERN MWD 4/	TOTAL IMPORTS	EXPORTS	WASTEWATER RETURNS	NET EXPORT	U. S. NAVAL WS	EASTERN MWD	ELSINORE VALLEY MWD	FALLBROOK PUD	RANCHO CAL WD 7/	TOTAL EXPORTS
2008	14,952	9,951	8,920	493	2,180	1,790	50,683	82	54	89,105	4,774 6/	0	4,774	11	12,789	901	799	361	19,635
2009	14,472	9,075	8,557	607	1,654	1,852	50,270	74	51	86,612	5,362 8/	1,119	4,243	12	12,027	1,069	829	367	18,547
2010	13,552	7,926	7,183	385	1,462	1,453	40,894	69	62	72,986	5,143 8/	1,075	4,068	7	11,829	1,120	926	318	18,268
2011	14,392	7,425	6,234	336	1,642	1,492	39,411	45	52	71,029	5,516 8/	1,441	4,075	8	12,381	1,130	901	302	18,797
2012	15,063	7,398	7,254	466	1,371	1,892	41,900	48	48	75,440	5,595 8/	1,672	3,923	9	12,550	1,205	928	284	18,898
2013	15,751	7,158	7,357	892	1,365	1,713	40,571	47	35	74,889	5,367 8/	1,254	4,113	3	11,775	1,245	900	289	18,325
2014	15,884	7,413	7,578	1,074	1,407	1,732	46,603	58	35	81,785	5,375 8/	1,099	4,276	6	11,744	1,307	896	289	18,518

1/ Includes DeLuz Heights MWD prior to 1991.
2/ Metropolitan Water District direct deliveries in Domenigoni Valley plus miscellaneous maintenance releases beginning 2009.
3/ For period 2003 to present, values shown are net imports excluding imported water delivered to San Mateo Watershed.
4/ Improvement District A - Rainbow Canyon Only (WR-13).
5/ All exports are wastewater except as noted for Camp Pendleton and Rancho Cal WD.
6/ Includes export of native water plus wastewater from in-basin use.
7/ Includes groundwater used in San Mateo Watershed and wastewater exported to Santa Ana Watershed.
8/ Includes export of native water plus recycled water.

N/R - Not Reported
P - Partial year data
E - Estimate
R - Revised

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. MWD does not have a water right to store or divert local water in Lake Skinner. Accordingly, a Memorandum of Understanding and Agreement on Operation of Lake Skinner (MOU), dated November 12, 1974, approved by the Court on January 16, 1975, 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 MWD release water from Lake Skinner into Tucalota Creek if groundwater levels in Well AV-28B fall below an elevation of 1356.64 feet. During Water Year 2013-14, MWD released 61 acre feet for the specific purpose of groundwater replenishment to ensure the groundwater elevation in Well AV-28B was maintained above the indicated threshold elevation. For comparison purposes, the groundwater elevation was 1357.45 feet on September 26, 2014, a decline of 0.05 feet compared to 1357.50 feet on September 27, 2013.

In addition, operations at Lake Skinner periodically require miscellaneous maintenance releases from Lake Skinner into Tucalota Creek that also replenish groundwater levels. In 2013-14, MWD did not release any additional maintenance releases from Lake Skinner into Tucalota Creek. Also MWD periodically makes maintenance releases from various points throughout the MWD distribution system. In 2013-14, MWD did not discharge any maintenance releases from the distribution system.

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 supplement the hydrologic equation.

On February 16, 2005, the Court approved an Order Amending the MOU to provide for diversion from Lake Skinner on Fallbrook PUD's behalf after specified releases are made, according to State Water Resource Control Board Permit 11356 and the amended Lake Skinner MOU. In 2013-14, MWD records show no local inflow to Lake Skinner and subsequently there were no required releases in accordance with the MOU. In 2013-14, no water was accumulated in Lake Skinner for diversion to Fallbrook PUD.

5.5 Diamond Valley Lake

Diamond Valley Lake is located in Diamond and Domenigoni Valleys within the Santa Margarita River Watershed. The lake was created by three dams, one each at the east and west ends of Domenigoni/Diamond Valley and a saddle dam at the low point on the north rim. The West Dam intercepts flows in the headwaters of Warm Springs Creek, a tributary of the Santa Margarita River through Murrieta Creek. The drainage area for the headwaters of Warm Springs Creek above the West Dam is 17.2 square miles.

MWD does not have a water right to store local waters in the reservoir, now known as Diamond Valley Lake, so a Memorandum of Understanding and Agreement on Operation of Domenigoni Valley Reservoir (MOU) was developed and approved by the Court on January 19, 1995. 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 specifies that the required releases into Warm Springs Creek will be determined by measuring the surface water inflows into Goodhart Canyon Detention Basin. The detention basin receives surface water inflows from Goodhart Creek, which is located in an adjoining watershed that is tributary to the Santa Ana River. The drainage area of Goodhart Creek upstream of the detention basin is 4.2 square miles. The rainfall-runoff characteristics of the Goodhart Creek drainage area were determined to be the same as the rainfall-runoff characteristics of the Warm Springs Creek headwaters above the West Dam. Thus the required releases into Warm Springs Creek are equal to 4.1 times the measured inflow into Goodhart Canyon Detention Basin, as determined as the ratio of the drainage areas for the respective watersheds.

The total required releases into Warm Springs Creek during 2013-14 were 1.442 acre feet.

Although all surface waters within the Santa Margarita River Watershed in Domenigoni Valley and Diamond Valley are subject to the continuing jurisdiction of the Court, groundwater contained within the alluvium, north of the south line of Section 9, Township 6 South, Range 2 West, SBM is not considered by the Court to be a part of the Santa Margarita River system as long as groundwater levels are below an elevation of 1400 feet. During 2013-14, groundwater elevations in Well MO-6, which is located along the south line of Section 9, rose 1.29 feet from 1364.93 feet at the beginning of the water year to 1366.22 feet on October 2, 2014.

During 2013-14, there were no injections into the Domenigoni Valley groundwater basin pursuant to Agreements for Mitigation of Groundwater. However, pursuant to a Court Order, MWD imported 1,074 acre feet of water into the Santa Margarita River Watershed for irrigation of lands in Domenigoni Valley. As previously noted, the groundwater in the Domenigoni Valley groundwater basin is outside this Court's jurisdiction when groundwater levels are below an elevation of 1400 feet.

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SECTION 6 - WATER RIGHTS

6.1 General

The Santa Margarita River Watershed is adjudicated in accordance with the Modified Final Judgment and Decree filed on April 6, 1966, in the U.S. District Court, Southern District of California in *U.S.A. v. Fallbrook Public Utility District, et al.* Water is used in the Watershed under a variety of water rights, as more specifically described in the Interlocutory Judgments incorporated into the Modified Final Judgment and Decree, 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 Court has stated that the issue of apportionment of water rights has not been presented to the Court, but the Court would litigate the apportionment if and when in the future it becomes necessary to do so.

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 groundwater, 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 Groundwater 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. 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 not exercising their overlying rights. Instead, Rancho California WD pumps groundwater and uses it throughout the District area as agent on behalf of the landowners.

The resulting change is that Rancho California WD presently produces groundwater in the Murrieta-Temecula Groundwater Area under a variety of rights: (1) recovery of water appropriated at Vail Lake, (2) recovery of import return flows and recharged imported water, (3) groundwater appropriative rights, and (4) as agent on behalf of the overlying landowners. Classification of Rancho California WD supplies into these various water right categories is discussed in Section 7 of this Report. Related to the change associated with Rancho California WD production is the increased production by Western MWD within its Murrieta Division. As discussed in Section 7 of this Report, all groundwater production in the Murrieta Division by Western MWD is classified as production from the older alluvium under a groundwater appropriative right.

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 groundwater 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 groundwater 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 groundwater 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 groundwater 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 Groundwater Area. Thus a portion of the import supply delivered to the Rancho Division of Rancho California WD percolates into the underlying aquifers. 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 Groundwater Area. Thus there is less imported water return flow from the Santa Rosa Division.

Camp Pendleton representatives contend that the Court has jurisdiction over imported water to the full extent that imported water, as well as its use, its returns and its products, affects in any significant manner the water rights within the Watershed over which the Court has traditionally asserted its jurisdiction. Other parties dispute the Court's jurisdiction over imported water.

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 State Water Resources Control Board (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 water diversion, sets terms for the water 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.

Active direct diversion rights and 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
Cutca 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	13,050	40,000
Tucalota Creek	---	10,000
Sandia Canyon	---	8
Sourdough Spring	55	---
Santa Margarita River	96,730	4,000
Nelson Creek	1,550	---
TOTAL	990,719	54,313.5

These direct diversion rights of 990,719 gallons per day correspond to 1.53 cfs or 3.04 acre feet per day.

TABLE 6.1

SANTA MARGARITA RIVER WATERSHED

APPROPRIATIVE WATER RIGHTS

PERMITS AND LICENSES

APPLICATION I.D.	OWNER	FILING DATE	SOURCE OF WATER	POINT OF DIVERSION	AMOUNT	USE	STATUS
A006629	William H. & Sandra J. Cyrus	4/9/30	Coahuila Valley	Sec. 4, 7S, 3E	DD-720 gpd	D	License
A007035	Nyla Lawler Trust	8/10/31	Cutca Creek	Sec. 29, 9S, 1E	DD-5725 gpd	D/I	License
A009137	JR SA, LLC	10/07/37	Temecula Creek	Sec. 12, 9S, 1E	DD-400 gpd	D	License
A009291	Richard W. Long	5/13/38	Nelson Creek	Sec. 23, 8S, 5W	DD-1550 gpd	D	License
A010806	James R., Phyllis & Bruce Grammer	4/22/44	Temecula Creek	Sec. 34, 9S, 2E	DD-2880 gpd	D	License
A011161	Roy C. Pursche & Barbara Booth	9/26/45	Rattlesnake Canyon	Sec. 28, 9S, 2E	DD-12,000 gpd	D/I	License
A011518	Rancho California Water District	8/16/46	Temecula Creek	Sec. 10, 8S, 1W	ST-40,000 AF	D/I/IN/M/R	Permit
A011587 1/	U. S. Bureau of Reclamation	10/11/46	Santa Margarita River	Sec. 12, 9S, 4W	ST-10,000 AF	D/I/M	Permit
A012178	Fallbrook Public Utility District	11/28/47	Tucalota Creek	Sec. 3, 7S, 2W	ST-10,000 AF	D/I/M	Permit
A012179 1/	U. S. Bureau of Reclamation	11/28/47	Santa Margarita River	Sec. 12, 9S, 4W	ST-10,000 AF	D/I/M	Permit
A013505	Robert R. Baum	12/12/49	Cottonwood Creek	Sec. 30, 8S, 4W	DD-0.75 cfs & ST-42 AF	R/S	License
A017239	Nancy A. Wiley	8/15/56	Temecula Creek	Sec. 20, 9S, 2E	DD-120 gpd	D/E	License
A020507	Robert R. Baum	11/24/61	Cottonwood Creek	Sec. 19, 8S, 4W Sec. 30, 8S, 4W	ST-18 AF	I/R	License
A020608	Pete and Dorothy Prestininzi	2/13/62	DeLuz Creek	Sec. 20, 8S, 4W	ST-100 AF	D/I/R	License
A020742	U. S. Cleveland National Forest	4/24/62	Sourdough Spring	Sec. 25, 9S, 1E	DD-55 gpd	E	License
A021074	U. S. Cleveland National Forest	12/07/62	Cutca Spring	Sec. 17, 9S, 1E	DD-100 gpd	S/W	License
A021471A	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
A021471B 1/	U. S. Bureau of Reclamation	9/23/63	Santa Margarita River	Sec. 32, 9S, 4W	ST-165,000 AF	D/I/M/Z	Permit
A027756	James R. Grammer	5/23/83	Temecula Creek	Sec. 3, 10S, 2E	DD-9,650 gpd	I/W	License
A028133	B&E Inv., Inc.	5/14/84	Cahuilla Creek	Sec. 15, 8S, 2E	ST-5AF	E/H/I/R/S	Permit

OTHER RIGHTS

F005751S*	U. S. Cleveland National Forest	1/01/70	Long Canyon Spring	Sec. 16, 9S, 1E	DD-89 gpd	E/R/S/W
S000024**	Judge Dial Perkins	12/26/86	Santa Margarita River	Sec. 12, 9S, 4W	DD-133.3 gpd	D
S000751**	Lawrence Butler	5/31/67	Fern Creek	Sec. 31, 8S, 4W	DD-0.33 cfs ST-100 AF	I
S011411**	Agri Empire, Inc.	5/16/84	Kohler Canyon	Sec. 33, 9S, 2E	DD-0.245 cfs ST-40 AF	I/S
S012235**	Lenny F. Kuszmaui	8/27/85	DeLuz Creek	Sec. 4, 9S, 4W	DD-4700 gpd	D/I
S014009**	San Diego State University	6/7/93	Santa Margarita River	Sec. 27, 8S, 3W	DD-0.15 cfs	D/I/Z
001583***	George F. Yackey	12/27/77	Sandia Canyon	Sec. 25, 8S, 4W	ST-8.0 AF	S
002380***	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*
IN - Industrial *W - Fish & Wildlife Protection and/or Enhancement*

NOTES: ** Federal Filing* *** Statement of Diversion and Use* **** Stock Filing*

1/ These three water rights (A011587, A012179, and A021471B) were assigned to the U.S. Bureau of Reclamation by Fallbrook Public Utility District and the Department of the Navy in 1974 for purposes of developing the Santa Margarita River Project for the benefit of Fallbrook Public Utility District and the Department of the Navy Marine Corps Base Camp Pendleton.

Storage rights shown in Table 6.1 include 185,000 acre feet of storage rights on the Santa Margarita River held by the U. S. Bureau of Reclamation that have not been exercised. These three water rights (A011587, A012179, and A021471B) were assigned to the U.S. Bureau of Reclamation by Fallbrook Public Utility District and the Department of the Navy in 1974 for purposes of developing the Santa Margarita River Project for the benefit of Fallbrook Public Utility District and Department of the Navy Marine Corps Base, Camp Pendleton. The deadline for exercising these rights is currently set at December 31, 2008. On November 14, 2008, the U. S. Bureau of Reclamation filed petitions for time extensions for completion of beneficial use under the three permits. On September 14, 2009, change petitions were filed to amend the permits to conform to the Santa Margarita Conjunctive Use Project being developed jointly by the U. S. Bureau of Reclamation, Department of the Navy Marine Corps Base, Camp Pendleton, and Fallbrook Public Utility District. Those extension and change petitions have been accepted and in accordance with SWRCB Order 2009-0063-EXEC they are under consideration in tandem.

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 other entities. Four 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 non-statutory 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.

On November 19, 1998, the SWRCB adopted Order No. 98-08 entitled "Order Revising Declaration of Fully Appropriated Stream Systems" to revise its prior Order Nos. 89-25 and 91-07. These Orders list the Santa Margarita River stream system as fully appropriated "from the mouth of the Santa Margarita River at the Pacific Ocean upstream including all tributaries where hydraulic continuity exists."

TABLE 6.2

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

INTERLOCUTORY JUDGMENT	LISTED OWNER	CURRENT OWNER	DATE OF APPROPRIATION	SOURCE OF WATER	POINT OF DIVERSION	AMOUNT	USE
NO. 32	Anderson, Nina B.	Poladian, Jacqueline	April 11, 1892	Fern Creek	NW 1/4 of SE 1/4 Sec 31, T8S, R4W	32 gpm	Irrigation
NO. 32	Butler, Lawrence W. and Mary C.	Vanginkel, Norman Tr and Vanginkel, Deborah Tr San Diego Gas & Electric	Sept. 23, 1896	Fern Creek	NW 1/4 of SE 1/4 Sec 31, T8S, R4W	Capacity of 8 inch pipe	Irrigation
NO. 32	Wilson, Samuel M. and Hazel A.	Shirley, Bobbie	Aug. 3, 1911	DeLuz Creek	NW 1/4 of SW 1/4 Sec 32, T8S, R4W	50 miner's inches 65 AF/yr	Irrigation
NO. 24	United States	United States	1883	Santa Margarita River	Sec 5, T10S, R4W	20 cfs 1200 AF/yr	Domestic Irrigation Stock Water

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.

2. Initiation of a water right, pursuant to the Water Rights Permitting Reform Act of 1988 (Water Code Section 1228 *et seq.*), by registering small use domestic appropriations is precluded, except where the proposed appropriation is consistent with conditions contained in the Declaration. Small use domestic appropriations refer to uses that do not exceed direct diversions of 4,500 gallons per day or diversion by storage of 10 acre feet per year for incidental aesthetic, recreational, or fish and wildlife purposes.

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.

6.3 Fallbrook PUD Changes of Point of Diversion and Place of Use for Permit No. 11356

On November 20, 2001, the Chief of the Division of Water Rights of the State Water Resources Control Board authorized an Order Approving Changes in Source Point of Diversion, Place of Use and Amending the Permit (No. 11356). The permit allows Fallbrook PUD to divert and store up to 10,000 acre feet per year at Lake Skinner. The Court approved an Order Amending the Memorandum of Understanding and Agreement on Operation of Lake Skinner on February 16, 2005. The Amendment provides for such diversions from Lake Skinner after specified releases are made.

On December 18, 2009, Fallbrook PUD filed a petition for a time extension for completion of beneficial use under Permit No. 11356. The petition was accepted and noticed by the SWRCB on February 23, 2009, and no protests were filed.

On May 25, 2013, the SWRCB issued Order WR 2013-0007-EXEC with an amended Permit No. 11356 extending the time to apply the water to full beneficial use by December 31, 2048.

6.4 Federal Reserved Water Rights for Cahuilla and Ramona Indian Reservations

The Cahuilla and Ramona Indian Reservations are both located in the Anza area. The Court found in Interlocutory Judgment No. 41 that the United States reserved water rights for the reservations as specified below.

Order No. 3 in Interlocutory Judgment No. 41 specifies for the Cahuilla Indian Reservation the following:

> IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the United States of America intended to reserve, and did reserve, rights to the use of the waters of the Santa Margarita River which under natural conditions would be physically available on the Cahuilla Indian Reservation, including rights to the use of ground waters, sufficient for the present and future needs of the Indians residing thereon with priority dates of December 27, 1875, for lands transferred by the Executive Order of that date; March 14, 1887, for lands transferred by the Executive Order of that date; December 29, 1891, for lands transferred by the Executive Order of that date.

Order No. 1 in Interlocutory Judgment No. 41 specifies for the Ramona Indian Reservation the following:

> IT IS ORDERED, ADJUDGED AND DECREED that the United States of America when it established the Ramona Indian Reservation intended to reserve and did reserve rights to the use of waters of the Santa Margarita River stream system which under natural conditions would be physically available on the Ramona Reservation, including rights to the use of ground waters, sufficient for the present and future needs of the Indians residing thereon with a priority date of December 29, 1891.

On October 6, 2006, the Cahuilla Band of Indians filed a Motion to Intervene as Plaintiff-Intervenor in *United States of America v. Fallbrook Public Utility District, et al.* The Cahuilla Band also filed a Complaint asking the Court to quantify its federal reserved water rights by confirming elements of the water rights as declared and decreed by the Court in Interlocutory Judgment No. 41. On October 16, 2006, the Ramona Band of Cahuilla filed a similar motion and Complaint. On January 22, 2007, the Court issued an Order granting the Motions to Intervene and filing the Complaints in Intervention. On February 25, 2009, the Court ordered the Cahuilla Band and Ramona Band as plaintiffs to serve by April 30, 2009, all water right holders subject to the Court's jurisdiction within the entire Watershed. Service was completed and the parties commenced settlement negotiations. On April 1, 2009, the Cahuilla and Ramona Bands filed motions to dismiss claims against certain downstream defendants and to file second amended complaints to limit the claims to the Anza-Cahuilla Groundwater Area. On April 29, 2009, the Court issued an Order granting the motions. The parties are progressing with settlement negotiations and Court proceedings for quantification of each Band's federal reserved water rights based on the Second Amended Complaints.

6.5 Federal Reserved Water Rights for Pechanga Indian Reservation

The Court found in Interlocutory Judgment No. 41 that the United States reserved water rights for the Pechanga Indian Reservation in accordance with Order No. 7:

> IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the United States of America intended to reserve, and did reserve, rights to the use of the waters of the Santa Margarita River stream system which under natural conditions would be physically available on the Pechanga Indian Reservation, including rights to the use of ground waters sufficient for the present and future needs of the Indians residing thereon with priority dates of June 27, 1882, for those lands transferred by the Executive Order of that date; January 9, 1907, for those lands transferred by the Executive Order of that date; August 29, 1893, for those lands added to the Reservation by Patent on that date; and May 25, 1931, for those lands added to the Reservation by Patent of that date.

In 1974, the Pechanga Band of Luiseño Mission Indians filed a Motion to Intervene as a Plaintiff-Intervenor in *United States of America v. Fallbrook Public Utility District, et al.*, and in 1975 the Court granted the Motion. Rather than filing a complaint asking the Court to quantify its federal reserved water rights, the Pechanga Band is in the process of resolving its claims to water rights in the Santa Margarita River Watershed through a comprehensive settlement agreement with the United States and principal water districts, including Rancho California WD, Eastern MWD, and Metropolitan Water District. On December 17, 2009, Pechanga and Rancho California WD announced an agreement on a framework, developed with the assistance of Metropolitan Water District and the United States Federal Negotiating Team, to resolve Pechanga's water rights claims. On April 27, 2009, Pechanga and Rancho California WD agreed to a Settlement Conceptual Agreement and on June 11, 2009, the Rancho California WD Board approved the Settlement Conceptual Agreement. On November 16, 2009, the parties announced the Pechanga Water Rights Settlement Agreement was finalized. On December 11, 2009 and January 26, 2010, the Pechanga Indian Water Rights Settlement Act was introduced in the United States House of Representatives and Senate, respectively. The proposed legislation was reintroduced in the Senate on June 25, 2013, and in the House of Representatives on June 26, 2013. In April 2014, the Senate Committee on Indian Affairs reported the Senate bill (S. 1219) to the full chamber recommending further consideration of an amended bill but the legislation was not enacted. The parties are now in the process of revising the agreement and draft legislation in anticipation of Congressional and Court approvals.

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SECTION 7 - WATER PRODUCTION AND USE

7.1 General

Water production and use data were obtained from several types of substantial users including water purveyors, Indian Reservations, mobile home parks and private landowners. Private landowners who qualify as substantial water users are those who irrigate eight or more acres or who produce or use an equivalent quantity of water.

Major water purveyors, who reported production and use data in the 2013-14 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
Metropolitan Water District of Southern California
Rainbow Municipal Water District
Rancho California Water District
U. S. Marine Corps, Camp Pendleton
U.S. Naval Weapons Station, Fallbrook Annex
Western Municipal Water District

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

In addition to the major purveyors, there are a number of smaller water systems in the Watershed. Of these, Quiet Oaks Mobile Home Park, Jojoba Hills SKP Resort, Rancho California Outdoor Resorts, and Hawthorn Water System are substantial users.

Three Indian Reservations, the Cahuilla, Pechanga and Ramona, are noted in Interlocutory Judgment No. 41, the Judgment that pertains to Water Rights on Indian Reservations in the Watershed. Estimates and/or measurements of water production and use are reported for the Cahuilla, Pechanga and Ramona Indian Reservations.

A portion of a fourth Reservation, the Pauma Mission Reserve Tract of the Pauma Yuima Band of Luiseño Mission Indians, is also located within the Watershed. However, this Reservation was not included in Interlocutory Judgment No. 41.

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

The water use data collected for Water Year 2013-14 is summarized on Table 7.1. Total imported supplies plus local production totaled 123,617 acre feet compared to 118,232 acre feet reported in 2012-13. Of that quantity, 40,288 acre feet were used for agriculture; 19,276 acre feet were used for commercial purposes; 52,587 acre feet were used for domestic purposes; 24 acre feet were discharged to Murrieta Creek; 51 acre feet were discharged to Santa Gertrudis Creek; and 4,051 acre feet were discharged by Rancho California WD during 2013-14, pursuant to the CWRMA. It is noted, the commercial use for Pechanga includes 442 acre feet of recycled water and thus this amount is double counted on Table 7.1 relative to production from the Santa Margarita River Watershed. Actual commercial use of production from the Watershed is 18,834 acre feet, reflecting the reduction of 442 acre feet of recycled water used by Pechanga. In order for the totals to balance on Table 7.1, the 442 acre feet of recycled water is subtracted from the indicated loss for Pechanga as reflected in Footnote 13 for Table 7.1.

The overall system loss was 4,755 acre feet, or 3.8% of total production. System gain or loss is the result of many factors including errors in measurement, differences between periods of use and periods of production, leakage and unmeasured uses.

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 agricultural, commercial and domestic uses varies for the different purveyors in the Watershed. The definitions for agricultural, commercial and domestic uses have varied over the years for the different purveyors in the Watershed. Water use definitions for all major water purveyors were updated and reconciled for Water Year 2013-14. The reconciliation resulted in near uniformity in water use definitions among the major water purveyors. Accordingly, definitions of these uses for major water purveyors are shown on Table 7.2. Similar data for Water Years 1966 through 2014 are summarized in tables presented in Appendix B. As noted above, water use definitions were updated in Water Year 2013-14 and thus water use reported for certain purveyors for prior years on the Appendix B tables can vary significantly as compared to the use categories for 2013-14. The reader is referred to Table 7.2, published in each annual report, to determine the particular use definitions for any particular year in question. Appendix C presents information on substantial users outside purveyor service areas.

7.2 Water Purveyors

7.2.1 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 Water Year 2013-14 was approximately 29 acre feet from Well No. 1 as shown on Appendix Table A-11. Well No. 2 was not in use for 2013-14. Water levels in Well No. 1 rose 38 feet from last year.

TABLE 7.1

SANTA MARGARITA RIVER WATERSHED
WATER PRODUCTION AND USE
2013-14
Quantities in Acre Feet

	PRODUCTION			USE 1/					
	WELL/ SURFACE	IMPORT	TOTAL	AG	COMM	DOM	LOSS	TOTAL	WATER RIGHT
WATER PURVEYORS									
Anza Mutual Water Company	29	0	29	0	0	26	3 2/	29	Appropriative
Eastern MWD	0	15,884	15,884	142	3,553	11,395	794	15,884	Appropriative
Elsinore Valley MWD	0	7,413	7,413	16	1,693	5,601	103	7,413	---
Fallbrook PUD	0	7,578	7,578	4,688	359	2,129	402	7,578	Appropriative
Lake Riverside Estates	379	0	379	0	379 3/	0	0	379	Appropriative
Metropolitan Water District	0	1,074 15/	1,074	1,074	0 4/	0	0	1,074	---
Murrieta Division of Western MW	951	1,407	2,358	0	657	1,640	61	2,358	Appropriative
Rainbow MWD	0	1,732	1,732	1,410	------ 8/	191	131	1,732	---
Rancho California WD	26,123 5/	46,603 6/	72,726	26,154	10,956	28,925	6,691 7/	72,726	Various
U.S.M.C. - Camp Pendleton	5,814	0	5,814	0	------ 9/	2,271	3,543 2/ 10/	5,814	Appropriative/ Riparian
U.S. Naval Weapons Station	0	58	58	0	------ 9/	53	5 2/	58	---
Western MWD Improvement Dist Through Rancho California WD	0	35	35	0	31	0	4 2/	35	---
INDIAN RESERVATIONS									
Cahuilla	60	0	60	6 16/	5	49	0	60	Overlying/Reserved
Pechanga	936	0	936	0	1,133	162	(359) 13/	936	Overlying/Reserved
Ramona	2	0	2	0	0	2	0	2	Overlying/Reserved
SMALL WATER SYSTEMS									
Quiet Oaks Mobile Home Park	27	0	27	0	10	14	3 2/	27	Riparian/Overlying
Outdoor Resorts	560	0	560	0	500	54	6 2/	560	Overlying
Jojoba Hills SKP Resort	75	0	75	0	0	67	8 2/	75	Overlying
Hawthorn Water System	9	0	9	0	0	8	1 2/	9	Appropriative
OTHER SUBSTANTIAL USERS	6,868 11/	0	6,868	6,798	0	0	70 12/	6,868	
TOTAL	**41,833**	**81,784**	**123,617**	**40,288**	**19,276**	**52,587**	**11,466** 14/	**123,617**	

1/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2.
2/ Assumes 10% system loss.
3/ Recreational Use.
4/ Construction use at Diamond Valley Lake.
5/ Includes 26,995 AF production from Older Alluvium plus 85 AF of Vail Recovery minus 289 AF exported to the San Mateo Watershed minus 497 AF pumped into recycled water system minus 171 AF delivered to Pechanga Band.
6/ Includes 31,017 AF direct use; 12,069 AF direct recharge; 4,051 AF from MWD WR-34; and minus 534 AF export.
7/ Includes 24 AF discharged into Murrieta Creek; 51 AF discharged into Santa Gertrudis Creek; 4,051 AF discharged into Santa Margarita River from MWD WR-34; 0 AF from System River Meter; 0 AF from potable connection to WR-34 outlet pipe; (264) AF of import remaining in storage; and a system loss of 2,829 AF.
8/ Listed with Agricultural use.
9/ Listed with Domestic use.
10/ Includes exports of 2,733 AF, brine production of 558 AF and a system loss of 252 AF.
11/ Includes 695 AF for surface diversion plus 6,233 AF from groundwater as shown in Appendix C, minus 60 AF on the Cahuilla Reservation.
12/ Loss is equal to 10% of surface diversions.
13/ Includes a system loss of 83 AF, minus 442 AF of reclaimed wastewater from EMWD, accounted for on Table A-1. See Table A-5 for Pechanga production and use.
14/ Includes an overall system loss of 4,755 AF. Overall system loss is calculated by estimating the traditional system loss of comparing total production versus total use for each water purveyor.
15/ An additional 61 AF were released by MWD from Lake Skinner into Tucalota Creek for the purpose of groundwater replenishment.
16/ Stock watering.

TABLE 7.2

SANTA MARGARITA RIVER WATERSHED
DEFINITIONS OF WATER USE
BY MUNICIPAL WATER PURVEYORS
2013-14

DISTRICT	AGRICULTURAL	DOMESTIC	COMMERCIAL
EASTERN MUNICIPAL WATER DISTRICT	Row crops, orchards, vineyards, sod farms, other commercially grown crops, dairies, horse ranches and other agricultural users, including agricultural allocation for agricultural/domestic meters	Single family and multi-family residential connections, including domestic allocation for agricultural/domestic meters	All other usage including commercial, industrial, institutional, golf courses, parks, recreation, landscaping, temporary and construction
ELSINORE VALLEY MUNICIPAL WATER DISTRICT	Same as EMWD	Same as EMWD	Same as EMWD
FALLBROOK PUBLIC UTILITY DISTRICT	Same as EMWD	Single family and multi-family residential connections, including first 20,000 gallons for agricultural/domestic meters	Same as EMWD
PECHANGA INDIAN RESERVATION	Same as EMWD	Same as EMWD	All other usage including resort, on-Reservation businesses, tribal facilities, commercial, industrial, institutional, golf courses, parks, recreation, landscaping, temporary and construction
RAINBOW MUNICIPAL WATER DISTRICT	Same as EMWD	Single family and multi-family residential connections, including first 20,000 gallons for agricultural/domestic meters	Same as EMWD
RANCHO CALIFORNIA WATER DISTRICT	Same as EMWD	Single family and multi-family residential connections, including first 1,600 cubic feet for agricultural/domestic meters	Same as EMWD
MURRIETA DIVISION OF WESTERN MUNICIPAL WATER DISTRICT	Same as EMWD	Same as EMWD	Same as EMWD
USMC, CAMP PENDLETON	Same as EMWD	Camp Supply - All usage except agricultural	Reported under Camp Supply

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 Groundwater 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.

Accordingly, 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 groundwater appropriative right. Data for Water Years 1989 through 2014 are shown on Appendix Table B-12.

7.2.2 Eastern Municipal Water District

Eastern Municipal Water District is a member agency of Metropolitan Water District and its service area includes a portion of the Rancho California Water District and the Murrieta Division of Western Municipal Water District. Within the Watershed, Eastern MWD wholesales water to those districts and also retails water directly to consumers. Water sold to Rancho California WD and the Murrieta Division of Western MWD is not listed in this report as imported water to Eastern MWD.

Eastern MWD's service area outside Rancho California WD and the Murrieta Division of Western MWD is located in the northern part of the Watershed. Water for Eastern MWD's retail service area is all imported with no groundwater production during Water Year 2013-14.

Imports, not including water wholesaled to Rancho California WD or the Murrieta Division of Western MWD, or delivered to Elsinore Valley MWD, totaled 23,935 acre feet. A portion of that import, amounting to 8,051 acre feet, was exported from the Santa Margarita River Watershed for delivery to Eastern MWD's retail customers located outside the Watershed, resulting in net import to the Watershed of 15,884 acre feet. These data are shown on Appendix Table A-1.

In addition to importing fresh water, Eastern MWD also reclaims wastewater at its Temecula Valley Regional Water Reclamation Facility. Disposition of wastewater from the Temecula Valley Regional Water Reclamation Facility (TVRWRF) service area for Water Years 2012-13 and 2013-14 is shown below:

Use	2012-13 Quantity AF	2012-13 Percent %	2013-14 Quantity AF	2013-14 Percent %
Reuse in Santa Margarita	2,937	20	2,937	20
Reuse outside Santa Margarita	8,316	56	8,117	55
Subtotal	11,253	76	11,054	75
Discharge to Dissipater at Temescal Creek	683	5	0	0
Other	2,776	19	3,627	25
TOTAL	14,712	100	14,681	100

It can be noted that the quantities of recycled water used within the Santa Margarita River Watershed in Water Year 2013-14 remained at 2,937 acre feet, the same as Water Year 2012-13. During the same period, reuse outside the Santa Margarita River Watershed decreased from 8,316 acre feet to 8,117 acre feet. In 2013-14, it may be concluded that 20 percent of the recycled water was used in the Watershed and 55 percent was used outside the Watershed. No wastewater was discharged to the dissipater at Temescal Creek during Water Year 2013-14. The Other use increased from 2,776 acre feet to 3,627 acre feet. This Other use includes changes of storage in Winchester and Sun City storage ponds, as well as evaporation and percolation losses.

Due to concerns about the potential export of native Santa Margarita water, the sources of water supply to the TVRWRF service area were determined and are shown on Table 7.3. In 2013-14, 22 percent of the supply to the service area was groundwater. Thus, the percent of groundwater supply was greater than the percentage of wastewater reused within the Santa Margarita River Watershed, and on a proportional basis there was some export of native waters.

On August 4, 2009, a Judgment was entered in *United States of America and Fallbrook Public Utility District v. Eastern Municipal Water District and Rancho California Water District* (CV 04-8182 CBM (RNBx), United States District Court, Central District of California) pertaining to the contractual obligations of the 1990 Four Party Agreement and the export of treated wastewater from the Santa Margarita River Watershed. On May 17, 2012, the United States Court of Appeals for the Ninth Circuit issued an Order granting the parties' joint motion to dismiss the appeals in this matter and thus the August 4, 2009 Judgment stands. For purposes of this annual report the export of treated wastewater will be reported consistent with prior annual reports with no changes pursuant to the Judgment. The Watermaster will reevaluate the calculations and reporting to be included in future annual reports.

Estimates of water production and use for Eastern MWD for the period 1966 through 2014 are shown on Appendix Table B-1.

TABLE 7.3

SANTA MARGARITA RIVER WATERSHED
WATER DELIVERIES TO TEMECULA VALLEY
REGIONAL WATER RECLAMATION FACILITY SERVICE AREA

	2010		2011		2012		2013		2014	
Eastern MWD	AF	%	AF	%	AF	%	AF	%	AF	%
TVRWRF Service Area										
1. Groundwater	0		0		0		0		0	
2. Import	13,552		14,392		15,063		15,751		15,884	
3. Total	13,552		14,392		15,063		15,751		15,884	
Rancho California WD										
TVRWRF Service Area										
1. Groundwater 1/	8,641		9,774		7,902		8,802		7,789	
2. Import 2/	10,755		8,770		11,462		10,563		11,577	
3. Total 3/	19,396		18,544		19,364		19,365		19,366	
Total Deliveries to TVRWRF Service Area										
1. Groundwater	8,641	26.2%	9,774	29.7%	7,902	23.0%	8,802	25.1%	7,789	22.1%
2. Import	24,307	73.8%	23,162	70.3%	26,525	77.0%	26,314	74.9%	27,461	77.9%
3. Total	32,948	100.0%	32,936	100.0%	34,427	100.0%	35,116	100.0%	35,250	100.0%

1/ Based on the ratio of groundwater to total production in Rancho Division of RCWD.
2/ Based on the ratio of import to total production in Rancho Division of RCWD.
3/ Total RCWD deliveries in TVRWRF Service Area.

7.2.3 Elsinore Valley Municipal Water District

Elsinore Valley Municipal Water District 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 Watershed, and also imports Metropolitan Water District water through Eastern MWD and Western MWD.

As shown on Appendix Table A-2, Elsinore Valley MWD reports for 2013-14 that 7,413 acre feet were imported into the portion of its service area that is inside the Watershed, and 1,307 acre feet of wastewater were exported from that same area. In 2013-14, Elsinore Valley MWD began using recycled water treated at the Rancho California WD Santa Rosa Water Reclamation Facility via the Eastern MWD Palomar Pipeline through a wheeling agreement. A total of 89 acre feet of recycled water were received via Eastern MWD and 53 acre feet were used within the Watershed.

Production and use for Elsinore Valley MWD for the period 1966 through 2014 are shown on Appendix Table B-2.

7.2.4 Fallbrook Public Utility District

The Fallbrook Public Utility District service area is located in both the San Luis Rey River and Santa Margarita River watersheds. In Water Year 2013-14, Fallbrook PUD imported a total of 13,068 acre feet, as shown on Appendix Table A-3. Fallbrook PUD has three wells within the Santa Margarita River Watershed; however, in 2013-14, there was no production from these wells. Additionally, in 2013-14, Fallbrook PUD reported no diversions from Lake Skinner, under Permit No. 11356, resulting in a total district-wide production of 13,068 acre feet. The total production for the portion of Fallbrook PUD service area that is within the Watershed, as shown on Appendix Table A-3, is 7,578 acre feet, or about 58 percent of the total district wide production.

In 2013-14, Fallbrook PUD treated 924 acre feet of wastewater from areas served within the Watershed, of which 22 acre feet were reused in the Watershed, and the remainder was exported. The wastewater production and distribution for 2013-14 is shown on Appendix Table A-3.

Production during the period 1966 through 2014 included direct diversions from the Santa Margarita River prior to 1972, as well as imported water and well production, as shown in Appendix B. During Water Year 2010-11, Fallbrook PUD revised its reporting methods for both water production and wastewater operations. The historical water production and use for the period 1966 through 2010 are provided on Appendix Table B-3.1 reflecting prior reporting methods, particularly for previous estimates associated with the DeLuz portion of the service area. Appendix Table B-3.2 is provided to show the current water production and use reflecting the revised reporting methods. The revised reporting methods include metered deliveries for the reported uses within the Watershed and application of a district-wide loss factor.

The Fallbrook PUD wastewater production and distribution for the period 1966 through 2014 are shown on Appendix Table B-4.

7.2.5 Lake Riverside Estates

Lake Riverside Estates pumps water from Well No. 7S/2E-32C1, into Lake Riverside to replace evaporation losses. Production for 2013-14 was approximately 379 acre feet as shown on Appendix Table A-11. The production well was drilled in 1962 and is located in an area of younger alluvium in the Cahuilla Groundwater Basin. The well was drilled to a depth of 338 feet.

Interlocutory Judgment No. 33 indicates that the owners of lands in the Cahuilla Groundwater Basin have correlative overlying rights to the use of the groundwater that is the basis for this production. Data for Lake Riverside Estates for the period 1989 through 2014 are shown on Appendix Table B-12.

7.2.6 Metropolitan Water District of Southern California

Pursuant to a Court Order, Metropolitan Water District (MWD) imported 1,074 acre feet of water into the Santa Margarita River Watershed for irrigation of lands in Domenigoni Valley. MWD did not import any water for groundwater recharge and there was no water used for construction purposes. As previously noted, the groundwater in the Domenigoni Valley groundwater basin is outside this Court's jurisdiction when groundwater levels are below elevation 1400 feet. This production is shown on Appendix Table A-4, and production for the period 1966 through 2014 is shown on Appendix Table B-5.

7.2.7 Rainbow Municipal Water District

Rainbow Municipal Water District is located in San Diego County in the south-central part of the Watershed. In 2013-14, the District imported a total of 22,926 acre feet of water as shown on Appendix Table A-6. However, most of the District is in the San Luis Rey River Watershed and only about eight percent of the District's imported supply was delivered to the portion of the service area inside the Santa Margarita River Watershed. As shown on Appendix Table A-6, total deliveries of imported water in the Santa Margarita River Watershed in 2013-14 amounted to 1,732 acre feet.

Rainbow Municipal Water District import production for the period 1966 through 2014 is shown on Appendix Table B-7.

7.2.8 Rancho California Water District

Rancho California Water District serves water to a 99,600 acre service area in the central portion of the Watershed. The District produced water from 47 wells in 2013-14, and also imported water as shown on Appendix Table A-7. Use is shown under the categories of agriculture, commercial and domestic. In Water Year 2013-14, well production of native water included 26,412 acre feet from the Murrieta-Temecula Groundwater Area. A portion of the groundwater amounting to 289 acre feet was exported for use in the San Mateo Watershed, resulting in a net well production of 26,123 acre feet.

Import supplies totaled 47,137 acre feet of which 31,017 acre feet were used for direct use; 12,069 acre feet were recharged; and 4,051 acre feet were discharged by the District to the Santa Margarita River from MWD Outlet WR-34 during 2013-14, pursuant to

the CWRMA. A portion of that import amounting to 534 acre feet was exported from the Santa Margarita River Watershed to the San Mateo Watershed, resulting in net import to the Watershed of 46,603 acre feet.

During 2013-14, Rancho California WD use totaled 72,726 acre feet including 26,154 acre feet for agriculture; 10,956 acre feet for commercial; 28,925 acre feet for domestic; 4,126 acre feet were released into Murrieta Creek, Santa Gertrudis Creek and the Santa Margarita River; and 2,829 acre feet were system loss. In 2013-14, a net amount of 264 acre feet of import water was extracted from groundwater storage derived from import recharge in prior years.

In 2013-14, Rancho California WD did not export reclaimed wastewater from the Watershed via EMWD's Palomar Valley Pipeline.

Rancho California WD produces groundwater 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. Groundwater appropriative rights
4. As agent on behalf of overlying landowners

Vail Appropriation

Rancho California WD's Vail Dam appropriative rights are described in Application No. 11518 as amended on June 17, 1947, and in Permit 7032 originally issued on February 18, 1948. Permit 7032 was subsequently amended on July 28, 1971, and April 22, 2009. The water right provides that the District may store up to 40,000 acre feet in Vail Lake each year between November 1 and April 30, subject to applicable limitations. The water so stored may be used for recreational uses at Vail Lake and municipal, domestic, industrial, and irrigation uses within the entire service area of Rancho California WD. Such uses may be by direct diversion from Vail Lake or by recovery of water released from Vail Lake and spread downstream in Pauba Valley. Points of re-diversion for recovery from underground storage are permitted for 12 production wells: Rancho California WD Well Nos. 109, 110, 123, 132, 152, 153, 157, 158, 210, 232, 233, and 234.

As shown on Table 3.3, there were 85 acre feet of releases from Vail Lake during 2013-14 for groundwater recharge. Releases from Vail Lake for groundwater recharge for the period 1980 through 2014 are shown on Appendix Table B-8.

Permit 7032 operations for 2013-14 are summarized on Table 7.4. The recovery from groundwater recharge for 2013-14 was 85 acre feet corresponding to the amount released from Vail Lake for recharge.

It is noted, with the issuance of the amended Permit 7032 in 2009, the place of use, purposes of use, and permitted points of re-diversion were changed. Accordingly,

TABLE 7.4

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
PERMIT 7032 OPERATIONS
2013-14
Quantities in Acre Feet

Diversion to Storage in Vail Lake [1/]		936
Release to Groundwater Storage [1/]		85
Recovery from Groundwater Storage [2/ 3/]		
Younger Alluvium	85	
Older Alluvium	0	
Total		85
Vail Recharge Account Balance from 2012-13		54,292
Release minus Recovery		0
Vail Recharge Account Balance for 2013-14		54,292

1/ See Table 3.3.
2/ Permitted Points of Re-Diversion RCWD Well Nos. 109, 110, 123 132, 152, 153, 157, 158, 210, 232, 233 and 234.
3/ Total pumping from Vail recovery wells is greater than amount shown as recovered under Permit 7032. Total pumping from the 12 recovery wells is shown on Table 7.8.

the reporting of Permit 7032 operations needs to be modified to reflect the changed conditions. Table 7.4 was modified in 2009 to reflect the changes subject to further refinement as part of the update of the CWRMA groundwater model. The reporting on Table 7.4 reflects the assumption that all water released from Vail Lake for recharge is recovered from the younger alluvium by pumping from the permitted recovery wells. The remainder of the pumping from the younger alluvium is apportioned to direct import recharge.

Imported Water Return Flows

Return flows for 2013-14, based on imported water use in the Rancho Division and Santa Rosa Division are shown on Tables 7.5 and Table 7.6, respectively.

In the following tables, imported water is allocated to agricultural, commercial and domestic uses in each of eight hydrogeologic areas in the Rancho Division service area and three hydrogeologic areas in the Santa Rosa Division service area. This allocation is the proportion of the total deliveries to each use that is made up of imported water. For 2013-14, 59.70 percent of the supply to the Rancho Division was imported and 64.09 percent of the supply to the Santa Rosa Division was imported.

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

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

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

Based on the foregoing factors, the total return flow credit for 2013-14 is computed to be 4,895.96 acre feet for the Rancho Division and 304.69 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 indicate 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 groundwater 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. The credits for 2013-14 are 963.22 acre feet for the Rancho Division and 76.17 acre feet for the Santa Rosa Division, as shown on Tables 7.5 and 7.6, respectively. The total return flow credit for 2013-14 to offset younger alluvium production in future years is 1,039.39 acre feet.

TABLE 7.5

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
2013-14
RANCHO DIVISION
Quantities in Acre Feet

	HYDROGEOLOGIC AREAS								
	0 NO HYDRO-GEO CODE	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	1,508.10	32.94	0.00	47.66	659.11	125.21	1,410.37	1,129.55	4,912.93
% Import	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	
Import Use	900.35	19.66	0.00	28.45	393.50	74.75	842.00	674.35	2,933.07
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	225.09	4.92	0.00	7.11	98.37	18.69	210.50	168.59	733.27
COMMERCIAL									
Total Use	526.97	2,285.48	1,408.29	3,370.08	461.04	773.81	149.68	47.04	9,022.41
% Import	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	
Import Use	314.60	1,364.46	840.76	2,011.98	275.25	461.97	89.36	28.08	5,386.48
% Credit	10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00	
Credit	31.46	136.45	84.08	201.20	27.52	46.20	8.94	2.81	538.65
DOMESTIC									
Total Use	1,311.08	2,691.60	2,517.46	11,049.89	709.92	3,852.87	1,636.95	511.46	24,281.23
% Import	59.70	59.70	59.70	59.70	59.70	59.70	59.70	59.70	
Import Use	782.73	1,606.92	1,502.95	6,596.91	423.83	2,300.20	977.27	305.35	14,496.16
% Credit	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	
Credit	195.68	401.73	375.74	1,649.23	105.96	575.05	244.32	76.34	3,624.04
TOTAL USE	3,346.14	5,010.03	3,925.75	14,467.63	1,830.08	4,751.89	3,197.00	1,688.05	38,216.57
TOTAL									
Total Import Use	1,997.68	2,991.04	2,343.71	8,637.33	1,092.58	2,836.93	1,908.64	1,007.78	22,815.71
Total Credit	452.23 *	543.09	459.81	1,857.54	231.86	639.94	463.76	247.73	4,895.96
Total Credit Qyal		271.55	459.81		231.86				963.22
Total Credit Qtoal		271.55		1,857.54		639.94	463.76	247.73	3,480.51

* This credit not applied to either Qyal or Qtoal

TABLE 7.6

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
RETURN FLOW CREDIT
2013-14
SANTA ROSA DIVISION
Quantities in Acre Feet

	HYDROGEOLOGIC AREAS			
	1 MURRIETA WOLF 1/2 QYAL 1/2 QTOAL	3 LOWER MESA QTOAL	8 NORTH MURRIETA 1/4 QYAL 3/4 QTOAL	TOTAL
AGRICULTURAL				
Total Use	0.00	0.00	36.03	36.03
% Import	64.09	64.09	64.09	
Import Use	0.00	0.00	23.09	23.09
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	5.77	5.77
COMMERCIAL				
Total Use	0.00	0.00	1,195.92	1,195.92
% Import	64.09	64.09	64.09	
Import Use	0.00	0.00	766.51	766.51
% Credit	10.00	10.00	10.00	
Credit	0.00	0.00	76.65	76.65
DOMESTIC				
Total Use	0.00	0.00	1,387.13	1,387.13
% Import	64.09	64.09	64.09	
Import Use	0.00	0.00	889.06	889.06
% Credit	25.00	25.00	25.00	
Credit	0.00	0.00	222.26	222.26
TOTAL USE	0.00	0.00	2,619.08	2,619.08
TOTAL				
Total Import Use	0.00	0.00	1,678.66	1,678.66
Total Credit	0.00	0.00	304.69	304.69
Total Credit Qyal	0.00	0.00	76.17	76.17
Total Credit Qtoal	0.00	0.00	228.52	228.52

Rancho California WD imported an additional 12,069 acre feet of water for direct groundwater recharge in 2013-14. The total amount of imported recharge water that was recovered in 2013-14 was 12,333 acre feet. Thus, 264 acre feet of recovered water were derived from groundwater storage.

Division of Local Water

During 2013-14, Rancho California WD pumped 39,413 acre feet of groundwater, comprised of 26,816 acre feet of local water and 12,333 acre feet of recovered imported water. The groundwater is pumped from both the younger alluvium and the older alluvium. The Court determined that water in both the younger alluvium and older alluvium adds to, contributes to and supports the Santa Margarita River stream system. The primary reason for differentiating between younger alluvium and older alluvium production is that, in California, production from the younger alluvium is generally considered to be governed by water rights that apply to the regulation of surface waters. Production from the older alluvium is generally considered to be governed by regulations that apply to groundwater. Of the 26,816 acre feet of local water, 171 acre feet were delivered to the Pechanga Indian Reservation under the terms of the Wolf Valley Groundwater Management Agreement. This production is shown on Appendix Table A-5.

During joint development of a groundwater model of the area it was necessary to develop estimates of the transmissivity for each aquifer. These estimates were based on pumping tests. The resulting transmissivity values were then used to estimate the relative groundwater production from each aquifer. For Rancho California WD wells, the percent production estimated to originate in the younger alluvium is shown on Table 7.7.

Production from the younger alluvium and older alluvium for 2013-14, using the percentages noted on Table 7.7 is presented on Table 7.8. In 2013-14, 12,418 acre feet were pumped from the younger alluvium and 26,995 acre feet were pumped from the older alluvium. The production of 12,418 acre feet from the younger alluvium, as shown on Table 7.8 is the recovery of 12,333 acre feet of direct import recharge and the recovery of 85 acre feet of Vail Lake recharge.

Imported water carryover to 2014-15 includes the following:

		AF
1.	Carryover from 2012-13	* 62,541
2.	Direct recharge of imported water in 2013-14	12,069
3.	Imported recharge water recovered in 2013-14	(12,333)
4.	Import return flow credit for 2013-14	1,039
5.	Total carryover to 2014-15	63,316

* Revised

Thus, the Imported Water Carryover Account balance of 63,316 acre feet remains available to offset younger alluvium production in future years.

TABLE 7.7

SANTA MARGARITA RIVER WATERSHED
PERCENT PRODUCTION FROM YOUNGER ALLUVIUM IN RANCHO CALIFORNIA WATER DISTRICT WELLS

RCWD WELL NO.	LOCATION TOWNSHIP/ RANGE/ SECTION	SEAL DEPTH FEET	PERFORATED INTERVAL FEET	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 1/	84.0%		Brown clay and gravel 75' to 105'
110	8S/1W-6K1	54	75-155	165	97.0%		Clay 165'-190'. Prior to 10/23/97 perf int. 70-150; 200-240; 320-380; 420-460
113	7S/2W-25H1	52	96-136; 275-462; 482-542	Shallow	0.0%		
116	8S/1W-6J	Unknown	60-120; 140-200; 220-260; 270-330; 370-390	150	94.0%		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 1/	65.0%		Brown Sand Clay 135'-210'
129	7S/2W-20L	Unknown	180-290; 416-480; 520-600	Shallow	0.0%	Santa Gertrudis	Qyal very shallow along Santa Gertrudis
132	8S/1W-7D	55	70-390; 430-500	135	82.0%		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;	104 1/	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'
146	7S/3W-28	50	50-190	42	0.0%	Murrieta	
152	8S/1W-5K	50	70-470; 490-540	130	90.8%		Forebay
153	8S/1W-5K3	50	50-220	170	99.0%		Forebay
154	8S/1W-5L2	50	50-220	110 1/	99.0%	2/	Forebay
157	8S/1W-5L	50	50-210	128	96.8%		Forebay
158	8S/1W-5K	50	50-210	100 1/	96.5%		Forebay
205	7S/3W-35A	50	150-1000	10	0.0%	Santa Gertrudis/ Murrieta Valley	Sandy clay 10'-20'
210	8S/2W-12K	None	48-228	140	94.0%		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, 428 and 429
220	7S/3W-26Q1	34	114-450	58	0.0%		Clay 58' - 73'
223	8S/2W-20C1	Unknown	48-250	60 1/	94.0%	Wolf Valley	CAT Well; east of Wildomar Fault; nearby Exh 16 wells 17Q @62' & 17M @55' are also east of Wildomar Fault
224	8S/2W-15D	Unknown	48-250	106 1/	68.0%		Old Well 50, clay 106'-138'
230	8S/2W-11J1	Unknown	24-31; 32.5-34; 35-40; 61-65; 70-76; 80-85; 86.5-91; 92.5-	>119	100.0%		Old Well 30, depth of well is 119'
231	8S/2W-20B6	55	80-120; 150-270	35 1/	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 1/	92.0%		Old 111, 105, P-31; coarse sand & clay
233	8S/2W-12K2	51	95-135; 175-215; 235-295	145	88.0%		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 1/	74.0%		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	86.0%		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'
466	8S/3W-1P2	Unknown	106-822	49	0.0%	Long Canyon	Old 219, Cantarini, hard clay 49'-60'
467	8S/2W-12K1	Unknown	50-100; 100-140	140	100.0%		Old 221, JK, Exh. 16, Monitoring well since 1983

1/ Watermaster, Rancho California WD, and Camp Pendleton disagree on the depth of younger alluvium for indicated wells. See discussion in Appendix F.

2/ Percent younger alluvium for Well No. 154 provided by Rancho California WD.

TABLE 7.8

SANTA MARGARITA RIVER WATERSHED
RANCHO CALIFORNIA WATER DISTRICT
WELL PRODUCTION FROM YOUNGER AND OLDER ALLUVIUM
2013-14
Quantities in Acre Feet

WELL NO.		QYAL	QTOAL	TOTAL
101	2/	0.00	668.00	668.00
102	2/, 3/	0.00	326.00	326.00
106	2/	0.00	323.00	323.00
108	2/	0.00	646.00	646.00
109	4/	465.36	88.64	554.00
110	4/	275.48	8.52	284.00
113		0.00	248.00	248.00
118	2/	0.00	1,200.00	1,200.00
119	1/	0.00	466.00	466.00
120		0.00	1,618.00	1,618.00
121		0.00	0.00	0.00
122	1/	0.00	437.00	437.00
123	4/	152.10	81.90	234.00
124		0.00	361.00	361.00
125		0.00	0.00	0.00
126		0.00	760.00	760.00
128		0.00	0.00	0.00
129		0.00	0.00	0.00
130		0.00	952.00	952.00
131		0.00	983.00	983.00
132	4/	498.56	109.44	608.00
133		0.00	739.00	739.00
135	3/	0.00	93.00	93.00
138		0.00	2,243.00	2,243.00
139		0.00	1,316.00	1,316.00
140		0.00	844.00	844.00
141		0.00	537.00	537.00
143		0.00	857.00	857.00
144		0.00	588.00	588.00
145		0.00	227.00	227.00
146	3/	0.00	34.00	34.00
149		0.00	296.00	296.00
151		0.00	766.00	766.00
152	4/	2,537.86	257.14	2,795.00
153	4/	2,004.75	20.25	2,025.00
154		371.25	3.75	375.00
155	3/	0.00	46.00	46.00
156		0.00	904.00	904.00
157	4/	1,515.89	50.11	1,566.00
158	4/	1,658.84	60.17	1,719.00
201		0.00	59.00	59.00
203		0.00	797.00	797.00
205		0.00	1,756.00	1,756.00
207		0.00	0.00	0.00
208		0.00	0.00	0.00
209		0.00	0.00	0.00
210	4/	763.28	48.72	812.00
211	1/	0.00	410.00	410.00
215		0.00	0.00	0.00
216		0.00	0.00	0.00
217		0.00	591.00	591.00
231		0.00	0.00	0.00
232	4/	868.48	75.52	944.00
233	4/	1,116.72	152.28	1,269.00
234	4/	189.44	66.56	256.00
235		0.00	1,568.00	1,568.00
301		0.00	0.00	0.00
302		0.00	0.00	0.00
309		0.00	2,313.00	2,313.00
		12,418.00	**26,995.00**	**39,413.00**

1/ A portion of 1,313 acre feet from Well Nos. 119, 122 and 211 was delivered to Pechanga Indian Reservation for their use.
2/ Includes 75 acre feet of releases to streams from Well Nos. 101, 102, 106, 108 and 118.
3/ Includes 497 acre feet pumped directly to the recycled water system from Well Nos. 102, 135, 146 and 155.
4/ Permitted point of re-diversion pursuant to Permit 7032.

7.2.9 Western Municipal Water District

Western Municipal Water District operations within the Santa Margarita River Watershed are comprised of three categories. First, Western MWD wholesales imported water to Rancho California WD. Deliveries to Rancho California WD are included under Rancho California WD. Second, Western MWD serves water to its Murrieta Division in the vicinity of the City of Murrieta. Third, Western MWD serves imported water to its Improvement District A near the southern boundary of Riverside County, along the I-15 freeway. Improvement District A is operated by Rancho California WD under an operations and maintenance contract on behalf of Western MWD.

Murrieta Division

In November 2005, Western MWD merged with the Murrieta County Water District assuming their operations in an area in the vicinity of the City of Murrieta. Prior Watermaster Reports present information under Murrieta County Water District.

All of the Murrieta Division of Western MWD wells are located in the Murrieta-Temecula Groundwater Area. Interlocutory Judgment No. 30 indicates the younger alluvium deposits in Murrieta Valley extend in various depths to a maximum of approximately 30 feet from the ground surface.

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, the Court did retain continuing jurisdiction so that subsequent findings could be made, if needed. Older alluvial deposits are found below the younger alluvium.

Six of the seven Murrieta Division wells are perforated at depths of 106 feet or more. The Holiday Well has perforations beginning at a depth of 60 feet, which is well below the maximum depth of younger alluvium found by the Court in 1962. In addition, there has been no production from the Holiday Well since March 2006. Accordingly, all of Murrieta Division well production is from the older alluvium under a groundwater appropriative right.

In Water Year 2013-14, the Murrieta Division of Western MWD produced 719 acre feet of water from the North Well and 232 acre feet from the renovated New Clay Well for a total well production of 951 acre feet. The New Clay well was brought back online in September 2012, ceased pumping in April 2013 and resumed pumping again in June 2014. Western MWD imported 1,407 acre feet in 2013-14 as shown on Appendix Table A-10.

The following table itemizes the production from the Murrieta Division wells:

Well Designation 7S/3W	Well Name	2013-14 Production Acre Feet	End of Water Year Depth to Groundwater in Feet 2013	2014	Well Depth Feet	Perforated Interval Feet
20	New Clay	232	250	311	940	300 – 350 370 – 470 680 – 790 830 – 900
20C9	Holiday	0	64	61	307	60 – 307
20G5	House	0	*	*	252	120 – 252
17R2	Lynch	0	*	30	212	172 – 212
18J2	North	719	285	275	650	240 – 460 500 – 640
20D	South	0	178	173	446	120 – 446
7M	Alson	0	*	*	416	106 – 416
TOTAL		951				

* Not reported.

Western MWD's Murrieta Division production for the period 1966 through 2014 is shown on Appendix Table B-11.

Improvement District A

In Water Year 2013-14, imports to Improvement District A amounted to approximately 35 acre feet as shown on Appendix Table A-11. Deliveries to Improvement District A through turnout WR-13 for the period 1966 through 2014 are shown on Appendix Table B-12.

7.2.10 U. S. Marine Corps - Camp Pendleton

Camp Pendleton is located on the coastal side of the Santa Margarita River Watershed. Water was provided by ten wells that produced 5,814 acre feet in Water Year 2013-14. This production is from the younger alluvium and is based on riparian and appropriative rights. In 2013-14, there was no agricultural use and 5,814 acre feet were used for Camp Supply. Camp Supply includes domestic and commercial uses as well as irrigation for landscaping and park areas. Camp Pendleton water use is located both inside and outside the Watershed. A total of 2,523 acre feet were used inside the Watershed and 2,733 acre feet were exported to areas of the Base outside the Watershed. The production and use of water for Camp Pendleton are shown on Appendix Table A-8.

Beginning in December 2008, all wastewater for Camp Pendleton is treated at the Southern Region Tertiary Treatment Plant replacing the regional treatment Plant Nos. 1, 2, 3, and 13. On March 11, 2009, the Regional Water Quality Control Board issued Order No. R9-2009-0021 for a Master Reclamation Permit for the Camp Pendleton Southern Region Tertiary Treatment Plant. Wastewater effluent is discharged to either: (1) approved areas for use of recycled water for irrigation purposes; or (2) the Oceanside Outfall under NPDES Permit No. CA0109347, Order No. R9-2003-0155, and Order No. R9-2008-0096. The approved areas for use of recycled water are located both within and outside the Watershed. In Water Year 2013-14, the total amount of recycled water for Camp Pendleton was 2,113 acre feet as shown on Appendix Table A-8. Of the total amount of recycled water, 29 acre feet were used inside the Watershed; 484 acre feet were used outside the Watershed; and 1,600 acre feet were exported to the Oceanside Outfall. An additional 558 acre feet of brine byproduct from the Southern Advanced Water Treatment Plant were exported to the Oceanside Outfall. The total amount exported to the Oceanside Outfall in 2013-14 was 2,158 acre feet.

Production and estimated use inside and outside the Watershed, as well as wastewater reclamation and use, are shown in Appendix Table B-9 for the period 1966 through 2014. It is noted, the format and reporting shown on Appendix Table B-9 were changed for the Annual Watermaster Report for Water Year 2008-09. Prior reports show for the period 1966 through 2003, reclaimed use inside the Watershed reported as recharged wastewater from ponds and recharge areas. In addition, the prior reports distinguished the source of the recharged wastewater between wastewater treated within or outside the Watershed at the various regional treatment plants. The format and reporting for Water Year 2013-14, on Appendix Tables A-8 and B-9, reflect current and anticipated operations for the foreseeable future. Accordingly, the prior format is obsolete and the reader is directed to prior reports from 2008, and earlier, for additional information regarding historical wastewater operations.

7.2.11 U. S. Naval Weapons Station, Fallbrook Annex

The U. S. Naval Weapons Station (NWS) occupies about 9,148 acres northeast 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, Fallbrook Public Utility District and the Watershed via an outfall line maintained by Fallbrook PUD with an easement across Camp Pendleton. In 2013-14, 58 acre feet were imported of which six acre feet of wastewater were exported, as shown on Appendix Table A-9. Imports and use for the period 1966 through 2014 are shown on Appendix Table B-10.

7.3 Indian Reservations

Water is used on the Indian Reservations in the Watershed in accordance with federal reserved rights described in Section 6. Water use information for the Cahuilla, Pechanga and Ramona Indian Reservations in the Watershed is described in the following sections:

7.3.1 Cahuilla Indian Reservation

In general, domestic water use on the Cahuilla Indian Reservation is not measured; however reports for 2013-14 indicate that 350 people reside on the Reservation. These residents use water primarily for domestic purposes. Annual domestic water use, based on 125 gallons per capita per day, amounts to a total annual use of about 49 acre feet from wells listed in Appendix C. In addition, reports indicate Reservation non-irrigated lands are used for the grazing of 500 cattle. Based on a daily requirement of 10 gallons per head per day, the annual use is estimated to be about six acre feet. An additional five acre feet pumped from well 7S/2E-26B3 were put to commercial use at a casino.

7.3.2 Pechanga Indian Reservation

On December 21, 2006, the Pechanga Band of Luiseño Mission Indians and Rancho California WD entered into a Groundwater Management Agreement for the Wolf Valley Groundwater Basin. The Pechanga Band and Rancho California WD agreed to jointly manage groundwater pumping from the basin and to manage the basin to protect groundwater resources. Among other things, the agreement provides for Rancho California WD to deliver pumped groundwater from its wells to Pechanga.

During 2013-14, Pechanga received 171 acre feet of delivered groundwater from Rancho California WD. In addition, the Pechanga Water System produced 765 acre feet from wells, and received 442 acre feet of recycled water from Eastern MWD, resulting in a total production for Pechanga of 1,378 acre feet. The monthly production and uses for the Pechanga Indian Reservation are shown on Appendix Table A-5. Information about Pechanga Water System wells is shown below:

Well Designation 8S/2W	Well Name	End of Water Year Depth to Groundwater in Feet 2013	2014	Well Depth Feet	Perforated Interval Feet
29A2	Kelsey	146	154	425	105 - 415
29B10	Eduardo	163	142	697	437 - 687
29B11	Eagle III	178	183	645	275 - 635
29J3	South Boundary	161	147	350	150 - 340
28M5	Cell Tower	120	N/A	518	372 - 432 468 - 508
28R1	Ballpark Well	107	121	1,000	126 - 996
19Q1	Zone V Rock 1	46	48	451	210 - 430

The total groundwater pumping for the Pechanga Water System wells decreased from 798 acre feet in Water Year 2012-13, to 765 acre feet in Water Year 2013-14. The total pumping in Wolf Valley by Rancho California WD Well Nos. 119, 122 and 211, for both the District's use and for delivery to Pechanga, increased from 1,258 acre feet in 2012-13 to 1,313 acre feet in 2013-14. Therefore, the total pumping in Wolf Valley for 2013-14 increased by 22 acre feet.

The wells listed above are in areas of younger alluvium at ground surface. The depth of the younger alluvium in Wolf Valley was estimated by representatives of Rancho California WD and the United States, for Rancho California WD Well No. 495 (8S/2W-20E) and Well No. 119 (8S/2W-19J), to be in the range of 120 to 170 feet in depth. Thus, based on available well construction data, production is from both the younger alluvium and the older alluvium. Under state law, production from the wells that originate in the older alluvium can be considered to be under a groundwater appropriative right or an overlying right, depending on the circumstances at each well.

Production and uses for the Pechanga Indian Reservation for Water Years 1991 through 2014 are shown on Appendix Table B-6.

7.3.3 Ramona Indian Reservation

The Ramona Indian Reservation occupies 560 acres of land of which 321 acres are inside the Watershed. The water supply is provided for domestic use by two individual wells. Total production for 2013-14 is reported as 1.97 acre feet, or approximately two acre feet.

7.4 Small Water Systems

There are a number of small water systems in the Watershed. These range from relatively permanent structures, to those catering to recreational vehicles and campgrounds. Water production from wells is shown on Appendix Table A-11 for Quiet Oaks Mobile Home Park, Hawthorn Water System, Rancho California Outdoor Resorts, and Jojoba Hills SKP Resort. Data for previous Water Years are shown on Appendix Table B-12.

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 6,868 acre feet. This quantity includes 6,179 acre feet of well production and 689 acre feet of surface diversion 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 in accordance with the powers and duties of the Watermaster. The status of the current list of unauthorized uses is described as follows:

8.2 Unauthorized Small Storage Ponds

Many 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.

8.3 Rancho California Water District Water Use

A number of unauthorized water use issues raised by the United States are settled so long as the CWRMA between the United States on behalf of Camp Pendleton and Rancho California Water District is in effect. As further explained in Section 11, many of these issues are described in Appendix F.

One area of past concern pertains to Rancho California WD's petition to the State Water Resources Control Board (SWRCB) to change the place of use, type of use and re-diversion facilities in Permit 7032. On April 22, 2009, the SWRCB issued an order and amended Permit 7032 with the desired changes and conditions to resolve concerns by Camp Pendleton and the U. S. Fish and Wildlife Service. The reporting of Vail Lake operations in accordance with Amended Permit 7032 is provided on Table 3.3 and in Section 7.2.8 under Vail Appropriation, including operations reported on Table 7.4.

8.4 Exportation of Treated Wastewater Derived from Native Waters

Camp Pendleton continues to assert that the exportation of treated wastewater, the source of which is the native waters of the Santa Margarita River System, without a legal basis for such exportation is an unauthorized water use. On May 17, 2013, the United States Court of Appeals for the Ninth Circuit issued an Order granting the parties' joint motion to dismiss the appeals in *United States of America and Fallbrook Public Utility District v. Eastern Municipal Water District and Rancho California Water District* (CV 04-8182 CBM (RNBx), United States District Court, Central District of California) and thus the August 4, 2009 Judgment in this case stands. The Watermaster is reviewing the calculations and reporting of exportation of treated wastewater for possible changes in future annual reports.

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, Anza Valley and the Murrieta-Temecula areas.

2. Potential overdraft conditions at various locations in the Watershed.

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

4. High concentrations of arsenic, fluoride, and manganese in the Murrieta-Temecula area.

5. Quagga mussel infestation in imported supplies from the Colorado River system.

9.2 High Nitrate Concentrations

In past years, high concentrations of nitrate have been measured in Anza Valley and in Rainbow Creek. Conditions in Anza Valley were generally described in the 1993-94 report. Additional water quality data for Anza Valley have been collected periodically by the Riverside County Department of Health Services and the USGS.

As described in prior Watermaster reports, in 1999 the Regional Water Quality Control Board, San Diego Region (Regional Board) began preparation of a plan for Total Maximum Daily Loads (TMDLs) for Total Nitrogen and Total Phosphorus on Rainbow Creek. On February 9, 2005, the Regional Board adopted Resolution No. R9-2005-0036, an amendment to the Basin Plan to include the Total Nitrogen and Total Phosphorus TMDLs and implementation plan. The State Water Resources Control Board, on November 16, 2005, and the Office of Administrative Law, on February 1, 2006, subsequently approved the Basin Plan amendment. The U.S. Environmental Protection Agency granted final approval of the TMDLs on March 22, 2006.

The full plan and implementation programs are presented on the Regional Board's website:

http://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/rainbowcreek.shtml.

Recent data show high concentrations of nitrate pose a risk to water supplies from the Murrieta-Temecula Groundwater Area. In January 2006, Western MWD ceased production from the Holiday Well because nitrate concentrations exceeded the Maximum Contaminant Level (MCL) of 45 mg/l. The depth to the top of the perforated interval for the Holiday Well is only 60 feet and the high nitrate concentrations appear to be a result of nearby septic systems and agricultural practices. Concentrations of nitrate for some of the other Western MWD and Rancho California WD wells in the Murrieta-Temecula Groundwater Area have been detected in the range of 20 to 26 mg/l, which is below the MCL. The other Western MWD and Rancho California WD wells have deeper perforated intervals than the Holiday Well.

9.3 Potential Overdraft Conditions

Previous Watermaster reports have noted concerns about overdraft conditions in Anza Valley and in the Murrieta-Temecula Groundwater Area. Previous studies for Anza Valley include 1976 and 1988 reports by the U. S. Geological Survey and a 1990 report by a consultant to Riverside County. No further studies relative to groundwater use in Anza Valley are available. Historical measurements of groundwater levels for Anza Mutual Water Company's Well No. 1 (7S/3E-21G1) located in Anza Valley are plotted in this report on Figure 4.4. Water levels in Anza Mutual Water Company Well No. 1 rose by 38 feet between September 30, 2013 and September 30, 2014.

No recent published studies of safe yield are available for the Murrieta-Temecula Groundwater Area. Groundwater resources in the area are managed by Rancho California WD, Western MWD, and the Pechanga Band. Annual groundwater production programs are prepared with the goal of maximizing production within the apparent safe yield of the basin. Each year, groundwater levels and well production combined with other information including water quality, natural and artificial recharge, pump settings, and well construction factors, are used to develop the recommended production programs for several hydrogeologic sub-areas. Production rates are commonly lowered in sub-areas where water levels have declined over several years, and production rates are increased in sub-areas where decline has not occurred. As a final check, the recommended production rates are checked using the groundwater model for the Murrieta-Temecula Groundwater Area.

In addition, Rancho California WD in cooperation with Camp Pendleton is in the process of developing a multi-level groundwater monitoring network, pursuant to the CWRMA. The purpose of the network is to collect data for use in assessing safe yield operations. In September 2006, the USGS began drilling and constructing the Pala Park Groundwater Monitoring Well as part of this network. The monitoring well was completed with six piezometers and continuous water level recording devices. In 2009, the groundwater monitoring network was expanded to include the Wolf Valley Monitoring Well previously constructed by the USGS under a cooperative program with the Pechanga Band. In 2013, two additional groundwater monitoring wells were constructed by the USGS under contract with Rancho California WD. The two additional wells are the Temecula Creek Groundwater Monitoring Well and the VDC Recharge Basin Groundwater Monitoring Well. Groundwater levels and water quality data for the four monitoring wells are reported in the annual CWRMA report.

Groundwater level data for three additional wells in the Murrieta-Temecula Groundwater Area are included in this report as Figures 4.1, 4.3 and 4.5. Water levels in the Windmill Well (8S/2W-12H1) located at the eastern part of Pauba Valley declined by 13.7 feet in 2013-14. Water levels in Well 7S/3W-20C9 in the Murrieta Division of Western MWD area rose by three feet in 2013-14.

Well 8S/2W-29G1 on the Pechanga Indian Reservation in Wolf Valley became dry at the end of 2003-04. The declining water levels in Well 8S/2W-29G1 appear to be attributed to recent relatively dry hydrologic conditions and pumping of the nearby New Kelsey Well. To allow continued monitoring of water levels on the Reservation, Well No. 29G1 has been replaced with Well No. 8S/2W-29B9 which showed water levels declined 2.7 feet in 2013-14.

9.4 Salt Balance

A key issue in management of a groundwater basin is potential build-up of salts from imported water supplies and use of recycled water. Such a build-up could decrease the usability of waters in a basin. Consideration must be given to measures that allow desalination of water supplies and export of salts from a basin to offset the salt load in water entering the groundwater basin.

The Total Dissolved Solids (TDS) concentration for imported supplies into the Watershed is shown on Table 5.3. During 2013-14, the reported TDS concentration ranged from 411 to 576 mg/l as compared to concentrations for 2012-13 ranging from 336 to 528 mg/l. The increased levels for TDS in 2013-14 are attributed to a greater percentage of the imported supplies derived from the Colorado River compared to supplies from the State Water Project.

The salt balance for the Murrieta-Temecula Groundwater Area is increasingly of interest due to increased imported supplies to meet existing and future demands, and also increased use of reclaimed wastewater for irrigation. The potential salt loading can be illustrated by estimating the total salts imported into the basin by the major purveyors overlying the groundwater area. The net imported supplies for the major purveyors are provided on Table 5.2 and the individual production and use tables are included in Appendix A. Assuming the groundwater area is subject to salt loading from net imports for Eastern MWD, Elsinore Valley MWD, Western MWD (Murrieta Division), and Rancho California WD (Rancho Division); the total net imports for Water Year 2013-14 were 53,817 acre feet. It is noted, imports for a portion of the Rancho California WD, Santa Rosa Division, potentially contribute to salt loading for the groundwater area but such contribution is ignored for this illustration. Applying the monthly TDS concentrations from Table 5.3 to the monthly net imports for these major purveyors results in an estimated total annual salt import for Water Year 2013-14 of 37,700 tons compared to the estimated salt import of 32,200 tons for 2012-13 and 26,400 tons for 2011-12.

The salt balance for the Murrieta-Temecula Groundwater Area is affected by the export of wastewater from the Watershed. In 2013-14, Elsinore Valley MWD exported 1,307 acre feet of wastewater for treatment outside the Watershed. During 2013-14, Eastern MWD exported 8,117 acre feet of treated wastewater for reuse outside the Watershed. Additional treated wastewater may have been exported from the Watershed through recirculation in the system, but such additional amounts have not been determined. At an average TDS concentration of 650 mg/l, there are approximately 1,768 pounds of salt in every acre foot of wastewater. Thus in 2013-14, approximately 8,300 tons of salt were exported by Elsinore Valley MWD and Eastern MWD through the export of 9,424 acre feet of wastewater. For comparison in 2012-13, approximately 9,100 tons of salt were exported with the export of 10,244 acre feet of wastewater.

The use of recycled water for irrigation is also a consideration in evaluating the salt balance for the Murrieta-Temecula Groundwater Area. The reuse within the groundwater area does not import additional salts into the Watershed; rather the source of water supply further concentrates the salts in contrast to relatively lower TDS levels for other sources of water supplies. The total use of recycled water by Eastern MWD, Elsinore Valley MWD, Rancho California WD, and the Pechanga Band within the Santa Margarita River Watershed for 2013-14 was 6,135 acre feet compared to 5,866 acre feet in 2012-13, and compared to 690 acre feet in 1986-87. Assuming an average TDS concentration of wastewater of 650 mg/l, the salt loading for 6,135 acre feet of recycled water is approximately 5,400 tons. It is expected that the use of recycled water within the Watershed will increase in the future.

The salt balances of the Murrieta-Temecula Groundwater Area, the Santa Margarita River, and the groundwater basins on Camp Pendleton are affected by operational and maintenance discharges by Rancho California WD from wells into Murrieta Creek, Temecula Creek and Santa Gertrudis Creek. In 2013-14, wells discharged 75 acre feet, as shown below, together with the TDS for the most recent sample for each well. Additional water quality data for the wells are provided in Appendix D.

Well No.	Release Acre Feet	TDS mg/l	Most Recent Sample Date
101	11	680	9/17/14
102	2	700	6/20/95
106	1	320	7/02/14
108	51	380	8/05/14
118	10	620	9/03/14
Total	75		

The salt balances for the Santa Margarita River, and the groundwater basins on Camp Pendleton, are also influenced by discharges by Rancho California WD of imported supplies into Santa Margarita River as part of make-up flows under the CWRMA. During 2013-14, the discharge of imported supplies to the Santa Margarita River as make-up

flows from outlet WR-34 was 4,051 acre feet. There were no discharges to the Santa Margarita River from the potable connection at WR-34. Discharges from the potable connection are comprised of a blend of groundwater and imported supplies.

In March 2014, Rancho California WD completed the Temecula Valley Basin Salt and Nutrient Management Plan. The plan was prepared pursuant to the State Water Resources Control Board Recycled Water Policy adopted by Resolution No. 2009-0011 on February 3, 2009, as amended by Resolution No. 2013-0003 on January 22, 2013. In November 2013, Camp Pendleton completed the Salt and Nutrient Management Plan, Southern MCB Camp Pendleton, also prepared pursuant to the State Water Resources Control Board Recycled Water Policy cited above.

9.5 High Arsenic Concentrations

The maximum contaminant level (MCL) for arsenic is 10 ug/l. High concentrations of arsenic have been detected in groundwater wells for both the Murrieta Division of Western MWD and Rancho California WD, posing a risk to water supplies in the Murrieta-Temecula Groundwater Area. In November 2007, Western MWD ceased pumping from the New Clay Well due to arsenic levels exceeding the MCL. Pumping from the New Clay Well resumed in September 2012, under an approved monitoring plan after Western MWD completed well renovation measures. Pumping from the New Clay Well was again ceased in April 2013 due to arsenic levels exceeding the MCL. In April 2014, pumping from the New Clay Well was again resumed.

The elevated arsenic levels have significantly impacted groundwater pumping and distribution system operations for Rancho California WD. Two wells have been taken out of production due to arsenic levels exceeding the MCL. In 2013-14, four other wells showed levels exceeding the MCL with the wells still in operation. Three of the wells are operating under approved blending plans and the fourth well is being operated under increased monitoring with preparation of a tentative blending plan.

9.6 High Fluoride Concentrations

The MCL for fluoride is 2 mg/l, and samples exhibiting high concentrations of arsenic often show high concentrations of fluoride in the Murrieta-Temecula Groundwater Area. High levels of fluoride are impacting operations for Rancho California WD. In 2013-14, two wells showed fluoride levels exceeding the MCL with the wells in operation under approved blending plans.

9.7 High Manganese Concentrations

The MCL for manganese is 50 ug/l, and high concentrations of manganese have been detected in wells for both the Murrieta Division of Western MWD and Rancho California WD. In 2013-14, two Rancho California WD wells were in operation under approved manganese sequestering plans. In 2013-14, six groundwater supply wells for Camp Pendleton showed manganese levels exceeding the MCL with groundwater treated under approved treatment plans.

9.8 Quagga Mussel

In early January 2007, the invasive, non-native Quagga mussel was discovered in Lake Mead. Subsequently, upon thorough inspection, MWD discovered the mussel throughout the Colorado River Aqueduct system including in August 2007, finding the mussels in Lake Skinner. To date, no mussels have been found in Diamond Valley Lake.

The Quagga mussel is indigenous to the Ukraine and was discovered in the United States in September 1989 with the first sighting in the Great Lakes. The Quagga mussel is a small freshwater mollusk ranging in size from microscopic in the embryonic state to about two inches in length at the adult stage. The mussels can be transported during the larval stage with currents or running water, and at the adult stage by attaching to hard surfaces, such as boats.

The Quagga mussel is a filter feeder removing food and nutrients from the water column, decreasing the food source for zooplankton and therefore, altering the food web. The filtration of the water also alters water clarity impacting aquatic plants and water chemistry. The economic impact is also significant because these species can rapidly colonize on hard surfaces, clogging water intake structures, pipes, and screens and reducing pumping and distribution capacities. Costs are also associated with maintenance of facilities and control of the species.

Since the discovery of Quagga mussels in the Colorado River Aqueduct and Lake Skinner, MWD has implemented various control activities. In July 2007, the aqueduct was shut down for ten days for inspection, chlorination, and removal of adult populations. Also in July 2007, MWD initiated continuous chlorination in the Colorado River Aqueduct to control the spread of Quagga mussels. Additionally, as part of ongoing maintenance activities for the Colorado River Aqueduct, MWD subsequently shut down the aqueduct in October 2007, January and March 2008, October 2009, and April and May 2010, for approximately three weeks each shutdown, resulting in desiccation of Quagga mussels present at those times. Subsequently, MWD routinely shuts down the aqueduct, once or twice annually, for ongoing maintenance activities and for Quagga mussel desiccation. Releases from Lake Skinner are chlorinated at the outlet tower prior to distribution through the raw water delivery system.

Effective October 10, 2007, Assembly Bill 1683 added Section 2301(a)(1) to the California Fish and Game Code prohibiting the release of Quagga mussels into the waters of the State. Assembly Bill 1683 also requires development of a Quagga mussel control plan. On December 8, 2007, MWD temporarily suspended required releases of water to Tucalota Creek from Lake Skinner and Warm Springs Creek from the San Diego Canal near Diamond Valley Lake. These required releases would have been made in accordance with Memoranda of Agreement for releasing native inflows from the reservoirs. On March 6, 2008, MWD provided notice to the parties in *United States of America v. Fallbrook Public Utility District, et al.*, regarding the temporary suspension of required releases of native water inflows from Lake Skinner and Diamond Valley Lake.

On June 23, 2008, MWD provided notice to the parties in *United States of America v. Fallbrook Public Utility District, et al.*, regarding the resumption of required releases of native water inflows from Lake Skinner and Diamond Valley Lake, according to MWD's Action Plan submitted to California Department of Fish and Wildlife on May 30, 2008. On April 5, 2010, the California Department of Fish and Wildlife approved the Quagga Mussel Control Plan for Lake Skinner. MWD is still operating under the May 30, 2008 Action Plan and June 23, 2008 Notice describing provisions for releases to Warm Springs Creek from the State Water Project Eastside Pipeline to meet release requirements at Diamond Valley Lake.

Infestation by the Quagga mussel has also altered Rancho California WD operations in accordance with the CWRMA. Beginning on April 10, 2008, Rancho California WD periodically ceased making releases of raw water from Outlet WR-34 on the MWD Pipeline No. 5 to meet make-up flow requirements for the Santa Margarita River. Alternatively, Rancho California WD releases make-up flows from its treated water distribution system at the System River Meter located just upstream of the Murrieta Creek at Temecula gaging station, or from the potable connection to the WR-34 discharge location. The treated water is de-chlorinated prior to release into Murrieta Creek.

In response to the threat of infestation of Quagga mussel, Rancho California WD has developed three separate control plans that constitute an overall action plan. These plans were updated in 2012 and are comprised of the following: (1) Dreissena Mussel Response and Control Action Plan, (2) Vail Lake Rapid Response Plan, and (3) Vail Lake Conveyance System Dreissena Mussel Control Plan, collectively referred to as the Plans. On September 14, 2012, the California Department of Fish and Wildlife approved the amended Plans that include the following key components:

- Substrate monitoring utilizing coupon sampling equipment at Vail Lake and the Santa Margarita River at a sampling location approximately 100 feet downstream of the Outlet WR-34 for releases of make-up water in accordance with CWRMA.

- Raw MWD water is released into the Santa Margarita River only when chlorination is being performed at Lake Skinner.

- All watercraft vessels, trailers, and equipment are being inspected before launching in Vail Lake.

- Installation of chlorination, filtration, and turbulence devices within the Vail Lake Pipeline to result in 100 percent mortality of mussels passing through the system for delivery of imported supplies to Vail Lake.

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SECTION 10 - WATER QUALITY

10.1 Surface Water Quality

The USGS collected continuous water quality measurements for dissolved oxygen, pH, specific conductance, and temperature at the Santa Margarita River near Temecula gaging station during 2013-14. Data collected at the station are published by the USGS. The highest average daily high and the lowest average daily low for each parameter for each month are shown on Table 10.1 for Water Year 2013-14.

Surface water quality data collected by the USGS in 2004-05 for Cahuilla Creek are shown on Appendix Table D-12. No surface water quality data for Cahuilla Creek were collected in 2013-14.

Surface water quality data collected in prior years by Camp Pendleton, Eastern MWD, and Rancho California WD are listed in earlier Watermaster reports.

10.2 Groundwater Quality

During 2013-14, water quality data was collected from wells at Western MWD – Murrieta Division, Rancho California WD, Pechanga Indian Reservation, and Camp Pendleton.

Western MWD – Murrieta Division sampled two wells in 2013-14 as shown in Appendix Table D-3. Both wells were subjected to standard chemical analysis in addition to samplings for nitrates only. The North Well was sampled 19 times and included nine samples subjected to standard chemical analysis and ten samples subjected to nitrates only. The New Clay Well was sampled eight times and included four samples subjected to standard chemical analysis and four samples analyzed for nitrates only. Concentrations of nitrates were below the Maximum Contaminant Level (MCL) of 45 mg/l with results generally reported to be below, or near, the laboratory detection limit and the highest reported value as 1.6 mg/l.

Water quality data for Rancho California WD wells are shown on Appendix Table D-4. Samples were collected from 40 wells during 2013-14. Of the 40 wells, 23 wells were analyzed for nitrates and TDS only. Nitrate concentrations ranged up to 21 mg/l as nitrate, with the MCL being 45 mg/l as nitrate. Twelve of the remaining wells were subjected to standard chemical analysis, 36 wells were sampled for TDS only, and 14 wells were sampled for nitrates only. Samples from one well (Well 109) showed TDS concentrations exceeding 750 mg/l, the Basin Plan objective. Wells 120 and 158, which showed TDS concentrations exceeding 750 mg/l in prior years, showed reduced TDS concentrations for 2013-14, ranging from 410 to 600 mg/l and 480 to 720 mg/l, respectively. During 2013-14, 21 wells showed TDS concentrations ranging from 500 to 750 mg/l.

TABLE 10.1

SANTA MARGARITA RIVER WATERSHED

RANGES IN AVERAGE DAILY CONCENTRATION OF DISSOLVED OXYGEN, PH, SPECIFIC CONDUCTANCE AND TEMPERATURE AT SANTA MARGARITA RIVER NEAR TEMECULA

Water Year 2013-14

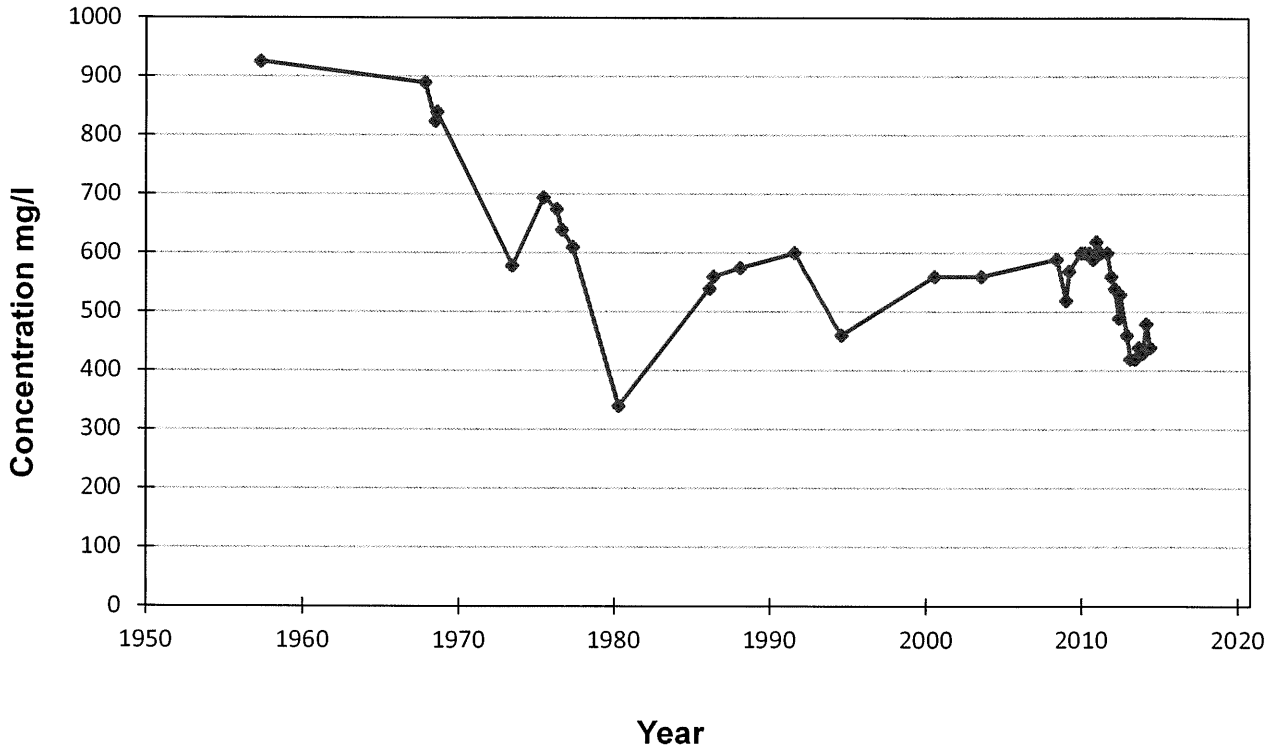
COLLECTION MONTH/YEAR	DISSOLVED OXYGEN mg/l		pH		SPECIFIC CONDUCTANCE microsiemens/cm		TEMPERATURE Degrees Celsius	
	High	Low	High	Low	High	Low	High	Low
2013								
October	8.8	5.0	8.1	7.6	1,240	823	22.7	16.1
November	9.2	7.4	8.0	7.6	1,650	837	19.4	15.4
December	10.2	8.5	8.2	7.5	1,200	878	16.0	9.5
2014								
January	10.6	10.0	8.2	7.8	983	895	12.8	11.9
February	10.6	5.9	8.0	7.4	1,620	80	16.5	12.3
March	9.9	4.7	8.2	7.5	1,019	316	17.8	12.5
April	9.7	8.4	8.3	8.1	937	893	20.7	17.0
May	9.0	7.5	8.3	7.8	977	789	23.4	18.8
June	9.0	7.6	8.3	7.8	915	731	23.6	19.7
July	8.7	6.4	8.0	7.7	745	671	23.4	20.9
August **	8.5	6.1	8.0	7.7	900	658	26.0	21.8
September	8.1	6.6	8.3	7.8	904	841	26.7	24.4

**- Partial Record: Indicates months with interruptions in record at times due to malfunction of recording equipment. High and low values indicated for days with reported data. Daily data and number of days with no record can be viewed at the following website: *http://web10capp.er.usgs.gov/adr06_lookup/search.jsp* searching by site number 11044000.

Total dissolved solids concentrations for Rancho California WD Well 210 are shown on Figure 10.1 for samples collected since 1957, when the well was constructed. The figure shows a decline in TDS from approximately 900 mg/l for the samples collected during the 1960's to the 400-600 mg/l range in recent years. Trend analyses for other wells throughout the Murrieta-Temecula area show a mix of increasing and decreasing trends in TDS levels depending upon location and aquifer.

Figure 10.1

TOTAL DISSOLVED SOLIDS CONCENTRATION
8S/2W-12K - RCWD WELL NO. 210



Appendix Table D-5 shows water quality data collected by the USGS from wells on Indian Reservations. In 2013-14, samples were collected from five wells on the Pechanga Indian Reservation. For the Pechanga wells, TDS concentrations ranged from 256 to 339 mg/l.

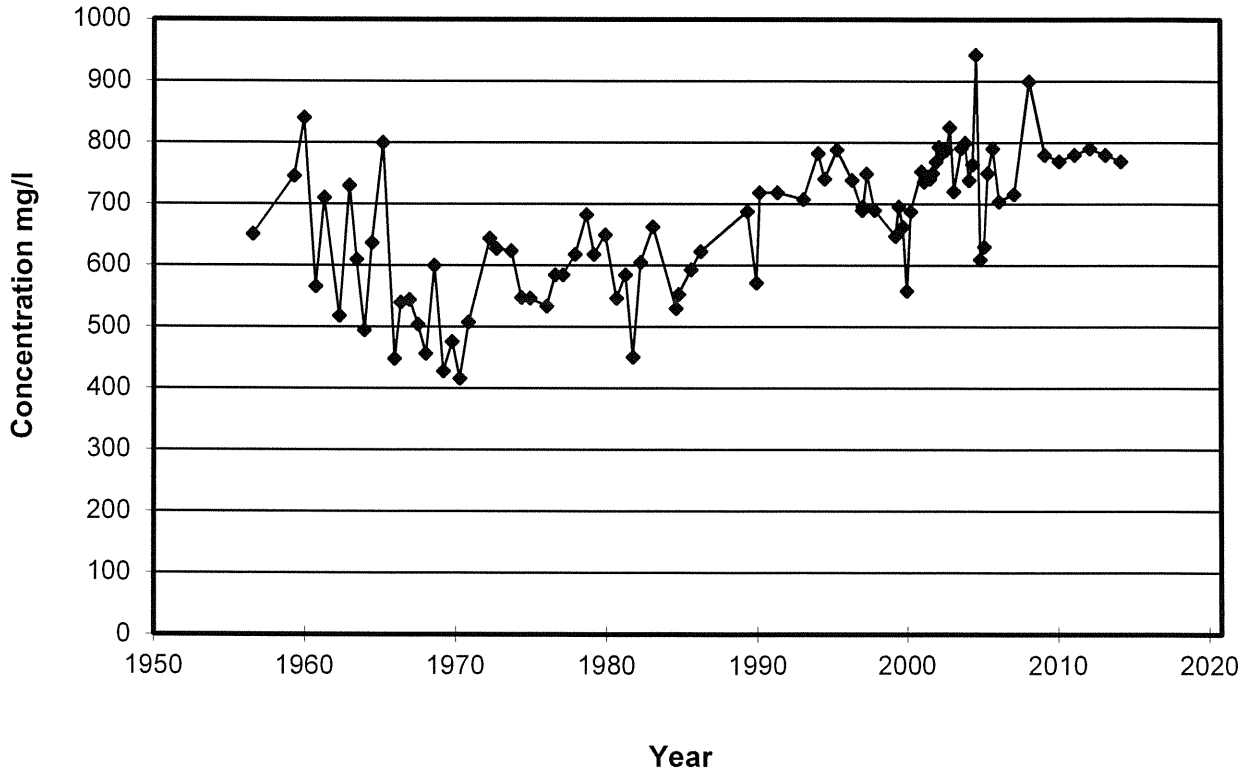
In 2013-14, no samples were collected from wells on the Cahuilla Indian Reservation.

During 2013-14, groundwater samples were collected from seven wells at Camp Pendleton as shown on Appendix Table D-6. All seven wells were subjected to standard chemical analysis. During 2013-14, samples show all seven wells with TDS concentrations exceeding the Basin Plan Objective of 750 mg/l. Five of the seven wells showed TDS concentrations that exceeded those in the prior year, and two wells showed a decline of TDS concentrations compared to the previous year.

Historical TDS concentrations for Camp Pendleton Well 7A2 are shown on Figure 10.2 for samples collected since mid-1950. The figure shows a decline between mid-1950 and 1970, then a period of increasing concentrations to levels in the 550-950 mg/l range. Analysis of the sample collected in 2013-14 indicated TDS concentrations of 770 mg/l, a decrease of 10 mg/l compared to the sample collected in 2012-13.

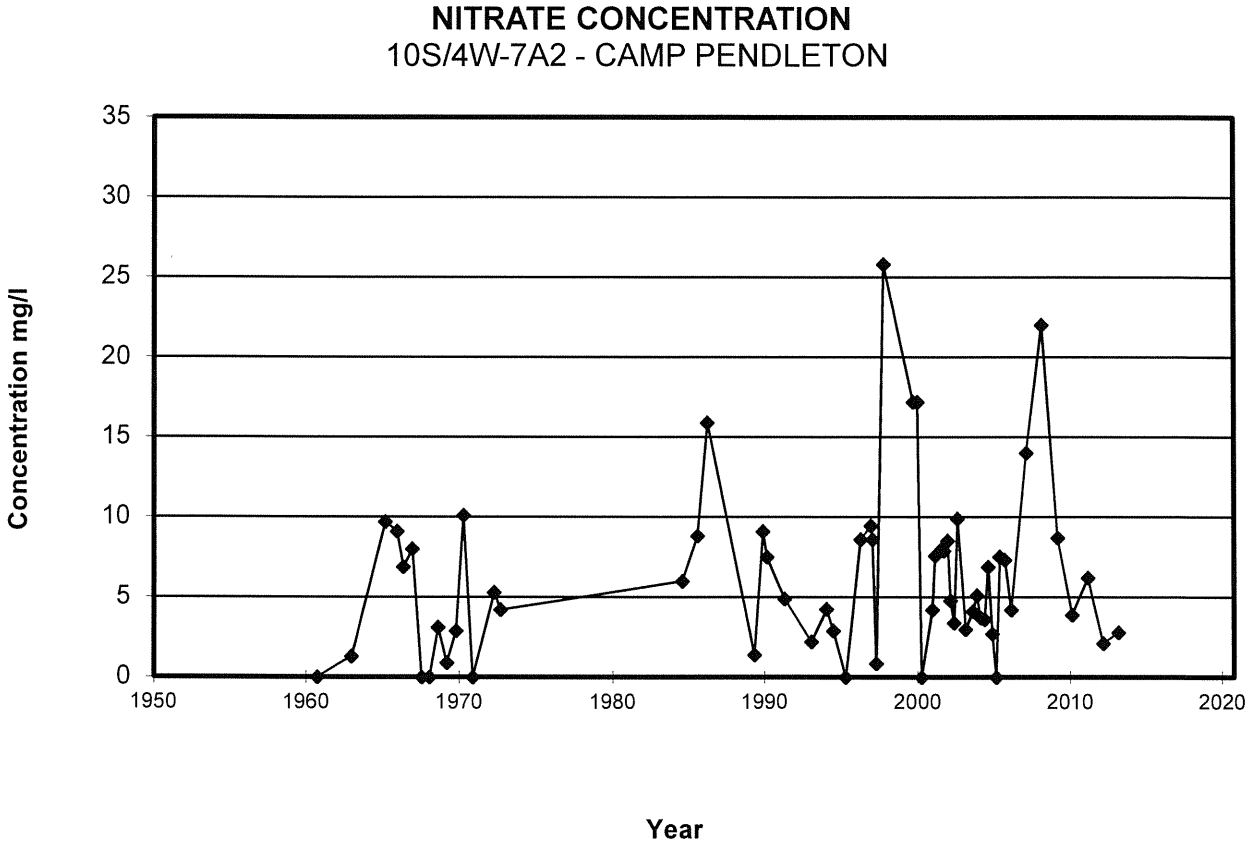
Figure 10.2

TOTAL DISSOLVED SOLIDS CONCENTRATION
10S/4W-7A2 - CAMP PENDLETON



Historical nitrate concentrations for the same well (7A2) are shown on Figure 10.3. The one sample collected in Water Year 2013-14 showed a nitrate concentration of 2.8 mg/l, an increase from the prior year.

Figure 10.3



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SECTION 11 – COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

11.1 General

On August 20, 2002, the Cooperative Water Resource Management Agreement (CWRMA) between Camp Pendleton and Rancho California WD was approved by the Court. The CWRMA provisions specify required accounting will be reported on a calendar year basis and, accordingly, Section 11 and Appendix E present data reported on a calendar year basis. However, the remainder of the Annual Watermaster Report is prepared on a water year basis requiring the CWRMA calendar year reporting to be converted to a water year basis to be incorporated into other sections of the report. The water year period begins on October 1 and concludes on September 30 of the following year.

It is noted that prior Annual Watermaster Reports served as the annual report required under CWRMA. Beginning in calendar year 2011, a separate annual report has been prepared by the Watermaster and submitted to the Court to meet the requirements of CWRMA. Section 11 continues to be included in the Annual Watermaster Report focusing on the accounting and operations related to Make-Up Water releases and flow requirements for the Santa Margarita River at the Gorge. Section 11 also includes an overview of other topics included in the stand-alone Annual CWRMA Report.

The CWRMA provides that on May 1 of each year, the Technical Advisory Committee is to compute a hydrologic index for the year based on streamflow and precipitation between October and April. In May 2014, the hydrologic index was determined and the year classified as a "Below Normal" hydrologic year. The hydrologic year establishes the required flows at the Santa Margarita River near Temecula gaging station for the calendar year. Required flows for 2014, a "Below Normal" year, are listed in Section 5 of the CWRMA and are shown on Table 11.1.

As indicated above, CWRMA calendar year accounting must be converted to a water year basis for other sections of the annual report. The data for October through December 2013 for the various accounts are needed to convert the amounts shown on Table 11.1 to water year values. These data for October through December 2013 were reported in the prior year Annual Watermaster Report. To assist the reader in calculating water year amounts for various CWRMA operations, Table 11.2 in the current report is a repeat of Table 11.1 from the prior year's report. Additional information concerning the operations underlying the values reported on Table 11.2 can be found in the prior year's report.

Prior to implementation of the CWRMA, each year there were contentions raised by Camp Pendleton with respect to various aspects of the Annual Watermaster Report. These contentions are settled so long as that agreement is in effect. Accordingly, there is no need to raise those particular issues or publish them in the main text of the annual report or in related correspondence. Rather, the issues are provided in Appendix F.

TABLE 11.1

SANTA MARGARITA RIVER WATERSHED

**MONTHLY SUMMARY OF REQUIRED FLOWS,
DISCHARGES, CREDITS AND ACCOUNTS
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT**

2014 CALENDAR YEAR - BELOW NORMAL YEAR

Month	USGS Official Discharge AF	USGS Website Daily Discharge AF	Minimum Flow Maintenance Requirement cfs 1/	Section 5 Flows cfs 2/	No. of Days 10-day Running Average is Less than Required Flow	Discharge from WR-34 AF 3/	Climatic Credits Earned AF 4/	Camp Pendleton Groundwater Bank 5/ Input AF	Camp Pendleton Groundwater Bank 5/ Cumulative Balance AF
Jan	605.8	605.8	9.8	8.0	0	599.5	212.0	105.4	5,000.0
Feb	1,995.8	1,995.8	9.8	8.0	0	506.7	168.9	95.2	5,000.0
Mar	3,822.5	3,813.6	9.8	8.0	0	502.4	165.5	105.4	5,000.0
Apr	589.1	583.5	9.8	8.0	0	577.8	202.8	102.0	5,000.0
May	326.5	350.9	5.7	5.7	0	336.0	0.0	0.0	5,000.0
Jun	274.1	291.6	4.9	4.9	0	270.7	0.0	0.0	5,000.0
Jul	264.4	264.6	4.3	4.3	0	248.1	0.0	0.0	5,000.0
Aug	272.1	272.1	4.4	4.4	0	252.3	0.0	0.0	5,000.0
Sep	243.6	243.6	4.1	4.1	0	224.9	0.0	0.0	5,000.0
Oct	235.0	239.8	3.9	3.9	0	216.5	0.0	0.0	5,000.0
Nov	176.1	178.5	3.0	4.5	0	164.4	0.0	90.0	5,000.0
Dec	3,508.6	3,508.6	3.3	5.3	0	109.5	0.0	124.0	5,000.0
CALENDAR YEAR TOTAL	**12,313.6**	**12,348.3**			**0**	**4,008.8**	**749.2**	**622.0**	**FULL**

1/ Required flows for January through April are equal to 11.5 cfs less 1.7 cfs of credits (406 AF of Climatic Credit earned in 2013).
2/ The Table in Section 5 of the CWRMA sets forth guaranteed monthly flows at the Gorge once the hydrologic condition for the calendar year is established.
3/ CAP Credits equal the WR-34 discharge in excess of 4,000 AF. Credits earned in 2014 equal to 8.8 AF.
4/ Climatic Credits equal the WR-34 discharges less actual Flow Requirements, which is the flow indicated in Section 5 of the CWRMA less applicable credits but not less than 3.0 cfs.
5/ Camp Pendleton's rights to groundwater equal the flow indicated in Section 5 of the CWRMA less the Actual Flow Maintenance Requirement, which cannot be less than 3.0 cfs. Input to the Groundwater Bank shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

TABLE 11.2

SANTA MARGARITA RIVER WATERSHED

**MONTHLY SUMMARY OF REQUIRED FLOWS,
DISCHARGES, CREDITS AND ACCOUNTS
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT**

2013 CALENDAR YEAR - CRITICALLY DRY YEAR

Month	USGS Official Discharge AF	USGS Website Daily Discharge AF	Minimum Flow Maintenance Requirement cfs 1/, 2/	Section 5 Flows cfs 3/	No. of Days 10-day Running Average is Less than Required Flow	Discharge from WR-34 AF 4/	Climatic Credits Earned AF 5/	Camp Pendleton Groundwater Bank 6/	
								Input AF	Cumulative Balance AF
Jan	395.3	395.3	6.5/5.3	4.5	0	291.9	116.0	93.0	5,000.0
Feb	427.0	427.8	5.3	4.5	0	215.0	63.4	84.0	5,000.0
Mar	857.3	857.3	5.6	4.5	0	266.6	96.6	93.0	5,000.0
Apr	333.6	333.6	5.6	4.5	0	310.1	130.1	90.0	5,000.0
May	246.3	234.2	3.8	3.8	0	220.7	0.0	0.0	5,000.0
Jun	197.0	197.4	3.3	3.3	0	186.3	0.0	0.0	5,000.0
Jul	174.1	186.0	3.0	3.0	0	167.7	0.0	0.0	5,000.0
Aug	182.5	185.1	3.0	3.0	0	184.9	0.0	0.0	5,000.0
Sep	179.3	179.3	3.0	3.0	0	185.5	0.0	0.0	5,000.0
Oct	185.5	185.9	3.0	3.0	0	161.3	0.0	0.0	5,000.0
Nov	179.3	179.3	3.0	3.0	0	170.5	0.0	0.0	5,000.0
Dec	201.7	203.3	3.3	3.3	0	201.2	0.0	0.0	5,000.0
CALENDAR YEAR TOTAL	**3,558.9**	**3,564.5**			**0**	**2,561.7**	**406.1**	**360.0**	**FULL**

1/ Required flows for January through April are equal to 11.5 cfs less 5.9 cfs of credits (1,248 AF of Climatic Credit earned in 2012 and 148 AF CAP Credit carried over from 2011).

2/ In December 2012, the preliminary winter-time flow requirement for 2013 was calculated as 6.5 cfs; in January 2013, the final winter-time requirement was computed as 5.6 cfs. To make up for excess releases made by the District between January 1-17, 2013, the winter-time flow requirement was reduced from 5.6 cfs to 5.3 cfs for January 18 - February 28.

3/ The Table in Section 5 of CWRMA sets forth guaranteed monthly flows at the Gorge once the hydrologic condition for the calendar year is established.

4/ CAP Credits equal the WR-34 discharge in excess of 4,000 AF. No CAP Credits earned in 2013.

5/ Climatic Credits equal the WR-34 discharges less Actual Flow Requirements, which is the flow indicated in Section 5 of CWRMA less applicable credits but not less than 3.0 cfs.

6/ Camp Pendleton's rights to groundwater equal the flow indicated in Section 5 of CWRMA less the Actual Flow Maintenance Requirement, which cannot be less than 3.0 cfs. Input to the groundwater bank shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

11.2 Required Flows

Under the CWRMA, Rancho California WD guarantees that the ten-day running average of the measured flows at the Santa Margarita River near Temecula gaging station shall meet the required flows for each month during the year. In order to meet the required flows, Rancho California WD discharges Make-Up Water from two primary sources, both discharging into the river at the same location immediately upstream from the USGS gaging station for Santa Margarita River near Temecula. The first primary source of Make-Up Water is raw water from MWD Aqueduct No. 5 discharged at Outlet WR-34. The second primary source of Make-Up Water is from the Rancho California WD treated water distribution system through a potable connection to the WR-34 outlet pipe. In prior years, Make-Up Water was also discharged from the treated water distribution system to Murrieta Creek from two system discharge meters collectively referred to as the System River Meter. The two discharge meters are located on opposite sides of Murrieta Creek, immediately downstream of the USGS gaging station for Murrieta Creek at Temecula, which is located approximately 2,000 feet upstream of the confluence of Temecula Creek and Murrieta Creek. The System River Meter is operable as a secondary source of Make-Up Water if needed.

Flow requirements are based on two-thirds of the median natural flow of the Santa Margarita River at the Gorge for a given hydrologic year type. During the winter period (January through April), Rancho California WD shall maintain a ten-day running average equal to 11.5 cfs, less carry-over credits, less requested foregone Make-Up Water, but not less than 3.0 cfs. Rancho California WD may earn Climatic Credits in Below Normal and Critically Dry years if it has provided Make-Up Water in excess of the Actual Flow Requirement. The Climatic Credit is equal to the Make-Up Water released, less the Actual Flow Requirement, less credits. The Actual Flow Requirement is determined on May 1 of each year and applied retroactively to the flows during the winter period. During the non-winter period (May through December), Rancho California WD shall maintain a ten-day running average equal to the flow requirements specified in the CWRMA as determined on May 1st, less any foregone Make-Up Water agreed to by Camp Pendleton and Rancho California WD. When Rancho California WD is required to provide Make-Up Water in any calendar year in excess of 4,000 acre feet, it may apply CAP Credits for such excess during the following two winter periods. At no time is Rancho California WD required to make up more than 11.5 cfs.

The measured daily flows, the ten-day running average, and the differences between the running average and the required flows are shown in Appendix E. Two listings of daily discharges are shown in the tables in Appendix E: the USGS official discharge and the USGS website discharge. The discharges shown on the website are those that dictate daily decisions regarding the quantities of Make-Up Water required and those discharges are used to compute the ten-day running average. The official discharge is a more refined estimate developed later by the USGS for publication.

The number of days each month when the ten-day running average was less than the required flows is summarized on Table 11.1. For calendar year 2014, there were no days when the running average was less than the required flows under normal CWRMA operations.

During calendar year 2014, the total releases by Rancho California WD to meet CWRMA flow requirements were 4,009 acre feet as shown on Table 11.1. The releases were comprised entirely of raw water from Outlet WR-34. For calendar year 2014, there were no releases from the potable connection at Outlet WR-34.

Climatic Credits of 406 acre feet were used in calendar year 2014, and Climatic Credits of 749 acre feet were earned in calendar year 2014 in accordance with CWRMA provisions. No CAP Credits were used in calendar year 2014 and nine acre feet of CAP Credits were accumulated in calendar year 2014 for use in subsequent years to meet required releases by Rancho California WD.

The CWRMA also provides that Camp Pendleton may acquire rights to groundwater above the Gorge by foregoing its right to Make-Up Water, or to the extent that the Actual Flow Maintenance Requirements are less than the flows in the table in Section 5 of CWRMA. The maximum cumulative balance for the Camp Pendleton groundwater account is 5,000 acre feet. During calendar year 2014, 622 acre feet were calculated as input to the groundwater account but the balance was already at the maximum balance of 5,000 acre feet and no additional water was credited to the account.

11.3 Water Quality

The U. S. Geological Survey continuously monitors four parameters of water quality at the Santa Margarita River near Temecula gaging station, including dissolved oxygen, pH, specific conductance, and temperature. The daily averages for each of these parameters are reported annually. Monthly highs and lows for each parameter are listed in Table 10.1 for the water year ending September 30, 2014.

11.4 Monitoring Programs

The CWRMA provides for the establishment of two monitoring programs: (1) Section 5(g) provides for a program to assess the impacts of operations on water supply, water quality and riparian habitat within Camp Pendleton, and; (2) Section 7(d) provides for a program to assess safe yield operations of Rancho California WD through the use of a multi-level groundwater monitoring network and periodic updates of the CWRMA Groundwater Model.

During 2007-08, Camp Pendleton initiated the Section 5(g) program named as the Lower Santa Margarita River Watershed Monitoring Program (LSMRWM Program) to evaluate whether the increased flows under CWRMA influence threatened and endangered species, riparian and wetland habitats, or water quality downstream. The LSMRWM Program will also support other water quality monitoring and watershed management activities in the Santa Margarita River Watershed. A copy of the Statement

of Work for the LSMRWM Program was provided in the 2007 and 2008 Annual Watermaster Reports. The monitoring was funded for a two-year period and the final report, *Hydrological and Biological Support to Lower Santa Margarita River Watershed Monitoring Program Water Years 2008-2009* was published on February 21, 2010, under a cooperative program between Camp Pendleton and the United States Bureau of Reclamation.

In September 2006, the USGS under contract with Camp Pendleton and Rancho California WD constructed a multi-level monitoring well for the Murrieta-Temecula Groundwater Basin in accordance with Section 7(d) of CWRMA. The Pala Park Groundwater Monitoring Well is located near the confluence of Pechanga and Temecula creeks and was completed to a total depth of 1,499 feet. Six piezometers were installed for continuous water level recording in the saturated zone for the lower five screened intervals and for the upper-most screened interval to detect moisture in the unsaturated zone. The USGS monitoring program for the Pala Park Groundwater Monitoring Well is included in the ongoing Watermaster budget beginning in Water Year 2007-08.

In 2009, the groundwater monitoring program was expanded to include the Wolf Valley Monitoring Well that was previously constructed under a cooperative agreement between the USGS and the Pechanga Band. Two piezometers are installed at the Wolf Valley Well. The groundwater level monitoring for the Wolf Valley Monitoring Well was previously funded by the Pechanga Band, but is now included in the ongoing Watermaster budget beginning in Water Year 2009-10.

In 2013, two additional groundwater monitoring wells were constructed by the USGS under contract with Rancho California WD. The groundwater level monitoring for these additional wells is also included in the ongoing Watermaster budget. The Temecula Creek Groundwater Monitoring Well was drilled in April 2013 to a depth of 1,720 feet, and was completed with five piezometers. The VDC Recharge Basin Groundwater Monitoring Well was drilled in August 2013 to a depth of 1,033 feet, and was completed with six piezometers.

Information concerning the construction of the monitoring wells, groundwater levels, and water quality data can be found at the following website: *http://ca.water.usgs.gov/temecula/*. Information obtained from the website as well as supplemental information for the groundwater monitoring wells is provided in the Annual CWRMA Report.

In 2010, 2011, and 2012, the water quality monitoring program also included collecting data for the two sources of supply for recharge at the head of Pauba Valley: (1) imported supplies for recharge at Rancho California WD VDC Recharge Facilities, and; (2) native supplies from Temecula Creek as sampled at Vail Lake. Funding from the Watermaster budget was used to collect and analyze the data which are provided in the Annual CWRMA Report.

In 2012, the water quality monitoring program also included collecting data from selected groundwater production wells operated by Rancho California WD within Pauba

Valley. These wells were selected to compliment the water quality data for the monitoring wells and the two sources of supply for recharge at the head of Pauba Valley. Previously, groundwater production wells operated by Rancho California WD were included in the 2004 and 2007 sampling programs for the Groundwater Ambient Monitoring and Assessment (GAMA) program implemented by the California State Water Resources Control Board. Data reported for 2013 were collected with funding from the Watermaster budget. In 2013, funding from the Watermaster budget was used to analyze archived, age-dating samples that were collected during 2012. The samples from two groundwater production wells, Well Nos. 109 and 234, were analyzed for tritium and carbon isotopes.

In 2007, Camp Pendleton and Rancho California WD initiated an effort to update the CWRMA Groundwater Model in accordance with Section 7(d). Work on updating the groundwater model was completed in 2014 and 2015 with publication of the April 25, 2014 (revised January 8, 2015) report prepared by GEOSCIENCE Support Services, Inc., entitled *Surface and Ground Water Model of the Murrieta-Temecula Ground Water Basin, California, Model Update and Refinement Report*. The model update included the following: (1) development of GSFLOW which is a coupled surface water and groundwater model that includes a Precipitation-Runoff Modeling System (PRMS) and MODFLOW, (2) refinement of the groundwater model cell size, active/inactive boundaries and locations of recharge and discharge, (3) development of a three-dimensional lithologic model based on lithologic and geophysical borehole logs from wells in the area, (4) refinement of groundwater model layer elevations based on the results from the lithologic model, and (5) update of the surface water and groundwater model with data through 2008.

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SECTION 12 - FIVE YEAR PROJECTION OF WATERMASTER OFFICE TASKS, EXPENDITURES AND REQUIREMENTS

12.1 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.

12.2 Normal Tasks

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

1. Update List of Substantial Users
2. Collect Water Production, Use, Import and Availability Data
3. Collect Well Location, Construction and Water Level Data
4. Administer Water Rights
5. Collect Water Quality Data
6. Monitor Water Quality and Water Right Activities
7. Administer Lake Skinner and Diamond Valley Lake MOU's
8. Administer Steering Committee Matters
9. Prepare Court Reports/Budgets
10. Monitor Streamflow and Water Quality Measuring
11. Data Management
12. Administer Cooperative Water Resource Management Agreement

12.3 Additional Tasks

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

1. Prepare List of All Water Users under Court Jurisdiction
2. Prepare Inventory of Ponds and Reservoirs
3. Determine Salt Balance

12.4 Projected Expenditures

Projected expenditures for the current year and over the next five years are listed as follows:

Year		Watermaster Office	USGS Groundwater Monitoring	USGS Gaging Stations	Total
Current Year	2014-15	$446,750	$43,700	$189,250	$679,700
Projected Years	2015-16	$473,625	$45,500	$196,975	$716,100
	2016-17	$487,800	$46,900	$202,800	$737,500
	2017-18	$502,400	$48,300	$208,900	$759,600
	2018-19	$517,500	$49,700	$215,200	$782,400
	2019-20	$533,000	$102,200	$221,600	$856,800

SECTION 13 - WATERMASTER OFFICE BUDGET

The budget for the Watermaster Office is established on an annual basis and is approved by the Court upon acceptance of the Annual Watermaster Report. The budget is presently funded from equal assessments paid by the Steering Committee; however, the Court retains the right to assess other parties in the future. An audit is conducted annually by an independent auditor and the independent auditor's report is submitted for review by the parties and the Court as part of the Annual Watermaster Report.

13.1 Comparison of Budget and Actual Costs for 2013-14

The Watermaster Budget for 2013-14 of $658,840 was approved by the Court upon acceptance of the July 2013 Annual Watermaster Report for Water Year 2011-12. The Independent Auditor's Report and Report to the Steering Committee for Watermaster of the Santa Margarita River Watershed for Fiscal Year Ended September 30, 2014, dated January 21, 2015, are included in Appendix G. A comparison of the budget and actual costs for 2013-14 is shown on Table 13.1. The actual costs for 2013-14 were $653,001 compared to the budget of $658,840, resulting in a favorable variance of $5,839. An explanation of individual line item variances is provided in Appendix G.

13.2 Proposed Budget for 2015-16

The proposed Watermaster Budget for 2015-16 is published in the Annual Watermaster Report for 2013-14 and is determined to be final and accepted by the Court upon noticing and completion of the 30-day period for parties to file an objection to the report. Accordingly, the budget for 2015-16 is referred to in this report as the proposed budget. The proposed Watermaster Budget for 2015-16, along with a comparison to the approved budget for 2014-15 is shown on Table 13.2. The total budget for 2015-16 is $716,100. This budget includes $473,625 for the Watermaster Office and $242,475 for USGS gaging station operations and monitoring. The budgeted cost for services provided by the U.S. Geological Survey is based on the annual renewal of a cooperative agreement with the Watermaster.

TABLE 13.1

SANTA MARGARITA RIVER WATERSHED
COMPARISON OF WATERMASTER BUDGET AND ACTUAL COSTS
WATER YEAR 2013-14

Line Item	Water Year 2013-14 Approved Budget 2013-14 1/	Actual Costs 2013-14 2/	Actual Costs Minus Approved Budget 2013-14	
Watermaster Office	$	$	$	%
Accounting Services	$8,800	$6,073	-$2,727	-31.0%
Audit	6,300	6,339	39	0.6%
Clerical/Analyst	99,700	96,781	-2,919	-2.9%
Conference/Training	N/A	662	N/A	N/A
Equipment and Furniture	2,000	0	-2,000	-100.0%
Human Resources Services	N/A	0	N/A	N/A
Insurance	600	575	-25	-4.2%
IT System/Computer	10,000	4,248	-5,752	-57.5%
Legal Services	N/A	11,955	N/A	N/A
Miscellaneous	5,915	317	-5,598	-94.6%
Postage	N/A	1,527	N/A	N/A
Printing	10,800	11,207	407	3.8%
Publications	4,200	3,009	-1,191	-28.4%
Rent	18,000	18,000	0	0.0%
Supplies	1,800	2,215	415	23.1%
Telephone	4,200	2,503	-1,697	-40.4%
Travel	900	956	56	6.2%
Watermaster Services				
Consulting Services	219,000	221,328	2,328	1.1%
Travel Reimbursement	27,500	27,906	406	1.5%
SUBTOTAL WATERMASTER OFFICE	**$419,715**	**$415,601**	**-$4,114**	**-1.0%**
USGS				
Gaging Station	$150,225	$149,130	-$1,095	-0.7%
Surface Water Quality	23,600	23,435	-165	-0.7%
Groundwater Monitoring - Water Levels	43,300	42,990	-310	-0.7%
Groundwater Monitoring - Water Quality	22,000	21,845	-155	-0.7%
SUBTOTAL USGS	**$239,125**	**$237,400**	**-$1,725**	**-0.7%**
TOTAL	**$658,840**	**$653,001**	**-$5,839**	**-0.9%**

N/A Budget Item added for 2014-15, not itemized for 2013-14.
1/ Budget for 2013-14 approved by the Court as reported in the Annual Watermaster Report for Water Year 2011-12, published July 2013.
2/ Actual Costs from Financial Statements for period ending September 30, 2014.

TABLE 13.2

SANTA MARGARITA RIVER WATERSHED
PROPOSED WATERMASTER BUDGET FOR WATER YEAR 2015-16

Line Item	Water Year 2015-16 Proposed Budget 2015-16 1/	Approved Budget 2014-15 2/	Increase Over Approved Budget 2014-15	
Watermaster Office	$	$	$	%
Accounting Services	$8,400	$8,600	-$200	-2.3%
Audit	6,600	6,600	0	0.0%
Clerical/Analyst	115,700	109,300	6,400	5.9%
Conference/Training	1,400	1,200	200	16.7%
Equipment and Furniture	1,000	1,000	0	0.0%
Human Resources Services	800	1,000	-200	-20.0%
Insurance	600	600	0	0.0%
IT System/Computer	10,000	10,000	0	0.0%
Legal Services	20,000	20,000	0	0.0%
Miscellaneous	1,325	2,250	-925	-41.1%
Postage	2,000	1,900	100	5.3%
Printing	10,000	9,000	1,000	11.1%
Publications	3,300	3,200	100	3.1%
Rent	18,000	18,000	0	0.0%
Supplies	1,900	1,800	100	5.6%
Telephone	3,000	3,000	0	0.0%
Travel	1,000	900	100	11.1%
Watermaster Services				
Consulting Services	241,000	222,000	19,000	8.6%
Travel Reimbursement	27,600	26,400	1,200	4.5%
SUBTOTAL WATERMASTER OFFICE	$473,625	$446,750	$26,875	6.0%
USGS				
Gaging Station	$172,175	$165,450	$6,725	4.1%
Surface Water Quality	24,800	23,800	1,000	4.2%
Groundwater Monitoring - Water Levels	45,500	43,700	1,800	4.1%
Groundwater Monitoring - Water Quality	0	0	0	0.0%
SUBTOTAL USGS	$242,475	$232,950	$9,525	4.1%
TOTAL	$716,100	$679,700	$36,400	5.4%

1/ Proposed budget for 2015-16; final budget to be approved by the Court upon acceptance of the Annual Watermaster Report for Water Year 2013-14.

2/ Budget for 2014-15 approved by the Court as reported in the Annual Watermaster Report for Water Year 2012-13, published in July 2014.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

APPENDIX A

WATER PRODUCTION AND USE

WATER YEAR 2013-14

August 2015

TABLE A-1

SANTA MARGARITA RIVER WATERSHED
MONTHLY WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT
2013-14
Quantities in Acre Feet

	PRODUCTION					USE						RECYCLED WATER			
MONTH	WELLS	IMPORT 1/	EXPORT FROM SMRW 2/	NET IMPORT	TOTAL	AG	COMM	DOM	TOTAL	LOSS 3/	TOTAL USE	REUSE IN SMRW 4/	REUSE OUTSIDE SMRW	OTHER REUSE 5/	TOTAL
2013															
OCT	0	1,416	0	1,416	1,416	12	330	1,003	1,345	71	1,416	195	500	534	1,229
NOV	0	1,208	0	1,208	1,208	7	238	903	1,148	60	1,208	172	670	388	1,230
DEC	0	914	0	914	914	8	147	713	868	46	914	145	137	975	1,257
2014															
JAN	0	1,053	0	1,053	1,053	14	206	780	1,000	53	1,053	203	377	633	1,213
FEB	0	1,020	0	1,020	1,020	3	212	754	969	51	1,020	314	722	110	1,146
MAR	0	1,926	1,125	801	801	16	148	597	761	40	801	144	345	779	1,268
APR	0	2,302	1,180	1,122	1,122	8	241	817	1,066	56	1,122	267	650	317	1,234
MAY	0	2,614	1,049	1,565	1,565	21	366	1,100	1,487	78	1,565	250	710	279	1,239
JUNE	0	2,786	1,165	1,621	1,621	11	390	1,139	1,540	81	1,621	297	730	156	1,183
JULY	0	3,342	1,583	1,759	1,759	18	437	1,216	1,671	88	1,759	302	989	(61)	1,230
AUG	0	2,834	1,031	1,803	1,803	12	441	1,260	1,713	90	1,803	312	1,235	(298)	1,249
SEPT	0	2,520	918	1,602	1,602	12	397	1,113	1,522	80	1,602	336	1,052	(185)	1,203
TOTAL	0	23,935	8,051	15,884	15,884	142	3,553	11,395	15,090	794	15,884	2,937	8,117	3,627	14,681

1/ Does not include deliveries to Rancho California WD, Elsinore Valley MWD or Western MWD.
2/ Portion of imported supplies exported for delivery to Eastern MWD's retail customers located outside the Watershed.
3/ Loss = 5%
4/ No sewage diverted to RCWD for 2014 Water Year for treatment at Santa Rosa Water Reclamation Facility.
Reuse within Watershed includes 991 AF sold to RCWD, 442 AF sold to Pechanga Band, and 53 AF sold to Elsinore Valley MWD.
5/ Other Reuse includes changes of storage in Winchester and Sun City storage ponds, evaporation and percolation losses.
There were no discharges to Temescal Creek in the Santa Ana Watershed in Water Year 2014.

TABLE A-2

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

2013-14

Quantities in Acre Feet

	PRODUCTION			USE 1/						WASTEWATER EXPORTED			RECYCLED WATER 3/		
MONTH YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 2/	TOTAL USE	UNTREATED WASTEWATER	REUSE OUTSIDE SMRW	TOTAL WASTEWATER EXPORT	REUSE INSIDE SMRW	REUSE OUTSIDE SMRW	TOTAL REUSE
2013															
OCT	0	1,071	1,071	2	280	774	1,056	15	1,071	111	0	111	0	0	0
NOV	0	503	503	1	103	392	496	7	503	106	0	106	0	0	0
DEC	0	259	259	1	32	222	255	4	259	110	0	110	0	0	0
2014															
JAN	0	538	538	1	95	434	530	8	538	108	0	108	0	0	0
FEB	0	456	456	1	95	354	450	6	456	97	0	97	0	0	0
MAR	0	380	380	1	66	308	375	5	380	109	0	109	0	0	0
APR	0	508	508	1	113	387	501	7	508	104	0	104	0	0	0
MAY	0	663	663	1	159	494	654	9	663	108	0	108	0	0	0
JUNE	0	771	771	1	193	566	760	11	771	103	0	103	0	0	0
JULY	0	798	798	2	198	587	787	11	798	106	13	119	19	13	32
AUG	0	748	748	2	184	552	738	10	748	107	12	119	18	12	30
SEPT	0	718	718	2	175	531	708	10	718	102	11	113	16	11	27
TOTAL	0	7,413	7,413	16	1,693	5,601	7,310	103	7,413	1,271	36	1,307	53	36	89

1/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2.

2/ Loss percentage within the Santa Margarita River Watershed is determined using the calculation to determine District-wide unaccounted for water by comparing District-wide annual supply and customer deliveries, and is assumed to be constant for all months.

3/ EVMWD receives recycled water treated at the RCWD Santa Rosa Water Reclamation Facility via EMWD Palomar Pipeline through a wheeling agreement. In Water Year 2014, 866 acre feet of wastewater were delivered from EVMWD to RCWD for treatment at the Santa Rosa Water Reclamation Facility. In Water Year 2014, EVMWD received 89 acre feet of recycled water via EMWD and re-used 53 acre feet within the Watershed.

TABLE A-3

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

2013-14

Quantities in Acre Feet

	DISTRICT WIDE PRODUCTION				SMRW PRODUCTION			SMRW USE						WASTEWATER			
MONTH YEAR	TOTAL LAKE SKINNER DIVERSIONS 1/	LAKE SKINNER DIVERSIONS DELIVERED	TOTAL DISTRICT IMPORT 2/	TOTAL DISTRICT SUPPLY 3/	SMRW LAKE SKINNER	SMRW IMPORT	TOTAL SMRW PRODUCTION	AG	COMM	DOM	TOTAL DELIVERED IN SMRW	LOSS 4/	TOTAL USE IN SMRW	FROM SMRW	REUSE IN SMRW	FROM U. S. NWS 5/	EXPORT FROM SMRW
2012																	
OCT	0	0	1,168	1,168	0	733	733	461	30	203	694	39	733	83	2	0	81
NOV	0	0	990	990	0	600	600	365	25	178	568	32	600	83	1	0	82
DEC	0	0	704	704	0	372	372	199	18	135	352	20	372	77	1	0	76
2013																	
JAN	0	0	1,032	1,032	0	514	514	318	19	150	487	27	514	79	2	0	77
FEB	0	0	733	733	0	571	571	353	22	166	541	30	571	63	1	0	62
MAR	0	0	668	668	0	362	362	192	19	132	343	19	362	85	1	1	83
APR	0	0	982	982	0	464	464	279	17	143	439	25	464	79	2	0	77
MAY	0	0	1,386	1,386	0	675	675	425	28	186	639	36	675	80	2	1	77
JUNE	0	0	1,239	1,239	0	793	793	499	41	211	751	42	793	82	2	1	79
JULY	0	0	1,421	1,421	0	788	788	511	30	205	746	42	788	78	3	1	74
AUG	0	0	1,348	1,348	0	871	871	542	68	215	825	46	871	73	2	1	70
SEPT	0	0	1,397	1,397	0	835	835	544	42	205	791	44	835	62	3	1	58
TOTAL	0	0	13,068	13,068	0	7,578	7,578	4,688	359	2,129	7,176	402	7,578	924	22	6	896

1/ Diverted under Permit No. 11356.

2/ Includes 47 acre feet from Capra Well located in San Luis Rey Watershed and remaining supply from San Diego County Water Authority.

3/ A portion of the District is outside the Santa Margarita River Watershed.

4/ Loss percentage within the Santa Margarita River Watershed is determined using the calculation to determine District-wide unaccounted for water by comparing District-wide annual supply and customer deliveries, and is assumed to be constant for all months.

5/ United States Naval Weapons Station.

TABLE A-4

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

METROPOLITAN WATER DISTRICT
DELIVERIES IN DOMENIGONI VALLEY

2013-14

Quantities in Acre Feet

	PRODUCTION			USE					
MONTH YEAR	WELLS	IMPORT TO SMRW	TOTAL IN SMRW	AG	COMM/ DOM 1/	GW RECHARGE	TOTAL DELIVERED	LOSS 2/	TOTAL USE
2013									
OCT	0	96	96	96	0	0	96	0	96
NOV	0	61	61	61	0	0	61	0	61
DEC	0	22	22	22	0	0	22	0	22
2014									
JAN	0	45	45	45	0	0	45	0	45
FEB	0	51	51	51	0	0	51	0	51
MAR	0	62	62	62	0	0	62	0	62
APR	0	111	111	111	0	0	111	0	111
MAY	0	150	150	150	0	0	150	0	150
JUNE	0	110	110	110	0	0	110	0	110
JULY	0	120	120	120	0	0	120	0	120
AUG	0	141	141	141	0	0	141	0	141
SEPT	0	105	105	105	0	0	105	0	105
TOTAL	0	1,074	1,074	1,074	0	0	1,074	0	1,074

1/ Construction water

2/ Points of delivery located at metered pumps on San Diego Canal and thus the losses in the MWD system are zero.

TABLE A-5

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

PECHANGA INDIAN RESERVATION

2013-14

Quantities in Acre Feet

	PRODUCTION				USE 4/					
MONTH YEAR	WELLS ON RESERVATION 1/	DELIVERED GROUNDWATER FROM RCWD 2/	RECYCLED WATER FROM EMWD 3/	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 5/	TOTAL USE
2013										
OCT	69	6	38	113	0	98	12	110	3	113
NOV	56	5	19	80	0	64	9	73	7	80
DEC	44	0	4	48	0	34	9	43	5	48
2014										
JAN	61	15	23	99	0	74	11	85	14	99
FEB	47	5	15	67	0	49	12	61	6	67
MAR	50	10	22	82	0	70	12	82	0	82
APR	64	18	41	123	0	93	14	107	16	123
MAY	72	21	54	147	0	125	21	146	1	147
JUNE	71	13	60	144	0	120	15	135	9	144
JULY	73	32	67	172	0	151	19	170	2	172
AUG	63	24	38	125	0	105	15	120	5	125
SEPT	95	22	61	178	0	150	13	163	15	178
TOTAL	765	171	442	1,378	0	1,133	162	1,295	83	1,378

1/ Total production attributed to Eduardo, Eagle III, Kelsey, Ballpark and Zone V Rock 1 wells.

2/ Water provided from Rancho California WD Well Nos. 119, 122, and 211.

3/ Recycled water provided by Eastern MWD via Wheeling Agreement with Rancho California WD shown as a component of production for Table A-5 only to illustrate water budget for Reservation. Actual production for Watershed accounted for on Table A-1 and Table 7.1 for Eastern MWD.

4/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2. Based upon the revised definitions adopted by the Watermaster, Pechanga had no agricultural use in the SMR Watershed during Water Year 2014.

5/ Loss determined as Total Production less Total Delivered.

TABLE A-6

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT

2013-14

Quantities in Acre Feet

	PRODUCTION			USE 1/					
MONTH YEAR	LOCAL	IMPORT TO DISTRICT	TOTAL IN WATERSHED	AG	COMMERCIAL 2/	DOMESTIC	TOTAL DELIVERED	LOSS 3/	TOTAL USE
2013									
OCT	0	1,854	192	159	0	19	178	14	192
NOV	0	1,315	161	132	0	17	149	12	161
DEC	0	1,303	89	70	0	12	82	7	89
2014									
JAN	0	1,860	95	77	0	11	88	7	95
FEB	0	1,304	103	80	0	15	95	8	103
MAR	0	978	104	84	0	12	96	8	104
APR	0	2,131	98	79	0	12	91	7	98
MAY	0	2,540	135	110	0	15	125	10	135
JUNE	0	2,286	197	162	0	20	182	15	197
JULY	0	2,483	180	148	0	18	166	14	180
AUG	0	2,663	211	173	0	22	195	16	211
SEPT	0	2,209	167	136	0	18	154	13	167
TOTAL	0	22,926	1,732	1,410	0	191	1,601	131	1,732

1/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2.

2/ There is minimal commercial use within the SMRW portion of the Rainbow District service area, however, due to reporting limitations commercial use cannot be distinguished and therefore is included in the Agricultural Use category.

3/ Loss percentage within the Santa Margarita River Watershed is determined using the calculation to determine District-wide unaccounted for water by comparing District-wide annual supply and customer deliveries, and is assumed to be constant for all months.

TABLE A-7

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

2013-14

Quantities in Acre Feet

	PRODUCTION							USE 1/								VAIL	RECYCLED WATER
MONTH YEAR	WELLS 2/	EXPORT 3/	NET WELLS	IMPORT 4/	EXPORT 5/	NET IMPORT	TOTAL	AG	COMM	DOM	SMR RELEASE 6/	IMPORT RECHARGE TO STORAGE 7/	TOTAL USE	LOSS 8/	TOTAL	RELEASE AND RECHARGE 9/	REUSED IN SMRW 10/
2013																	
OCT	2,573	35	2,538	3,487	49	3,438	5,976	2,379	1,003	2,713	166	(3)	6,258	(282)	5,976	11	236
NOV	2,234	36	2,198	2,258	37	2,221	4,419	2,353	894	2,564	187	(178)	5,820	(1,401)	4,419	0	224
DEC	2,182	17	2,165	1,794	12	1,782	3,947	1,028	509	1,603	205	(73)	3,272	675	3,947	0	243
2014																	
JAN	2,259	19	2,240	3,102	22	3,080	5,320	1,547	563	1,722	601	(6)	4,427	893	5,320	0	234
FEB	2,175	31	2,144	2,283	31	2,252	4,396	2,246	695	1,967	511	(127)	5,292	(896)	4,396	0	226
MAR	2,167	17	2,150	2,284	16	2,268	4,418	1,076	511	1,528	503	70	3,688	730	4,418	0	250
APR	1,929	13	1,916	4,114	30	4,084	6,000	1,525	676	1,792	579	(45)	4,527	1,473	6,000	0	226
MAY	2,086	20	2,066	5,562	63	5,499	7,565	3,034	1,397	2,971	365	(132)	7,635	(70)	7,565	0	245
JUNE	2,019	18	2,001	5,797	64	5,733	7,734	2,483	1,135	2,797	273	(93)	6,595	1,139	7,734	12	278
JULY	2,052	22	2,030	6,224	72	6,152	8,182	2,629	1,224	3,092	249	149	7,343	839	8,182	26	338
AUG	2,569	36	2,533	5,073	76	4,997	7,530	3,255	1,350	3,420	257	25	8,307	(777)	7,530	19	335
SEPT	2,167	25	2,142	5,159	62	5,097	7,239	2,599	999	2,756	230	149	6,733	506	7,239	17	310
TOTAL	26,412	289	26,123	47,137	534	46,603	72,726	26,154	10,956	28,925	4,126	(264)	69,897	2,829	72,726	85	3,145

1/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided on Table 7.2.

2/ Wells recovered 26,824 AF from older alluvium (including stream releases) and 85 AF from Vail recharge. Does not include 497 AF pumped from Wells 102, 135, 146 and 155 directly into recycled water system. An additional 171 AF was delivered to Pechanga Indian Reservation and is shown on Table A-5.

3/ Groundwater used in San Mateo Watershed.

4/ Includes 31,017 AF direct use (17,044 AF to Rancho Division and 13,973 AF to Santa Rosa Division); 12,069 AF direct recharge; and 4,051 AF from MWD WR-34.

5/ Import used in San Mateo Watershed.

6/ 24 AF into Murrieta Creek from Wells 101, 102, and 118; 51 AF into Santa Gertrudis Creek from Wells 106 and 108; 0 AF from System River Meter; 0 AF from potable connection to WR-34 outlet pipe and 4,051 AF from MWD Outlet WR-34.

7/ 12,069 AF of direct recharge less 12,333 AF of import recovery.

8/ Loss = Total production less total use.

9/ Vail releases and the related Vail recharge are computed as Total Release less Inflow to be bypassed.

10/ Includes 497 AF pumped from Wells 102, 135, 146 and 155 directly into recycled water system. Does not include 991 AF recycled water purchased from EMWD.

TABLE A-8

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

U.S.M.C. - CAMP PENDLETON

2013-14

Quantities in Acre Feet

	PRODUCTION			USE 1/						WASTEWATER 4/					EXPORTS		
MONTH YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	AGRICULTURE IN SMRW 2/	AGRICULTURE OUT SMRW 2/	CAMP SUPPLY IN SMRW 3/	CAMP SUPPLY OUT SMRW 3/	TOTAL EXPORT	TOTAL IN SMRW	RECYCLED USE IN SMRW 5/	RECYCLED USE OUT SMRW 5/	EXPORTED TO OCEANSIDE OUTFALL RECYCLED 6/	EXPORTED TO OCEANSIDE OUTFALL BRINE 7/	TOTAL	TOTAL 8/	WASTEWATER RETURNS 9/	NET EXPORT
2013																	
OCT	0	502	502	0	0	223	242	242	223	1	32	158	37	228	469	97	372
NOV	0	412	412	0	0	178	194	194	178	2	16	163	40	221	413	78	335
DEC	0	390	390	0	0	171	185	185	171	2	14	161	34	211	394	75	319
2014																	
JAN	0	429	429	0	0	181	197	197	181	1	23	156	51	231	427	79	348
FEB	0	386	386	0	0	165	179	179	165	1	16	150	42	209	387	72	315
MAR	0	430	430	0	0	188	203	203	188	2	25	144	39	210	411	82	329
APR	0	435	435	0	0	192	207	207	192	1	43	121	36	201	407	83	324
MAY	0	579	579	0	0	263	284	284	263	3	73	105	32	213	494	114	380
JUNE	0	591	591	0	0	251	271	271	251	3	64	110	69	246	514	109	405
JULY	0	604	604	0	0	256	278	278	256	2	58	123	70	253	529	112	417
AUG	0	519	519	0	0	221	239	239	221	4	60	106	59	229	464	96	368
SEPT	0	537	537	0	0	234	254	254	234	7	60	103	49	219	466	102	364
TOTAL	0	5,814	5,814	0	0	2,523	2,733	2,733	2,523	29	484	1,600	558	2,671	5,375	1,099	4,276

1/ Use equals Production less Brine byproduct from Southern Advanced Water Treatment Plant (SAWTP) beginning February 2013. Assumes no other losses.

2/ There was no agricultural irrigation in Water Year 2014.

3/ Camp Supply water use is divided with 48% used inside the SMRW and 52% used outside the SMRW.

4/ All wastewater treated at Southern Regional Tertiary Treatment Plant (SRTTP) beginning December 2008.

5/ Recycled use for irrigation of golf course, landscaping and park areas.

6/ Recycled water not used but rather exported to Oceanside Outfall.

7/ Brine from SAWTP exported to Oceanside Outfall.

8/ Agriculture and Camp Supply use outside the SMRW, recycled use outside the SMRW, plus Oceanside Outfall.

9/ Percent Camp Supply reclaimed estimated as (2,671 - 558) AF divided by (5,814 - 558) AF equals 40.20%. Wastewater returns estimated at 40.20% of Camp Supply use outside of SMRW.

TABLE A-9

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

U. S. NAVAL WEAPONS STATION, FALLBROOK ANNEX

2013-14

Quantities in Acre Feet

	PRODUCTION			USE				WASTEWATER
MONTH YEAR	LOCAL	IMPORT TO WATERSHED 1/	TOTAL	AG	COMM/ DOM	LOSS 2/	TOTAL USE	EXPORTED
2013								
OCT	0.0	3.7	3.7	0.0	3.4	0.3	3.7	0.0
NOV	0.0	3.0	3.0	0.0	2.7	0.3	3.0	0.0
DEC	0.0	4.8	4.8	0.0	4.4	0.4	4.8	0.0
2014								
JAN	0.0	4.1	4.1	0.0	3.7	0.4	4.1	0.0
FEB	0.0	3.2	3.2	0.0	2.9	0.3	3.2	0.0
MAR	0.0	4.3	4.3	0.0	3.9	0.4	4.3	1.0
APR	0.0	4.3	4.3	0.0	3.9	0.4	4.3	0.0
MAY	0.0	4.9	4.9	0.0	4.5	0.4	4.9	1.0
JUNE	0.0	5.8	5.8	0.0	5.3	0.5	5.8	1.0
JULY	0.0	6.3	6.3	0.0	5.7	0.6	6.3	1.0
AUG	0.0	7.1	7.1	0.0	6.5	0.6	7.1	1.0
SEPT	0.0	7.0	7.0	0.0	6.4	0.6	7.0	1.0
TOTAL	0.0	58.5	58.5	0.0	53.3	5.2	58.5	6.0

1/ Import via Fallbrook Public Utility District

2/ Loss = 10% of Use

TABLE A-10

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

WESTERN MUNICIPAL WATER DISTRICT

MURRIETA DIVISION

2013-14

Quantities in Acre Feet

	PRODUCTION			USE 1/					
MONTH YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 2/	TOTAL USE
2013									
OCT	76	133	209	0	74	146	220	(11)	209
NOV	48	107	155	0	41	107	148	7	155
DEC	62	68	130	0	35	95	130	0	130
2014									
JAN	74	95	169	0	44	102	146	23	169
FEB	56	79	135	0	37	89	126	9	135
MAR	57	87	144	0	41	107	148	(4)	144
APR	58	127	185	0	52	128	180	5	185
MAY	50	190	240	0	67	163	230	10	240
JUNE	112	136	248	0	69	174	243	5	248
JULY	129	141	270	0	74	180	254	16	270
AUG	121	120	241	0	75	172	247	(6)	241
SEPT	108	124	232	0	48	177	225	7	232
TOTAL	951	1,407	2,358	0	657	1,640	2,297	61	2,358

1/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2. Based upon the revised definitions adopted by the Watermaster, WMWD had no agricultural use in the SMR Watershed during Water Year 2014.

2/ Loss = Total Production less Total Delivered

TABLE A-11

SANTA MARGARITA RIVER WATERSHED

MISCELLANEOUS WATER PRODUCTION AND IMPORTS

2013-14

Quantities in Acre Feet

	IMPORT	PRODUCTION					
MONTH YEAR	WESTERN MWD IMPORTS TO IMPROVEMENT DISTRICT A	ANZA MUTUAL WATER COMPANY	RANCHO CALIFORNIA OUTDOOR RESORTS 1/	QUIET OAKS MOBILE HOME PARK 1/	LAKE RIVERSIDE ESTATES	HAWTHORN WATER SYSTEM	JOJOBA HILLS SKP RESORT
2013							
OCT	3.10	2.72	56.00	2.40	22.08	0.55	5.74
NOV	2.40	1.45	46.90	1.90	14.89	0.41	4.81
DEC	2.40	1.41	37.30	1.50	35.12	0.44	5.76
2014							
JAN	2.60	1.68	35.50	1.50	7.11	0.51	5.88
FEB	1.80	1.76	32.40	1.50	8.25	0.48	5.61
MAR	2.20	2.00	37.90	1.90	20.65	0.63	5.34
APR	2.70	2.40	41.80	2.30	34.81	0.65	6.40
MAY	3.30	2.84	48.00	2.60	51.41	1.12	7.35
JUNE	3.50	3.19	52.30	2.80	57.44	0.90	7.44
JULY	4.10	4.18	57.70	3.10	64.32	0.99	7.86
AUG	3.90	2.75	59.20	3.10	26.31	1.21	6.45
SEPT	3.40	2.90	55.30	2.70	36.57	1.02	6.53
TOTAL	35.40	29.28	560.30	27.30	378.96	8.91	75.17

1/ Annual production estimated based on partial-year meter readings, monthly quantities calculated assuming typical monthly distribution.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

APPENDIX B

WATER PRODUCTION AND USE

WATER YEAR 1965-66 THROUGH WATER YEAR 2013-14

August 2015

TABLE B-1

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION					USE 2/						RECYCLED WATER					
WATER YEAR	WELLS	IMPORT 1/	EXPORT FROM SMRW	NET IMPORT	TOTAL	AG	COMM	DOM	TOTAL	LOSS	TOTAL USE	REUSE IN SMRW 3/	REUSE OUTSIDE SMRW	OTHER REUSE 4/	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	1,038	0	323	1,361	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	1,146	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	1,709	990	(285)	192	2,020	4,626
1994	232	10,082	2,932	7,150	7,382	0	0	7,013	7,013	369	7,382	2,687	2,465	694	0	0	5,846
1995	182	11,539	6,914	4,625	4,807	16	0	4,551	4,567	240	4,807	2,154	1,357	2,551	0	0	6,062
1996	299	11,730	6,770	4,960	5,259	0	0	4,996	4,996	263	5,259	2,979	2,473	520	0	0	5,972
1997	408	5,093	1,809	3,284	3,692	0	0	5,226	5,226	(1,534)	3,692	3,126	2,319	882	0	0	6,327
1998	240	6,609	1,492	5,117	5,357	0	0	5,090	5,090	267	5,357	2,949 *5/*	2,139	2,374	0	0	7,462
1999	669	7,118	2,719	4,327	4,996	0	0	4,746	4,746	250	4,996	3,741 *6/*	3,070	1,063	0	0	7,874
2000	630	9,179	1,923	7,256	7,886	0	0	7,493	7,493	393	7,886	4,669 *7/*	3,664	(15)	0	0	8,318
2001	355	9,219	3,271	5,948	6,303	0	0	5,989	5,989	314	6,303	4,571 *8/*	3,249	1,208	0	0	9,028
2002	13	12,777	4,954	8,117	8,130	0	0	7,724	7,724	406	8,130	4,843 *9/*	4,863	462	0	0	10,168
2003	0	14,175	5,113	9,062	9,062	0	0	8,610	8,610	452	9,062	3,542 *10/*	2,955	4,681	0	0	11,178

TABLE B-1

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

EASTERN MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION					USE 2/						RECYCLED WATER					
WATER YEAR	WELLS	IMPORT 1/	EXPORT FROM SMRW	NET IMPORT	TOTAL	AG	COMM	DOM	TOTAL	LOSS	TOTAL USE	REUSE IN SMRW 3/	REUSE OUTSIDE SMRW	OTHER REUSE 4/	RELEASE TO RIVER	RECHARGE	TOTAL
2004	0	17,381	8,243	9,138	9,138	0	0	8,960	8,960	178	9,138	3,221	3,688	5,427	0	0	12,336
2005	0	16,336	5,478	10,858	10,858	0	0	10,749	10,749	109	10,858	2,664 *11/*	2,690	8,986	0	0	14,340
2006	0	21,034	6,873	14,161	14,161	0	0	13,453	13,453	708	14,161	3,108 *12/*	3,510	7,396	0	0	14,014
2007	0	21,161	5,763	15,398	15,398	0	0	14,628	14,628	770	15,398	3,550 *13/*	5,960	4,593	0	0	14,103
2008	0	18,714	3,762	14,952	14,952	0	0	14,204	14,204	748	14,952	1,450	5,925	6,864	0	0	14,239
2009	0	16,919	2,447	14,472	14,472	0	0	13,748	13,748	724	14,472	2,615	6,786	5,241	0	0	14,642
2010	0	15,024	1,472	13,552	13,552	0	0	12,874	12,874	678	13,552	2,882	7,026	4,803	0	0	14,711
2011	0	14,675	283	14,392	14,392	131	2,879	10,662	13,672	720	14,392	2,561	7,241	5,140	0	0	14,942
2012	0	16,419	1,356	15,063	15,063	96	3,137	11,076	14,309	754	15,063	2,364	8,025	4,525	0	0	14,914
2013	0	16,208	457	15,751	15,751	117	3,388	11,459	14,964	787	15,751	2,937	8,316	3,459	0	0	14,712
2014	0	23,935	8,051	15,884	15,884	142	3,553	11,395	15,090	794	15,884	2,937	8,117	3,627	0	0	14,681

1/ Does not include deliveries to RCWD, Elsinore Valley MWD and Western MWD.
2/ Beginning in 2011, Use reported based on metered customer demands.
Prior years reporting based on supply meter data and is not complete for all categories.
3/ Reuse within Watershed includes noted amount of sewage distributed to RCWD for treatment by RCWD, recycled water sold to RCWD for delivery to RCWD customers, and beginning in 2009, recycled water sold to the Pechanga Band. Beginning in 2014, also includes recycled water delivered to Elsinore Valley MWD.
4/ Other Reuse includes changes in storage in Winchester and Sun City storage ponds, evaporation and percolation losses, and discharges to the Santa Ana Watershed.
5/ Includes 905 AF of sewage diverted to RCWD.
6/ Includes 1,159 AF of sewage diverted to RCWD.
7/ Includes 1,162 AF of sewage diverted to RCWD.
8/ Includes 1,201 AF of sewage diverted to RCWD.
9/ Includes 1,219 AF of sewage diverted to RCWD.
10/ Includes 1,056 AF of sewage diverted to RCWD.
11/ Includes 574 AF of sewage diverted to RCWD.
12/ Includes 910 AF of sewage diverted to RCWD.
13/ Includes 797 AF of sewage diverted to RCWD.

TABLE B-2

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Quantities in Acre Feet

	PRODUCTION			USE 1/						WASTEWATER EXPORTED			RECYCLED WATER 3/		
WATER YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 2/	TOTAL USE	UNTREATED WASTEWATER	REUSE OUTSIDE SMRW	TOTAL WASTEWATER EXPORT	REUSE INSIDE SMRW	REUSE OUTSIDE SMRW	TOTAL REUSE
1966															
1967															
1968															
1969															
1970															
1971															
1972															
1973															
1974															
1975															
1976															
1977															
1978	0	569 R	569				569 R	0	569						
1979	0	712 R	712				712 R	0	712						
1980	0	696 R	696				696 R	0	696						
1981	0	798 R	798				798 R	0	798						
1982	0	678 R	678				678 R	0	678						
1983	0	658 R	658				658 R	0	658						
1984	0	816 R	816				816 R	0	816						
1985	0	808 R	808				808 R	0	808						
1986	0	882 R	882				882 R	0	882						
1987	0	938 R	938				938 R	0	938	4	R				
1988	0	1,032 R	1,032				1,032 R	0	1,032	55	R				
1989	0	1,341	1,341				1,341	0	1,341	74					
1990	0	2,255	2,255				2,255	0	2,255	114					
1991	0	2,421	2,421				2,421	0	2,421	134					
1992	0	2,190	2,190				2,190	0	2,190	140					
1993	0	2,964	2,964	539	84	2,341	2,964	0	2,964	150					
1994	0	3,232	3,232	687	93	2,452	3,232	0	3,232	170					
1995	0	3,127	3,127	520	100	2,507	3,127	0	3,127	185					

TABLE B-2

SANTA MARGARITA RIVER WATERSHED

MONTHLY WATER PRODUCTION AND USE

ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Quantities in Acre Feet

	PRODUCTION			USE 1/						WASTEWATER EXPORTED			RECYCLED WATER 3/		
WATER YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 2/	TOTAL USE	UNTREATED WASTEWATER	REUSE OUTSIDE SMRW	TOTAL WASTEWATER EXPORT	REUSE INSIDE SMRW	REUSE OUTSIDE SMRW	TOTAL REUSE
1996	0	4,197	4,197	871	109	3,217	4,197	0	4,197	213					
1997	0	4,296	4,296	848	118	3,330	4,296	0	4,296	226					
1998	0	5,100	5,100	667	1,396	3,037	5,100	0	5,100	247					
1999	0	6,133	6,133	921	1,626	3,586	6,133	0	6,133	254					
2000	0	7,174	7,174	1,089	1,971	4,114	7,174	0	7,174	279					
2001	0	6,215	6,215	925	1,815	3,475	6,215	0	6,215	310					
2002	0	7,596	7,596	1,173	1,902	4,521	7,596	0	7,596	412					
2003	0	7,091	7,091	63	2,665	4,363	7,091	0	7,091	483					
2004	0	8,438	8,438	96	3,238	5,104	8,438	0	8,438	600					
2005	0	8,215	8,215	104	3,044	5,067	8,215	0	8,215	927					
2006	0	9,819	9,819	127	4,118	5,574	9,819	0	9,819	938					
2007	0	10,811	10,811	150	4,509	6,152	10,811	0	10,811	837					
2008	0	9,951	9,951	115	4,149	5,687	9,951	0	9,951	901					
2009	0	9,075	9,075	147	2,015	6,913	9,075	0	9,075	1,069					
2010	0	7,926	7,926	133	1,718	6,075	7,926	0	7,926	1,120					
2011	0	7,425	7,425	94	1,517	5,539	7,150	275	7,425	1,130					
2012	0	7,398	7,398	27	1,723	5,426	7,176	222	7,398	1,205					
2013	0	7,158	7,158	16	1,637	5,227	6,880	278	7,158	1,245					
2014	0	7,413	7,413	16	1,693	5,601	7,310	103	7,413	1,271	36	1,307	53	36	89

1/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2.

2/ For period prior to 2011, assumes no loss. For 2011 to present, loss percentage within the Santa Margarita River Watershed is determined using the calculation to determine District-wide unaccounted for water by comparing District-wide annual supply and customer deliveries, and is assumed to be constant for all months.

3/ EVMWD receives recycled water treated at the RCWD Santa Rosa Water Reclamation Facility via EMWD Palomar Pipeline through a wheeling agreement.

R - Revised.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

	PRODUCTION								USE				
WATER YEAR	TOTAL LAKE SKINNER DIVERSIONS	LAKE SKINNER DIVERSIONS DELIVERED	WELLS	TOTAL DISTRICT IMPORT	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	FALLBROOK SMRW IMPORT	TOTAL SMRW IMPORT	TOTAL SMRW PRODUCTION 1/	AG	COMM/ DOM	TOTAL IN SMRW	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

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

	PRODUCTION									USE				
WATER YEAR	TOTAL LAKE SKINNER DIVERSIONS	LAKE SKINNER DIVERSIONS DELIVERED	WELLS	TOTAL DISTRICT IMPORT	DELUZ AREA IMPORT	FALLBROOK AREA IMPORT	FALLBROOK SMRW IMPORT	TOTAL SMRW IMPORT	TOTAL SMRW PRODUCTION 1/	AG	COMM/ DOM	TOTAL IN SMRW	LOSS 2/	TOTAL USE IN SMRW
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
1996			0	14,168	2,733	11,435	5,260	7,993	7,993	4,411	3,247	7,658	335	7,993
1997			0	14,005	2,688	11,317	5,206	7,894	7,894	4,351	3,249	7,600	294	7,894
1998			0	11,757	1,803	9,954	4,579	6,382	6,382	3,245	2,798	6,043	339	6,382
1999			0	14,307	1,572	12,735	5,858	7,430	7,430	3,748	3,271	7,019	411	7,430
2000			0	15,983	2,705	14,478	6,660	9,365	9,365	5,138	3,903	9,041	324	9,365
2001			0	15,249	2,562	12,687	5,836	8,398	8,398	4,413	3,537	7,950	448	8,398
2002			0	17,422	2,900	14,522	6,680	9,580	9,580	5,185	4,036	9,221	359	9,580
2003			0	15,864	3,393	12,471	5,737	9,130	9,130	6,041	3,737	9,778	(648)	9,130
2004			0	19,640	5,027	14,613	6,722	11,749	11,749	7,018	4,222	11,240	509	11,749
2005	1,261	1,261	0	13,986	3,101	10,885	5,007	8,108	9,369	4,654	3,581	8,235	1,134	9,369
2006	106	106	0	18,297	3,994	14,303	6,579	10,573	10,679	5,958	4,019	9,977	702	10,679
2007	0	0	0	20,750	5,087	15,664	7,205	12,292	12,292	7,271	4,500	11,771	521	12,292
2008	31	31	0	15,508	3,307	12,202	5,613	8,920	8,951	4,492	3,962	8,454	497	8,951
2009	0	0	0	15,355	2,767	12,588	5,790	8,557	8,557	4,151	3,896	8,047	510	8,557
2010	20	20	0	12,752	2,438	10,314	4,754	7,183	7,203	3,576	3,195	6,771	432	7,203

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

2/ Loss = Total production less total use.

TABLE B-3.2

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

	DISTRICT WIDE PRODUCTION				SMRW PRODUCTION			SMRW USE					
WATER YEAR	TOTAL LAKE SKINNER DIVERSIONS 1/	LAKE SKINNER DIVERSIONS DELIVERED	TOTAL DISTRICT IMPORT 2/	TOTAL DISTRICT SUPPLY 3/	SMRW LAKE SKINNER	SMRW IMPORT	TOTAL SMRW PRODUCTION	AG	COMM	DOM	TOTAL DELIVERED IN SMRW	LOSS 4/	TOTAL USE IN SMRW
2011	284	284	11,264	11,548	284	6,234	6,518	3,742	327	1,990	6,059	459	6,518
2012	0	0	12,579	12,579	0	7,254	7,254	4,261	337	2,060	6,658	596	7,254
2013	0	0	12,593	12,593	0	7,357	7,357	4,541	300	2,140	6,981	376	7,357
2014	0	0	13,068	13,068	0	7,578	7,578	4,688	359	2,129	7,176	402	7,578

1/ Diverted under Permit No. 11356.

2/ Includes production from Capra Well located in San Luis Rey Watershed and supply from San Diego County Water Authority.

3/ A portion of the District is outside the Santa Margarita River Watershed.

4/ Loss percentage within the Santa Margarita River Watershed is determined using the calculation to determine District-wide unaccounted for water by comparing District-wide annual supply and customer deliveries, and is assumed to be constant for all months.

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SANTA MARGARITA RIVER WATERSHED

ANNUAL WASTEWATER PRODUCTION AND DISTRIBUTION

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

WATER YEAR	TOTAL WASTEWATER PRODUCTION 1/	PERCENT WASTEWATER FROM SLR WATERSHED 2/	WASTEWATER IMPORTED FROM SLR WATERSHED	PERCENT WASTEWATER FROM SMRW	WASTEWATER FROM SMRW	WASTEWATER REUSED IN SMRW	WASTEWATER FROM U.S. NWS 3/	WASTEWATER EXPORTED FROM SMRW 4/
1966	395	19	75	81	320		0	0
1967	460	20	92	80	368		0	0
1968	524	20	105	80	419		0	0
1969	588	21	123	79	465		0	0
1970	652	22	143	78	509		0	0
1971	717	22	158	78	559		0	0
1972	782	23	180	77	602		0	0
1973	847	24	203	76	644		0	0
1974	912	25	228	75	684		0	0
1975	976	25	244	75	732		0	0
1976	1,040	26	270	74	770		0	0
1977	1,105	27	298	73	807		0	0
1978	1,170	28	328	72	842		0	0
1979	1,234	28	346	72	888		0	0
1980	1,298	29	376	71	922		0	0
1981	1,363	30	409	70	954		0	0
1982	1,428	31	443	69	985		0	0
1983	1,492	31	463	69	1,029		26 E	1,003
1984	1,556	32	498	68	1,058		26 E	1,032
1985	1,621	33	535	67	1,086		26 E	1,060
1986	1,685	34	573	66	1,112		18 P	1,094
1987	1,750	34	595	66	1,155		27	1,128
1988	1,815	35	635	65	1,180		25	1,155
1989	1,881	36	677	64	1,204		22	1,182
1990	1,952	34	664	66	1,298		27	1,271
1991	1,622	40	649	60	973		11	962
1992	1,730	37	639	63	1,090		7	1,083
1993	2,051	38	780	62	1,271		16	1,255
1994	1,834	42	761	58	1,073		5	1,068
1995	1,941	40	776	60	1,165		12	1,153
1996	1,799	42	759	58	1,040		5	1,035

SANTA MARGARITA RIVER WATERSHED

ANNUAL WASTEWATER PRODUCTION AND DISTRIBUTION

FALLBROOK PUBLIC UTILITY DISTRICT

Quantities in Acre Feet

WATER YEAR	TOTAL WASTEWATER PRODUCTION 1/	PERCENT WASTEWATER FROM SLR WATERSHED 2/	WASTEWATER IMPORTED FROM SLR WATERSHED	PERCENT WASTEWATER FROM SMRW	WASTEWATER FROM SMRW	WASTEWATER REUSED IN SMRW	WASTEWATER FROM U.S. NWS 3/	WASTEWATER EXPORTED FROM SMRW 4/
1997	1,780	42	753	58	1,027		6	1,021
1998	2,297	35	807	65	1,490		8	1,482
1999	2,175	36	793	64	1,382		5	1,377
2000	2,164	34	738	66	1,426		7	1,419
2001	2,191	35	767	65	1,424	24	8	1,392
2002	2,061	39	799	61	1,262	28	9	1,225
2003	2,276	39	886	61	1,390	21	10	1,359
2004	2,199	38	836	62	1,363	26	8	1,329
2005	2,505	42	1,048	58	1,457	24	16	1,417
2006	2,479	42	1,050	58	1,429	26	8	1,395
2007	1,951	52	1,019	48	932	29	12	891
2008	1,940	57	1,102	43	838	28	11	799
2009	1,900	54	1,028	46	872	31	12	829
2010	1,972	51	1,012	49	960	27	7	926
2011	2,006	54	1,076	46	930	21	8	901
2012	1,955	51	997	49	958	21	9	928
2013	1,886	51	963	49	923	20	3	900
2014	1,840	50	916	50	924	22	6	896

1/ Measured quantities available for Total Wastewater in Water Year 1969 and July 1989.
All other quantities are estimated (1966-1989).

2/ San Luis Rey Watershed

3/ United States Naval Weapons Station

4/ Prior to 1983, Wastewater was discharged into Fallbrook Creek, located in the SMRW.
After 1983, Wastewater was discharged into an ocean outfall located outside the SMRW.

E - Estimated

P - Partial Year Data

TABLE B-5

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

METROPOLITAN WATER DISTRICT
DELIVERIES IN DOMENIGONI VALLEY

Quantities in Acre Feet

	PRODUCTION			USE					
WATER YEAR	WELLS	IMPORT TO SMRW	TOTAL IN SMRW	AG	COMM/ DOM 1/	GW RECHARGE	TOTAL DELIVERED	LOSS 2/	TOTAL USE
1966	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0

TABLE B-5

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

METROPOLITAN WATER DISTRICT
DELIVERIES IN DOMENIGONI VALLEY

Quantities in Acre Feet

	PRODUCTION			USE					
WATER YEAR	WELLS	IMPORT TO SMRW	TOTAL IN SMRW	AG	COMM/ DOM 1/	GW RECHARGE	TOTAL DELIVERED	LOSS 2/	TOTAL USE
1992	0	0	0	0	0	0	0	0	0
1993	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	0	0
1995	0	547	547	354	193	0	547	0	547
1996	0	1,005	1,005	763	242	0	1,005	0	1,005
1997	0	3,521	3,521	591	2,891	39	3,521	0	3,521
1998	0	5,023	5,023	193	4,403	427	5,023	0	5,023
1999	0	3,781	3,781	404	2,978	399	3,781	0	3,781
2000	0	712	712	92	356	264	712	0	712
2001	0	689	689	505	0	184	689	0	689
2002	0	595	595	569	26	0	595	0	595
2003	0	496	495	495	0	0	495	0	495
2004	0	766	766	766	0	0	766	0	766
2005	0	556	556	556	0	0	556	0	556
2006	0	506	506	506	0	0	506	0	506
2007	0	660	660	660	0	0	660	0	660
2008	0	493	493	493	0	0	493	0	493
2009	0	465	465	465	0	0	465	0	465
2010	0	372	372	372	0	0	372	0	372
2011	0	336	336	336	0	0	336	0	336
2012	0	466	466	466	0	0	466	0	466
2013	0	892	892	892	0	0	892	0	892
2014	0	1,074	1,074	1,074	0	0	1,074	0	1,074

1/ Construction Water
2/ Points of delivery located at metered pumps on San Diego Canal and thus the losses in the MWD system are zero.

TABLE B-6

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

PECHANGA INDIAN RESERVATION

Quantities in Acre Feet

	PRODUCTION 1/					USE 2/, 4/					
WATER YEAR	SURFACE DIVERSION	WELLS ON RESERVATION	DELIVERED GROUNDWATER FROM RCWD	RECYCLED WATER FROM EMWD	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 3/	TOTAL USE
1966											
1967											
1968											
1969											
1970											
1971											
1972											
1973											
1974											
1975											
1976											
1977											
1978											
1979											
1980											
1981											
1982											
1983											
1984											
1985											
1986											
1987											
1988											
1989											
1990											
1991	0	58	0	0	58	0	0	58	N/R	N/R	58
1992	0	66	0	0	66	0	0	66	N/R	N/R	66
1993	0	91	0	0	91	0	0	91	N/R	N/R	91
1994	0	70	0	0	70	0	0	70	N/R	N/R	70
1995	0	63	0	0	63	0	4	59	N/R	N/R	63
1996	0	145	0	0	145	0	45	100	N/R	N/R	145
1997	4	167	0	0	171	0	25	146	N/R	N/R	171
1998	4	175	0	0	179	0	62	117	N/R	N/R	179
1999	4	241	0	0	245	33	84	128	N/R	N/R	245
2000	4	370	0	0	374	51	182	141	N/R	N/R	374
2001	4	291	0	0	295	56	85	154	N/R	N/R	295

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

PECHANGA INDIAN RESERVATION

Quantities in Acre Feet

	PRODUCTION 1/					USE 2/, 4/					
WATER YEAR	SURFACE DIVERSION	WELLS ON RESERVATION	DELIVERED GROUNDWATER FROM RCWD	RECYCLED WATER FROM EMWD	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 3/	TOTAL USE
2002	4	460	0	0	464	73	194	174	441	23	464
2003	4	600	0	0	604	78	354	148	580	24	604
2004	4	721	0	0	725	81	537	71	689	36	725
2005	0	608	0	0	608	140	401	61	602	6	608
2006	0	754	0	0	754	159	401	194	N/R	N/R	754
2007	0	919	154	0	1,073	275	517	229	1,021	52	1,073
2008	0	865	412	0	1,277	599	370	282	1,251	26	1,277
2009	0	702	250	268	1,220	548	441	195	1,184	36	1,220
2010	0	561	230	394	1,185	531	364	235	1,130	55	1,185
2011	0	632	201	326	1,159	468	418	257	1,143	16	1,159
2012	0	669	177	329	1,175	513	405	215	1,133	42	1,175
2013	0	798	77	393	1,268	611	415	219	1,245	23	1,268
2014	0	765	171	442	1,378	0	1,133	162	1,295	83	1,378

1/ Records prior to 1991 not available.

2/ For period 1991 through 2006, use shown as reported to Watermaster and published in prior Watermaster reports.

3/ For 2007, loss assumed to be 5% for all use types; for prior years any losses shown as reported to Watermaster. For 2008 to present, loss determined as Total Production less Total Delivered.

4/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2. Based upon the revised definitions adopted by the Watermaster, Pechanga Band had no agricultural use in the SMR Watershed during Water Year 2014. An undetermined amount of agricultural use reported in prior years would be reported as commercial use under the revised definitions.

N/R--Not reported.

TABLE B-7

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION			USE					
WATER YEAR	LOCAL	IMPORT TO DISTRICT	TOTAL IN WATERSHED 1/	AG 2/	COMMERCIAL 3/, 4/	DOMESTIC 3/	TOTAL DELIVERED	LOSS 5/, 6/	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
1996	0	24,835	1,815	1,487		163	1,650	165	1,815
1997	0	24,638	1,429	1,139		160	1,299	130	1,429

TABLE B-7

SANTA MARGARITA RIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

RAINBOW MUNICIPAL WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION			USE					
WATER YEAR	LOCAL	IMPORT TO DISTRICT	TOTAL IN WATERSHED 1/	AG 2/	COMMERCIAL 3/, 4/	DOMESTIC 3/	TOTAL DELIVERED	LOSS 5/, 6/	TOTAL USE
1998	0	19,693	1,601	1,315		141	1,456	145	1,601
1999	0	24,961	1,727	1,411		159	1,570	157	1,727
2000	0	30,446	2,217	1,861		154	2,015	202	2,217
2001	0	27,214	1,804	1,439		202	1,641	163	1,804
2002	0	32,854	1,676	1,368		156	1,524	152	1,676
2003	0	29,156	1,510	1,237		136	1,373	137	1,510
2004	0	33,686	1,888	1,567		149	1,716	172	1,888
2005	0	25,135	1,610	1,331		133	1,464	146	1,610
2006	0	29,797	1,851	1,529		154	1,683	168	1,851
2007	0	32,939	2,262	1,871		185	2,056	206	2,262
2008	0	24,390	1,790	1,461		167	1,628	162	1,790
2009	0	27,075	1,852	1,463		220	1,683	169	1,852
2010	0	20,769	1,453	1,147		174	1,321	132	1,453
2011	0	18,599	1,492	1,251		105	1,356	136	1,492
2012	0	21,152	1,892	1,602		118	1,720	172	1,892
2013	0	21,863	1,713	1,441		116	1,557	156	1,713
2014	0	22,926	1,732	1,410	0	191	1,601	131	1,732

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 SMRW.
3/ For 1966 through 2013, Commercial Use and Domestic Use reported as combined Commercial/Domestic Use; Table B-7 now shows the combined amount under the Domestic Use category. For 1966 through 1982, combined Commercial/Domestic Use estimated to be 10.7% of total deliveries to SMRW.
4/ There is minimal commercial use within the SMRW portion of the District service area. Beginning in 2014, an undetermined amount of Commercial Use is now reported under Agricultural Use category.
5/ From 1989 through 2013, Loss was calculated as 10% of total deliveries.
6/ Beginning in 2014, Loss percentage within the Santa Margarita River Watershed is determined using the calculation to determine District-wide unaccounted for water by comparing District-wide annual supply and customer deliveries, and is assumed to be constant for all months.

TABLE B-8

SANTA MARGARITA EIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT

Quantities in Acre Feet

	PRODUCTION							USE									VAIL LAKE		RECYCLED WATER	
YEAR	WELLS	EXPORT 1/	NET WELLS	IMPORT	EXPORT 2/	NET IMPORT	TOTAL	AG	AG/DOM 3/	COMM 4/	DOM	SMR RELEASE	IMPORT RECHARGE TO STORAGE	TOTAL USE	LOSS 5/	TOTAL	RELEASE AND RECHARGE	IRRIGATION 6/	REUSE IN SMRW	MURRIETA CREEK DISCHARGE 7/
1966				0	0	0	0						0				0	185	0	0
1967	4,288			0	0	0	4,288						0				0	1,136	0	0
1968	5,100			0	0	0	5,100						0				0	398	0	0
1969	3,617			0	0	0	3,617						0				0	697	0	0
1970	6,721			0	0	0	6,721						0				0	540	0	0
1971	7,960			0	0	0	7,960						0				0	1,541	0	0
1972	8,369			0	0	0	8,369						0				0	203	0	0
1973	7,726			0	0	0	7,726						0				0	524	0	0
1974	10,163			0	0	0	10,163						0				0	1,066	0	0
1975	10,357			0	0	0	10,357						0				0	369	0	0
1976	11,809			119	0	119	11,928						0				0	50	0	0
1977	10,522			1,845	0	1,845	12,367						0				0	0	0	0
1978	8,930			5,774	0	5,774	14,704						0				0	0	0	0
1979	11,371			7,009	0	7,009	18,380						0				0	0	0	0
1980	12,621			10,126	0	10,126	22,747						0				10,944	0	0	0
1981	15,612			15,282	0	15,282	30,894						0				6,802	0	0	0
1982	12,631			13,378	0	13,378	26,009						0				6,058	0	0	0
1983	16,675			5,752	0	5,752	22,427						0				12,113	715	0	0
1984	25,660 *8/*			6,716	0	6,716	32,376						0				6,612	1,144	0	0
1985	24,373			7,158	0	7,158	31,531						0				5,027	1,201	0	0
1986	26,997			11,174	0	11,174	38,171						0				8,722	1,053	0	0
1987	33,735			7,564	0	7,564	41,299						0				8,089	273	48	0
1988	21,367			17,854	0	17,854	39,221						0				4,844	0	82	0
1989	26,131			22,895	0	22,895	49,026	25,333		3,316	13,198	852	0 *9/*	42,699	6,327	49,026	0	0	168	0
1990	33,241			22,030	0	22,030	55,271	27,643		3,940	14,916	902	0	47,401	7,870	55,271	0	0	133	0
1991	26,503			21,238	0	21,238	47,741	32,924		2,941	10,603	785	0 *10/*	47,253	488	47,741	6,253	0	352	0
1992	29,968			16,931	0	16,931	46,899	30,651		2,406	9,672	683	0	43,412	3,487	46,899	2,244	0	374	0
1993	31,029			11,411	0	11,411	42,440	29,265		2,141	10,618	519	0	42,543	-103	42,440	31,704	0	378	0
1994	32,725			16,386	0	16,386	49,111	32,534		2,322	12,370	467	0	47,693	1,418	49,111	8,469	0	1,936	0
1995	33,111			15,108	0	15,108	48,219	31,081		2,526	13,779	1,464	0	48,850	-631	48,219	11,158	0	1,753	0
1996	36,086			23,600	0	23,600	59,686	35,912		2,752	16,330	2,149	0	57,143	2,543	59,686	9,427	0	2,264	0
1997	33,980			26,992	0	26,992	60,972	38,287		3,350	18,635	2,978	164	63,414	-2,442	60,972	1,725	0	693 *11/*	0
1998	26,851			19,584	0	19,584	46,435	28,307		2,805	16,273	459	0	47,844	-1,409	46,435	4,514	0	1,376 *11/*	1,179
1999	30,598			34,490	0	34,490	65,088	37,157		3,674	19,610	1,044	2,286	63,771	1,317	65,088	1,010	0	1,524 *11/*	1,654
2000	27,938			55,409	0	55,409	83,347	40,672	3,339	2,162	23,783	1,067	8,008	79,031	4,316	83,347	(49)	0	3,550 *11/*	1,854
2001	26,421			41,823	0	41,823	68,244	30,383	4,525	4,053	22,866	514	2,374	64,715	3,529	68,244	(361)	0	3,719 *11/*	2,015
2002	24,895			54,148	0	54,148	79,043	35,747	5,345	5,285	26,573	715	1,454	75,119	3,924	79,043	(314)	0	4,519 *11/*	2,180
2003	25,238	64	25,174	50,927	183	50,744	75,918	30,277	4,645	4,457	26,044	4,896	2,750	73,069	2,849	75,918	(658)	0	3,780 *11/*	104
2004	25,353	312	25,041	63,170	762	62,408	87,449	33,467	5,549	4,883	29,314	3,201	5,094	81,508	5,941	87,449	(101)	0	3,257 *11/*	0
2005	27,606	319	27,287	48,192	578	47,614	74,901	25,819	5,083	4,790	26,656	3,384	5,162	70,894	4,007	74,901	(1,269)	0	4,284 *11/*	0
2006	27,559	317	27,242	61,336	725	60,611	87,853	30,888	6,448	5,190	30,209	4,923	6,163	83,821	4,032	87,853	1,399	0	4,796 *11/*	0

TABLE B-8

SANTA MARGARITA EIVER WATERSHED
ANNUAL WATER PRODUCTION AND USE

RANCHO CALIFORNIA WATER DISTRICT
Quantities in Acre Feet

	PRODUCTION							USE									VAIL LAKE		RECYCLED WATER	
YEAR	WELLS	EXPORT 1/	NET WELLS	IMPORT	EXPORT 2/	NET IMPORT	TOTAL	AG	AG/DOM 3/	COMM 4/	DOM	SMR RELEASE	IMPORT RECHARGE TO STORAGE	TOTAL USE	LOSS 5/	TOTAL	RELEASE AND RECHARGE	IRRIGATION 6/	REUSE IN SMRW	MURRIETA CREEK DISCHARGE 7/
2007	27,645	364	27,281	64,792	974	63,818	91,099	34,810	7,049	5,063	31,820	3,859	2,247	84,848	6,251	91,099	704	0	4,730 *11/*	0
2008	26,239	361	25,878	51,453	770	50,683	76,561	26,388	5,621	4,785	31,759	4,092	1,417	74,062	2,499	76,561	4,845	0	4,355 *11/*	0
2009	27,820	367	27,453	50,988	718	50,270	77,723	26,811	5,986	4,306	30,159	5,302	2,357	74,921	2,802	77,723	1,236	0	4,191 *11/*	0
2010	25,685	318	25,367	41,407	513	40,894	66,261	21,456	4,886	3,766	26,778	3,913	2,075	62,874	3,387	66,261	801	0	3,998 *11/*	0
2011	27,725	302	27,423	39,842	431	39,411	66,834	20,954	5,010	3,847	25,747	4,399	5,239	65,196	1,638	66,834	2,470	0	3,488 *11/*	0
2012	24,942	284	24,658	42,395	495	41,900	66,558	22,871	5,785	4,217	26,604	3,708	702	63,887	2,671	66,558	(5)	0	3,237 *11/*	0
2013	27,445	289	27,156	41,112	541	40,571	67,727	24,111	6,331	4,401	27,594	2,530	325	65,292	2,435	67,727	2,614	0	2,929 *11/*	0
2014	26,412	289	26,123	47,137	534	46,603	72,726	26,154	0	10,956	28,925	4,126	(264)	69,897	2,829	72,726	85	0	3,145 *11/*	0

1/ Groundwater used in San Mateo Watershed.
2/ Import used in San Mateo Watershed.
3/ Beginning in 2014, the Domestic and Agricultural portions of AG/DOM are reported in their respective categories of use.
4/ Beginning in 2014, Commercial use includes golf course and landscape uses, previously these uses were reported as Agricultural use.
5/ Loss = Total production less total use.
6/ Irrigation 1966 to 1976 by pumping from Vail Lake. Figures from 1966 to 1971 supplied by USGS; 1972 to present supplied by RCWD.
7/ Discharge from 2MGD Demonstration project.
8/ Includes 98 acre feet from wells out of groundwater area.
9/ Import recharge was 2,294 AF but portion remaining in storage was not computed due to lack of data.
10/ Import recharge was 701 AF but portion remaining in storage was not computed due to lack of data.
11/ Does not include EMWD recycled water production.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

U.S.M.C. - CAMP PENDLETON

EXCLUDING NAVAL WEAPONS STATION SHOWN ON TABLE B-10

Quantities in Acre Feet

	PRODUCTION			USE 1/						WASTEWATER 4/				
				AGRICULTURE		CAMP SUPPLY				RECYCLED USE		EXPORTED TO		
WATER YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	IN SMRW 2/	OUT SMRW	IN SMRW 3/	OUT SMRW	TOTAL EXPORT	TOTAL IN SMRW	IN SMRW 5/, 6/	OUT SMRW	OCEANSIDE OUTFALL RECYCLED 7/	BRINE 8/	TOTAL	NET EXPORT 9/
1966	1,101	4,605	5,706	429	672	2,026	2,579	3,251	2,455	1,893				1,893	
1967	796	4,811	5,607	310	486	2,117	2,694	3,180	2,427	2,156				2,156	
1968	986	4,939	5,925	385	601	2,172	2,767	3,368	2,557	2,080				2,080	
1969	940	4,821	5,761	367	573	2,058	2,763	3,276	2,485	2,189				2,189	
1970	1,106	5,481	6,587	431	675	2,347	3,134	3,809	2,778	2,145				2,145	
1971	819	5,291	6,110	319	500	2,264	3,028	3,527	2,583	2,011				2,011	
1972	817	5,323	6,140	319	498	2,278	3,045	3,543	2,597	2,068				2,068	
1973	1,003	5,121	6,124	391	612	2,189	2,932	3,544	2,580	2,137				2,137	
1974	909	5,202	6,111	355	554	2,224	2,978	3,532	2,579	2,055				2,055	
1975	757	4,593	5,350	295	462	1,957	2,636	3,098	2,252	2,519				2,519	
1976	885	5,384	6,269	345	540	2,305	3,079	3,619	2,650	2,447				2,447	
1977	994	4,506	5,500	388	606	1,918	2,588	3,194	2,306	2,358				2,358	
1978	176	5,177	5,353	69	107	2,213	2,964	3,071	2,282	2,446				2,446	
1979	1,070	7,213	8,283	417	653	3,109	4,104	4,756	3,527	2,493				2,493	
1980	835	5,495	6,330	326	509	2,353	3,142	3,651	2,679	2,506				2,506	
1981	1,464	5,240	6,704	571	893	2,241	2,999	3,892	2,812	2,368				2,368	
1982	1,447	5,024	6,471	564	883	2,146	2,878	3,761	2,710	2,254				2,254	
1983	942	4,215	5,157	367	575	1,790	2,425	3,000	2,157	2,494				2,494	
1984	1,078	4,501	5,579	420	658	1,916	2,585	3,243	2,336	2,443				2,443	
1985	1,069	4,764	5,833	417	652	2,039	2,725	3,377	2,456	2,619				2,619	
1986	953	4,807	5,760	372	581	2,062	2,745	3,326	2,434	2,240				2,240	
1987	1,098	4,838	5,936	428	670	2,064	2,774	3,444	2,492	3,166				3,166	
1988	1,223	4,721	5,944	477	746	2,010	2,711	3,457	2,487	3,396				3,396	
1989	856	5,044	5,900	334	522	2,148	2,896	3,418	2,482	2,747				2,747	
1990	855	4,228	5,083	333	522	1,779	2,449	2,971	2,112	2,728				2,728	
1991	554	3,159	3,713	216	338	1,329	1,830	2,168	1,545	2,289	362			2,651	
1992	898	3,254	4,152	350	548	1,376	1,878	2,426	1,726	2,481	279			2,760	
1993	1,067	2,879	3,946	416	651	1,201	1,678	2,329	1,617	2,975	205			3,180	
1994	1,471	3,150	4,621	574	897	1,345	1,805	2,702	1,919	2,535	279			2,814	
1995	985	3,768	4,753	384	601	1,588	2,180	2,781	1,972	2,453	280			2,733	
1996	1,000	5,199	6,199	390	610	2,232	2,967	3,577	2,622	2,444	330			2,774	
1997	1,066	5,238	6,304	416	650	2,244	2,994	3,644	2,660	2,920	509			3,429	
1998	1,026	5,468	6,494	400	626	2,352	3,116	3,742	2,752	3,008	222			3,230	
1999	1,064	5,054	6,118	415	649	2,145	2,909	3,558	2,560	3,023	205			3,228	
2000	1,296	5,765	7,061	506	790	2,483	3,282	4,072	2,989	3,152	411			3,563	
2001	1,025	5,341	6,366	399	626	2,314	3,027	3,653	2,713	3,140	454			3,594	
2002	1,184	5,269	6,453	462	722	2,290	2,979	3,701	2,752	2,900	469			3,369	

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

U.S.M.C. - CAMP PENDLETON

EXCLUDING NAVAL WEAPONS STATION SHOWN ON TABLE B-10

Quantities in Acre Feet

	PRODUCTION			USE 1/						WASTEWATER 4/					
				AGRICULTURE		CAMP SUPPLY				RECYCLED USE		EXPORTED TO OCEANSIDE OUTFALL			
WATER YEAR	AG LOCAL	CAMP SUPPLY	TOTAL	IN SMRW 2/	OUT SMRW	IN SMRW 3/	OUT SMRW	TOTAL EXPORT	TOTAL IN SMRW	IN SMRW 5/, 6/	OUT SMRW	RECYCLED 7/	BRINE 8/	TOTAL	NET EXPORT 9/
2003	1,270	5,210	6,480	495	775	2,218	2,992	3,767	2,713	2,687	415			3,102	
2004	1,227	5,538	6,765	479	748	2,396	3,142	3,890	2,875	0	444	2,544		2,988	
2005	1,317	4,902	6,219	514	803	2,134	2,768	3,571	2,648	0	489	2,526		3,015	
2006	1,530	5,311	6,841	597	933	2,301	3,010	3,943	2,898	0	449	2,298		2,747	
2007	1,385	5,850	7,235	540	845	2,535	3,315	4,160	3,075	0	416	2,309		2,725	
2008	1,606	5,315	6,921	579	1,027	2,603	2,712	3,739	3,182	0	357	2,430		2,787	
2009	882	5,516	6,398	273	609	2,593	2,923	3,532	2,866	49	488	1,966		2,503	4,243
2010	645	5,137	5,782	202	443	2,672	2,465	2,908	2,874	6	396	1,839		2,241	4,068
2011	76	5,165	5,241	24	52	2,583	2,582	2,634	2,607	0	320	2,562		2,882	4,075
2012	0	4,676	4,676	0	0	1,869	2,807	2,807	1,869	29	393	2,395		2,788	3,923
2013	0	5,744	5,744	0	0	2,690 R	2,690 R	2,690 R	2,690 R	0	403	1,956 R	364 R	2,723	4,233 R
2014	0	5,814	5,814	0	0	2,523	2,733	2,733	2,523	29	484	1,600	558	2,671	4,276

1/ Use equals Production less Brine byproduct from Southern Advanced Water Treatment Plant (SAWTP) beginning February 2013. Assumes no other losses.

2/ For years 1966 through 2007, agricultural water use is divided with 39% used inside SMRW and 61% used outside SMRW, thereafter proportions provided by Camp Pendleton.

3/ Prior to 1969, 44% used inside the SMRW and 56% used outside the SMRW. For years 1969 through 2007, Camp Supply water use inside SMRW equals 44% of sum of Camp Supply production plus Naval Weapons Station Import, less the NWS Import. Annual proportions provided by Camp Pendleton beginning 2008.

4/ All wastewater treated at Southern Regional Tertiary Treatment Plant (SRTTP) beginning December 2008.

5/ For years 1966 through 2003, recycled use inside SMRW reported as recharged wastewater from ponds and recharge areas. See prior reports from 2008 and earlier for additional information.

6/ Recycled use for irrigation of golf course, landscaping and park areas.

7/ Recycled water not used but rather exported to Oceanside Outfall.

8/ Brine from SAWTP exported to Oceanside Outfall.

9/ Net Export equals the sum of Agriculture Out, Camp Supply Out, Recycled Out and Export to Oceanside Outfall, minus Wastewater Return, as shown on Table A-8.

TABLE B-10

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	COMM/ DOM	LOSS 2/	TOTAL USE	EXPORTED
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	76	115	0	100	15	115	0
1972	0	115	115	0	105	10	115	0
1973	0	115	115	0	105	10	115	0
1974	0	115	115	0	105	10	115	0
1975	0	115	115	0	105	10	115	0
1976	0	115	115	0	105	10	115	0
1977	0	115	115	0	105	10	115	0
1978	0	115	115	0	105	10	115	0
1979	0	115	115	0	105	10	115	0
1980	0	115	115	0	105	10	115	0
1981	0	115	115	0	105	10	115	0
1982	0	115	115	0	105	10	115	0
1983	0	115	115	0	105	10	115	26
1984	0	115	115	0	105	10	115	26
1985	0	102	102	0	93	9	102	26
1986	0	94	94	0	85	9	94	18
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

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	COMM/ DOM	LOSS 2/	TOTAL USE	EXPORTED
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
1996	0	100	100	0	91	9	100	5
1997	0	109	109	0	99	10	109	6
1998	0	97	97	0	88	9	97	8
1999	0	111	111	0	101	10	111	5
2000	0	104	104	0	95	9	104	7
2001	0	73	73	0	66	7	73	8
2002	0	97	97	0	88	9	97	9
2003	0	88	88	0	80	8	88	10
2004	0	73	73	0	66	7	73	8
2005	0	40	40	0	36	4	40	16
2006	0	64	64	0	58	6	64	8
2007	0	70	70	0	64	6	70	12
2008	0	82	82	0	75	7	82	11
2009	0	74	74	0	67	7	74	12
2010	0	69	69	0	63	6	69	7
2011	0	45	45	0	41	4	45	8
2012	0	48	48	0	44	4	48	9
2013	0	47	47	0	43	4	47	3
2014	0	58	58	0	53	5	58	6

1/ Estimate 1969 through 1984 - Records not available

2/ Loss = 10% of Use

E - Estimate

P - Partial year data

TABLE B-11

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

WESTERN MUNICIPAL WATER DISTRICT

MURRIETA DIVISION

Quantities in Acre Feet

	PRODUCTION			USE 1/					
WATER YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 2/	TOTAL USE
1966	41	0	41	0	0	37	37	4	41
1967	45	0	45	0	0	41	41	4	45
1968	54	0	54	0	0	49	49	5	54
1969	54	0	54	0	0	49	49	5	54
1970	73	0	73	0	0	66	66	7	73
1971	83	0	83	3	0	72	75	8	83
1972	111	0	111	10	0	91	101	10	111
1973	92	0	92	11	0	72	84	8	92
1974	132	0	132	14	0	107	120	12	132
1975	153	0	153	18	0	121	139	14	153
1976	117	0	117	22	0	84	106	11	117
1977	170	0	170	21	0	134	155	15	170
1978	169	0	169	19	0	135	154	15	169
1979	197	0	197	19	0	160	179	18	197
1980	218	0	218	20	0	178	198	20	218
1981	265	0	265	30	0	211	241	24	265
1982	230	0	230	21	0	188	209	21	230
1983	216	0	216	14	0	182	196	20	216
1984	304	0	304	26	0	250	276	28	304
1985	308	0	308	19	0	261	280	28	308
1986	305	0	305	22	0	255	277	28	305
1987	326	0	326	23	0	273	296	30	326
1988	303	0	303	13	35	262	275	28	303
1989	286	0	286	11	72	262	344	(4)	286
1990	465	0	465	13	76	266	355	110	465
1991	459	0	459	15	88	250	353	106	459
1992	492	0	492	6	122	302	430	62	492
1993	508	0	508	4	105	323	432	76	508

TABLE B-11

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATER PRODUCTION AND USE

WESTERN MUNICIPAL WATER DISTRICT

MURRIETA DIVISION

Quantities in Acre Feet

	PRODUCTION			USE 1/					
WATER YEAR	WELLS	IMPORT	TOTAL	AG	COMM	DOM	TOTAL DELIVERED	LOSS 2/	TOTAL USE
1994	512	0	512	10	103	324	437	75	512
1995	521	0	521	12	99	321	432	89	521
1996	629	0	629	88	113	384	585	44	629
1997	638	0	638	76	99	392	567	71	638
1998	603	0	603	79	90	362	531	72	603
1999	827	0	827	79	125	548	752	75	827
2000	1,123	0	1,123	199	365	519	1,083	40	1,123
2001	1,389	0	1,389	163	414	740	1,317	72	1,389
2002	1,679	0	1,679	230	348	1,115	1,693	(14)	1,679
2003	1,748	102	1,850	272	275	1,340	1,887	(37)	1,850
2004	1,979	330	2,309	282	407	1,479	2,168	141	2,309
2005	2,098	75	2,173	262	274	1,539	2,075	98	2,173
2006	2,233	316	2,549	338	396	1,696	2,430	119	2,549
2007	1,978	723	2,701	467	276	1,980	2,723	(22)	2,701
2008	210	2,180	2,390	408	251	1,827	2,486	(96)	2,390
2009	861	1,654	2,515	396	219	1,723	2,338	177	2,515
2010	753	1,462	2,215	264	140	1,642	2,046	169	2,215
2011	559	1,642	2,201	324	239	1,497	2,060	141	2,201
2012	750	1,371	2,121	250	340	1,418	2,008	113	2,121
2013	1,014	1,365	2,379	431	166	1,653	2,250	129	2,379
2014	951	1,407	2,358	0	657	1,640	2,297	61	2,358

1/ Water use definitions for all major water purveyors were updated and reconciled for Water Year 2014. The updated definitions are provided in Table 7.2. Based upon the revised definitions adopted by the Watermaster, WMWD had no agricultural use in the SMR Watershed during Water Year 2014. An undetermined amount of agricultural use reported in prior years would be reported as commercial use under the revised definitions.

2/ Loss = Total Production less Total Delivered

TABLE B-12

SANTA MARGARITA RIVER WATERSHED

MISCELLANEOUS WATER PRODUCTION AND IMPORTS

Quantities in Acre Feet

	IMPORT	PRODUCTION					
WATER YEAR	WESTERN MWD IMPORTS TO IMPROVEMENT DISTIRCT A	ANZA MUTUAL WATER COMPANY	OUTDOOR RESORTS RANCHO CALIFORNIA	QUIET OAKS MOBILE HOME PARK	LAKE RIVERSIDE ESTATES	HAWTHORN WATER SYSTEM	JOJOBA HILLS SKP RESORT
1966	23.50						
1967	20.40						
1968	27.00						
1969	24.60						
1970	30.60						
1971	34.40						
1972	34.10						
1973	30.20						
1974	36.40						
1975	34.20						
1976	35.00						
1977	24.20						
1978	26.00						
1979	24.00						
1980	24.70						
1981	34.30						
1982	34.20						
1983	26.00						
1984	26.00						
1985	27.00						
1986	34.40						
1987	35.50						
1988	35.70						
1989	22.80	33.00	42.00	23.50	249.52		
1990	21.90	37.00	50.69	23.50	247.42		
1991	20.70	35.06	50.59	12.21	339.77		
1992	24.60	31.21	42.86	12.24	279.04		
1993	31.40	32.16	42.44	12.20	192.09		
1994	36.60	37.32	38.04	23.82	262.69		
1995	29.10	45.69	69.54	22.60	130.06		
1996	35.10	45.53	58.59	21.96	219.73		

TABLE B-12

SANTA MARGARITA RIVER WATERSHED

MISCELLANEOUS WATER PRODUCTION AND IMPORTS

Quantities in Acre Feet

	IMPORT	PRODUCTION					
WATER YEAR	WESTERN MWD IMPORTS TO IMPROVEMENT DISTIRCT A	ANZA MUTUAL WATER COMPANY	OUTDOOR RESORTS RANCHO CALIFORNIA	QUIET OAKS MOBILE HOME PARK	LAKE RIVERSIDE ESTATES	HAWTHORN WATER SYSTEM	JOJOBA HILLS SKP RESORT
1997	30.40	43.87	83.42	30.25	233.56		
1998	31.00	39.54	87.42	24.41	134.96		
1999	40.70	33.30	70.74	25.70	209.55		
2000	41.90	44.67	90.10	24.58	316.57		53.28
2001	58.70	45.00	208.64	23.21	274.25		74.87
2002	64.40	41.10	216.13	24.43	323.65	82.87	91.83
2003	42.40	44.04	201.63	34.56	255.93	81.61	74.70
2004	50.30	40.44	216.77	32.20	350.80	94.19	74.89
2005	62.20	38.26	187.06	18.09	208.08	55.87	66.95
2006	65.80	51.36	198.92	27.30	268.60	40.25	64.68
2007	45.30	39.33	480.70	19.80	421.56	37.22	66.98
2008	53.90	34.13	483.69	23.30	334.31	21.56	65.50
2009	50.90	34.13	492.26	23.30	347.51	25.36	67.86
2010	62.30	36.97	510.42	23.30	255.19	24.01	55.39
2011	52.10	27.17	494.40	23.30	270.44	19.27	56.97
2012	48.50	26.22	506.40	23.30	310.31	26.37	69.12
2013	34.84	28.30	655.20	34.30	341.29	16.76	76.77
2014	35.40	29.28	560.30	27.30	378.96	8.91	75.17

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

APPENDIX C

SUBSTANTIAL USERS OUTSIDE

ORGANIZED WATER SERVICE AREAS

August 2015

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2013-14	IRRIGATED CROP 2013-14	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA								
1/ Vail Custodial Services and Vail Lake Rancho California	43425 Sage Road 44175 Sage Road Aguanga, CA 92536	917-050-007 917-050-009 581-070-013 581-070-015 581-070-016 581-150-013 581-150-016	82.19 309.74 43.10 2.73 157.21 120.56 25.37	Total | | of | | 30.00	 Alfalfa	 8S/1E-7N(1) 8S/1E-7N(2) 8S/1E-7Q(1) 8S/1E-7Q(2)	 Total of | 90.00	
Val Verde Partners	43023 Hwy 79 Aguanga, CA 92536 m/t P.O. Box 1974 Rancho Santa Fe CA 92067	583-040-022 583-040-021 583-130-055 583-120-092 583-060-003-9	97.78 13.45 40.00 160.00 41.60	Total | of | 13.45	 Oats and Pasture	8S/1E-19Q(1) 8S/1E-19Q(2) 8S/1E-29L - Diversion	0.00 0.00	56.80
Zen-Kamata, LLC	42551 Hwy 79 Aguanga, CA 92536 m/t 2635 N. First St., Ste. 213 San Jose, CA 95134	583-040-024 583-040-025 583-040-026 583-040-027 583-040-028 583-040-029	23.48 23.12 23.16 22.64 25.52 19.89	0.00 0.00 0.00 0.00 0.00 0.00		 8S/1E-19K 8S/1E-19G4 8S/1E-29L - Diversion	 0.00 0.00	0.00
Lee, Chong Suk and Juyeon P.	43900 Highway 79 Aguanga, CA 92536 m/t 27434 Bolandra Court Temecula, CA 92591	583-130-029 583-130-030	10.09 11.64	16.61 Total	Row Crops, Grapes & Fruit	8S/1E-29	53.50	
Aguanga Properties, LLC (Twin Creek Ranch)	44375 Hwy 79 44201 Hwy 79 Aguanga, CA 92536 m/t Chester Mason P. O. Box 892378 Temecula, CA 92589	583-120-083 583-120-090 583-120-091 583-140-014 583-140-015 583-140-016 583-140-018 583-140-019 583-140-020 583-150-001	68.09 132.82 39.57 48.03 40.00 40.00 10.09 10.12 10.15 80.00	Total | | | | | of | | | | 50.00	Row Crops Row Crops Row Crops Row Crops Row Crops Row Crops Row Crops	8S/1E-28N1 8S/1E-28N(2) 8S/1E-29H 8S/1E-33D 8S/1E-33F 8S/1E-33G1 8S/1E-33B	Total | | | of | | 200.00	

Well No. in parentheses designated by Watermaster

1/ Water Use Report Form not received for WY 2013-14, indicated value for irrigated acreage, production, and surface diversion assumed to be the same as last year reported.

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2013-14	IRRIGATED CROP 2013-14	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
AGUANGA GROUNDWATER AREA (Cont.)								
Twin Legacy, LLC Yanik, Robert	41750 Highway 79 Aguanga, CA 92536	917-050-006	233.57	70.00	Row Crops	8S/1W-13Q1 8S/1W-13Q2	Total |	
		917-170-003	80.81	38.00	Row Crops		of	
		917-290-001	126.26	38.00	Row Crops		|	
		917-290-002	82.25	56.00	Row Crops		855.00	
Harris, Leslie K. and Jeannette	44700 Sage Road	581-160-025	18.10	17.00	Citrus & Grass	8S/1E-18J(1) 8S/1E-18J(2)	0.00 0.00	
Harris, Dolores G.	44444 Sage Road Aguanga, CA 92536	581-150-009	7.00	10.00	Fruit	8S/1E-18H(1) 8S/1E-18H(2)	3.25	
		581-160-015	7.42	6.00	Fruit		0.00	
		581-180-004	20.00	0.00				
		581-180-020	20.00	0.00		8S/1E-17M	17.04	
		581-180-021	2.15	0.00		8S/1E-17E	39.06	
		581-180-022	30.00	0.00				
Valley-Wide Recreation and Parks District	901 W. Esplanade Ave San Jacinto, CA 92582	581-170-009	7.82	7.82	Grass	Used 8S/1E-17E owned by Harris		
Wilson Creek Farms	44200 Sage Road Aguanga, CA 92536 m/t P. O. Box 2921 Hemet, CA 92546	581-170-012	190.40	40.00	Row Crops*	8S/1E-17B	350.00	
		581-170-013	99.63	50.00	Alfalfa	8S/1E-17H	4.50	
		581-180-005	2.76					
		581-180-009	120.00	20.00	Row Crops			
		581-190-013	280.00	20.00	Row Crops			
		581-190-014	40.00					
Wilson Creek Development, LLC	44200 Sage Road Aguanga, CA 92536 m/t P. O. Box 2921 Hemet, CA 92546	581-070-002	160.00					
		581-070-005	640.00			8S/1E-9Q - Diversion		400.00
		581-100-013	80.00			8S/1E-10		
		581-100-019	30.00					
		581-100-020	10.00					
		581-100-022	20.00 * Plus riparian restoration.					
		581-100-038	9.53					
		581-100-039	9.23					
		581-100-040	8.91					
TOTAL AGUANGA GROUNDWATER AREA				**482.88**			**1,612.35**	**456.80**

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APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2013-14	IRRIGATED CROP 2013-14	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA								
Agri-Empire, Inc.	m/t P. O. Box 490	113-090-01*	377.07	0.00				
	San Jacinto, CA 92383	113-130-01*	150.09	0.00		9S/2E-17D - Spring		0.00
		113-140-03	196.54	0.00		9S/2E-16N2	63.30	
						9S/2E-16M	123.76	
						9S/2E-16F1	29.03	
						9S/2E-16N1	18.45	
						9S/2E-16F2	0.00	
						9S/2E-16K - Diversion		0.00
		114-020-09	37.16	0.00				
		114-020-12 **	108.78	75.00				
* Land leased from the State of California		114-030-07	93.38	0.00				
		114-030-34	137.50	0.00				
		114-030-36	29.55	0.00				
** Land leased from Arlie W. and Coral R. Bergman	37126 Hwy 79 Warner Springs, CA 92086	113-140-01 **	358.62	0.00		9S/2E-16B(1)	0.00	
						9S/2E-16B(2)	0.00	
						9S/2E-16G	0.00	
		113-140-02 **	38.75	0.00				
		113-140-03	196.54	0.00				
Hill Springs Farm, LLC	38642 Highway 79	112-030-38	40.00	Total		9S/1E-12A Domestic		
	Warner Springs, CA 92086	112-030-67	67.41	|				
	m/t P.O. Box 1946	112-030-72	129.90	|		9S/1E-1M - Diversion		0.00
	Duarte, CA 91009	112-030-74	70.50	of	Grapes	9S/1E-1Q(1)	0.00	
				|	Winery/	9S/1E-1Q(2)	71.50	
		113-060-012	63.21	65.00	Landscape	9S/2E-7D	9.00	
						9S/2E-7E - Diversion		0.00
Lovingier Family Trust	35490 Highway 79 Warner Springs, CA 92086	114-070-007	76.42	Total	Pasture	9S/2E-27R1	Total	
				|		9S/2E-27R2	|	
				|		9S/2E-27J	|	
		114-070-27	19.15	|			|	
		114-070-28	19.15	of			of	
		114-070-34	167.94	|			|	
		114-080-014	42.51	|			|	
		114-080-013	21.30	|			|	
		114-120-042	78.41	169.95		9S/2E-35D1	|	
						9S/2E-35D1	645.81	
TOTAL TEMECULA CREEK ABOVE AGUANGA GROUNDWATER AREA				**309.95**			**960.85**	**0.00**

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CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2013-14	IRRIGATED CROP 2013-14	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.	55255 Mitchell Road Anza, CA 92539 m/t 6010 Wilshire Blvd., #500 Los Angeles, CA 90036	573-180-001	156.38	0.00		7S/3E-17E	0.00	
Miller, Frank C. Grabowski-Miller, Jane	55520 Hwy 371 Anza, CA 92539	573-200-007	18.88	18.00	Row Crops			
		573-200-008	18.31	0.00				
		573-200-009	36.40	2.00	Grapes	7S/3E-17(N)	5.00	
				17.00	Row Crops	7S/3E-17(M)	0.00	
						7S/3E-17(P)	54.00	
Anza Development Corp Lanik, Gordon	m/t P.O. Box 391273 Anza, CA 92539	573-200-004	18.24	0.00				
		573-200-005	18.50	0.00				
		573-200-006	18.89	0.00				
		573-200-010	18.68	0.00				
Agri-Empire, Inc.	P.O. Box 490 San Jacinto, CA 92383							
	Section 10	575-050-044	14.36	0.00				
	Section 11	575-060-002	133.93	0.00		7S/3E-11N4	219.40	
						7S/3E-11P3	398.00	
	Section 13	575-100-009	19.94	0.00				
		575-100-032	89.02	0.00				
		575-100-033	89.08	0.00				
		575-100-034	37.63	0.00				
		575-100-035	157.20	0.00				
		575-100-036	27.91	0.00				
		575-100-037	57.80	0.00				
		575-100-039	7.91	0.00				
		575-100-040	0.88	0.00				
		575-100-041	19.93	0.00				
		575-100-042	60.00	0.00				
	Section 14	575-110-021	143.75	143.75	Organic Row Crops	7S/3E-14D1	90.50	
		575-110-027	54.45	0.00				
		575-110-030	74.86	0.00				
		575-310-002	39.09	0.00		7S/3E-14C2	190.00	
		575-310-011	80.00	0.00				
		575-310-012	80.00	0.00				
		575-310-013	17.46	0.00				
		575-310-014	0.75	0.00				
		575-310-027	17.46	0.00				
		575-310-028	0.92	0.00				
	Section 15	575-080-010	4.77	0.00				
		575-080-014	9.92	0.00				
		575-080-015	4.35	0.00				
		575-080-017	9.75	0.00				
		575-080-018	10.13	0.00				
		575-080-019	31.29	0.00				
		575-080-021	20.00	0.00				
		575-080-022	20.00	0.00				
		575-080-024	20.00	0.00				
		575-080-027	20.00	0.00				
		575-090-010	38.80	0.00				

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WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY (Cont.)								
Agri-Empire, Inc. (Cont.)	Section 17	573-180-011	39.74	0.00				
	Section 20	576-060-009	8.26	Total				
		576-060-031	16.09	|				
		576-060-033	79.45	of				
		576-060-038	5.41	|				
		576-070-003	80.00	|				
		576-070-005	116.57	139.00	Potato			
	Section 21	576-100-061	37.71	37.70	Potato			
		576-110-001	160.00	37.00	Potato	7S/3E-21P(1)	417.10	
				126.25	Organic Row Crops	7S/3E-21P(2)	0.00	
		576-110-002	28.00	0.00				
		576-110-003	2.00	0.00				
		576-110-004	50.00	50.00	Organic Row Crops			
		576-110-006	19.29	Total				
		576-110-007	17.82	|				
		576-110-008	17.00	of		7S/3E-21R3	173.50	
				|		7S/3E-21R(4)	173.10	
		576-110-009	18.41	72.52	Organic Row Crops			
	Section 22	575-130-003	19.55	0.00				
		575-130-006	40.89	0.00				
		575-130-008	18.56	0.00				
		575-130-009	20.06	0.00				
		575-130-010	20.07	0.00				
		575-130-011	19.19	0.00				
		575-130-012	18.18	0.00				
		575-130-013	19.02	0.00				
		575-130-014	19.00	0.00				
		575-130-015	17.58	0.00				
		575-120-012	88.03	0.00				
		575-120-018	20.45	0.00				
		575-120-019	20.45	0.00				
		575-120-028***	4.68	0.00				
		575-120-029***	4.68	0.00				
		575-120-030***	4.68	0.00				
		575-120-031***	4.23	0.00				
		575-120-032	4.69	0.00				
		575-120-033	4.69	0.00				
*** Land leased from		575-120-034	4.68	0.00				
Dionisios & Irini Argyros		575-120-035	4.28	0.00				
	Section 23	575-140-006	9.90	0.00				
		575-140-020	90.48	0.00				

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WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
ANZA VALLEY (Cont.)								
Burnett, Gregory V.	36990 Bonita Vista Anza, CA 92539 m/t P. O. Box 391111 Anza, CA 92539	573-040-001 573-040-002 573-050-001	235.20 30.00 246.33	6.00 0.00 0.00	Nursery/ Landscape	7S/3E-5	4.00	
Cahuilla Indian Reservation	Domestic and Commercial Wells Reported by Bureau of Indian Affairs Wells in Basement Complex: 7S/2E-14L1, 7S/2E-25D1, 7S/2E-26B1, 7S/2E-26B2, 7S/2E-26B3, 7S/2E-34E1, 7S/2E-36A1, 7S/2E-36J1, 7S/2E-36R1, 7S/3E-26A1, 7S/3E-29Q1, 7S/3E-30H1, 7S/3E-31A1, 7S/3E-31N1, 7S/3E-31Q1, 7S/3E-32D1, 7S/3E-32D2, 8S/3E-6B1, 8S/3E-6B2, 8S/3E-6G1, 8S/3E-6R1 Wells out of Watershed: 8S/3E-2A1, 8S/3E-2B1, 8S/3E-2D1, 8S/3E-2E1, 8S/3E-2G1, 8S/3E-2H1, 8S/3E-2K1 Wells with QYAL and/or QTOAL: 7S/2E-14J1, 7S/2E-14M1, 7S/2E-14M2, 7S/2E-14R1, 7S/2E-23A1, 7S/2E-23D1, 7S/2E-23F1, 7S/2E-23G1, 7S/2E-23H1, 7S/2E-23K1, 7S/2E-23M1, 7S/2E-23P1, 7S/2E-23Q1, 7S/2E-25C1, 7S/2E-25F1, 7S/2E-25R1, 7S/2E-26E1, 7S/2E-26L1, 7S/2E-27A1, 7S/2E-27H1, 7S/2E-28N1, 7S/2E-28Q1, 7S/2E-33C1, 7S/2E-33E1, 7S/2E-33N1, 7S/2E-27C1, 7S/2E-27C2, 7S/2E-27H1, 7S/2E-27M1, 7S/2E-28A1, 7S/2E-28A2, 7S/2E-28D1, 7S/2E-29C1, 7S/3E-29M1, 7S/2E-30P1, 7S/2E-30Q1, 7S/2E-30R1, 7S/2E-30R2, 7S/2E-30R3, 7S/3E-31C1, 7S/3E-31F1, 7S/3E-31L, 7S/3E-31L2, 7S/3E-34E1, 7S/3E-34N1, 7S/3E-34Q1, 8S/2E-4D1, 8S/2E-4N1, 8S/2E-4N2, 8S/2E-4P1, 8S/2E-4R1, 8S/2E-4R2, 8S/3E-5Q1, 8S/3E-6J1					Domestic Commercial Stock Watering	Total of 49.00 5.00	5.60
SUBTOTAL ANZA VALLEY				**649.22**			**1,778.60**	**5.60**
WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA								
LEWIS VALLEY								
1/ Green Shell Co. Shellaberger, James L.	39850 Sage Road Hemet, CA 92343	571-080-012	80.00	40.00	Olive Trees	7S/1E-20Q	44.00	
SUBTOTAL LEWIS VALLEY				**40.00**			**44.00**	**0.00**
TOTAL WILSON CREEK ABOVE AGUANGA GROUNDWATER AREA				**689.22**			**1,822.60**	**5.60**

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MURRIETA-TEMECULA GROUNDWATER AREA								
Louidar	33820 Rancho California Rd.	943-040-011	19.22	18.00	Citrus	7S/2W-28L	275.00	
Mount Palomar Winery	Temecula, CA 92591	943-060-010	90.76	10.00	Citrus			
		943-060-011	26.47	24.00	Citrus			
		943-110-009	4.31	3.00	Grapes			
		943-120-014	17.71	15.00	Grapes			
		943-120-024	32.08	25.00	Grapes			
		943-120-025	83.98	12.00	Grapes			
		943-120-026	30.02					
		943-120-027	0.49					
		943-120-028	0.19					
		943-120-029	0.08					
		943-120-030	0.09					
		943-120-031	2.40					
		943-120-032	0.41					
		943-120-033	4.59					
Anza Grove	c/o McMillan Farm Mgt.	942-180-002	40.28	40.00	Citrus			
Cavaletto, Selina J.	29379 Rancho Cal. Rd, #201	942-240-003	40.83	40.00	Citrus			
Lassalette Enterprise	Temecula, CA 92390	942-240-004	40.83	40.00	Citrus			
		942-240-005	39.31	35.00	Citrus	7S/2W-26B1	1.00	
						7S/2W-26B2	294.00	
Mendoza, Bertha	38695 Highway 79 South Aguanga, CA	917-240-019	54.13	0.00				
1/ Giddings, Richard	38055 Highway 79 South Aguanga, CA	917-150-002	117.76	0.00				
1/ Vail Lake Groves, LLC	38695 Highway 79 South	917-240-015	20.00	0.00				
	Aguanga, CA	917-150-006	120.00	110.00	Citrus	8S/1W-21K(1)	262.00	
	m/t 29400 Rancho Cal. Road					8S/1W-21K(2)	0.00	
	Temecula, CA 92593					8S/1W-21P(1)	0.00	
						8S/1W-21P(2)	0.00	
Wild Horse Peak	Highway 79 South	943-230-001	109.34	60.00	Grapes	7S/2W-26L	0.00	
Vineyard Mountain	Temecula, CA	917-250-004	80.00	Total		8S/1W-25Q(1)	0.00	
	m/t 3719 South Plaza Drive	917-250-005	80.00	of		8S/1W-25P(1)	28.00	
	Santa Ana, CA 92704			|		8S/1W-25N(1) - Spring 3		0.00
		917-250-007	240.00	220.00	Grapes	8S/1W-36K - Spring 4		0.00
						8S/1W-36H - Spring 6		0.00
						8S/1W-36K(1)	59.00	
						8S/1W-36K(2)	56.00	
						8S/1W-36K(3)	94.00	
						8S/1W-36L - Stream Diversion		52.00
Regency Properties	44051 Rainbow Cyn Rd.	922-220-002	86.11	Total		8S/2W-19(D)	65.83	
Temecula Creek Golf	Temecula, CA 92592	922-220-003	5.75	|				
		922-220-004	52.18	|				
		922-220-007	14.36	|				
		922-220-008	3.99	of				
		922-230-002	59.29	|				
		922-230-003	1.00	|				
		922-230-004	40.00	|				
		922-230-007	25.00	|				
		922-230-008	16.11	47.00	Grass			
Carson, Carol J.	25471 Hayes Ave	909-260-036	8.87	7.00	Pasture	7S/3W-29G	39.90	
Murrieta Six Cs LLC	Murrieta, CA 92562	909-260-042	4.31	3.50	Pasture			
TOTAL MURRIETA-TEMECULA GROUNDWATER AREA				**709.50**			**1,174.73**	**52.00**

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SANTA MARGARITA RIVER BELOW GORGE								
DE LUZ CREEK								
Stehly Family Holdings, LLC	40922 DeLuz Road Fallbrook, CA 92028 m/t 13268 McNally Road Valley Center, CA 92082	101-271-28	45.01	10.00	Avocados and Citrus	8S/4W-29D(1) 8s/4W-29D(2)	1.00 16.00	
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	6.00 12.00	Pasture & Flowers Avocados and Citrus	8S/4W-20A(1) 8S/4W-20H(1) 8S/4W-20H(2) 8S/4W-20A - Diversion	16.00 16.00 14.00	0.00
Alfred Varela Sr. Family Living Trust Varela, Alfred	41125 DeLuz Road Fallbrook, CA 92028	101-210-11	15.23	8.50 0.50	Avocados Citrus	8S/4W-20Q(1) 8S/4W-20Q(2)	Total of 21.60	
1/ Lake Forest, LLC	41257 DeLuz Road Fallbrook, CA 92028 m/t 26051 Glen Canyon Dr. Laguna Hills, CA 92653	101-210-12	30.28	9.00 15.00 1.00	Avocados Citrus Row crops	8S/4W-20Q(1) 8S/4W-20Q(2) 8S/4W-20Q(3)	Total of 50.00	
1/ Wagner Family Trust	41128 DeLuz Road Fallbrook, CA 92028	101-210-23 101-210-22	17.19 4.55	15.00 3.00	Avocados Persimmons	8S/4W-20P(1) 8S/4W-20P(2) 8S/4W-20P(3)	0.00 0.00 39.30	
Lee, Charles and Catherine	44952 Vista Del Mar Temecula, CA 92590	933-120-016 933-120-017 933-120-018 933-120-019 933-120-042	9.39 9.48 8.47 9.63 20.00	Total of | 36.00 12.70	Avocados, Citrus and Macadamia Nuts Avocados	8S/4W-15L	0.00 **	
** All water purchased from RCWD for Water Year 2013-14								
Chambers Family, LLC	40888 DeLuz-Murrieta Road 38664 DeLuz Road Fallbrook, CA 92028 m/t Thomas Montllor 910 N. Pacific St., Apt. 38 Oceanside, CA 92054	101-571-03 102-130-42	41.72 54.37	40.00 5.00	Flowers Fruit	8S/4W-28A 8S/4W-28A - Diversion	52.00	8.00
Welburn Family Trust Welburn, Douglas and Sue	40787 DeLuz-Murrieta Rd. Fallbrook, CA 92028	101-571-19 101-571-20 101-571-21	4.01 4.00 14.28	4.00 4.00 5.50	Gourds Gourds Fruit Trees, Melons and Avocados	8S/4W-28G1	40.00	
Poladian, Jacqueline Bluebird Ranch	2193 Calle Rociada Fallbrook, CA m/t P. O. Box 1089 Fallbrook, CA 92088	101-312-01 101-312-02	82.29 58.17	42.00 45.00 5.00	Flowers Flowers Avocados	8S/4W-31L 8S/4W-31L - Diversion 8S/4W-31K(1) 8S/4W-31K(2) 8S/4W-31K(3)	Total of | 162.18	31.48
Norman and Deborah Vanginkel Trust	39452 DeLuz Road Fallbrook, CA 92028 m/t 21136 Trailside Drive Yorba Linda, CA 92887	101-312-03 102-052-04 102-731-02	80.00 22.04 4.26	10.00 16.00	Nursery Stock Avocados	8S/4W-31J(2) 8S/4W-31J(3) 8S/4W-31J(4) 8S/4W-31J(5)	14.00 0.00 42.00 0.00	
Ross Lake, LLC Rose, William and Joanne	39985 Daily Road Fallbrook, CA 92028	101-430-30 101-480-14 101-500-01	16.39 13.20 16.62	Total of 21.00	Avocados Limes Flowers	8S/4W-34- Lake Diversion		** 0.00
** All water purchased from FPUD for Water Year 2013-14								
SUBTOTAL DELUZ CREEK				**326.20**			**484.08**	**39.48**

Well No. in parentheses designated by Watermaster
1/ Water Use Report Form not received for WY 2013-14, indicated value for irrigated acreage, production, and surface diversion assumed to be the same as last year reported.

APPENDIX C

SANTA MARGARITA RIVER WATERSHED

SUBSTANTIAL USERS OUTSIDE ORGANIZED WATER SERVICE AREAS

CURRENT OWNER	ADDRESS	ASSESSOR PARCEL NO.	PARCEL ACREAGE	ACRES IRRIGATED 2013-14	IRRIGATED CROP 2013-14	WELL/ DIVERSION LOCATION TWP/RNG/SEC	WELL PRODUCTION AC. FT	SURFACE DIVERSION AC. FT
SANTA MARGARITA RIVER BELOW GORGE (Cont.)								
SANDIA CREEK								
Serafina Holdings, LLC	40376 Sandia Creek Fallbrook, CA 92028	101-360-40	126.32	30.00 10.00 25.00	Avocados Grapes Olives	8S/4W-25P(1) 8S/4W-25P(3) 8S/4W-25P(3)	Total | of | 130.50	
						8S/4W-25P - Diversion		0.00
SUBTOTAL SANDIA CREEK				**65.00**			**130.50**	**0.00**
SANTA MARGARITA RIVER								
San Diego State University Foundation	47981 Willow Glen Rd. Temecula, CA 92592 SDSU Foundation 5500 Campanile Dr. San Diego, CA 92182-4614	918-040-011 918-060-017	120.00 40.00	5.00 15.00	Citrus Avocados	8S/3W-33Q1 8S/3W-33Q(2) 8S/3W-33Q - Diversion	4.31 0.00	41.30
SUBTOTAL SANTA MARGARITA RIVER				**20.00**			**4.31**	**41.30**
TOTAL SANTA MARGARITA RIVER BELOW GORGE				**411.20**			**618.89**	**80.78**
LOWER MURRIETA								
Ronnenberg Family Trust (Sage Ranch Nursery)	42522 E. Benton Rd. Aguanga, CA 92536 m/t c/o Cliff Ronnenberg 11292 Western Avenue Stanton, CA 90680	571-020-046 571-020-047 571-020-048 571-020-049 571-020-004 571-520-007 571-520-008 571-520-009 571-520-012 915-140-069 915-140-070 470-210-007	81.09 40.80 36.75 148.86 1.50 109.50 99.43 80.23 77.54 91.56 21.39 53.62	Total | | | | | of | | | | |		7S/1E-7D	5.50	
		470-220-004	109.23	300.00	Olive trees	7S/1E-7E - Diversion		100.00
EG High Desert Properties, LLC	39800 E. Benton Rd. Temecula, CA 92390 m/t 12881 Bradley Avenue Sylmar, CA 91342	915-120-045	37.45	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) 7S/1W-10R(7)	Total of | 38.00 Domestic 0.00 0.00	
TOTAL LOWER MURRIETA				**310.00**			**43.50**	**100.00**
GRAND TOTAL				**2,912.75**			**6,232.92**	**695.18**
GRAND TOTAL	Not including Cahuilla Indian Reservation			**2,912.75**			**6,178.92**	**689.58**

Well No. in parentheses designated by Watermaster
1/ Water Use Report Form not received for WY 2013-14, indicated value for irrigated acreage, production, and surface diversion assumed to be the same as last year reported.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

APPENDIX D

WATER QUALITY DATA

August 2015

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	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
	12/06/95	---	---	---	---	---	---	---	---	---	26
	03/27/96	---	---	---	---	---	---	---	---	---	15
	06/06/96	---	---	---	---	---	---	---	---	---	24
	09/11/96	---	---	---	---	---	---	---	---	---	22
	11/08/96	---	---	---	---	---	---	---	---	---	55
	11/14/96	---	---	---	---	---	---	---	---	---	25
	12/05/96	---	---	---	---	---	---	---	---	---	24
	03/27/97	---	---	---	---	---	---	---	---	---	20
	06/18/97	---	---	---	---	---	---	---	---	---	21
	12/03/97	---	---	---	---	---	---	---	---	---	18
	03/25/98	---	---	---	---	---	---	---	---	---	21
	04/22/98	1090	680	89	29	85	1	150	76	290	22
	06/17/98	---	---	---	---	---	---	---	---	---	23
	10/01/98	---	---	---	---	---	---	---	---	---	25
	12/02/98	---	---	---	---	---	---	---	---	---	28
	02/24/99	---	---	---	---	---	---	---	---	---	33
	03/24/99	---	---	---	---	---	---	---	---	---	26
	09/09/99	---	---	---	---	---	---	---	---	---	36
	12/03/99	---	---	---	---	---	---	---	---	---	32
	07/12/00	---	---	---	---	---	---	---	---	---	21
	08/04/00	1290	790	110	36	99	---	180	110	320	21
	10/24/01	---	---	---	---	---	---	---	---	---	17
	03/06/02	---	---	---	---	---	---	---	---	---	15
	07/11/02	---	780	---	---	---	---	---	---	310	---
	10/03/03	---	800	113	---	---	---	---	---	332	---
	04/21/04	---	---	---	---	---	---	---	---	---	11
	01/27/05	---	980	160	47	---	---	---	---	440	---
	03/30/05	---	---	---	---	---	---	---	---	---	35
	01/26/06	1700	1000	160	48	130	1.6	240	130	---	46
	01/30/06	---	---	---	---	---	---	---	---	---	49

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	12/27/95	---	---	---	---	---	---	---	---	---	<1
	03/20/96	---	---	---	---	---	---	---	---	---	<2
	06/12/96	---	---	---	---	---	---	---	---	---	<2
	09/04/96	---	---	---	---	---	---	---	---	---	<2
	12/26/96	---	---	---	---	---	---	---	---	---	<2
	03/19/97	---	---	---	---	---	---	---	---	---	<2
	06/12/97	---	---	---	---	---	---	---	---	---	<2
	12/30/97	---	---	---	---	---	---	---	---	---	<2
	03/18/98	---	---	---	---	---	---	---	---	---	<2
	04/15/98	660	360	30	3	94	1	91	62	130	<2
	06/10/98	---	---	---	---	---	---	---	---	---	<2
	10/01/98	---	---	---	---	---	---	---	---	---	<2
	12/23/98	---	---	---	---	---	---	---	---	---	<2
	02/17/99	---	---	---	---	---	---	---	---	---	<2
	03/17/99	---	---	---	---	---	---	---	---	---	<2
	06/09/99	---	---	---	---	---	---	---	---	---	<2
	09/01/99	---	---	---	---	---	---	---	---	---	<2
	12/22/99	---	---	---	---	---	---	---	---	---	ND
	03/15/00	640	370	29	3	92	2	82	61	130	<2
	06/07/00	---	---	---	---	---	---	---	---	---	<2
	09/27/00	---	---	---	---	---	---	---	---	---	<2
	10/24/01	---	---	---	---	---	---	---	---	---	<2
	03/06/02	---	---	---	---	---	---	---	---	---	<2
	07/11/02	---	440	---	---	---	---	---	---	170	---
	10/03/03	630	380	34	3	103	---	87	---	140	ND
	04/21/04	---	---	---	---	---	---	---	---	---	<2
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

ND - None Detected

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
South Well	12/20/95	---	---	---	---	---	---	---	---	---	3
7S/3W-20D	03/13/96	---	---	---	---	---	---	---	---	---	2
(Cont)	06/15/96	---	---	---	---	---	---	---	---	---	3
	09/25/96	---	---	---	---	---	---	---	---	---	3
	12/18/96	---	---	---	---	---	---	---	---	---	3
	04/09/97	---	---	---	---	---	---	---	---	---	2
	06/04/97	---	---	---	---	---	---	---	---	---	2
	03/11/98	---	---	---	---	---	---	---	---	---	<2
	04/08/98	820	500	73	18	67	2	92	73	250	3
	06/03/98	---	---	---	---	---	---	---	---	---	3
	10/01/98	---	---	---	---	---	---	---	---	---	3
	12/16/98	---	---	---	---	---	---	---	---	---	2
	03/10/98	---	---	---	---	---	---	---	---	---	2
	06/09/99	---	---	---	---	---	---	---	---	---	2
	09/22/99	---	---	---	---	---	---	---	---	---	<2
	12/15/99	---	---	---	---	---	---	---	---	---	ND
	02/09/00	810	460	55	14	84	1	99	63	210	<2
	05/03/00	---	---	---	---	---	---	---	---	---	<2
	08/04/00	780	440	47	9	100	---	99	48	210	<2
	08/23/00	---	---	---	---	---	---	---	---	---	<2
	10/24/01	---	---	---	---	---	---	---	---	---	<2
	03/20/02	---	---	---	---	---	---	---	---	---	4
	07/11/02	---	460	---	---	---	---	---	---	180	---
	10/03/03	---	460	59	---	---	---	---	---	207	---
	04/21/04	---	---	---	---	---	---	---	---	---	<2
	01/27/05	---	610	110	28	---	---	---	---	300	---
	03/30/05	---	---	---	---	---	---	---	---	---	5
	01/26/06	800	440	42	9.1	110	1.2	120	65	---	1.2
	04/12/06	---	---	---	---	---	---	---	---	---	6.1
	05/10/06	---	---	---	---	---	---	---	---	---	1.6
	06/14/06	---	---	---	---	---	---	---	---	---	1.4
	07/12/06	---	---	---	---	---	---	---	---	---	<1
	08/09/06	---	---	---	---	---	---	---	---	---	1.4
	09/13/06	---	---	---	---	---	---	---	---	---	1.5
	10/11/06	---	---	---	---	---	---	---	---	---	1.4
	11/08/06	---	---	---	---	---	---	---	---	---	1.3
	12/13/06	---	---	---	---	---	---	---	---	---	1.3
	01/10/07	---	---	---	---	---	---	---	---	---	1.4
	02/13/07	---	---	---	---	---	---	---	---	---	5.3
	03/14/07	---	---	---	---	---	---	---	---	---	1.2
	04/11/07	---	---	---	---	---	---	---	---	---	<2
	05/09/07	---	---	---	---	---	---	---	---	---	<2
	06/13/07	---	---	---	---	---	---	---	---	---	1.2
	07/11/07	---	---	---	---	---	---	---	---	---	4.7
	08/15/07	800	480	40	8.5	100	<1	110	61	200	1.1
	09/12/07	---	---	---	---	---	---	---	---	---	5.6
	11/14/07	---	---	---	---	---	---	---	---	---	1.4
	12/04/07	---	---	---	---	---	---	---	---	---	1.2
	01/24/08	---	---	---	---	---	---	---	---	---	4.6

ND - None Detected

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
South Well	03/26/08	---	---	---	---	---	---	---	---	---	3.9
7S/3W-20D	04/23/08	---	---	---	---	---	---	---	---	---	4.1
(Cont)	06/09/08	---	---	---	---	---	---	---	---	---	4.1
	07/14/08	---	---	---	---	---	---	---	---	---	5.1
	09/08/08	---	---	---	---	---	---	---	---	---	4.9
	01/19/09	---	---	---	---	---	---	---	---	---	6.7
	11/13/09	1300	820	120	34	110	1.8	200	140	320	---
	11/17/09	---	---	---	---	---	---	---	---	---	5.8
	11/09/11	---	---	---	---	---	---	---	---	---	1.6
	01/26/12	---	---	---	---	---	---	---	---	---	1.5
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
	12/13/95	---	---	---	---	---	---	---	---	---	<1
	03/06/96	---	---	---	---	---	---	---	---	---	<2
	06/26/96	---	---	---	---	---	---	---	---	---	<2
	09/18/96	---	---	---	---	---	---	---	---	---	<2
	12/11/96	---	---	---	---	---	---	---	---	---	<2
	06/25/97	---	---	---	---	---	---	---	---	---	<2
	07/08/98	760	460	49	9	100	2	110	51	220	<2
	10/01/98	---	---	---	---	---	---	---	---	---	<2
	12/09/98	---	---	---	---	---	---	---	---	---	<2
	02/03/99	---	---	---	---	---	---	---	---	---	<2
	03/03/99	---	---	---	---	---	---	---	---	---	<2
	06/23/99	---	---	---	---	---	---	---	---	---	<2
	09/22/99	---	---	---	---	---	---	---	---	---	<2
	12/08/99	---	---	---	---	---	---	---	---	---	<2
	01/05/00	780	440	47	9	100	---	99	48	210	<2
	05/03/00	---	---	---	---	---	---	---	---	---	<2
	07/19/00	---	---	---	---	---	---	---	---	---	<2
	10/24/01	---	---	---	---	---	---	---	---	---	<2
	03/06/02	---	---	---	---	---	---	---	---	---	<2
	07/11/02	---	420	---	---	---	---	---	---	180	---
	10/03/03	---	440	53	---	---	---	---	---	---	---
	04/21/04	---	---	---	---	---	---	---	---	---	<2
	01/27/05	---	440	59	10	---	---	---	---	230	---
	03/30/05	---	---	---	---	---	---	---	---	---	<2
	01/26/06	820	450	60	11	96	2	120	52	---	1
	05/10/06	---	---	---	---	---	---	---	---	---	<1
	07/19/06	---	---	---	---	---	---	---	---	---	<1
	08/16/06	---	---	---	---	---	---	---	---	---	<1
	09/20/06	---	---	---	---	---	---	---	---	---	<1
	10/18/06	---	---	---	---	---	---	---	---	---	<1
	11/15/06	---	---	---	---	---	---	---	---	---	<1

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
North Well	01/17/07	---	---	---	---	---	---	---	---	---	<1
7S/3W-18J02	02/21/07	---	---	---	---	---	---	---	---	---	<2
(Cont)	03/21/07	---	---	---	---	---	---	---	---	---	<2
	04/18/07	---	---	---	---	---	---	---	---	---	<2
	05/16/07	---	---	---	---	---	---	---	---	---	<2
	07/23/07	---	500	---	---	---	---	---	---	---	---
	07/26/07	---	540	---	---	---	---	---	---	---	---
	08/15/07	830	520	59	11	89	1.2	110	54	230	<2
	09/19/07	---	---	---	---	---	---	---	---	---	<2
	12/04/07	---	---	---	---	---	---	---	---	---	1.5
	01/24/08	---	---	---	---	---	---	---	---	---	1.8
	03/26/08	---	---	---	---	---	---	---	---	---	2.5
	04/23/08	---	---	---	---	---	---	---	---	---	2.0
	05/19/08	---	---	---	---	---	---	---	---	---	2.2
	06/16/08	---	---	---	---	---	---	---	---	---	2.1
	07/21/08	---	---	---	---	---	---	---	---	---	<2
	09/15/08	---	---	---	---	---	---	---	---	---	2.0
	01/19/09	---	---	---	---	---	---	---	---	---	1
	02/23/09	---	---	---	---	---	---	---	---	---	<2
	03/16/09	---	---	---	---	---	---	---	---	---	<2
	04/20/09	---	---	---	---	---	---	---	---	---	<2
	05/18/09	---	---	---	---	---	---	---	---	---	<2
	06/02/09	830	470	54	11	92	1.6	100	54	230	<2
	06/08/09	830	410	57	10	89	1.6	110	54	230	<2
	06/15/09	---	---	---	---	---	---	---	---	---	<1
	07/07/09	870	490	51	10	87	1.5	110	56	220	---
	07/20/09	830	460	54	10	90	1.7	110	52	220	<2
	08/03/09	820	480	49	9	82	1.4	120	49	220	<2
	08/25/09	---	---	---	---	---	---	---	---	---	1.2
	09/08/09	800	460	55	11	97	1.7	120	52	220	<2
	09/21/09	---	---	---	---	---	---	---	---	---	1.1
	10/05/09	780	470	55	11	97	1.8	110	53	220	<2
	10/19/09	---	---	---	---	---	---	---	---	---	<2
	11/02/09	790	470	55	11	91	1.7	110	53	220	<2
	11/16/09	---	---	---	---	---	---	---	---	---	<2
	12/07/09	810	480	56	11	94	1.8	110	52	220	<1
	12/21/09	---	---	---	---	---	---	---	---	---	<2
	01/04/10	810	470	57	11	91	1.7	110	52	220	<2
	01/18/10	---	---	---	---	---	---	---	---	---	<2
	02/01/10	860	460	59	13	87	1.7	110	54	240	1.2
	02/17/10	---	---	---	---	---	---	---	---	---	1.1
	03/01/10	810	460	56	11	88	1.7	110	55	220	<2
	03/15/10	---	---	---	---	---	---	---	---	---	<2
	04/07/10	820	450	56	11	92	1.5	110	52	220	<2
	04/19/10	---	---	---	---	---	---	---	---	---	<2
	05/03/10	810	450	57	11	92	1.5	110	52	220	<2
	05/17/10	---	---	---	---	---	---	---	---	---	1.1
	06/01/10	820	520	52	11	90	1.9	100	50	220	<2
	06/21/10	---	---	---	---	---	---	---	---	---	<2

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
North Well	07/19/10	---	---	---	---	---	---	---	---	---	<2
7S/3W-18J02	08/02/10	830	470	52	10	88	1.7	100	47	220	<2
(Cont)	08/16/10	---	---	---	---	---	---	---	---	---	<2
	11/17/10	830	510	51	20	78	3.6	94	160	120	<2
	02/01/11	860	480	59	12	95	1.7	110	54	220	<2
	04/04/11	800	460	53	11	93	1.6	110	52	210	<2
	04/18/11	---	---	---	---	---	---	---	---	---	<2
	06/21/11	---	---	---	---	---	---	---	---	---	<2
	07/18/11	---	---	---	---	---	---	---	---	---	<1.0
	08/16/11	---	---	---	---	---	---	---	---	---	<1.0
	09/19/11	---	---	---	---	---	---	---	---	---	<1.0
	10/03/11	770	470	55	11	97	1.9	110	54	210	<1.0
	10/17/11	---	---	---	---	---	---	---	---	---	<1.0
	11/02/11	820	440	55	11	92	1.8	110	54	200	<1.0
	11/15/11	---	---	---	---	---	---	---	---	---	1.1
	12/06/11	820	510	52	10	95	1.6	120	55	200	1.0
	12/19/11	---	---	---	---	---	---	---	---	---	1.1
	12/28/11	820	440	53	11	93	1.8	110	54	200	<1.0
	01/04/12	810	480	53	10	94	1.7	110	57	200	<1.0
	01/16/12	---	---	---	---	---	---	---	---	---	<1.0
	02/01/12	830	510	57	11	93	2.1	120	58	220	<1.0
	02/06/12	---	---	---	---	---	---	---	---	---	<1.0
	02/15/12	810	450	52	10	88	1.7	120	55	210	<1.0
	03/01/12	760	460	62	13	87	1.8	120	57	230	1.0
	03/19/12	---	---	---	---	---	---	---	---	---	<1.0
	04/16/12	---	---	---	---	---	---	---	---	---	1.1
	04/17/12	---	---	---	---	---	---	---	---	---	1.2
	05/02/12	800	460	52	11	96	1.8	120	61	210	<1.0
	05/14/12	---	---	---	---	---	---	---	---	---	<1.0
	06/04/12	820	460	50	10	92	1.8	88	110	200	1.2
	06/19/12	---	---	---	---	---	---	---	---	---	<1.0
	07/02/12	830	510	54	11	93	1.7	120	55	210	1.0
	07/17/12	---	---	---	---	---	---	---	---	---	<1.0
	07/25/12	---	---	---	---	---	---	---	---	---	<1.0
	08/01/12	830	470	56	11	98	1.7	110	54	210	<1.0
	08/13/12	---	---	---	---	---	---	---	---	---	<1.0
	09/10/12	830	440	52	10	96	1.9	110	54	210	<1.0
	09/17/12	---	---	---	---	---	---	---	---	---	<1.0
	10/01/12	850	480	52	10	94	1.6	110	53	210	<1.0
	10/15/12	---	---	---	---	---	---	---	---	---	<1.0
	11/05/12	830	450	57	12	94	1.7	120	56	220	<1.0
	11/19/12	---	---	---	---	---	---	---	---	---	<1.0
	11/27/12	---	460	---	---	---	---	---	---	---	---
	12/04/12	870	480	61	12	94	1.5	120	61	230	1.1
	12/17/12	---	---	---	---	---	---	---	---	---	1.1
	01/07/13	860	510	63	13	98	1.7	110	58	220	<1.0
	01/21/13	---	---	---	---	---	---	---	---	---	<1.0
	02/05/13	860	490	60	12	92	2.1	120	61	230	<1.0
	02/19/13	---	---	---	---	---	---	---	---	---	<1.0
	03/04/13	850	520	63	12	96	1.6	120	61	230	<1.0
	03/18/13	---	---	---	---	---	---	---	---	---	<1.0
	04/16/13	---	---	---	---	---	---	---	---	---	<1.0
	05/06/13	870	470	61	13	90	1.6	120	60	230	<1.0

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
North Well	05/20/13	---	---	---	---	---	---	---	---	---	<1.0
7S/3W-18J02	06/04/13	990	470	63	12	98	1.8	120	61	230	<1.0
(Cont)	06/17/13	---	---	---	---	---	---	---	---	---	<1.0
	07/01/13	870	470	64	13	98	1.7	110	58	230	<1.0
	07/15/13	---	---	---	---	---	---	---	---	---	<1.0
	08/01/13	880	510	61	12	98	1.6	120	62	230	1.0
	08/19/13	---	---	---	---	---	---	---	---	---	<1.0
	09/04/13	850	480	61	12	94	1.4	120	58	230	<1.0
	09/16/13	---	---	---	---	---	---	---	---	---	<1.0
	10/01/13	860	470	60	12	94	1.6	110	59	220	<1.0
	10/14/13	---	---	---	---	---	---	---	---	---	<1.0
	11/04/13	860	480	58	11	95	1.7	130	61	230	<1.0
	11/18/13	---	---	---	---	---	---	---	---	---	1.1
	12/02/13	880	490	65	13	99	1.8	120	60	230	1.4
	12/16/13	---	---	---	---	---	---	---	---	---	<1.0
	01/07/14	860	450	62	12	98	1.7	110	55	220	<1.0
	01/21/14	---	---	---	---	---	---	---	---	---	<1.0
	02/10/14	800	470	65	13	100	1.7	120	62	230	1.1
	02/18/14	---	---	---	---	---	---	---	---	---	1.2
	03/17/14	---	---	---	---	---	---	---	---	---	1.0
	04/01/14	820	480	59	11	99	1.6	120	64	230	<1.0
	04/14/14	---	---	---	---	---	---	---	---	---	<1.0
	06/09/14	---	---	---	---	---	---	---	---	---	<1.0
	06/16/14	880	490	65	13	100	1.7	120	60	240	1.2
	07/07/14	860	500	64	13	98	1.6	120	59	230	1.2
	07/14/14	---	---	---	---	---	---	---	---	---	<1.0
	08/04/14	890	---	64	13	100	1.7	120	61	230	1.3
	08/18/14	---	---	---	---	---	---	---	---	---	1.6
New Clay Well	03/09/04	480	340	23	1	87	1	79	64	98	<2
7S/3W-20	01/26/06	590	310	20	1.2	93	1.2	85	57	---	<1
	01/31/06	---	---	---	---	---	---	---	---	---	7.2
	01/31/06	---	---	---	---	---	---	---	---	---	6.9
	04/04/06	---	---	---	---	---	---	---	---	---	<1
	04/12/06	---	---	---	---	---	---	---	---	---	<1
	05/10/06	---	---	---	---	---	---	---	---	---	<1
	06/07/06	---	---	---	---	---	---	---	---	---	<1
	07/05/06	---	---	---	---	---	---	---	---	---	<1
	08/02/06	---	---	---	---	---	---	---	---	---	<1
	09/06/06	---	---	---	---	---	---	---	---	---	<1
	10/04/06	---	---	---	---	---	---	---	---	---	<1
	11/01/06	---	---	---	---	---	---	---	---	---	<1
	12/06/06	---	---	---	---	---	---	---	---	---	<1
	01/04/07	---	---	---	---	---	---	---	---	---	<1
	02/07/07	---	---	---	---	---	---	---	---	---	<1
	03/07/07	---	---	---	---	---	---	---	---	---	<2
	04/04/07	---	---	---	---	---	---	---	---	---	<2
	05/02/07	---	---	---	---	---	---	---	---	---	<2
	06/06/07	---	---	---	---	---	---	---	---	---	<2
	07/05/07	---	---	---	---	---	---	---	---	---	<2

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
New Clay Well	08/01/07	---	---	---	---	---	---	---	---	---	<2
7S/3W-20	08/15/07	510	270	13	<1	91	1	65	50	83	<2
(Cont)	09/05/07	---	---	---	---	---	---	---	---	---	<2
	12/04/07	---	---	---	---	---	---	---	---	---	<2
	03/26/08	---	---	---	---	---	---	---	---	---	<1
	04/23/08	---	---	---	---	---	---	---	---	---	<1
	05/05/08	---	---	---	---	---	---	---	---	---	<1
	06/02/08	---	---	---	---	---	---	---	---	---	<1
	07/07/08	---	---	---	---	---	---	---	---	---	<1
	09/02/08	---	---	---	---	---	---	---	---	---	<2
	01/19/09	---	---	---	---	---	---	---	---	---	<2
	11/13/09	630	350	25	4.7	97	1.5	84	76	110	---
	11/17/09	---	---	---	---	---	---	---	---	---	<2
	08/25/11	700	380	30	2.7	110	1.8	97	62	150	<1.0
	05/21/12	---	---	---	---	---	---	---	---	---	<0.20
	06/01/12	590	340	19	<1.0	93	1.4	83	56	110	<1.0
	10/04/12	600	340	20	<1.0	96	1.1	84	55	110	<1.0
	11/05/12	560	320	18	<1.0	93	1.1	82	60	100	<1.0
	11/14/12	---	---	---	---	---	---	---	---	---	<1.0
	12/04/12	550	340	16	<1.0	91	<1.0	74	58	96	<1.0
	12/10/12	---	---	---	---	---	---	---	---	---	<1.0
	01/07/13	560	340	19	<1.0	96	1.1	78	57	93	<1.0
	01/14/13	---	---	---	---	---	---	---	---	---	<1.0
	02/05/13	540	300	17	<1.0	85	2.0	75	57	98	<1.0
	02/11/13	---	---	---	---	---	---	---	---	---	<1.0
	03/04/13	590	300	19	<1.0	98	<1.0	82	58	150	<1.0
	03/11/13	---	---	---	---	---	---	---	---	---	<1.0
	04/09/13	520	280	18	<1.0	91	1.0	74	56	80	<1.0
	05/05/14	610	340	23	<1.0	93	1.3	84	60	100	<1.0
	05/12/14	---	---	---	---	---	---	---	---	---	<1.0
	05/28/14	---	---	23	<1.0	100	1.3	---	---	---	---
	06/02/14	580	340	22	<1.0	94	1.1	81	58	100	<1.0
	06/16/14	---	---	---	---	---	---	---	---	---	<1.0
	07/07/14	560	310	21	<1.0	94	1.2	80	56	94	<1.0
	08/11/14	---	---	---	---	---	---	---	---	---	<1.0
	08/11/14	560	270	21	<1.0	92	1.2	81	62	98	<1.0
Lynch Well 7S/3W-17R02	06/16/89	760	410	70	17	55	1	86	30	262	8
Morris Well 7S/3W-19R	09/07/90	530	280	38	7	68	3	50	49	168	3
Alson Well	06/06/90	1520	915	138	46	110	1	250	81	433	31
7S/3W-7M	07/21/98	1260	880	100	37	120	<1	180	92	330	23
	09/09/98	1200	850	110	39	120	<1	180	100	320	23
	05/03/00	---	---	---	---	---	---	---	---	---	20
	05/19/00	1290	800	97	36	110	<1	180	96	330	19
	11/28/01	1290	750	93	33	110	<1	180	96	310	17
	03/06/02	---	---	---	---	---	---	---	---	---	20
	07/01/02	---	650	---	---	---	---	---	---	270	---
	10/03/03	880	550	80	26	95	---	ND	ND	259	ND

ND - None Detected

TABLE D-3

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY WESTERN MUNICIPAL WATER DISTRICT
MURRIETA DIVISION

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Alson Well	01/27/05	1100	640	100	32	110	---	150	81	320	---
7S/3W-7M	01/26/06	1500	870	120	41	120	1.2	230	120	---	18
(Cont)	04/12/06	---	---	---	---	---	---	---	---	---	19
	05/10/06	---	---	---	---	---	---	---	---	---	18
	06/28/06	---	---	---	---	---	---	---	---	---	20
	07/26/06	---	---	---	---	---	---	---	---	---	20
	08/23/06	---	---	---	---	---	---	---	---	---	18
	09/27/06	---	---	---	---	---	---	---	---	---	21
	10/25/06	---	---	---	---	---	---	---	---	---	22
	11/22/06	---	---	---	---	---	---	---	---	---	22
	12/27/06	---	---	---	---	---	---	---	---	---	21
	01/24/07	---	---	---	---	---	---	---	---	---	22
	02/28/07	---	---	---	---	---	---	---	---	---	22
	03/29/07	---	---	---	---	---	---	---	---	---	23
	04/25/07	---	---	---	---	---	---	---	---	---	19

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TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	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
	08/09/96	820	480	69	14	83	2	110	15	310	<2
	10/16/97	---	---	---	---	---	---	---	---	---	<2
	08/11/99	840	510	70	14	85	2	110	17	300	<2
	06/25/02	---	---	---	---	---	---	---	---	---	<2
	08/14/02	870	500	66	14	85	2.5	120	15	250	<2
	06/11/03	---	---	---	---	---	---	---	---	---	<2
	06/15/04	---	---	---	---	---	---	---	---	---	<2
	06/14/05	---	---	---	---	---	---	---	---	---	<1
	08/09/05	880	440	75	15	87	2.5	140	22	300	<1
	06/07/06	---	---	---	---	---	---	---	---	---	<1
	06/01/07	---	---	---	---	---	---	---	---	---	<2
	06/03/08	---	620	---	---	---	---	---	---	---	<2
	08/11/08	1000	550	91	18	110	2.9	150	36	300	<2
	09/09/08	---	620	---	---	---	---	---	---	---	---
	01/08/09	---	840	---	---	---	---	---	---	---	
	06/25/09	---	810	---	---	---	---	---	---	---	<2
	03/24/10	---	620	---	---	---	---	---	---	---	---
	06/02/10	---	670	---	---	---	---	---	---	---	<2
	09/01/11	---	620	---	---	---	---	---	---	---	---
	12/09/11	---	610	---	---	---	---	---	---	---	---
	03/07/12	---	650	---	---	---	---	---	---	---	---
	06/12/12	---	650	---	---	---	---	---	---	---	<1
	09/13/12	---	650	---	---	---	---	---	---	---	---
	12/07/12	---	690	---	---	---	---	---	---	---	---
	03/06/13	---	640	---	---	---	---	---	---	---	---
	06/07/13	---	640	---	---	---	---	---	---	---	<1.0
	09/11/13	1100	700	95	19	110	2.8	180	43	310	<1.0
	12/12/13	---	690	---	---	---	---	---	---	---	---
	03/14/14	---	660	---	---	---	---	---	---	---	---
	06/10/14	1300	710	93	18	120	3.0	200	49	320	---
	06/19/14	---	---	---	---	---	---	---	---	---	<1.0
	09/17/14	---	680	---	---	---	---	---	---	---	---
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
	06/09/97	---	---	---	---	---	---	---	---	---	<2
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
	07/07/97	---	---	---	---	---	---	---	---	---	8
	07/20/98	---	---	---	---	---	---	---	---	---	9
	07/20/99	---	---	---	---	---	---	---	---	---	9
	07/06/00	---	---	---	---	---	---	---	---	---	8

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 106	05/01/01	490	300	7	<1	96	<1	70	23	100	8
7S/3W-26R1	07/10/01	---	---	---	---	---	---	---	---	---	12
(Cont)	07/03/02	---	---	---	---	---	---	---	---	---	8
	07/07/03	---	---	---	---	---	---	---	---	---	6.8
	05/11/04	530	310	9	<1	93	1	80	25	88	8
	07/13/04	---	---	---	---	---	---	---	---	---	8
	07/07/05	---	---	---	---	---	---	---	---	---	6.5
	07/19/06	---	---	---	---	---	---	---	---	---	6.1
	05/02/07	550	290	8.8	<1	91	<1	84	26	85	3.7
	07/03/07	---	---	---	---	---	---	---	---	---	6
	07/07/08	---	370	---	---	---	---	---	---	---	12
	01/13/09	---	440	---	---	---	---	---	---	---	---
	04/16/09	---	310	---	---	---	---	---	---	---	---
	07/01/09	---	340	---	---	---	---	---	---	---	6.8
	03/18/10	---	440	---	---	---	---	---	---	---	---
	05/06/10	720	410	23	1.6	120	1.5	130	57	100	12
	06/02/10	---	390	---	---	---	---	---	---	---	---
	07/13/10	---	---	---	---	---	---	---	---	---	2
	09/01/10	---	340	---	---	---	---	---	---	---	---
	12/09/10	---	410	---	---	---	---	---	---	---	---
	04/15/11	---	400	---	---	---	---	---	---	---	---
	07/06/11	---	300	---	---	---	---	---	---	---	6
	10/04/11	---	320	---	---	---	---	---	---	---	---
	01/31/12	---	430	---	---	---	---	---	---	---	---
	04/09/12	---	430	---	---	---	---	---	---	---	---
	10/02/12	---	380	---	---	---	---	---	---	---	---
	01/17/13	---	440	---	---	---	---	---	---	---	---
	04/04/13	---	360	---	---	---	---	---	---	---	---
	05/01/13	730	420	22	1.4	120	1.4	120	56	100	9.8
	07/18/13	---	400	---	---	---	---	---	---	---	11
	10/01/13	---	380	---	---	---	---	---	---	---	---
	01/07/14	---	360	---	---	---	---	---	---	---	---
	04/07/14	---	400	---	---	---	---	---	---	---	---
	07/02/14	---	320	---	---	---	---	---	---	---	5.9
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
	05/13/97	540	300	7	<1	110	<1	110	15	85	4
	05/05/99	---	---	---	---	---	---	---	---	---	8
	05/16/00	630	350	7	<1	110	<1	130	12	65	3
	05/02/01	---	---	---	---	---	---	---	---	---	2
	11/19/02	---	---	---	---	---	---	---	---	---	2
	04/14/05	---	---	---	---	---	---	---	---	---	2
	04/18/06	---	---	---	---	---	---	---	---	---	1
	05/12/06	750	360	8.2	<1	140	<1	190	7.9	50	1.1
	02/13/08	---	---	---	---	---	---	---	---	---	1.4

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 108	08/06/08	---	400	---	---	---	---	---	---	---	---
7S/3W-25E1	02/05/09	---	340	---	---	---	---	---	---	---	2.2
(Cont)	05/08/09	730	380	7.2	<1	130	<1	170	9.4	60	<2.0
	08/05/09	---	370	---	---	---	---	---	---	---	---
	02/03/10	---	---	---	---	---	---	---	---	---	3
	05/06/10	---	380	---	---	---	---	---	---	---	---
	08/13/10	---	350	---	---	---	---	---	---	---	---
	11/03/10	---	380	---	---	---	---	---	---	---	---
	02/02/11	---	350	---	---	---	---	---	---	---	2
	05/05/11	---	380	---	---	---	---	---	---	---	---
	08/02/11	---	400	---	---	---	---	---	---	---	---
	11/01/11	---	350	---	---	---	---	---	---	---	---
	02/08/12	---	350	---	---	---	---	---	---	---	<2.0
	05/02/12	700	380	7.2	<1	130	1.2	180	10	63	2.3
	11/06/12	---	350	---	---	---	---	---	---	---	---
	02/07/13	---	380	---	---	---	---	---	---	---	2.1
	05/01/13	---	350	---	---	---	---	---	---	---	---
	08/13/13	---	400	---	---	---	---	---	---	---	---
	10/23/13	---	390	---	---	---	---	---	---	---	---
	10/31/13	---	440	---	---	---	---	---	---	---	---
	11/12/13	---	340	---	---	---	---	---	---	---	---
	02/04/14	---	360	---	---	---	---	---	---	---	2.1
	05/01/14	---	480	---	---	---	---	---	---	---	---
	08/05/14		380	---	---	---	---	---	---	---	---
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
	06/13/97	1440	1010	130	31	140	4	140	330	280	10
	07/16/97	---	---	---	---	---	---	---	---	---	2.2 as N
	04/14/99	---	---	---	---	---	---	---	---	---	12
	04/11/00	---	---	---	---	---	---	---	---	---	13
	06/21/00	1330	870	120	28	130	4	120	280	270	3.2
	04/10/01	---	---	---	---	---	---	---	---	---	13
	06/11/03	1400	970	140	32	130	4	130	340	290	12
	06/19/03	1400	970	150	32	120	4.2	130	340	290	12
	01/07/04	---	---	---	---	---	---	---	---	---	13
	01/11/05	---	---	---	---	---	---	---	---	---	13
	01/04/06	---	---	---	---	---	---	---	---	---	12
	07/12/06	1300	930	130	30	130	4.8	130	280	280	12
	01/10/07	---	---	---	---	---	---	---	---	---	13
	01/04/08	---	---	---	---	---	---	---	---	---	13
	07/07/08	---	810	---	---	---	---	---	---	---	---
	01/13/09	---	860	---	---	---	---	---	---	---	16
	04/02/09	---	810	---	---	---	---	---	---	---	---
	07/06/09	---	770	---	---	---	---	---	---	---	---
	01/05/10	---	---	---	---	---	---	---	---	---	14
	04/07/10	---	930	---	---	---	---	---	---	---	---
	07/01/10	---	1000	---	---	---	---	---	---	---	---
	10/06/10	---	830	---	---	---	---	---	---	---	---
	01/12/11	---	920	---	---	---	---	---	---	---	14
	01/25/12	---	880	---	---	---	---	---	---	---	12

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 109	04/03/12	---	910	---	---	---	---	---	---	---	---
8S/2W-17J1	10/02/12	---	880	---	---	---	---	---	---	---	---
(Cont)	01/17/13	---	950	---	---	---	---	---	---	---	12
	04/03/13	---	830	---	---	---	---	---	---	---	---
	07/02/13	---	910	---	---	---	---	---	---	---	---
	10/03/13	---	770	---	---	---	---	---	---	---	---
	01/09/14	---	710	---	---	---	---	---	---	---	14
	04/09/14	---	800	---	---	---	---	---	---	---	---
	07/09/14	---	770	---	---	---	---	---	---	---	---
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
	07/20/99	---	---	---	---	---	---	---	---	---	<2
	07/06/00	---	---	---	---	---	---	---	---	---	2
	07/10/01	---	---	---	---	---	---	---	---	---	2
	03/11/02	850	500	58	20	81	5	74	190	160	<2
	07/03/02	---	---	---	---	---	---	---	---	---	<2
	09/16/03	---	---	---	---	---	---	---	---	---	2
	09/01/04	---	---	---	---	---	---	---	---	---	2
	03/02/05	810	510	56	21	79	4.9	76	170	150	<2
	09/07/05	---	---	---	---	---	---	---	---	---	1.8
	09/06/07	---	---	---	---	---	---	---	---	---	2
	03/04/08	980	560	59	21	95	4.6	110	160	190	2.5
	01/20/09	---	610	---	---	---	---	---	---	---	---
	04/02/09	---	550	---	---	---	---	---	---	---	---
	07/09/09	---	560	---	---	---	---	---	---	---	---
	01/06/10	---	560	---	---	---	---	---	---	---	---
	04/07/10	---	630	---	---	---	---	---	---	---	---
	07/01/10	---	730	---	---	---	---	---	---	---	---
	09/01/10	---	---	---	---	---	---	---	---	---	<2
	10/07/10	---	600	---	---	---	---	---	---	---	---
	01/12/11	---	520	---	---	---	---	---	---	---	---
	04/05/11	---	560	---	---	---	---	---	---	---	---
	07/06/11	---	530	---	---	---	---	---	---	---	---
	09/02/11	---	---	---	---	---	---	---	---	---	3.8
	10/13/11	---	470	---	---	---	---	---	---	---	---
	02/16/12	---	440	---	---	---	---	---	---	---	---
	04/04/12	---	400	---	---	---	---	---	---	---	---
	09/05/12	---	---	---	---	---	---	---	---	---	1.5
	10/09/12	---	380	---	---	---	---	---	---	---	---
	01/09/13	---	420	---	---	---	---	---	---	---	---
	04/08/13	---	420	---	---	---	---	---	---	---	---
	07/09/13	---	450	---	---	---	---	---	---	---	---
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
	03/20/97	880	500	53	15	96	2	140	33	200	22
	07/20/98	---	---	---	---	---	---	---	---	---	23

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 113	09/16/98	---	---	---	---	---	---	---	---	---	22
7S/2W-25H01	02/25/99	---	---	---	---	---	---	---	---	---	19
(Cont)	04/14/99	---	---	---	---	---	---	---	---	---	17
	06/03/99	---	---	---	---	---	---	---	---	---	21
	09/14/99	---	---	---	---	---	---	---	---	---	22
	10/21/99	---	---	---	---	---	---	---	---	---	25
	11/02/99	---	---	---	---	---	---	---	---	---	22
	12/14/99	---	---	---	---	---	---	---	---	---	23
	01/11/00	---	---	---	---	---	---	---	---	---	18
	03/07/00	810	470	75	16	59	2	70	94	200	11
	04/11/00	---	---	---	---	---	---	---	---	---	23
	05/03/00	---	---	---	---	---	---	---	---	---	24
	06/21/00	---	---	---	---	---	---	---	---	---	23
	09/13/00	---	---	---	---	---	---	---	---	---	23
	10/06/00	---	---	---	---	---	---	---	---	---	21
	02/14/01	---	---	---	---	---	---	---	---	---	16
	05/30/01	---	---	---	---	---	---	---	---	---	23
	06/12/01	---	---	---	---	---	---	---	---	---	22
	08/01/01	---	---	---	---	---	---	---	---	---	22
	11/13/01	---	---	---	---	---	---	---	---	---	22
	05/01/02	---	---	---	---	---	---	---	---	---	19
	08/06/02	---	---	---	---	---	---	---	---	---	20
	11/05/02	---	---	---	---	---	---	---	---	---	21
	02/07/03	---	---	---	---	---	---	---	---	---	22
	03/05/03	1000	610	65	19	110	2.5	160	41	260	26
	08/05/03	---	---	---	---	---	---	---	---	---	21
	11/13/03	---	---	---	---	---	---	---	---	---	24
	02/10/04	---	---	---	---	---	---	---	---	---	24
	05/04/04	---	---	---	---	---	---	---	---	---	23
	08/10/04	---	---	---	---	---	---	---	---	---	24
	11/17/04	---	---	---	---	---	---	---	---	---	25
	02/09/05	---	---	---	---	---	---	---	---	---	25
	05/12/05	---	---	---	---	---	---	---	---	---	23
	11/02/05	---	---	---	---	---	---	---	---	---	25
	02/14/06	---	---	---	---	---	---	---	---	---	24
	03/08/06	880	540	54	15	100	2.3	140	31	210	24
	05/11/06	---	---	---	---	---	---	---	---	---	24
	08/03/06	---	---	---	---	---	---	---	---	---	21
	11/08/06	---	---	---	---	---	---	---	---	---	23
	02/07/07	---	---	---	---	---	---	---	---	---	24
	05/01/07	---	---	---	---	---	---	---	---	---	23
	08/07/07	---	---	---	---	---	---	---	---	---	23
	02/12/08	---	---	---	---	---	---	---	---	---	22
	05/06/08	---	540	---	---	---	---	---	---	---	21
	08/11/08	---	530	---	---	---	---	---	---	---	21
	11/06/08	---	570	---	---	---	---	---	---	---	24
	02/05/09	---	530	---	---	---	---	---	---	---	21

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 113	03/03/09	930	520	56	15	97	2.1	150	41	210	22
7S/2W-25H01	05/11/09	---	---	---	---	---	---	---	---	---	19
(Cont)	08/04/09	---	520	---	---	---	---	---	---	---	20
	02/02/10	---	510	---	---	---	---	---	---	---	22
	05/07/10	---	600	---	---	---	---	---	---	---	22
	08/10/10	---	540	---	---	---	---	---	---	---	22
	11/03/10	---	520	---	---	---	---	---	---	---	21
	02/15/11	---	550	---	---	---	---	---	---	---	20
	05/04/11	---	550	---	---	---	---	---	---	---	20
	08/03/11	---	540	---	---	---	---	---	---	---	20
	11/02/11	---	540	---	---	---	---	---	---	---	21
	02/02/12	---	580	---	---	---	---	---	---	---	21
	05/03/12	---	570	---	---	---	---	---	---	---	20
	08/09/12	---	---	---	---	---	---	---	---	---	20
	11/02/12	---	600	---	---	---	---	---	---	---	21
	02/12/13	---	550	---	---	---	---	---	---	---	22
	05/14/13	---	570	---	---	---	---	---	---	---	20
	08/14/13	---	540	---	---	---	---	---	---	---	20
	11/06/13	---	520	---	---	---	---	---	---	---	21
	02/07/14	---	480	---	---	---	---	---	---	---	20
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
	09/16/96	970	560	33	2	180	2	120	120	230	<2
	07/23/97	---	---	---	---	---	---	---	---	---	0.2 as N
	09/16/98	---	---	---	---	---	---	---	---	---	2
	11/02/99	1040	580	46	4	170	2	130	100	240	<2
	09/20/00	---	---	---	---	---	---	---	---	---	<2
	08/18/02	---	---	---	---	---	---	---	---	---	<2
	11/08/02	1100	590	46	4.5	160	1.3	140	94	240	<2
	09/23/03	---	---	---	---	---	---	---	---	---	<2
	12/30/04	---	---	---	---	---	---	---	---	---	<2
	01/25/05	---	---	---	---	---	---	---	---	---	<2
	09/07/05	---	---	---	---	---	---	---	---	---	<1
	11/03/05	980	590	55	5	150	1.7	140	110	240	<1
	09/05/07	---	---	---	---	---	---	---	---	---	1.1
	09/08/08	---	670	---	---	---	---	---	---	---	<2
	11/06/08	1100	640	71	150	150	1.9	150	140	250	ND
	12/05/08	---	660	---	---	---	---	---	---	---	---
	03/03/09	---	620	---	---	---	---	---	---	---	---
	06/04/09	---	610	---	---	---	---	---	---	---	---
	03/03/10	---	640	---	---	---	---	---	---	---	---
	06/02/10	---	630	---	---	---	---	---	---	---	---
	09/02/10	---	640	---	---	---	---	---	---	---	2.2
	12/08/10	---	640	---	---	---	---	---	---	---	---

ND - None Detected

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 118	03/02/11	---	650	---	---	---	---	---	---	---	---
8S/3W-11B	06/08/11	---	640	---	---	---	---	---	---	---	---
(Cont)	09/02/11	---	620	---	---	---	---	---	---	---	2
	12/06/11	---	610	---	---	---	---	---	---	---	---
	06/12/12	---	640	---	---	---	---	---	---	---	---
	11/14/12	1100	680	70	7.2	150	2.0	140	130	250	1.1
	12/05/12	---	610	---	---	---	---	---	---	---	---
	03/06/13	---	610	---	---	---	---	---	---	---	---
	09/17/13	---	600	---	---	---	---	---	---	---	<1.0
	12/10/13	---	640	---	---	---	---	---	---	---	---
	03/12/14	---	600	---	---	---	---	---	---	---	---
	06/05/14	---	630	---	---	---	---	---	---	---	---
	09/03/14	---	620	---	---	---	---	---	---	---	<1.0
No. 119	07/16/96	450	280	44	9	35	<1	39	18	180	15
8S/2W-19J	08/14/97	---	---	---	---	---	---	---	---	---	12
	12/24/97	---	320	---	---	---	---	---	---	---	3.1 as N
	03/04/98	---	380	---	---	---	---	---	---	---	3.3 as N
	06/04/98	---	---	---	---	---	---	---	---	---	3.8 as N
	06/12/98	---	400	---	---	---	---	---	---	---	---
	09/16/98	---	---	---	---	---	---	---	---	---	3.7 as N
	01/08/99	---	430	---	---	---	---	---	---	---	---
	04/13/99	---	---	---	---	---	---	---	---	---	28
	06/02/99	---	560	---	---	---	---	---	---	---	4.8 as N
	07/27/99	940	640	103	21	58	1	70	150	264	30
	09/14/99	---	---	---	---	---	---	---	---	---	22
	09/14/99	---	---	---	---	---	---	---	---	---	4.8 as N
	10/26/99	---	---	---	---	---	---	---	---	---	24
	11/02/99	---	---	---	---	---	---	---	---	---	22
	12/14/99	---	560	---	---	---	---	---	---	---	22
	04/04/00	---	---	---	---	---	---	---	---	---	20
	12/14/00	---	---	---	---	---	---	---	---	---	4.6 as N
	03/29/01	---	---	---	---	---	---	---	---	---	20
	06/20/01	---	---	---	---	---	---	---	---	---	4.2 as N
	09/14/01	---	---	---	---	---	---	---	---	---	4.2 as N
	09/28/01	---	---	---	---	---	---	---	---	---	18
	11/16/01	---	---	---	---	---	---	---	---	---	16
	05/23/02	---	480	---	---	---	---	---	---	---	18
	07/24/02	770	490	81	15	49	1.1	51	90	240	19
	11/08/02	---	---	---	---	---	---	---	---	---	15
	02/19/03	---	---	---	---	---	---	---	---	---	17
	02/10/04	---	---	---	---	---	---	---	---	---	15
	02/28/05	---	---	---	---	---	---	---	---	---	10
	07/06/05	820	600	95	20	63	1.4	64	140	260	13
	02/07/06	---	---	---	---	---	---	---	---	---	15
	02/07/07	---	---	---	---	---	---	---	---	---	15
	02/12/08	---	---	---	---	---	---	---	---	---	15
	05/14/08	---	520	---	---	---	---	---	---	---	13
	07/08/08	810	520	88	17	57	1.4	66	120	250	14
	08/11/08	---	480	---	---	---	---	---	---	---	13
	11/17/08	---	520	---	---	---	---	---	---	---	16
	02/05/09	---	460	---	---	---	---	---	---	---	13

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 119	05/11/09	---	560	---	---	---	---	---	---	---	12
8S/2W-19J	08/04/09	---	540	---	---	---	---	---	---	---	14
(Cont)	01/12/10	---	580	---	---	---	---	---	---	---	15
	04/09/10	---	560	---	---	---	---	---	---	---	13
	07/01/10	---	620	---	---	---	---	---	---	---	14
	10/07/10	---	610	---	---	---	---	---	---	---	14
	01/12/11	---	480	---	---	---	---	---	---	---	13
	04/12/11	---	560	---	---	---	---	---	---	---	12
	07/07/11	840	560	85	18	60	1.9	84	120	250	16
	10/13/11	---	610	---	---	---	---	---	---	---	15
	01/10/12	---	520	---	---	---	---	---	---	---	14
	04/03/12	---	550	---	---	---	---	---	---	---	---
	10/04/12	---	550	---	---	---	---	---	---	---	15
	01/16/13	---	530	---	---	---	---	---	---	---	17
	04/12/13	---	540	---	---	---	---	---	---	---	18
	07/03/13	---	540	---	---	---	---	---	---	---	16
	10/03/13	---	500	---	---	---	---	---	---	---	17
	01/28/14	---	600	---	---	---	---	---	---	---	21
	04/16/14	---	540	---	---	---	---	---	---	---	21
	07/10/14	860	560	90	18	60	1.2	73	110	260	18
	07/10/14	---	500	---	---	---	---	---	---	---	---
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
	07/19/96	630	360	6	<1	120	1	88	42	120	14
	06/16/97	---	---	---	---	---	---	---	---	---	10
	08/14/97	---	---	---	---	---	---	---	---	---	9
	06/02/99	620	360	6	<1	122	<1	84	45	120	10
	06/06/00	---	---	---	---	---	---	---	---	---	11
	06/13/01	---	---	---	---	---	---	---	---	---	12
	06/01/02	670	370	8.1	<1	130	1	86	46	130	11
	06/11/03	---	---	---	---	---	---	---	---	---	12
	06/22/04	---	---	---	---	---	---	---	---	---	15
	06/15/05	720	410	11	<1	140	1.3	90	62	140	12
	06/07/06	---	---	---	---	---	---	---	---	---	11
	06/01/07	---	---	---	---	---	---	---	---	---	10
	06/05/08	690	400	11	<1	140	104	89	66	140	10
	06/05/08	---	400	---	---	---	---	---	---	---	10
	09/15/08	---	350	---	---	---	---	---	---	---	---
	08/21/09	---	500	---	---	---	---	---	---	---	11
	02/02/10	---	440	---	---	---	---	---	---	---	---
	05/05/10	---	440	---	---	---	---	---	---	---	---
	08/09/10	---	430	---	---	---	---	---	---	---	11
	11/03/10	---	400	---	---	---	---	---	---	---	---
	02/02/11	---	440	---	---	---	---	---	---	---	---
	05/04/11	---	450	---	---	---	---	---	---	---	---
	08/02/11	---	420	---	---	---	---	---	---	---	10
	11/03/11	---	380	---	---	---	---	---	---	---	---
	02/07/12	---	430	---	---	---	---	---	---	---	---
	05/03/12	---	410	---	---	---	---	---	---	---	---
	08/09/12	---	400	---	---	---	---	---	---	---	10
	11/01/12	---	440	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 120	02/07/13	---	810	---	---	---	---	---	---	---	---
8S/2W-17G	05/02/13	---	410	---	---	---	---	---	---	---	---
(Cont)	08/19/13	---	460	---	---	---	---	---	---	---	12
	11/07/13	---	450	---	---	---	---	---	---	---	---
	02/04/14	---	430	---	---	---	---	---	---	---	---
	05/06/14	---	420	---	---	---	---	---	---	---	---
	06/03/14	820	600	22	1.6	150	1.7	98	100	150	16
	08/08/14	---	410	---	---	---	---	---	---	---	13
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
	07/18/97	---	---	---	---	---	---	---	---	---	ND
	07/24/97	---	640	---	---	---	---	---	---	---	ND
	08/20/97	---	---	---	---	---	---	---	---	---	ND
	09/03/97	---	---	---	---	---	---	---	---	---	ND
	06/19/02	---	---	---	---	---	---	---	---	---	ND
No. 122	06/23/97	---	---	---	---	---	---	---	---	---	6
8S/2W-20P1	07/25/97	660	460	64	13	44	1	61	65	190	8
	10/10/97	---	---	---	---	---	---	---	---	---	9
	12/23/97	---	400	---	---	---	---	---	---	---	1.8 as N
	03/25/98	---	450	---	---	---	---	---	---	---	2.2 as N
	06/03/98	---	---	---	---	---	---	---	---	---	2.4 as N
	06/05/98	---	460	---	---	---	---	---	---	---	---
	09/17/98	---	---	---	---	---	---	---	---	---	2.2 as N
	01/08/99	---	450	---	---	---	---	---	---	---	---
	06/03/99	---	470	---	---	---	---	---	---	---	2.1 as N
	04/13/99	---	---	---	---	---	---	---	---	---	9
	09/21/99	---	---	---	---	---	---	---	---	---	2.1 as N
	03/07/00	---	---	---	---	---	---	---	---	---	16
	04/04/00	---	---	---	---	---	---	---	---	---	9
	06/28/00	780	470	79	16	62	1	73	100	210	11
	12/13/00	---	---	---	---	---	---	---	---	---	2.5 as N
	03/27/01	---	---	---	---	---	---	---	---	---	2.5 as N
	04/18/01	---	---	---	---	---	---	---	---	---	10
	06/20/01	---	---	---	---	---	---	---	---	---	2.4 as N
	09/13/01	---	---	---	---	---	---	---	---	---	2.7 as N
	12/13/01	---	550	---	---	---	---	---	---	---	---
	05/14/02	---	570	---	---	---	---	---	---	---	9
	03/05/03	---	---	---	---	---	---	---	---	---	10
	03/16/04	---	---	---	---	---	---	---	---	---	12
	03/17/05	---	---	---	---	---	---	---	---	---	9
	03/21/06	---	---	---	---	---	---	---	---	---	9.4
	03/06/07	---	---	---	---	---	---	---	---	---	9.7
	03/03/08	---	---	---	---	---	---	---	---	---	8.5
	03/07/08	---	620	---	---	---	---	---	---	---	---
	10/08/08	---	620	---	---	---	---	---	---	---	---
	01/20/09	---	680	---	---	---	---	---	---	---	---

ND - None Detected

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 122	03/10/09	---	---	---	---	---	---	---	---	---	8.9
8S/2W-20P1	04/16/09	---	660	---	---	---	---	---	---	---	---
(Cont)	07/14/09	---	670	---	---	---	---	---	---	---	---
	03/15/10	---	640	---	---	---	---	---	---	---	10
	03/10/11	---	---	---	---	---	---	---	---	---	9.6
	05/25/11	---	670	---	---	---	---	---	---	---	---
	08/04/11	---	680	---	---	---	---	---	---	---	---
	01/10/12	---	680	---	---	---	---	---	---	---	---
	03/06/12	---	---	---	---	---	---	---	---	---	9.1
	04/03/12	---	730	---	---	---	---	---	---	---	---
	08/07/12	1100	710	110	20	87	1.9	84	190	260	8.0
	10/04/12	---	680	---	---	---	---	---	---	---	---
	01/17/13	---	720	---	---	---	---	---	---	---	---
	03/07/13	---	---	---	---	---	---	---	---	---	8.4
	04/17/13	---	700	---	---	---	---	---	---	---	---
	07/03/13	---	740	---	---	---	---	---	---	---	---
	10/03/13	---	700	---	---	---	---	---	---	---	---
	01/28/14	---	730	---	---	---	---	---	---	---	---
	03/13/14	---	---	---	---	---	---	---	---	---	9.5
	04/16/14	---	680	---	---	---	---	---	---	---	---
	07/10/14	---	620	---	---	---	---	---	---	---	---
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
	02/05/97	930	550	55	18	110	5	83	130	250	1.3
	04/27/99	---	---	---	---	---	---	---	---	---	3
	06/02/99	---	---	---	---	---	---	---	---	---	3
	07/20/99	---	---	---	---	---	---	---	---	---	2
	08/11/99	---	---	---	---	---	---	---	---	---	2
	09/14/99	---	---	---	---	---	---	---	---	---	2
	10/21/99	---	---	---	---	---	---	---	---	---	2
	11/02/99	---	---	---	---	---	---	---	---	---	2
	02/09/00	1150	610	59	20	100	5	83	150	240	3
	02/09/01	---	---	---	---	---	---	---	---	---	3
	03/10/03	880	550	59	20	87	4.5	80	180	170	<2
	02/03/04	---	---	---	---	---	---	---	---	---	2
	02/14/05	---	---	---	---	---	---	---	---	---	2
	02/14/06	---	---	---	---	---	---	---	---	---	3.6
	03/14/06	890	530	65	22	88	5	91	180	180	2.3
	04/24/07	---	---	---	---	---	---	---	---	---	1.4
	05/01/07	---	---	---	---	---	---	---	---	---	2.7
	06/05/07	---	---	---	---	---	---	---	---	---	2.2
	07/05/07	---	---	---	---	---	---	---	---	---	2.5
	08/07/07	---	---	---	---	---	---	---	---	---	2.2
	09/05/07	---	---	---	---	---	---	---	---	---	2.1
	09/06/07	---	---	---	---	---	---	---	---	---	2
	10/03/07	---	---	---	---	---	---	---	---	---	2
	12/13/07	---	---	---	---	---	---	---	---	---	1.9

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 123	01/10/08	---	---	---	---	---	---	---	---	---	1.4
8S/1W-7B	02/13/08	---	---	---	---	---	---	---	---	---	1.1
(Cont)	03/03/08	---	---	---	---	---	---	---	---	---	1.3
	03/07/08	---	540	---	---	---	---	---	---	---	---
	04/08/08	---	---	---	---	---	---	---	---	---	2.2
	05/12/08	---	---	---	---	---	---	---	---	---	2.4
	06/23/08	---	---	---	---	---	---	---	---	---	2.7
	07/08/08	---	---	---	---	---	---	---	---	---	2.9
	08/12/08	---	---	---	---	---	---	---	---	---	2.6
	09/15/08	---	---	---	---	---	---	---	---	---	2.7
	11/06/08	---	---	---	---	---	---	---	---	---	2.6
	12/05/08	---	---	---	---	---	---	---	---	---	2
	01/07/09	---	640	---	---	---	---	---	---	---	ND
	02/04/09	---	---	---	---	---	---	---	---	---	1.6
	03/09/09	980	610	62	21	97	5	98	180	110	<2.0
	04/02/09	---	600	---	---	---	---	---	---	---	<2.0
	05/07/09	---	---	---	---	---	---	---	---	---	<2.0
	06/01/09	---	---	---	---	---	---	---	---	---	<2.0
	07/09/09	---	590	---	---	---	---	---	---	---	<2.0
	08/05/09	---	---	---	---	---	---	---	---	---	<2.0
	01/06/10	---	590	---	---	---	---	---	---	---	1.4
	02/02/10	---	---	---	---	---	---	---	---	---	1.1
	03/03/10	---	---	---	---	---	---	---	---	---	1.2
	04/08/10	---	600	---	---	---	---	---	---	---	1.2
	05/06/10	---	---	---	---	---	---	---	---	---	1.5
	06/02/10	---	---	---	---	---	---	---	---	---	<2
	07/01/10	---	750	---	---	---	---	---	---	---	<2
	08/10/10	---	---	---	---	---	---	---	---	---	2.4
	09/01/10	---	---	---	---	---	---	---	---	---	2.1
	10/07/10	---	630	---	---	---	---	---	---	---	<2
	11/01/10	---	---	---	---	---	---	---	---	---	<2
	12/02/10	---	---	---	---	---	---	---	---	---	<2
	01/12/11	---	570	---	---	---	---	---	---	---	2
	02/15/11	---	---	---	---	---	---	---	---	---	2
	03/09/11	---	---	---	---	---	---	---	---	---	2
	04/05/11	---	580	---	---	---	---	---	---	---	2
	05/05/11	---	---	---	---	---	---	---	---	---	2
	06/07/11	---	---	---	---	---	---	---	---	---	2
	07/06/11	---	600	---	---	---	---	---	---	---	2
	08/03/11	---	---	---	---	---	---	---	---	---	2
	09/02/11	---	---	---	---	---	---	---	---	---	2.3
	10/13/11	---	550	---	---	---	---	---	---	---	2.2
	11/10/11	---	---	---	---	---	---	---	---	---	<2
	12/07/11	---	---	---	---	---	---	---	---	---	<2
	01/06/12	---	540	---	---	---	---	---	---	---	<2.0

ND - None Detected

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 123	09/05/12	---	---	---	---	---	---	---	---	---	1.4
8S/1W-7B	10/10/12	---	360	---	---	---	---	---	---	---	1.2
(Cont)	11/01/12	---	---	---	---	---	---	---	---	---	1.6
	11/28/12	710	450	46	16	69	4.3	69	110	150	1.7
	12/05/12	---	---	---	---	---	---	---	---	---	1.9
	01/09/13	---	440	---	---	---	---	---	---	---	1.3
	02/12/13	---	---	---	---	---	---	---	---	---	1.4
	03/06/13	---	---	---	---	---	---	---	---	---	1.6
	04/08/13	---	430	---	---	---	---	---	---	---	1.8
	05/07/13	---	---	---	---	---	---	---	---	---	1.9
	06/05/13	---	---	---	---	---	---	---	---	---	1.7
	07/09/13	---	470	---	---	---	---	---	---	---	2.2
	08/15/13	---	---	---	---	---	---	---	---	---	1.8
	09/05/13	---	---	---	---	---	---	---	---	---	1.6
	10/08/13	---	490	---	---	---	---	---	---	---	1.7
	11/06/13	---	---	---	---	---	---	---	---	---	1.7
	12/11/13	---	---	---	---	---	---	---	---	---	1.9
	01/14/14	---	530	---	---	---	---	---	---	---	1.5
	02/06/14	---	---	---	---	---	---	---	---	---	2.0
	03/05/14	---	---	---	---	---	---	---	---	---	1.3
	04/09/14	---	550	---	---	---	---	---	---	---	1.8
	05/08/14	---	---	---	---	---	---	---	---	---	1.8
	06/03/14	---	---	---	---	---	---	---	---	---	2.1
	07/03/14	---	540	---	---	---	---	---	---	---	2.1
	08/07/14	---	---	---	---	---	---	---	---	---	2.1
	09/03/14	---	---	---	---	---	---	---	---	---	1.2
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
	10/26/99	700	420	45	4	94	3	97	61	160	16
	07/06/00	---	---	---	---	---	---	---	---	---	17
	07/10/01	---	---	---	---	---	---	---	---	---	16
	07/03/02	---	---	---	---	---	---	---	---	---	10
	10/02/02	600	330	24	2.4	92	1.9	75	38	150	10
	01/08/03	---	---	---	---	---	---	---	---	---	2.3 as N
	07/01/03	---	---	---	---	---	---	---	---	---	8.3
	07/07/04	---	---	---	---	---	---	---	---	---	9.4
	07/06/05	---	---	---	---	---	---	---	---	---	8.4
	10/05/05	580	360	19	2.4	96	1.6	74	35	140	7.8
	09/26/06	---	---	---	---	---	---	---	---	---	17
	09/05/07	---	---	---	---	---	---	---	---	---	8.2
	10/28/08	780	490	52	6.5	84	3.1	91	84	150	1.8
	01/13/09	---	390	---	---	---	---	---	---	---	---
	04/07/09	---	330	---	---	---	---	---	---	---	---
	07/09/09	---	320	---	---	---	---	---	---	---	---
	01/06/10	---	390	---	---	---	---	---	---	---	---
	04/08/10	---	360	---	---	---	---	---	---	---	---
	07/01/10	---	390	---	---	---	---	---	---	---	---
	10/06/10	---	320	---	---	---	---	---	---	---	10
	01/04/11	---	390	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 124	04/05/11	---	390	---	---	---	---	---	---	---	---
8S/2W-11R1	07/06/11	---	350	---	---	---	---	---	---	---	---
(Cont)	10/12/11	610	390	23	2.5	95	2.2	80	44	150	9.8
	10/12/11	---	320	---	---	---	---	---	---	---	10
	01/10/12	---	330	---	---	---	---	---	---	---	---
	04/04/12	---	410	---	---	---	---	---	---	---	---
	10/09/12	---	360	---	---	---	---	---	---	---	9.3
	03/20/13	---	480	---	---	---	---	---	---	---	---
	04/08/13	---	410	---	---	---	---	---	---	---	---
	07/19/13	---	360	---	---	---	---	---	---	---	---
	10/08/13	---	360	---	---	---	---	---	---	---	11
	01/14/14	---	350	---	---	---	---	---	---	---	---
	04/09/14	---	400	---	---	---	---	---	---	---	---
	07/24/14	---	460	---	---	---	---	---	---	---	---
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
	06/09/97	---	---	---	---	---	---	---	---	---	2
	09/17/98	---	---	---	---	---	---	---	---	---	3
	06/03/99	720	440	10	3	135	2	89	76	170	<2
	11/02/99	---	---	---	---	---	---	---	---	---	3
	11/15/00	---	---	---	---	---	---	---	---	---	2
	07/24/01	---	---	---	---	---	---	---	---	---	4
	06/19/02	700	400	8.8	2.3	130	1.8	87	54	170	<2
	07/03/02	---	---	---	---	---	---	---	---	---	2
	01/13/03	---	---	---	---	---	---	---	---	---	.38 as N
	07/01/03	---	---	---	---	---	---	---	---	---	<2
	06/09/04	---	---	---	---	---	---	---	---	---	<2
	06/14/05	650	350	8.3	2.1	130	1.6	82	52	180	1.8
	06/13/06	---	---	---	---	---	---	---	---	---	2.8
	06/05/07	---	---	---	---	---	---	---	---	---	1.6
	06/10/08	770	460	17	4.6	150	2.4	93	64	190	2.7
	09/15/08	---	370	---	---	---	---	---	---	---	---
	12/05/08	---	450	---	---	---	---	---	---	---	---
	03/04/09	---	440	---	---	---	---	---	---	---	---
	06/01/09	---	560	---	---	---	---	---	---	---	<2.0
	07/27/10	---	480	---	---	---	---	---	---	---	3.7
	10/06/10	---	430	---	---	---	---	---	---	---	---
	01/14/11	---	420	---	---	---	---	---	---	---	---
	04/05/11	---	390	---	---	---	---	---	---	---	---
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
	07/07/97	---	---	---	---	---	---	---	---	---	<2
	07/16/97	---	---	---	---	---	---	---	---	---	0.2 as N
	07/23/97	---	---	---	---	---	---	---	---	---	0.2 as N
	08/20/97	---	---	---	---	---	---	---	---	---	0.4 as N
	09/03/97	---	---	---	---	---	---	---	---	---	0.2 as N
	09/17/97	---	---	---	---	---	---	---	---	---	0.2 as N
	07/20/98	520	330	2	<1	120	<1	56	11	130	<2

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 126	09/16/98	---	300	---	---	---	---	---	---	---	0.4 as N
8S/2W-15H	04/14/99	---	---	---	---	---	---	---	---	---	2
(Cont)	04/11/00	---	---	---	---	---	---	---	---	---	<2
	04/11/01	---	---	---	---	---	---	---	---	---	2
	07/12/01	530	300	2	<1	100	<1	53	12	140	<2
	06/20/02	---	---	---	---	---	---	---	---	---	<2
	08/06/02	---	---	---	---	---	---	---	---	---	<2
	01/08/03	---	---	---	---	---	---	---	---	---	0.25 as N
	11/04/03	---	---	---	---	---	---	---	---	---	<2
	07/22/04	520	310	1.5	ND	110	ND	59	10	120	0.27 as N
	11/03/04	---	---	---	---	---	---	---	---	---	<2
	11/02/05	---	---	---	---	---	---	---	---	---	<1
	11/08/06	---	---	---	---	---	---	---	---	---	<1
	07/03/07	530	330	1.4	<1	110	<1	62	10	140	<2
	11/14/07	---	---	---	---	---	---	---	---	---	1.9
	08/07/08	---	280	---	---	---	---	---	---	---	---
	02/04/09	---	280	---	---	---	---	---	---	---	---
	05/06/09	---	280	---	---	---	---	---	---	---	---
	08/04/09	---	270	---	---	---	---	---	---	---	---
	02/03/10	---	290	---	---	---	---	---	---	---	---
	05/06/10	---	390	---	---	---	---	---	---	---	---
	07/13/10	530	300	1.6	<1	110	<1	58	11	130	<2
	08/24/10	---	330	---	---	---	---	---	---	---	---
	11/03/10	---	300	---	---	---	---	---	---	---	1.5
	02/04/11	---	280	---	---	---	---	---	---	---	---
	05/03/11	---	300	---	---	---	---	---	---	---	---
	08/02/11	---	280	---	---	---	---	---	---	---	---
	11/01/11	---	270	---	---	---	---	---	---	---	<2
	02/06/12	---	350	---	---	---	---	---	---	---	---
	05/02/12	---	330	---	---	---	---	---	---	---	---
	08/06/12	---	290	---	---	---	---	---	---	---	---
	11/05/12	---	320	---	---	---	---	---	---	---	1.9
	02/05/13	---	290	---	---	---	---	---	---	---	---
	05/01/13	---	280	---	---	---	---	---	---	---	---
	08/01/13	---	290	---	---	---	---	---	---	---	---
	08/01/13	640	310	2.4	<1.0	120	<1.0	81	13	140	2.3
	11/04/13	---	280	---	---	---	---	---	---	---	<1.0
	02/04/14	---	270	---	---	---	---	---	---	---	---
	08/04/14	---	270	---	---	---	---	---	---	---	---
No. 128	07/06/89	400	230	27	3	54	2	59	7	101	25
7S/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
	07/07/97	---	---	---	---	---	---	---	---	---	15
	07/20/98	370	260	12	<1	71	1	48	11	110	14
	06/02/99	---	---	---	---	---	---	---	---	---	13
	06/08/01	---	---	---	---	---	---	---	---	---	14
	07/10/01	400	230	10	<1	68	<1	44	12	100	12
	06/20/02	---	---	---	---	---	---	---	---	---	12
	01/08/03	---	---	---	---	---	---	---	---	---	12
	01/14/04	---	---	---	---	---	---	---	---	---	10
	07/14/04	390	240	8.3	1	67	1	48	11	92	13
	01/11/05	---	---	---	---	---	---	---	---	---	6
	01/10/06	---	---	---	---	---	---	---	---	---	7.9

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	08/09/96	460	270	19	3	67	2	70	15	100	11
	02/04/97	---	---	---	---	---	---	---	---	---	53
	12/20/00	550	330	44	13	47	2	81	14	130	20
	03/22/01	---	---	---	---	---	---	---	---	---	20
	04/17/01	---	---	---	---	---	---	---	---	---	20
	05/02/01	---	---	---	---	---	---	---	---	---	18
	06/08/01	---	---	---	---	---	---	---	---	---	20
	10/16/01	---	---	---	---	---	---	---	---	---	19
	11/13/01	---	---	---	---	---	---	---	---	---	18
	02/26/02	---	---	---	---	---	---	---	---	---	16
	05/23/02	---	---	---	---	---	---	---	---	---	14
	09/18/02	---	---	---	---	---	---	---	---	---	15
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
	02/05/97	780	450	4	<1	170	<1	78	82	150	5
	05/14/97	---	---	---	---	---	---	---	---	---	4
	04/14/99	---	---	---	---	---	---	---	---	---	5
	02/10/00	750	440	4	<1	170	<1	76	77	170	5
	04/12/00	---	---	---	---	---	---	---	---	---	5
	05/25/00	---	---	---	---	---	---	---	---	---	6
	05/24/01	---	---	---	---	---	---	---	---	---	6
	05/24/02	---	---	---	---	---	---	---	---	---	5
	02/19/03	820	460	4.1	<1	170	<1	87	96	180	5
	05/04/04	---	---	---	---	---	---	---	---	---	5.1
	05/12/05	---	---	---	---	---	---	---	---	---	5
	02/14/06	800	450	4.1	<1	170	<1	83	91	200	5.1
	05/12/06	---	---	---	---	---	---	---	---	---	4.5
	05/01/07	---	---	---	---	---	---	---	---	---	4.5
	05/07/08	---	440	---	---	---	---	---	---	---	4.1
	08/12/08	---	470	---	---	---	---	---	---	---	---
	11/09/08	---	560	---	---	---	---	---	---	---	---
	02/11/09	840	440	4.6	<1	170	<1	91	110	150	4.8
	05/11/09	---	480	---	---	---	---	---	---	---	3.5
	08/31/09	---	470	---	---	---	---	---	---	---	---
	02/04/10	---	480	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 130	05/06/10	---	410	---	---	---	---	---	---	---	4.5
8S/2W-11R	08/11/10	---	460	---	---	---	---	---	---	---	---
(Cont)	11/01/10	---	480	---	---	---	---	---	---	---	---
	12/02/10	---	400	---	---	---	---	---	---	---	---
	07/15/11	---	480	---	---	---	---	---	---	---	---
	08/04/11	---	---	---	---	---	---	---	---	---	4.7
	10/13/11	---	490	---	---	---	---	---	---	---	---
	01/10/12	---	460	---	---	---	---	---	---	---	---
	02/09/12	810	480	4.4	<1.0	160	1.2	80	100	180	4.0
	08/08/12	---	---	---	---	---	---	---	---	---	4.2
	10/09/12	---	480	---	---	---	---	---	---	---	---
	01/03/13	---	500	---	---	---	---	---	---	---	---
	04/08/13	---	490	---	---	---	---	---	---	---	---
	07/09/13	---	460	---	---	---	---	---	---	---	---
	08/15/13	---	---	---	---	---	---	---	---	---	4.2
	10/08/13	---	470	---	---	---	---	---	---	---	---
	01/14/14	---	470	---	---	---	---	---	---	---	---
	04/09/14	---	500	---	---	---	---	---	---	---	---
	07/08/14	---	480	---	---	---	---	---	---	---	---
	08/07/14	---	---	---	---	---	---	---	---	---	4.7
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
	03/20/97	660	370	6	<1	125	1	81	73	100	2
	07/07/97	---	---	---	---	---	---	---	---	---	<2
	07/27/98	---	---	---	---	---	---	---	---	---	2
	06/03/99	---	---	---	---	---	---	---	---	---	<2
	03/07/00	720	380	9	<1	140	2	81	80	130	3
	06/21/00	---	---	---	---	---	---	---	---	---	2
	06/27/01	---	---	---	---	---	---	---	---	---	2
	06/05/02	---	---	---	---	---	---	---	---	---	<2
	03/13/03	700	390	8	<1	130	1.4	88	88	130	3
	06/11/03	---	---	---	---	---	---	---	---	---	<2
	06/09/04	---	---	---	---	---	---	---	---	---	<2
	06/15/05	---	---	---	---	---	---	---	---	---	2
	03/07/06	710	420	9	<1	140	1.5	93	93	130	3
	06/07/06	---	---	---	---	---	---	---	---	---	1.7
	06/26/07	---	---	---	---	---	---	---	---	---	2.4
	06/04/08	---	390	---	---	---	---	---	---	---	1.5
	09/15/08	---	330	---	---	---	---	---	---	---	---
	12/03/08	---	430	---	---	---	---	---	---	---	---
	03/04/09	640	370	6	<1	130	1.2	71	77	130	<2.0
	03/04/09	---	380	---	---	---	---	---	---	---	---
	06/02/09	---	360	---	---	---	---	---	---	---	<2.0
	03/03/10	---	380	---	---	---	---	---	---	---	---
	06/02/10	---	360	---	---	---	---	---	---	---	2
	09/01/10	---	360	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 131	03/02/11	---	430	---	---	---	---	---	---	---	---
8S/1W-12J	06/07/11	---	360	---	---	---	---	---	---	---	2
(Cont)	09/02/11	---	330	---	---	---	---	---	---	---	---
	12/07/11	---	420	---	---	---	---	---	---	---	---
	03/02/12	---	410	---	---	---	---	---	---	---	---
	06/05/12	---	350	---	---	---	---	---	---	---	1.5
	09/05/12	---	370	---	---	---	---	---	---	---	---
	12/04/12	---	370	---	---	---	---	---	---	---	---
	03/06/13	---	350	---	---	---	---	---	---	---	---
	06/05/13	---	360	---	---	---	---	---	---	---	1.8
	09/04/13	---	370	---	---	---	---	---	---	---	---
	12/04/13	---	370	---	---	---	---	---	---	---	---
	03/11/14	---	440	---	---	---	---	---	---	---	---
	06/03/14	---	460	---	---	---	---	---	---	---	3.4
	09/03/14	---	380	---	---	---	---	---	---	---	---
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
	07/20/98	900	590	69	20	110	5	89	150	230	2
	01/06/99	---	---	---	---	---	---	---	---	---	2
	02/03/99	---	---	---	---	---	---	---	---	---	2
	04/14/99	---	---	---	---	---	---	---	---	---	3
	06/03/99	---	---	---	---	---	---	---	---	---	3
	07/27/99	---	---	---	---	---	---	---	---	---	5
	08/11/99	---	---	---	---	---	---	---	---	---	4
	09/15/99	---	---	---	---	---	---	---	---	---	4
	10/21/99	---	---	---	---	---	---	---	---	---	4
	11/02/99	---	---	---	---	---	---	---	---	---	3
	12/15/99	---	---	---	---	---	---	---	---	---	3
	05/03/00	---	---	---	---	---	---	---	---	---	2
	05/16/01	800	500	57	17	74	5	63	180	150	3
	05/01/02	---	---	---	---	---	---	---	---	---	2
	05/03/05	---	---	---	---	---	---	---	---	---	<2
	05/12/06	---	---	---	---	---	---	---	---	---	3.2
	05/01/07	---	---	---	---	---	---	---	---	---	4.7
	05/03/07	820	500	53	16	64	4.4	72	150	160	3.2
	05/06/08	---	670	---	---	---	---	---	---	---	3.6
	08/12/08	---	690	---	---	---	---	---	---	---	---
	11/06/08	---	650	---	---	---	---	---	---	---	---
	02/05/09	---	570	---	---	---	---	---	---	---	---
	05/11/09	---	590	---	---	---	---	---	---	---	<2.0
	08/05/09	---	600	---	---	---	---	---	---	---	---
	02/03/10	---	580	---	---	---	---	---	---	---	---
	05/06/10	960	600	67	22	88	5.6	96	220	170	1.2
	08/10/10	---	570	---	---	---	---	---	---	---	---
	11/01/10	---	610	---	---	---	---	---	---	---	---
	02/15/11	---	580	---	---	---	---	---	---	---	---
	05/04/11	---	590	---	---	---	---	---	---	---	2

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 132	08/03/11	---	580	---	---	---	---	---	---	---	---
8S/1W-07D	11/02/11	---	510	---	---	---	---	---	---	---	---
(Cont)	02/08/12	---	450	---	---	---	---	---	---	---	---
	05/02/12	---	420	---	---	---	---	---	---	---	3.3
	08/08/12	---	360	---	---	---	---	---	---	---	---
	11/01/12	---	370	---	---	---	---	---	---	---	---
	01/29/14	---	520	---	---	---	---	---	---	---	---
	02/06/14	---	460	---	---	---	---	---	---	---	---
	05/15/14	---	510	---	---	---	---	---	---	---	1.5
	08/06/14	---	500	---	---	---	---	---	---	---	---
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
	06/23/97	---	---	---	---	---	---	---	---	---	3
	07/20/98	790	500	24	9	140	2	96	93	170	2
	08/02/00	---	---	---	---	---	---	---	---	---	3
	03/28/01	800	460	22	10	130	2	98	100	170	<2
	08/02/01	---	---	---	---	---	---	---	---	---	<2
	09/18/02	---	---	---	---	---	---	---	---	---	2
	09/16/03	---	---	---	---	---	---	---	---	---	2
	03/12/04	810	500	25	10	130	2.4	95	99	180	2
	03/07/07	820	500	26	9.7	140	2.4	94	98	160	2.3
	03/03/08	---	---	---	---	---	---	---	---	---	2.1
	03/07/08	---	480	---	---	---	---	---	---	---	---
	07/08/08	---	470	---	---	---	---	---	---	---	---
	01/07/09	---	540	---	---	---	---	---	---	---	---
	03/04/09	---	---	---	---	---	---	---	---	---	2.6
	04/02/09	---	460	---	---	---	---	---	---	---	---
	07/09/09	---	450	---	---	---	---	---	---	---	---
	01/06/10	---	490	---	---	---	---	---	---	---	---
	03/03/10	860	460	37	16	110	3.1	110	110	200	3
	04/08/10	---	490	---	---	---	---	---	---	---	---
	07/08/10	---	470	---	---	---	---	---	---	---	---
	10/06/10	---	460	---	---	---	---	---	---	---	---
	01/12/11	---	490	---	---	---	---	---	---	---	---
	03/09/11	---	---	---	---	---	---	---	---	---	2.9
	04/05/11	---	460	---	---	---	---	---	---	---	---
	07/06/11	---	440	---	---	---	---	---	---	---	---
	10/13/11	---	470	---	---	---	---	---	---	---	---
	10/09/12	---	490	---	---	---	---	---	---	---	---
	12/12/12	---	---	---	---	---	---	---	---	---	2.8
	01/15/13	---	470	---	---	---	---	---	---	---	---
	03/07/13	840	510	36	15	110	3.0	100	100	200	3.0
	04/08/13	---	470	---	---	---	---	---	---	---	---
	07/09/13	---	470	---	---	---	---	---	---	---	---
	10/08/13	---	500	---	---	---	---	---	---	---	---
	01/14/14	---	490	---	---	---	---	---	---	---	---
	03/11/14	---	---	---	---	---	---	---	---	---	3.7
	04/09/14	---	530	---	---	---	---	---	---	---	---
	07/08/14	---	540	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	08/06/92	1800	810	63	33	170	1	200	160	281	---
	01/16/97	---	---	---	---	---	---	---	---	---	3.7 as N
	02/04/97	---	---	---	---	---	---	---	---	---	3.5 as N
	02/12/97	---	---	---	---	---	---	---	---	---	4.0 as N
	02/20/97	---	---	---	---	---	---	---	---	---	3.4 as N
	02/25/97	---	---	---	---	---	---	---	---	---	3.4 as N
	03/04/97	---	---	---	---	---	---	---	---	---	3.7 as N
	03/18/97	---	---	---	---	---	---	---	---	---	3.3 as N
	03/25/97	---	---	---	---	---	---	---	---	---	3.5 as N
	04/08/97	---	---	---	---	---	---	---	---	---	3.4 as N
	04/15/97	---	---	---	---	---	---	---	---	---	3.4 as N
	04/22/97	---	---	---	---	---	---	---	---	---	3.5 as N
	05/06/97	1930	1050	97	48	220	2	340	190	360	3.3 as N
	05/14/97	---	---	---	---	---	---	---	---	---	3.4 as N
	05/21/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/04/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/11/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/18/97	---	---	---	---	---	---	---	---	---	3.3 as N
	06/25/97	---	---	---	---	---	---	---	---	---	3.3 as N
	07/02/97	---	---	---	---	---	---	---	---	---	3.3 as N
	09/17/97	1960	1260	---	---	---	---	430	220	---	13
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
	10/11/96	430	270	9	<1	78	1	55	8.9	100	15
	04/14/99	---	---	---	---	---	---	---	---	---	5
	06/03/99	---	---	---	---	---	---	---	---	---	3
	10/26/99	430	240	10	<1	76	1	60	11	100	19
	03/13/00	---	---	---	---	---	---	---	---	---	5
	03/22/01	---	---	---	---	---	---	---	---	---	17
	03/13/02	---	---	---	---	---	---	---	---	---	21
	06/20/02	---	---	---	---	---	---	---	---	---	16
	10/02/02	440	220	10	<1	75	1.2	58	7.8	96	17
	06/12/03	---	---	---	---	---	---	---	---	---	16
	12/30/04	---	---	---	---	---	---	---	---	---	5
	01/27/05	---	---	---	---	---	---	---	---	---	12
	10/18/05	430	280	11	<1	72	1.3	65	8.3	110	18
	01/06/06	---	---	---	---	---	---	---	---	---	17
	01/10/07	---	---	---	---	---	---	---	---	---	16
	01/08/08	---	---	---	---	---	---	---	---	---	16
	10/08/08	430	220	12	59	82	1.1	59	11	32	18
	01/08/09	---	---	---	---	---	---	---	---	---	18
	01/12/09	---	280	---	---	---	---	---	---	---	---
	04/08/09	---	250	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 138	07/06/09	---	240	---	---	---	---	---	---	---	---
8S/2W-6F	01/06/10	---	250	---	---	---	---	---	---	---	16
(Cont)	04/08/10	---	270	---	---	---	---	---	---	---	---
	07/14/10	---	260	---	---	---	---	---	---	---	---
	10/05/10	---	230	---	---	---	---	---	---	---	---
	01/12/11	---	190	---	---	---	---	---	---	---	17
	04/06/11	---	290	---	---	---	---	---	---	---	---
	07/07/11	---	250	---	---	---	---	---	---	---	---
	10/04/11	440	240	10	1.0	78	1.9	62	10	110	17
	10/04/11	---	200	---	---	---	---	---	---	---	---
	01/17/12	---	260	---	---	---	---	---	---	---	16
	04/03/12	---	280	---	---	---	---	---	---	---	---
	10/02/12	---	290	---	---	---	---	---	---	---	---
	01/03/13	---	240	---	---	---	---	---	---	---	14
	04/03/13	---	230	---	---	---	---	---	---	---	---
	07/02/13	---	220	---	---	---	---	---	---	---	---
	10/10/13	---	230	---	---	---	---	---	---	---	---
	01/07/14	---	220	---	---	---	---	---	---	---	16
	04/22/14	---	220	---	---	---	---	---	---	---	---
	07/09/14	---	260	---	---	---	---	---	---	---	---
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
	12/19/95	500	298	36	12	50	2	72	12	156	2.8
	03/25/97	---	---	---	---	---	---	---	---	---	10
	03/13/00	---	---	---	---	---	---	---	---	---	9
	03/28/01	---	---	---	---	---	---	---	---	---	8
	03/11/02	530	280	29	10	57	2	73	13	140	9
	03/09/04	---	---	---	---	---	---	---	---	---	8
	03/09/05	520	310	21	7.7	72	1.3	78	13	150	6
	03/09/06	---	---	---	---	---	---	---	---	---	9.9
	03/07/07	---	---	---	---	---	---	---	---	---	6.9
	04/15/08	550	340	40	14	43	1.9	80	10	150	14
	07/17/08	---	330	---	---	---	---	---	---	---	---
	10/08/08	---	320	---	---	---	---	---	---	---	---
	01/13/09	---	390	---	---	---	---	---	---	---	---
	07/06/09	---	290	---	---	---	---	---	---	---	---
	04/08/09	---	310	---	---	---	---	---	---	---	5.8
	05/17/10	---	320	---	---	---	---	---	---	---	---
	08/09/10	---	340	---	---	---	---	---	---	---	---
	10/21/10	---	---	---	---	---	---	---	---	---	8.9
	11/03/10	---	290	---	---	---	---	---	---	---	---
	02/09/11	---	340	---	---	---	---	---	---	---	---
	04/21/11	570	340	39	15	45	2.3	97	16	140	12
	05/04/11	---	340	---	---	---	---	---	---	---	---
	07/07/11	---	350	---	---	---	---	---	---	---	---
	08/04/11	---	320	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 139	10/05/11	---	---	---	---	---	---	---	---	---	6.1
7S/2W-32G	11/02/11	---	310	---	---	---	---	---	---	---	---
(Cont)	02/09/12	---	330	---	---	---	---	---	---	---	---
	05/02/12	---	320	---	---	---	---	---	---	---	---
	08/09/12	---	310	---	---	---	---	---	---	---	---
	10/02/12	---	---	---	---	---	---	---	---	---	5.4
	11/02/12	---	360	---	---	---	---	---	---	---	---
	02/07/13	---	320	---	---	---	---	---	---	---	---
	05/02/13	---	300	---	---	---	---	---	---	---	---
	08/13/13	---	330	---	---	---	---	---	---	---	---
	10/10/13	---	---	---	---	---	---	---	---	---	4.9
	11/07/13	---	340	---	---	---	---	---	---	---	---
	02/05/14	---	310	---	---	---	---	---	---	---	---
	04/09/14	560	370	32	13	64	1.8	92	13	150	5.2
	05/20/14	---	300	---	---	---	---	---	---	---	---
	08/07/14	---	370	---	---	---	---	---	---	---	---
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
	03/25/97	---	---	---	---	---	---	---	---	---	8
	02/27/98	650	360	31	11	76	2	95	16	130	5
	09/17/98	---	---	---	---	---	---	---	---	---	8
	05/16/01	---	---	---	---	---	---	---	---	---	11
	02/01/01	650	370	31	12	72	2	110	21	150	4
	05/24/02	---	---	---	---	---	---	---	---	---	7
	04/05/05	680	390	37	16	69	2.3	140	18	150	4
	04/06/06	---	---	---	---	---	---	---	---	---	4.4
	04/24/07	---	---	---	---	---	---	---	---	---	3
	04/08/08	630	340	26	9.5	79	1.9	110	21	140	2.7
	04/08/08	---	350	---	---	---	---	---	---	---	2.7
	07/07/08	---	360	---	---	---	---	---	---	---	---
	01/07/09	---	400	---	---	---	---	---	---	---	---
	04/15/09	---	380	---	---	---	---	---	---	---	4.6
	07/06/09	---	360	---	---	---	---	---	---	---	---
	01/06/10	---	350	---	---	---	---	---	---	---	---
	04/08/10	---	350	---	---	---	---	---	---	---	2.1
	07/14/10	---	360	---	---	---	---	---	---	---	---
	10/05/10	---	350	---	---	---	---	---	---	---	---
	01/12/11	---	280	---	---	---	---	---	---	---	---
	04/05/11	640	360	26	9.4	82	1.9	100	19	130	2.4
	04/05/11	---	340	---	---	---	---	---	---	---	2.7
	10/05/11	---	360	---	---	---	---	---	---	---	---
	01/17/12	---	380	---	---	---	---	---	---	---	---
	04/03/12	---	390	---	---	---	---	---	---	---	---
	10/02/12	---	370	---	---	---	---	---	---	---	---
	01/21/14	---	380	---	---	---	---	---	---	---	---
	03/12/14	---	---	---	---	---	---	---	---	---	2.8
	04/03/14	660	330	32	12	84	2.1	120	23	140	3.2
	04/03/14	---	330	---	---	---	---	---	---	---	3.3
	07/08/14	---	380	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	03/25/97	---	---	---	---	---	---	---	---	---	15
	03/26/98	760	480	62	12	90	3	69	86	230	16
	01/04/99	---	---	---	---	---	---	---	---	---	14
	02/12/99	---	---	---	---	---	---	---	---	---	19
	10/21/99	---	---	---	---	---	---	---	---	---	17
	11/03/99	---	---	---	---	---	---	---	---	---	14
	12/14/99	---	---	---	---	---	---	---	---	---	14
	06/20/00	---	---	---	---	---	---	---	---	---	15
	01/04/01	700	450	52	6	84	3	75	70	190	15
	09/28/01	---	---	---	---	---	---	---	---	---	18
	11/08/02	---	---	---	---	---	---	---	---	---	15
	09/16/03	---	---	---	---	---	---	---	---	---	19
	01/13/04	760	490	65	11	84	3.1	70	90	220	21
	01/06/05	---	---	---	---	---	---	---	---	---	18
	01/06/06	---	---	---	---	---	---	---	---	---	16
	06/04/08	---	410	---	---	---	---	---	---	---	11
	12/05/08	---	480	---	---	---	---	---	---	---	---
	03/04/09	---	440	---	---	---	---	---	---	---	---
	06/02/09	---	390	---	---	---	---	---	---	---	10
	01/05/10	760	450	62	8.1	84	3.5	77	68	200	16
	03/03/10	---	480	---	---	---	---	---	---	---	---
	06/02/10	---	400	---	---	---	---	---	---	---	13
	09/01/10	---	370	---	---	---	---	---	---	---	---
	01/12/11	---	460	---	---	---	---	---	---	---	---
	04/05/11	---	420	---	---	---	---	---	---	---	---
	06/07/11	---	---	---	---	---	---	---	---	---	12
	07/06/11	---	360	---	---	---	---	---	---	---	---
	10/11/11	---	420	---	---	---	---	---	---	---	---
	01/10/12	---	400	---	---	---	---	---	---	---	---
	04/03/12	---	510	---	---	---	---	---	---	---	---
	06/05/12	---	---	---	---	---	---	---	---	---	12
	10/09/12	---	400	---	---	---	---	---	---	---	---
	01/03/13	---	490	---	---	---	---	---	---	---	---
	01/03/13	830	490	70	10	89	3.6	80	81	220	17
	04/17/13	---	460	---	---	---	---	---	---	---	---
	06/06/13	---	---	---	---	---	---	---	---	---	13
	07/09/13	---	450	---	---	---	---	---	---	---	---
	10/08/13	---	390	---	---	---	---	---	---	---	---
	01/28/14	---	520	---	---	---	---	---	---	---	---
	04/09/14	---	420	---	---	---	---	---	---	---	---
	06/03/14	---	---	---	---	---	---	---	---	---	16
	07/09/14	---	400	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	03/25/97	600	330	15	2	110	1	87	44	89	9
	07/18/97	---	---	---	---	---	---	---	---	---	2.0 as N
	07/23/97	---	---	---	---	---	---	---	---	---	2.0 as N
	08/20/97	---	---	---	---	---	---	---	---	---	2.3 as N
	09/03/97	---	---	---	---	---	---	---	---	---	2.2 as N
	09/17/97	---	---	---	---	---	---	---	---	---	2.0 as N
	09/17/98	---	350	---	---	---	---	---	---	---	2.3 as N
	10/21/99	---	---	---	---	---	---	---	---	---	13
	03/07/00	730	400	21	3	120	2	84	68	140	12
	10/13/00	---	---	---	---	---	---	---	---	---	8
	10/10/01	---	---	---	---	---	---	---	---	---	8
	11/19/02	---	---	---	---	---	---	---	---	---	10
	01/13/03	---	---	---	---	---	---	---	---	---	2.1 as N
	03/10/03	650	370	14	1.9	110	1	92	52	130	10
	01/07/04	---	---	---	---	---	---	---	---	---	12
	01/18/05	---	---	---	---	---	---	---	---	---	10
	01/06/06	---	---	---	---	---	---	---	---	---	8.7
	06/08/06	560	270	9.5	1.3	100	1	86	<0.5	100	7.2
	01/10/07	---	---	---	---	---	---	---	---	---	7.3
	01/04/08	---	---	---	---	---	---	---	---	---	7.1
	01/08/09	---	---	---	---	---	---	---	---	---	9
	02/04/09	---	300	---	---	---	---	---	---	---	---
	05/11/09	---	290	---	---	---	---	---	---	---	---
	08/05/09	---	300	---	---	---	---	---	---	---	---
	01/05/10	---	---	---	---	---	---	---	---	---	6.5
	02/04/10	---	320	---	---	---	---	---	---	---	---
	05/06/10	---	330	---	---	---	---	---	---	---	---
	08/13/10	---	280	---	---	---	---	---	---	---	---
	11/01/10	---	350	---	---	---	---	---	---	---	---
	01/13/11	---	---	---	---	---	---	---	---	---	9.1
	02/09/11	---	320	---	---	---	---	---	---	---	---
	05/04/11	---	300	---	---	---	---	---	---	---	---
	08/03/11	---	320	---	---	---	---	---	---	---	---
	11/02/11	---	370	---	---	---	---	---	---	---	---
	01/06/12	---	---	---	---	---	---	---	---	---	7.2
	02/09/12	---	300	---	---	---	---	---	---	---	---
	05/10/12	---	300	---	---	---	---	---	---	---	---
	06/05/12	540	320	7.3	1.1	100	1.0	73	21	100	5.9
	08/07/12	---	310	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 143	11/01/12	---	290	---	---	---	---	---	---	---	---
8S/2W-17J	01/03/13	---	---	---	---	---	---	---	---	---	8.5
(Cont)	02/10/13	---	360	---	---	---	---	---	---	---	---
	05/02/13	---	290	---	---	---	---	---	---	---	---
	08/19/13	---	330	---	---	---	---	---	---	---	---
	11/07/13	---	290	---	---	---	---	---	---	---	---
	01/09/14	---	---	---	---	---	---	---	---	---	6.4
	02/05/14	---	280	---	---	---	---	---	---	---	---
	05/06/14	---	270	---	---	---	---	---	---	---	---
	08/08/14	---	260	---	---	---	---	---	---	---	---
No. 144	09/14/88	610	335	8	<1	114	1	95	33	92	<1
7S/3W-27D3	12/19/95	730	420	34	1	124	1	120	33	186	<1
	12/20/00	690	400	28	1	120	<1	120	35	170	<2
	05/22/01	---	---	---	---	---	---	---	---	---	<2
	08/20/02	---	---	---	---	---	---	---	---	---	<2
	08/27/03	---	---	---	---	---	---	---	---	---	<2
	12/16/03	630	420	33	1.8	110	1	110	28	170	<2
	08/12/04	---	---	---	---	---	---	---	---	---	<2
	10/11/05	---	---	---	---	---	---	---	---	---	2
	12/07/06	670	370	21	1	98	1.2	110	27	150	<1
	08/07/07	---	---	---	---	---	---	---	---	---	<2
	08/11/08	---	320	---	---	---	---	---	---	---	<2
	02/09/09	---	340	---	---	---	---	---	---	---	---
	05/08/09	---	360	---	---	---	---	---	---	---	---
	08/05/09	---	370	---	---	---	---	---	---	---	<2
	02/04/10	---	380	---	---	---	---	---	---	---	---
	05/06/10	---	410	---	---	---	---	---	---	---	---
	08/10/10	---	370	---	---	---	---	---	---	---	<2
	11/10/10	---	400	---	---	---	---	---	---	---	---
	02/02/11	---	340	---	---	---	---	---	---	---	---
	05/04/11	---	350	---	---	---	---	---	---	---	---
	08/09/11	---	340	---	---	---	---	---	---	---	<2
	11/02/11	---	320	---	---	---	---	---	---	---	---
	02/08/12	---	320	---	---	---	---	---	---	---	---
	05/03/12	---	340	---	---	---	---	---	---	---	---
	08/09/12	---	330	---	---	---	---	---	---	---	<1.0
	11/02/12	---	370	---	---	---	---	---	---	---	---
	12/04/12	660	350	23	1.2	110	<1.0	100	26	150	<1.0
	02/06/13	---	350	---	---	---	---	---	---	---	---
	05/03/13	---	360	---	---	---	---	---	---	---	---
	08/14/13	---	340	---	---	---	---	---	---	---	<1.0
	11/07/13	---	350	---	---	---	---	---	---	---	---
	02/05/14	---	340	---	---	---	---	---	---	---	---
	05/14/14	---	340	---	---	---	---	---	---	---	---
	08/07/14	---	340	---	---	---	---	---	---	---	<1.0

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	11/27/96	650	340	26	2	110	1	87	48	150	<2
	02/04/97	670	370	24	2	110	1	87	55	160	<2
	01/28/98	---	---	---	---	---	---	---	---	---	<2
	01/04/99	---	---	---	---	---	---	---	---	---	<2
	10/26/99	690	400	29	3	110	1	96	61	170	<2
	01/06/00	---	---	---	---	---	---	---	---	---	<2
	01/25/01	---	---	---	---	---	---	---	---	---	<2
	01/18/02	---	---	---	---	---	---	---	---	---	<2
	10/09/02	690	390	26	2.3	110	1.2	94	52	160	<2
	01/15/03	---	---	---	---	---	---	---	---	---	<2
	01/07/04	---	---	---	---	---	---	---	---	---	<2
	01/13/05	---	---	---	---	---	---	---	---	---	<2
	10/11/05	680	430	33	2.7	120	1.4	100	54	180	<1
	10/18/05	700	440	34	2.8	120	1.5	100	59	180	<1
	04/13/06	---	---	---	---	---	---	---	---	---	<1
	01/19/07	---	---	---	---	---	---	---	---	---	<1
	01/04/08	---	---	---	---	---	---	---	---	---	<2
	08/11/08	---	360	---	---	---	---	---	---	---	---
	10/08/08	720	400	37	3.2	100	1.3	95	56	150	ND
	01/06/09	---	---	---	---	---	---	---	---	---	ND
	02/03/09	---	390	---	---	---	---	---	---	---	---
	05/08/09	---	410	---	---	---	---	---	---	---	---
	08/05/09	---	400	---	---	---	---	---	---	---	---
	01/07/10	---	---	---	---	---	---	---	---	---	<2
	02/04/10	---	400	---	---	---	---	---	---	---	---
	05/07/10	---	470	---	---	---	---	---	---	---	---
	08/10/10	---	390	---	---	---	---	---	---	---	---
	11/10/10	---	410	---	---	---	---	---	---	---	---
	01/12/11	---	---	---	---	---	---	---	---	---	<2
	02/09/11	---	390	---	---	---	---	---	---	---	---
	05/05/11	---	380	---	---	---	---	---	---	---	---
	08/04/11	---	360	---	---	---	---	---	---	---	---
	10/05/11	670	380	28	2.6	110	1.6	100	49	160	<2
	11/10/11	---	400	---	---	---	---	---	---	---	---
	01/12/12	---	---	---	---	---	---	---	---	---	<1.0
	02/08/12	---	510	---	---	---	---	---	---	---	---
	05/17/12	---	440	---	---	---	---	---	---	---	---
	08/09/12	---	410	---	---	---	---	---	---	---	---
	11/06/12	---	600	---	---	---	---	---	---	---	---
	01/16/13	---	---	---	---	---	---	---	---	---	<1.0
	02/07/13	---	400	---	---	---	---	---	---	---	---
	05/03/13	---	390	---	---	---	---	---	---	---	---
	08/14/13	---	370	---	---	---	---	---	---	---	---

ND- None Detected

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 145	11/07/13	---	390	---	---	---	---	---	---	---	---
7S/3W-28C	01/28/14	---	---	---	---	---	---	---	---	---	<1.0
(Cont)	02/11/14	---	350	---	---	---	---	---	---	---	---
	05/21/14	---	440	---	---	---	---	---	---	---	---
	08/19/14	---	370	---	---	---	---	---	---	---	---
No. 146	12/10/96	900	500	57	23	98	<1	100	64	280	15
7S/3W-28	03/02/00	---	---	---	---	---	---	---	---	---	4
No. 149	06/15/93	---	---	---	---	---	---	---	---	---	5
8S/1W-2C	10/10/01	---	---	---	---	---	---	---	---	---	4
	03/11/02	1040	610	61	23	120	4	100	170	250	4
	12/11/02	---	---	---	---	---	---	---	---	---	3.2
	01/23/03	---	---	---	---	---	---	---	---	---	4
	03/12/03	1000	600	59	22	120	3.7	100	170	230	3
	01/13/04	---	---	---	---	---	---	---	---	---	4
	01/11/06	---	---	---	---	---	---	---	---	---	2.5
	03/09/06	940	580	56	21	110	3.8	87	160	220	2.7
	01/24/07	---	---	---	---	---	---	---	---	---	2.4
	03/11/08	---	550	---	---	---	---	---	---	---	---
	07/08/08	---	590	---	---	---	---	---	---	---	---
	01/08/09	---	590	---	---	---	---	---	---	---	2.6
	03/04/09	900	590	52	20	100	3.6	93	170	210	2.5
	04/02/09	---	570	---	---	---	---	---	---	---	---
	07/13/09	---	560	---	---	---	---	---	---	---	---
	01/07/10	---	570	---	---	---	---	---	---	---	2.6
	04/08/10	---	570	---	---	---	---	---	---	---	---
	05/12/11	---	570	---	---	---	---	---	---	---	2
	08/03/11	---	600	---	---	---	---	---	---	---	---
	11/09/11	---	620	---	---	---	---	---	---	---	---
	02/09/12	---	580	---	---	---	---	---	---	---	---
	03/02/12	970	600	59	20	99	4.4	95	180	190	2.3
	05/03/12	---	600	---	---	---	---	---	---	---	2.0
	08/08/12	---	610	---	---	---	---	---	---	---	---
	11/01/12	---	620	---	---	---	---	---	---	---	---
	02/10/13	---	600	---	---	---	---	---	---	---	---
	05/14/13	---	610	---	---	---	---	---	---	---	1.8
	08/15/13	---	580	---	---	---	---	---	---	---	---
	11/06/13	---	560	---	---	---	---	---	---	---	---
	02/06/14	---	580	---	---	---	---	---	---	---	---
	05/08/14	---	620	---	---	---	---	---	---	---	4.8
	08/07/14	---	560	---	---	---	---	---	---	---	---
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	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
	06/16/97	---	---	---	---	---	---	---	---	---	<2
	08/14/97	540	300	2	<1	110	<1	44	10	160	<2
	09/16/98	---	---	---	---	---	---	---	---	---	<2

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 151	01/06/00	510	300	1	<1	110	<1	33	4.6	180	<2
8S/2W-2G	01/06/05	---	---	---	---	---	---	---	---	---	<2
(Cont)	05/12/09	530	380	1	1	110	<1	36	7.7	140	<2.0
	05/05/10	---	---	---	---	---	---	---	---	---	<2
	10/28/10	---	290	---	---	---	---	---	---	---	---
	12/01/10	---	290	---	---	---	---	---	---	---	---
	03/09/11	---	310	---	---	---	---	---	---	---	---
	05/03/11	---	---	---	---	---	---	---	---	---	<2
	06/02/11	---	280	---	---	---	---	---	---	---	---
	09/06/11	---	310	---	---	---	---	---	---	---	---
	12/06/11	---	300	---	---	---	---	---	---	---	---
	03/05/12	---	290	---	---	---	---	---	---	---	---
	05/02/12	490	300	1.3	<1	110	<1	38	4.2	180	<1
	06/05/12	---	240	---	---	---	---	---	---	---	---
	09/04/12	---	300	---	---	---	---	---	---	---	---
	12/03/12	---	290	---	---	---	---	---	---	---	---
	03/06/13	---	260	---	---	---	---	---	---	---	---
	05/01/13	---	---	---	---	---	---	---	---	---	<1.0
	06/05/13	---	260	---	---	---	---	---	---	---	---
	09/03/13	---	280	---	---	---	---	---	---	---	---
	01/29/14	---	340	---	---	---	---	---	---	---	---
	03/13/14	---	280	---	---	---	---	---	---	---	---
	05/01/14	---	---	---	---	---	---	---	---	---	<1.0
	06/02/14	---	290	---	---	---	---	---	---	---	---
	09/03/14	---	280	---	---	---	---	---	---	---	---
No. 151	09/20/88	5780	3410	280	114	840	5	1660	670	369	<1
7S/3W-34B	Abandoned										
No. 152	01/11/02	860	550	64	20	77	6	75	190	160	<2
8S/1W-5K2	01/08/03	---	---	---	---	---	---	---	---	---	<2
	01/07/04	---	---	---	---	---	---	---	---	---	<2
	01/24/05	850	510	71	25	77	4.6	85	190	160	<2
	01/04/06	---	---	---	---	---	---	---	---	---	1.1
	01/10/07	---	---	---	---	---	---	---	---	---	<1
	04/08/08	---	510	---	---	---	---	---	---	---	---
	01/02/09	---	580	---	---	---	---	---	---	---	ND
	04/06/09	---	620	---	---	---	---	---	---	---	---
	07/13/09	---	610	---	---	---	---	---	---	---	---
	01/06/10	---	740	---	---	---	---	---	---	---	1.7
	04/19/10	---	670	---	---	---	---	---	---	---	---
	07/08/10	---	620	---	---	---	---	---	---	---	---
	10/07/10	---	580	---	---	---	---	---	---	---	---
	01/11/11	---	710	---	---	---	---	---	---	---	3.8
	04/13/11	---	490	---	---	---	---	---	---	---	---
	07/12/11	---	460	---	---	---	---	---	---	---	---
	10/06/11	---	420	---	---	---	---	---	---	---	---
	01/11/12	---	270	---	---	---	---	---	---	---	<1.1
	04/12/12	---	330	---	---	---	---	---	---	---	---
	10/10/12	---	420	---	---	---	---	---	---	---	---
	11/28/12	760	590	54	20	70	5.2	80	110	170	1.4

ND - None Detected

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 152	01/09/13	---	530	---	---	---	---	---	---	---	1.8
8S/1W-5K2	04/11/13	---	380	---	---	---	---	---	---	---	---
(Cont)	07/10/13	---	530	---	---	---	---	---	---	---	---
	10/16/13	---	540	---	---	---	---	---	---	---	---
	01/16/14	850	510	65	24	77	4.7	74	180	140	<1.0
	01/16/14	---	540	---	---	---	---	---	---	---	<1.0
	04/02/14	---	510	---	---	---	---	---	---	---	---
	07/03/14	---	550	---	---	---	---	---	---	---	---
No. 153	12/29/93	804	485	53	18	92	5	86	120	214	<1
8S/1W-5K3	04/13/99	880	540	63	23	79	5	68	220	150	<2
	04/11/00	---	---	---	---	---	---	---	---	---	2
	06/14/01	---	---	---	---	---	---	---	---	---	<2
	04/02/02	820	500	63	22	75	4.2	80	190	140	<2
	04/14/05	700	410	44	17	65	3	76	110	140	3
	04/04/06	---	---	---	---	---	---	---	---	---	2.3
	04/04/07	---	---	---	---	---	---	---	---	---	<2
	04/08/08	920	560	62	23	79	4.3	100	170	170	1.9
	01/02/09	---	570	---	---	---	---	---	---	---	---
	04/06/09	---	610	---	---	---	---	---	---	---	<2.0
	07/13/09	---	590	---	---	---	---	---	---	---	---
	01/06/10	---	560	---	---	---	---	---	---	---	---
	04/08/10	---	610	---	---	---	---	---	---	---	1
	07/08/10	---	590	---	---	---	---	---	---	---	---
	10/07/10	---	540	---	---	---	---	---	---	---	---
	01/11/11	---	640	---	---	---	---	---	---	---	---
	04/13/11	850	520	45	17	93	3.8	92	130	170	2
	04/13/11	---	490	---	---	---	---	---	---	---	2
	07/12/11	---	450	---	---	---	---	---	---	---	---
	10/06/11	---	380	---	---	---	---	---	---	---	---
	01/11/12	---	280	---	---	---	---	---	---	---	---
	04/12/12	---	300	---	---	---	---	---	---	---	<1.0
	10/10/12	---	390	---	---	---	---	---	---	---	---
	01/09/13	---	420	---	---	---	---	---	---	---	---
	04/11/13	---	390	---	---	---	---	---	---	---	<1.0
	07/10/13	---	470	---	---	---	---	---	---	---	---
	10/16/13	---	540	---	---	---	---	---	---	---	---
	01/15/14	---	550	---	---	---	---	---	---	---	---
	04/02/14	880	560	62	23	80	4.2	78	180	150	<1.0
	04/02/14	---	540	---	---	---	---	---	---	---	---
	07/03/14	---	550	---	---	---	---	---	---	---	---
No. 154	01/28/94	930	530	46	20	106	6	89	130	214	3
8S/1W-5L2											
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
	08/14/97	---	---	---	---	---	---	---	---	---	4
	02/25/98	880	540	43	5	130	1	100	100	190	5
	07/27/98	---	---	---	---	---	---	---	---	---	3
	02/09/00	---	---	---	---	---	---	---	---	---	2
	09/13/00	690	410	23	2	120	<1	100	72	130	2
	02/14/01	---	---	---	---	---	---	---	---	---	5
	02/21/02	---	---	---	---	---	---	---	---	---	2
	02/28/03	---	---	---	---	---	---	---	---	---	<2
	01/07/04	600	360	10	<1	120	<1	100	60	100	<2

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 155	02/23/04	---	---	---	---	---	---	---	---	---	6
7S/3W-28C	10/11/05	---	---	---	---	---	---	---	---	---	2
(Cont)	02/16/05	---	---	---	---	---	---	---	---	---	5
	02/07/06	---	---	---	---	---	---	---	---	---	4.9
	02/07/07	---	---	---	---	---	---	---	---	---	2.5
No. 156	08/11/08	670	350	48	13	78	2.2	70	62	190	1.9
7S/3W-18	08/11/08	---	370	---	---	---	---	---	---	---	1.7
	05/08/09	---	400	---	---	---	---	---	---	---	---
	08/05/09	---	410	---	---	---	---	---	---	---	1.5
	02/03/10	---	370	---	---	---	---	---	---	---	---
	05/07/10	---	470	---	---	---	---	---	---	---	---
	08/10/10	---	390	---	---	---	---	---	---	---	<2
	11/10/10	---	410	---	---	---	---	---	---	---	---
	02/09/11	---	410	---	---	---	---	---	---	---	---
	05/04/11	---	400	---	---	---	---	---	---	---	---
	08/04/11	660	380	44	11	72	1.8	75	53	180	2
	08/04/11	---	380	---	---	---	---	---	---	---	1.4
	11/10/11	---	390	---	---	---	---	---	---	---	---
	02/08/12	---	340	---	---	---	---	---	---	---	---
	05/03/12	---	360	---	---	---	---	---	---	---	---
	08/09/12	---	360	---	---	---	---	---	---	---	1.3
	11/02/12	---	420	---	---	---	---	---	---	---	---
	02/06/13	---	390	---	---	---	---	---	---	---	---
	05/02/13	---	370	---	---	---	---	---	---	---	---
	08/14/13	---	370	---	---	---	---	---	---	---	1.2
	11/07/13	---	390	---	---	---	---	---	---	---	---
	02/05/14	---	390	---	---	---	---	---	---	---	---
	05/23/14	---	400	---	---	---	---	---	---	---	---
	08/07/14	650	380	42	11	78	1.8	86	62	170	1.5
No. 157	04/13/99	930	600	59	21	110	7	95	150	240	<2
8S/1W-5L	04/11/00	---	---	---	---	---	---	---	---	---	2
	06/14/01	---	---	---	---	---	---	---	---	---	<2
	04/02/02	830	520	60	22	78	4.1	78	190	150	<2
	04/14/05	720	420	47	18	69	3.2	74	120	150	2
	04/04/07	---	---	---	---	---	---	---	---	---	<2
	04/08/08	1100	640	68	24	110	4.3	130	170	230	2.6
	07/08/08	---	580	---	---	---	---	---	---	---	---
	01/02/09	---	560	---	---	---	---	---	---	---	---
	04/06/09	---	640	---	---	---	---	---	---	---	<2.0
	07/13/09	---	590	---	---	---	---	---	---	---	---
	01/07/10	---	660	---	---	---	---	---	---	---	---
	04/08/10	---	620	---	---	---	---	---	---	---	<2
	07/08/10	---	610	---	---	---	---	---	---	---	---
	10/07/10	---	540	---	---	---	---	---	---	---	---
	01/11/11	---	590	---	---	---	---	---	---	---	---
	04/13/11	830	520	49	17	84	3.4	89	120	180	<2
	04/13/11	---	490	---	---	---	---	---	---	---	<2
	07/12/11	---	460	---	---	---	---	---	---	---	---
	10/06/11	---	370	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 157	01/11/12	---	260	---	---	---	---	---	---	---	---
8S/1W-5L	04/12/12	---	330	---	---	---	---	---	---	---	<1.0
(Cont)	10/10/12	---	360	---	---	---	---	---	---	---	---
	11/28/12	930	530	68	25	82	5.1	110	110	230	1.1
	01/09/13	---	470	---	---	---	---	---	---	---	---
	04/11/13	---	370	---	---	---	---	---	---	---	1.1
	07/10/13	---	480	---	---	---	---	---	---	---	---
	10/16/13	---	510	---	---	---	---	---	---	---	---
	01/16/14	---	510	---	---	---	---	---	---	---	---
	04/02/14	960	540	66	24	79	4.1	81	190	160	1.2
	04/02/14	---	560	---	---	---	---	---	---	---	---
	07/03/14	---	560	---	---	---	---	---	---	---	---
No. 158	06/21/94	1090	620	67	23	124	7	120	170	259	---
8S/1W-5K	04/14/99	1050	660	63	24	120	7	110	160	270	<2
	04/11/00	---	---	---	---	---	---	---	---	---	2
	06/14/01	---	---	---	---	---	---	---	---	---	2
	04/02/02	900	550	61	22	92	5.7	93	190	180	<2
	04/14/05	800	450	51	19	79	4.6	83	150	160	2
	04/04/06	---	---	---	---	---	---	---	---	---	3.9
	04/04/07	---	---	---	---	---	---	---	---	---	4.6
	04/08/08	1300	760	77	25	140	6.4	150	180	280	3.5
	07/08/08	---	750	---	---	---	---	---	---	---	---
	01/02/09	---	640	---	---	---	---	---	---	---	---
	04/06/09	---	650	---	---	---	---	---	---	---	<2.0
	07/13/09	---	670	---	---	---	---	---	---	---	---
	01/06/10	---	810	---	---	---	---	---	---	---	---
	04/08/10	---	800	---	---	---	---	---	---	---	1.5
	07/08/10	---	680	---	---	---	---	---	---	---	---
	10/07/10	---	750	---	---	---	---	---	---	---	---
	01/11/11	---	710	---	---	---	---	---	---	---	---
	04/13/11	870	510	43	16	100	4.8	97	130	180	2
	04/13/11	---	530	---	---	---	---	---	---	---	2
	07/12/11	---	610	---	---	---	---	---	---	---	---
	10/06/11	---	570	---	---	---	---	---	---	---	---
	02/09/12	---	520	---	---	---	---	---	---	---	---
	04/12/12	---	---	---	---	---	---	---	---	---	<1.0
	05/02/12	---	460	---	---	---	---	---	---	---	---
	08/08/12	---	550	---	---	---	---	---	---	---	---
	11/01/12	---	740	---	---	---	---	---	---	---	---
	02/12/13	---	470	---	---	---	---	---	---	---	---
	04/11/13	---	---	---	---	---	---	---	---	---	1.3
	05/14/13	---	620	---	---	---	---	---	---	---	---
	08/14/13	---	710	---	---	---	---	---	---	---	---
	11/06/13	---	720	---	---	---	---	---	---	---	---
	02/06/14	---	710	---	---	---	---	---	---	---	---
	04/02/14	1200	700	70	25	120	6.2	120	170	250	1.7
	05/08/14	---	660	---	---	---	---	---	---	---	---
	08/06/14	---	480	---	---	---	---	---	---	---	---
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

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 202	12/11/88	740	440	47	18	84	3	97	48	223	17
7S/2W-36J1											
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
	06/23/97	880	530	31	26	120	3	100	110	230	4
	08/14/97	---	---	---	---	---	---	---	---	---	3
	11/02/99	---	---	---	---	---	---	---	---	---	5
	06/22/00	820	580	94	18	58	<1	63	110	250	22
	07/12/00	880	570	43	33	120	3	100	130	240	7
	08/08/00	---	---	---	---	---	---	---	---	---	6
	11/22/00	---	---	---	---	---	---	---	---	---	5
	11/20/01	---	---	---	---	---	---	---	---	---	5
	11/08/02	---	---	---	---	---	---	---	---	---	4
	01/08/03	---	---	---	---	---	---	---	---	---	.90 as N
	06/10/03	850	460	31	23	100	2.2	92	100	220	5
	11/04/03	---	---	---	---	---	---	---	---	---	5
	11/18/04	---	---	---	---	---	---	---	---	---	7
	06/08/06	940	540	39	32	110	3	100	130	220	5.5
	06/01/07	---	---	---	---	---	---	---	---	---	5.1
	06/04/08	---	520	---	---	---	---	---	---	---	4.3
	09/16/08	---	450	---	---	---	---	---	---	---	---
	12/02/08	---	500	---	---	---	---	---	---	---	---
	03/04/09	---	470	---	---	---	---	---	---	---	---
	06/01/09	---	440	---	---	---	---	---	---	---	2.7
	03/03/10	---	460	---	---	---	---	---	---	---	---
	06/02/10	---	490	---	---	---	---	---	---	---	3.3
	09/01/10	---	440	---	---	---	---	---	---	---	---
	12/08/10	---	450	---	---	---	---	---	---	---	---
	03/31/11	---	490	---	---	---	---	---	---	---	---
	06/02/11	---	430	---	---	---	---	---	---	---	3.2
	09/02/11	---	420	---	---	---	---	---	---	---	---
	12/07/11	---	450	---	---	---	---	---	---	---	---
	06/05/12	740	430	19	15	110	2.3	72	94	180	3.2
	09/05/12	---	440	---	---	---	---	---	---	---	---
	12/05/12	---	410	---	---	---	---	---	---	---	---
	03/06/13	---	420	---	---	---	---	---	---	---	---
	06/05/13	---	400	---	---	---	---	---	---	---	2.7
	09/05/13	---	430	---	---	---	---	---	---	---	---
	12/05/13	---	440	---	---	---	---	---	---	---	---
	03/11/14	---	430	---	---	---	---	---	---	---	---
	06/03/14	---	480	---	---	---	---	---	---	---	4.4
	09/04/14	---	440	---	---	---	---	---	---	---	---
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

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	03/25/97	480	270	20	2	75	2	66	18	110	21
	05/09/01	410	270	21	3	67	1	60	17	120	23
	11/13/01	---	---	---	---	---	---	---	---	---	21
	02/19/02	---	---	---	---	---	---	---	---	---	20
	05/14/02	---	---	---	---	---	---	---	---	---	18
	08/27/02	---	---	---	---	---	---	---	---	---	20
	11/20/02	---	---	---	---	---	---	---	---	---	18
	01/08/03	---	---	---	---	---	---	---	---	---	4.5 as N
	03/31/03	---	---	---	---	---	---	---	---	---	18
	06/11/03	---	---	---	---	---	---	---	---	---	18
	09/16/03	---	---	---	---	---	---	---	---	---	21
	12/04/03	---	---	---	---	---	---	---	---	---	20
	03/09/04	---	---	---	---	---	---	---	---	---	18
	06/09/04	---	---	---	---	---	---	---	---	---	18
	09/01/04	---	---	---	---	---	---	---	---	---	19
	12/07/04	---	---	---	---	---	---	---	---	---	20
	03/08/05	---	---	---	---	---	---	---	---	---	21
	06/07/05	---	---	---	---	---	---	---	---	---	17
	09/13/05	---	---	---	---	---	---	---	---	---	16
	12/05/05	---	---	---	---	---	---	---	---	---	15
	03/09/06	---	---	---	---	---	---	---	---	---	17
	06/07/06	---	---	---	---	---	---	---	---	---	17
	04/15/09	500	290	19	2	71	1.4	68	18	120	20
	07/14/09	---	270	---	---	---	---	---	---	---	20
	01/06/10	---	280	---	---	---	---	---	---	---	17
	04/08/10	---	---	---	---	---	---	---	---	---	14
	04/20/10	---	290	---	---	---	---	---	---	---	---
	07/20/10	---	260	---	---	---	---	---	---	---	16
	10/05/10	---	240	---	---	---	---	---	---	---	15
	01/04/11	---	210	---	---	---	---	---	---	---	19
	04/12/11	---	280	---	---	---	---	---	---	---	15
	07/08/11	---	260	---	---	---	---	---	---	---	14
	10/04/11	---	260	---	---	---	---	---	---	---	16
	01/12/12	---	250	---	---	---	---	---	---	---	16
	04/03/12	---	300	---	---	---	---	---	---	---	18
	04/24/12	470	260	16	1.4	73	1.6	70	18	98	16
	10/02/12	---	240	---	---	---	---	---	---	---	15
	01/03/13	---	270	---	---	---	---	---	---	---	15
	04/03/13	---	250	---	---	---	---	---	---	---	14
	07/02/13	---	270	---	---	---	---	---	---	---	18
	10/02/13	---	280	---	---	---	---	---	---	---	16
	01/07/14	---	280	---	---	---	---	---	---	---	14
	04/15/14	---	280	---	---	---	---	---	---	---	15
	07/03/14	---	280	---	---	---	---	---	---	---	14

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	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
	08/15/97	510	280	2	<1	97	<1	52	25	98	<2
	07/27/98	---	---	---	---	---	---	---	---	---	2
	12/27/00	480	280	2	<1	100	<1	53	30	120	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
	08/12/96	---	---	---	---	---	---	---	---	---	2
	07/27/99	---	---	---	---	---	---	---	---	---	15
	08/18/99	---	---	---	---	---	---	---	---	---	20
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
	05/15/97	690	390	10	3	130	<1	110	56	130	1.3
No. 210	04/15/59	1366	---	101	23	150	10	149	200	275	3
8S/2W-12K	01/18/63	400	926	99	30	17.5	4.5	145	255	329	4
	11/30/67	1415	890	136	5	152	10	146	230	305	3
	07/26/68	1250	825	96	22	144	8	130	190	290	5
	09/06/68	1310	840	82	26	132	5	142	222	276	12
	07/19/73	1200	579	84	21.4	149	6.8	122	237	301	19.7
	08/08/75	1140	695	84	14	150	6	101	190	287	15
	06/22/76	1240	675	76	26	142	7	101	205	278	36
	10/13/76	1120	640	92	22	100	6	110	170	262	5
	06/16/77	1130	610	84	18	114	6	110	170	259	11
	05/20/80	580	340	30	8	75	4	51	67	152	9
	04/03/86	800	540	65	17	86	4.5	75	112	235	3.5
	07/15/86	830	560	72	19	86	4	87	118	250	4
	03/28/88	1030	575	76	22	93	5	99	143	247	4
	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
	09/16/96	---	---	---	---	---	---	---	---	---	3
	09/16/98	---	---	---	---	---	---	---	---	---	3
	12/15/98	---	---	---	---	---	---	---	---	---	2
	01/04/99	---	---	---	---	---	---	---	---	---	2
	02/03/99	---	---	---	---	---	---	---	---	---	2
	04/08/99	---	---	---	---	---	---	---	---	---	3
	06/02/99	---	---	---	---	---	---	---	---	---	3
	09/07/99	---	---	---	---	---	---	---	---	---	4

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 210	10/21/99	---	---	---	---	---	---	---	---	---	5
8S/2W-12K	12/15/99	---	---	---	---	---	---	---	---	---	5
(Cont)	05/03/00	---	---	---	---	---	---	---	---	---	5
	09/13/00	830	560	64	17	100	4	74	190	180	4
	05/08/01	---	---	---	---	---	---	---	---	---	4
	05/13/02	---	---	---	---	---	---	---	---	---	3
	01/08/03	---	---	---	---	---	---	---	---	---	.52 as N
	08/20/03	---	---	---	---	---	---	---	---	---	2.2
	09/16/03	830	560	65	18	78	4.5	76	180	160	2
	08/10/04	---	---	---	---	---	---	---	---	---	3.2
	08/02/05	---	---	---	---	---	---	---	---	---	5.4
	08/15/06	---	---	---	---	---	---	---	---	---	6.7
	08/14/07	---	---	---	---	---	---	---	---	---	12.0
	08/12/08	---	590	---	---	---	---	---	---	---	7.6
	03/05/09	---	520	---	---	---	---	---	---	---	---
	06/02/09	---	570	---	---	---	---	---	---	---	---
	08/05/09	---	---	---	---	---	---	---	---	---	4.9
	03/03/10	---	600	---	---	---	---	---	---	---	---
	06/02/10	---	600	---	---	---	---	---	---	---	---
	08/11/10	---	---	---	---	---	---	---	---	---	3.6
	09/08/10	---	600	---	---	---	---	---	---	---	---
	12/08/10	---	590	---	---	---	---	---	---	---	---
	03/09/11	---	620	---	---	---	---	---	---	---	---
	06/08/11	---	600	---	---	---	---	---	---	---	---
	11/10/11	---	600	---	---	---	---	---	---	---	3.8
	02/09/12	---	560	---	---	---	---	---	---	---	---
	05/02/12	---	540	---	---	---	---	---	---	---	---
	08/09/12	---	490	---	---	---	---	---	---	---	---
	09/05/12	840	530	60	19	84	5.6	86	150	180	12
	11/01/12	---	500	---	---	---	---	---	---	---	2.8
	02/12/13	---	460	---	---	---	---	---	---	---	---
	05/03/13	---	420	---	---	---	---	---	---	---	---
	08/15/13	---	420	---	---	---	---	---	---	---	---
	11/14/13	---	440	---	---	---	---	---	---	---	2.4
	02/05/14	---	430	---	---	---	---	---	---	---	---
	05/15/14	---	480	---	---	---	---	---	---	---	---
	08/06/14	---	440	---	---	---	---	---	---	---	---
No. 211	04/08/97	720	400	67	14	54	1	59	65	220	13
8S/2W-20R1	12/23/97	---	410	---	---	---	---	---	---	---	3.1 as N
	03/25/98	---	620	---	---	---	---	---	---	---	3.6 as N
	06/03/98	---	---	---	---	---	---	---	---	---	3.4 as N
	06/05/98	---	480	---	---	---	---	---	---	---	---
	09/17/98	---	---	---	---	---	---	---	---	---	3.3 as N
	12/17/98	---	430	---	---	---	---	56	66	---	16
	06/03/99	---	430	---	---	---	---	---	---	---	3.4 as N
	12/14/99	---	310	---	---	---	---	---	---	---	10
	04/04/00	700	430	71	14	52	1	57	66	220	17
	06/22/00	---	400	---	---	---	---	---	---	---	15
	12/13/00	---	---	---	---	---	---	---	---	---	4.5 as N
	03/27/01	---	---	---	---	---	---	---	---	---	4.5 as N

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 211	06/20/01	---	---	---	---	---	---	---	---	---	2.7 as N
8S/2W-20R1	09/13/01	---	---	---	---	---	---	---	---	---	4.7 as N
(Cont)	11/13/01	---	450	---	---	---	---	---	---	---	---
	05/14/02	---	370	---	---	---	---	---	---	---	12
	07/15/03	630	370	61	11	46	1.2	46	51	220	11
	12/09/08	---	480	---	---	---	---	---	---	---	22
	03/09/09	---	560	---	---	---	---	---	---	---	17
	06/02/09	---	480	---	---	---	---	---	---	---	14
	01/12/10	---	360	---	---	---	---	---	---	---	6.3
	04/15/10	---	500	---	---	---	---	---	---	---	16
	07/21/10	---	510	---	---	---	---	---	---	---	15
	10/07/10	---	540	---	---	---	---	---	---	---	14
	01/18/11	---	550	---	---	---	---	---	---	---	15
	04/06/11	---	560	---	---	---	---	---	---	---	16
	07/07/11	---	520	---	---	---	---	---	---	---	13
	09/01/11	840	460	86	16	56	1.2	66	100	260	13
	10/12/11	---	420	---	---	---	---	---	---	---	14
	01/10/12	---	520	---	---	---	---	---	---	---	14
	04/18/12	---	510	---	---	---	---	---	---	---	14
	10/02/12	---	520	---	---	---	---	---	---	---	13
	01/10/13	---	520	---	---	---	---	---	---	---	13
	04/17/13	---	510	---	---	---	---	---	---	---	12
	07/03/13	---	540	---	---	---	---	---	---	---	14
	10/03/13	---	550	---	---	---	---	---	---	---	14
	01/28/14	---	560	---	---	---	---	---	---	---	15
	04/16/14	---	430	---	---	---	---	---	---	---	11
	07/10/14	---	590	---	---	---	---	---	---	---	14
	09/04/14	840	590	92	17	60	1.3	67	100	260	13
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
	06/16/97	630	370	29	9	81	2	110	16	160	6
	08/15/97	---	---	---	---	---	---	---	---	---	7
	08/11/04	630	380	35	12	76	2.6	100	14	150	<2
	09/09/04	---	---	---	---	---	---	---	---	---	9
	06/26/06	---	---	---	---	---	---	---	---	---	6.6
	06/05/07	---	---	---	---	---	---	---	---	---	2.4
	08/14/07	590	320	22	7.3	85	2.2	88	16	150	2.2
	12/02/08	---	370	---	---	---	---	---	---	---	---
	03/09/09	---	380	---	---	---	---	---	---	---	---
	06/04/09	---	300	---	---	---	---	---	---	---	---
	03/04/10	---	340	---	---	---	---	---	---	---	---
	06/18/10	---	340	---	---	---	---	---	---	---	---
	08/18/10	580	330	20	6.5	79	1.9	82	16	150	2.5
	09/03/10	---	330	---	---	---	---	---	---	---	2.2
	12/17/10	---	350	---	---	---	---	---	---	---	---
	03/15/11	---	250	---	---	---	---	---	---	---	---
	06/07/11	---	320	---	---	---	---	---	---	---	---
	12/06/11	---	320	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	04/25/01	490	300	28	4	55	2	74	13	120	12
	09/21/04	540	320	31	5.6	53	2.1	74	10	130	14
	10/26/04	---	---	---	---	---	---	---	---	---	15
	11/02/04	---	---	---	---	---	---	---	---	---	15
	11/10/04	---	---	---	---	---	---	---	---	---	16
	10/18/05	---	---	---	---	---	---	---	---	---	19
	10/12/06	---	---	---	---	---	---	---	---	---	19
	09/07/07	510	300	28	4.7	57	3.5	82	12	110	18
	10/03/07	---	---	---	---	---	---	---	---	---	17
	04/23/09	---	---	---	---	---	---	---	---	---	14
	03/18/10	---	370	---	---	---	---	---	---	---	---
	04/08/10	---	---	---	---	---	---	---	---	---	12
	06/10/10	---	380	---	---	---	---	---	---	---	---
	09/01/10	---	340	---	---	---	---	---	---	---	---
	09/01/10	570	320	41	6.9	58	2.3	86	16	130	16
	12/08/10	---	360	---	---	---	---	---	---	---	---
	12/14/10	---	390	---	---	---	---	---	---	---	---
	06/08/11	---	390	---	---	---	---	---	---	---	---
	08/10/11	---	---	---	---	---	---	---	---	---	15
	12/08/11	---	400	---	---	---	---	---	---	---	---
	06/08/12	---	420	---	---	---	---	---	---	---	---
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
	08/15/97	660	370	20	3	107	1	80	41	130	13
	05/09/00	---	---	---	---	---	---	---	---	---	15
	10/12/00	650	380	19	2	110	1	81	49	150	16
	05/14/01	---	---	---	---	---	---	---	---	---	17
	05/14/02	---	---	---	---	---	---	---	---	---	12
	10/15/03	690	400	25	3.3	110	1.6	84	58	150	16
	05/06/04	---	---	---	---	---	---	---	---	---	17
	05/11/06	---	---	---	---	---	---	---	---	---	15
	05/15/07	---	---	---	---	---	---	---	---	---	16
	05/06/08	---	400	---	---	---	---	---	---	---	14
	08/12/08	---	430	---	---	---	---	---	---	---	---
	05/11/09	---	400	---	---	---	---	---	---	---	13
	08/05/09	---	400	---	---	---	---	---	---	---	---
	02/02/10	---	390	---	---	---	---	---	---	---	---
	05/06/10	---	480	---	---	---	---	---	---	---	17
	08/09/10	---	470	---	---	---	---	---	---	---	---
	11/16/10	---	420	---	---	---	---	---	---	---	---

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 217	02/02/11	---	410	---	---	---	---	---	---	---	---
8S/2W-17M1	05/04/11	---	440	---	---	---	---	---	---	---	15
(Cont)	08/02/11	---	440	---	---	---	---	---	---	---	---
	11/03/11	---	400	---	---	---	---	---	---	---	---
	02/07/12	---	420	---	---	---	---	---	---	---	---
	05/02/12	---	440	---	---	---	---	---	---	---	16
	08/07/12	---	450	---	---	---	---	---	---	---	---
	10/02/12	790	440	31	4.0	120	1.7	89	79	170	16
	11/01/12	---	440	---	---	---	---	---	---	---	---
	02/06/13	---	440	---	---	---	---	---	---	---	---
	05/02/13	---	440	---	---	---	---	---	---	---	17
	08/19/13	---	470	---	---	---	---	---	---	---	---
	11/05/13	---	450	---	---	---	---	---	---	---	---
	02/05/14	---	420	---	---	---	---	---	---	---	---
	08/08/14	---	470	---	---	---	---	---	---	---	---
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
	02/27/98	---	---	---	---	---	---	---	---	---	3
	05/16/00	---	---	---	---	---	---	---	---	---	5
	05/24/01	1490	1080	140	35	120	5	120	340	330	3
	05/13/02	---	---	---	---	---	---	---	---	---	2
	07/12/05	---	---	---	---	---	---	---	---	---	2.2
	07/20/06	---	---	---	---	---	---	---	---	---	3.7
	05/02/07	1400	830	120	27	110	4	130	250	300	2.1
	03/07/08	---	900	---	---	---	---	---	---	---	2.4
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
	09/13/96	---	---	---	---	---	---	---	---	---	22
	11/04/97	1000	660	76	20	110	4	97	130	230	29
	07/27/98	---	---	---	---	---	---	---	---	---	38
	12/10/98	---	---	---	---	---	---	---	---	---	22
	01/06/98	---	---	---	---	---	---	---	---	---	30
	01/29/99	---	---	---	---	---	---	---	---	---	10
	02/03/99	---	---	---	---	---	---	---	---	---	26
	02/24/99	---	---	---	---	---	---	---	---	---	37
	04/08/99	---	---	---	---	---	---	---	---	---	33
	04/21/99	---	---	---	---	---	---	---	---	---	34
	06/23/99	---	---	---	---	---	---	---	---	---	33
	07/08/99	---	---	---	---	---	---	---	---	---	36
	08/25/99	---	---	---	---	---	---	---	---	---	33
	09/21/99	---	---	---	---	---	---	---	---	---	31
	10/06/99	---	---	---	---	---	---	---	---	---	30
	11/17/99	---	---	---	---	---	---	---	---	---	32
	12/14/99	---	---	---	---	---	---	---	---	---	32

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 232	01/18/00	---	---	---	---	---	---	---	---	---	31
8S/2W-11J3	02/29/00	---	---	---	---	---	---	---	---	---	10
(Cont)	03/21/00	---	---	---	---	---	---	---	---	---	25
	04/11/00	---	---	---	---	---	---	---	---	---	29
	05/25/00	---	---	---	---	---	---	---	---	---	26
	06/21/00	---	---	---	---	---	---	---	---	---	26
	07/11/00	---	---	---	---	---	---	---	---	---	25
	09/13/00	920	590	65	17	105	4	91	150	210	21
	10/06/00	---	---	---	---	---	---	---	---	---	18
	11/08/00	---	---	---	---	---	---	---	---	---	17
	12/13/00	---	---	---	---	---	---	---	---	---	20
	01/04/01	---	---	---	---	---	---	---	---	---	19
	02/28/01	---	---	---	---	---	---	---	---	---	10
	04/10/01	---	---	---	---	---	---	---	---	---	20
	10/10/01	---	---	---	---	---	---	---	---	---	26
	05/14/02	---	---	---	---	---	---	---	---	---	22
	08/06/02	---	---	---	---	---	---	---	---	---	4*
	01/08/03	---	---	---	---	---	---	---	---	---	6.0 as N
	03/31/03	---	---	---	---	---	---	---	---	---	11
	06/10/03	---	---	---	---	---	---	---	---	---	31
	07/08/03	---	---	---	---	---	---	---	---	---	30
	08/20/03	---	---	---	---	---	---	---	---	---	28
	09/16/03	1100	680	67	18	110	4.3	100	150	240	33
	10/14/03	---	---	---	---	---	---	---	---	---	31
	01/14/04	---	---	---	---	---	---	---	---	---	23
	02/10/04	---	---	---	---	---	---	---	---	---	21
	04/14/04	---	---	---	---	---	---	---	---	---	25
	05/06/04	---	---	---	---	---	---	---	---	---	26
	06/22/04	---	---	---	---	---	---	---	---	---	25
	07/14/04	---	---	---	---	---	---	---	---	---	25
	08/10/04	---	---	---	---	---	---	---	---	---	31
	09/08/04	---	---	---	---	---	---	---	---	---	26
	10/26/04	---	---	---	---	---	---	---	---	---	15
	11/18/04	---	---	---	---	---	---	---	---	---	26
	12/07/04	---	---	---	---	---	---	---	---	---	16
	01/10/05	---	---	---	---	---	---	---	---	---	20
	02/14/05	---	---	---	---	---	---	---	---	---	14
	03/11/05	---	---	---	---	---	---	---	---	---	11
	04/13/05	---	---	---	---	---	---	---	---	---	25
	06/08/05	---	---	---	---	---	---	---	---	---	24
	07/12/05	---	---	---	---	---	---	---	---	---	22
	08/02/05	---	---	---	---	---	---	---	---	---	18

* Sample may have been switched with Well 233

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 232	09/20/05	---	---	---	---	---	---	---	---	---	19
8S/2W-11J3	10/18/05	---	---	---	---	---	---	---	---	---	18
(Cont)	11/08/05	---	---	---	---	---	---	---	---	---	18
	12/06/05	---	---	---	---	---	---	---	---	---	19
	01/04/06	---	---	---	---	---	---	---	---	---	15
	02/14/06	---	---	---	---	---	---	---	---	---	18
	03/13/06	---	---	---	---	---	---	---	---	---	8.3
	04/18/06	---	---	---	---	---	---	---	---	---	12
	05/12/06	---	---	---	---	---	---	---	---	---	15
	06/22/06	---	---	---	---	---	---	---	---	---	11
	07/19/06	---	---	---	---	---	---	---	---	---	13
	08/15/06	---	---	---	---	---	---	---	---	---	14
	11/02/06	---	---	---	---	---	---	---	---	---	15
	01/10/07	---	---	---	---	---	---	---	---	---	13
	02/07/07	---	---	---	---	---	---	---	---	---	15
	03/14/07	---	---	---	---	---	---	---	---	---	15
	04/17/07	---	---	---	---	---	---	---	---	---	14
	05/01/07	---	---	---	---	---	---	---	---	---	13
	06/01/07	---	---	---	---	---	---	---	---	---	11
	07/05/07	---	---	---	---	---	---	---	---	---	12
	08/14/07	---	---	---	---	---	---	---	---	---	14
	10/03/07	---	---	---	---	---	---	---	---	---	13
	12/05/07	---	---	---	---	---	---	---	---	---	12
	01/08/08	---	---	---	---	---	---	---	---	---	11
	02/13/08	---	---	---	---	---	---	---	---	---	6.9
	03/04/08	---	---	---	---	---	---	---	---	---	9.7
	03/07/08	---	610	---	---	---	---	---	---	---	---
	04/08/08	---	---	---	---	---	---	---	---	---	13
	05/07/08	---	---	---	---	---	---	---	---	---	12
	07/10/08	---	580	---	---	---	---	---	---	---	---
	07/28/08	---	---	---	---	---	---	---	---	---	12
	08/12/08	---	---	---	---	---	---	---	---	---	13
	12/03/08	---	---	---	---	---	---	---	---	---	14
	01/13/09	---	660	---	---	---	---	---	---	---	14
	02/05/09	---	---	---	---	---	---	---	---	---	13
	03/04/09	---	---	---	---	---	---	---	---	---	12
	04/02/09	---	580	---	---	---	---	---	---	---	13
	05/11/09	---	---	---	---	---	---	---	---	---	11
	06/02/09	---	---	---	---	---	---	---	---	---	11
	07/13/09	---	580	---	---	---	---	---	---	---	12
	08/05/09	---	---	---	---	---	---	---	---	---	12
	01/06/10	---	590	---	---	---	---	---	---	---	12
	02/03/10	---	---	---	---	---	---	---	---	---	10
	03/10/10	---	---	---	---	---	---	---	---	---	8.5
	04/08/10	---	570	---	---	---	---	---	---	---	12
	05/07/10	---	---	---	---	---	---	---	---	---	13
	06/03/10	---	---	---	---	---	---	---	---	---	13

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 232	07/08/10	---	570	---	---	---	---	---	---	---	13
8S/2W-11J3	08/10/10	---	---	---	---	---	---	---	---	---	14
(Cont)	09/02/10	---	---	---	---	---	---	---	---	---	3.6
	10/06/10	---	590	---	---	---	---	---	---	---	15
	11/16/10	---	---	---	---	---	---	---	---	---	13
	12/01/10	---	---	---	---	---	---	---	---	---	14
	01/04/11	---	490	---	---	---	---	---	---	---	7.9
	03/09/11	---	---	---	---	---	---	---	---	---	8.4
	04/05/11	---	560	---	---	---	---	---	---	---	13
	05/03/11	---	---	---	---	---	---	---	---	---	11
	06/08/11	---	---	---	---	---	---	---	---	---	11
	07/06/11	---	590	---	---	---	---	---	---	---	10
	08/03/11	---	---	---	---	---	---	---	---	---	10
	09/02/11	---	---	---	---	---	---	---	---	---	10
	10/14/11	---	610	---	---	---	---	---	---	---	11
	11/02/11	---	---	---	---	---	---	---	---	---	11
	12/07/11	---	---	---	---	---	---	---	---	---	11
	01/11/12	---	590	---	---	---	---	---	---	---	9.9
	02/02/12	---	---	---	---	---	---	---	---	---	9.4
	03/07/12	---	---	---	---	---	---	---	---	---	9.7
	04/04/12	---	580	---	---	---	---	---	---	---	8.4
	05/02/12	---	---	---	---	---	---	---	---	---	9.4
	06/05/12	---	---	---	---	---	---	---	---	---	9.6
	08/08/12	---	---	---	---	---	---	---	---	---	10
	09/05/12	950	610	69	19	100	4.5	99	200	190	11
	10/17/12	---	620	---	---	---	---	---	---	---	10
	11/01/12	---	---	---	---	---	---	---	---	---	11
	12/04/12	---	---	---	---	---	---	---	---	---	10
	01/09/13	---	610	---	---	---	---	---	---	---	9.9
	02/12/13	---	---	---	---	---	---	---	---	---	11
	03/12/13	---	---	---	---	---	---	---	---	---	10
	04/11/13	---	600	---	---	---	---	---	---	---	12
	05/02/13	---	---	---	---	---	---	---	---	---	13
	06/05/13	---	---	---	---	---	---	---	---	---	11
	07/10/13	---	580	---	---	---	---	---	---	---	12
	08/14/13	---	---	---	---	---	---	---	---	---	12
	09/05/13	---	---	---	---	---	---	---	---	---	13
	10/15/13	---	630	---	---	---	---	---	---	---	14
	11/06/13	---	---	---	---	---	---	---	---	---	14
	12/05/13	---	---	---	---	---	---	---	---	---	14
	01/15/14	---	620	---	---	---	---	---	---	---	16
	02/05/14	---	---	---	---	---	---	---	---	---	15
	03/12/14	---	---	---	---	---	---	---	---	---	11
	04/03/14	---	560	---	---	---	---	---	---	---	11
	05/27/14	---	---	---	---	---	---	---	---	---	8.7
	06/04/14	---	---	---	---	---	---	---	---	---	14
	07/16/14	---	610	---	---	---	---	---	---	---	14
	08/06/14	---	---	---	---	---	---	---	---	---	16
	09/03/14	---	---	---	---	---	---	---	---	---	16
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
	03/27/97	880	510	57	15	100	4	81	120	220	4
	01/04/99	---	---	---	---	---	---	---	---	---	5
	02/03/99	---	---	---	---	---	---	---	---	---	4
	04/08/99	---	---	---	---	---	---	---	---	---	4
	06/03/99	---	---	---	---	---	---	---	---	---	4

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 233 (Old 112)	07/20/99	---	---	---	---	---	---	---	---	---	5
8S/2W-12K2	08/11/99	---	---	---	---	---	---	---	---	---	4
(Cont)	09/07/99	---	---	---	---	---	---	---	---	---	4
	10/21/99	---	---	---	---	---	---	---	---	---	5
	11/03/99	---	---	---	---	---	---	---	---	---	4
	04/11/00	970	570	64	18	110	4	85	150	230	4
	10/06/00	---	---	---	---	---	---	---	---	---	3
	10/10/01	---	---	---	---	---	---	---	---	---	4
	08/06/02	---	---	---	---	---	---	---	---	---	26*
	01/13/03	---	---	---	---	---	---	---	---	---	1 as N
	07/07/03	---	---	---	---	---	---	---	---	---	2.7
	07/13/04	---	---	---	---	---	---	---	---	---	3
	07/12/05	---	---	---	---	---	---	---	---	---	2.8
	04/04/06	960	600	75	20	87	4.5	93	180	180	7.3
	08/04/06	---	---	---	---	---	---	---	---	---	11
	08/14/07	---	---	---	---	---	---	---	---	---	8.1
	08/13/08	---	530	---	---	---	---	---	---	---	6.1
	02/05/09	---	570	---	---	---	---	---	---	---	---
	04/02/09	960	580	70	20	88	4.7	100	160	200	6.8
	05/11/09	---	610	---	---	---	---	---	---	---	---
	08/04/09	---	570	---	---	---	---	---	---	---	5
	02/02/10	---	560	---	---	---	---	---	---	---	---
	05/06/10	---	660	---	---	---	---	---	---	---	---
	08/10/10	---	580	---	---	---	---	---	---	---	5.1
	07/02/11	---	630	---	---	---	---	---	---	---	---
	08/03/11	---	---	---	---	---	---	---	---	---	4.2
	10/14/11	---	620	---	---	---	---	---	---	---	---
	01/10/12	---	580	---	---	---	---	---	---	---	---
	04/12/12	930	560	67	20	93	5.5	91	190	180	4.7
	04/12/12	---	570	---	---	---	---	---	---	---	---
	08/08/12	---	---	---	---	---	---	---	---	---	5.3
	10/17/12	---	540	---	---	---	---	---	---	---	---
	01/09/13	---	520	---	---	---	---	---	---	---	---
	04/11/13	---	500	---	---	---	---	---	---	---	---
	07/10/13	---	440	---	---	---	---	---	---	---	---
	08/15/13	---	---	---	---	---	---	---	---	---	4.1
	10/15/13	---	490	---	---	---	---	---	---	---	---
	01/15/14	---	480	---	---	---	---	---	---	---	---
	04/17/14	---	550	---	---	---	---	---	---	---	---
	07/16/14	---	450	---	---	---	---	---	---	---	---
	08/06/14	---	---	---	---	---	---	---	---	---	2.8
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
	09/26/96	---	---	---	---	---	---	---	---	---	9
	02/04/97	---	---	---	---	---	---	---	---	---	12
	04/25/97	840	500	56	15	95	4	77	120	230	8
	01/19/99	---	---	---	---	---	---	---	---	---	12

* Sample might have been switched with Well 232

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 234 (Old 114)	02/12/99	---	---	---	---	---	---	---	---	---	16
8S/2W-11P	04/21/99	---	---	---	---	---	---	---	---	---	15
(Cont)	06/03/99	---	---	---	---	---	---	---	---	---	16
	07/27/99	---	---	---	---	---	---	---	---	---	18
	08/19/99	---	---	---	---	---	---	---	---	---	17
	09/21/99	---	---	---	---	---	---	---	---	---	16
	10/26/99	---	---	---	---	---	---	---	---	---	13
	04/13/00	900	550	64	18	10	4	70	150	220	13
	07/06/00	---	---	---	---	---	---	---	---	---	12
	07/12/01	---	---	---	---	---	---	---	---	---	7
	08/02/01	---	---	---	---	---	---	---	---	---	<2
	11/20/02	---	---	---	---	---	---	---	---	---	3
	12/11/02	850	520	62	17	80	3.7	74	170	170	4
	11/04/03	---	---	---	---	---	---	---	---	---	10
	11/05/04	---	---	---	---	---	---	---	---	---	10
	11/03/05	---	---	---	---	---	---	---	---	---	12
	12/06/05	890	620	70	19	89	4.1	85	180	200	12
	11/08/06	---	---	---	---	---	---	---	---	---	14
	11/16/07	---	---	---	---	---	---	---	---	---	16
	08/12/08	---	610	---	---	---	---	---	---	---	---
	11/06/08	---	570	---	---	---	---	---	---	---	20
	12/03/08	960	660	83	21	89	4.9	87	160	230	20
	02/05/09	---	590	---	---	---	---	---	---	---	---
	05/07/09	---	620	---	---	---	---	---	---	---	---
	08/04/09	---	590	---	---	---	---	---	---	---	---
	02/03/10	---	610	---	---	---	---	---	---	---	---
	05/06/10	---	680	---	---	---	---	---	---	---	---
	08/10/10	---	610	---	---	---	---	---	---	---	---
	08/11/10	---	610	---	---	---	---	---	---	---	---
	11/01/10	---	610	---	---	---	---	---	---	---	21
	02/09/11	---	620	---	---	---	---	---	---	---	---
	05/03/11	---	620	---	---	---	---	---	---	---	---
	08/03/11	---	570	---	---	---	---	---	---	---	---
	11/02/11	---	560	---	---	---	---	---	---	---	20
	12/06/11	990	660	71	20	99	4.2	91	160	240	21
	05/03/12	---	620	---	---	---	---	---	---	---	---
	08/08/12	---	620	---	---	---	---	---	---	---	---
	11/01/12	---	620	---	---	---	---	---	---	---	22
	02/07/13	---	580	---	---	---	---	---	---	---	---
	05/02/13	---	610	---	---	---	---	---	---	---	---
	08/15/13	---	620	---	---	---	---	---	---	---	---
	11/07/13	---	620	---	---	---	---	---	---	---	21
	02/05/14	---	640	---	---	---	---	---	---	---	---
	05/15/14	---	630	---	---	---	---	---	---	---	---
	08/13/14	---	610	---	---	---	---	---	---	---	---
No. 235 (Old 137)	06/24/88	460	310	40	10	41	2	58	10	140	15
8S/3W-1Q1	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
	07/16/96	410	230	16	2	60	1	48	8.9	110	20
	06/09/97	---	---	---	---	---	---	---	---	---	17

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 235 (Old 137)	06/03/99	390	240	13	1	63	1	46	6.7	98	17
8S/3W-1Q1	11/03/99	---	---	---	---	---	---	---	---	---	16
(Cont)	11/09/00	---	---	---	---	---	---	---	---	---	15
	11/20/01	---	---	---	---	---	---	---	---	---	13
	06/11/02	380	210	10	<1	62	1.2	48	7.2	100	16
	11/05/02	---	---	---	---	---	---	---	---	---	17
	11/18/03	---	---	---	---	---	---	---	---	---	11
	11/18/05	---	---	---	---	---	---	---	---	---	18
	06/22/05	380	230	9	<1	68	1.1	49	7.3	96	16
	11/08/05	---	---	---	---	---	---	---	---	---	17
	11/14/06	---	---	---	---	---	---	---	---	---	16
	06/11/08	400	210	11	1	72	1.4	48	8.4	100	15
	07/07/08	---	200	---	---	---	---	---	---	---	---
	01/13/09	---	260	---	---	---	---	---	---	---	---
	04/07/09	---	210	---	---	---	---	---	---	---	---
	07/13/09	---	200	---	---	---	---	---	---	---	---
	01/06/10	---	230	---	---	---	---	---	---	---	---
	04/08/10	---	220	---	---	---	---	---	---	---	---
	07/14/10	---	220	---	---	---	---	---	---	---	---
	10/05/10	---	180	---	---	---	---	---	---	---	---
	11/16/10	---	---	---	---	---	---	---	---	---	15
	01/12/11	---	170	---	---	---	---	---	---	---	---
	08/17/11	380	210	13	1.2	65	1.7	48	8.4	100	16
	08/17/11	---	230	---	---	---	---	---	---	---	---
	11/02/11	---	200	---	---	---	---	---	---	---	15
	02/09/12	---	200	---	---	---	---	---	---	---	---
	05/03/12	---	220	---	---	---	---	---	---	---	---
	08/09/12	---	200	---	---	---	---	---	---	---	---
	11/02/12	---	220	---	---	---	---	---	---	---	14
	02/10/13	---	230	---	---	---	---	---	---	---	---
	05/02/13	---	200	---	---	---	---	---	---	---	---
	09/10/13	---	220	---	---	---	---	---	---	---	---
	11/07/13	---	250	---	---	---	---	---	---	---	14
	02/05/14	---	200	---	---	---	---	---	---	---	---
	05/20/14	---	180	---	---	---	---	---	---	---	---
	08/07/14	370	190	9.4	<1.0	68	1.2	51	8.9	110	15
No. 301	07/29/92	500	290	20	6	80	1	45	56	143	<1
7S/3W-18Q1	02/27/97	580	350	45	16	48	2	49	54	200	4
	08/15/97	---	---	---	---	---	---	---	---	---	6
	12/27/00	570	360	49	15	53	2	55	57	180	7
	02/22/02	---	---	---	---	---	---	---	---	---	<2
	05/14/02	550	340	---	---	---	---	57	50	---	3
	12/11/02	580	350	---	---	---	---	---	---	---	2.5

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
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
	07/16/96	530	320	---	---	---	---	60	54	---	2
	05/13/97	560	500	73	14	94	2	110	86	240	<2
	07/27/99	---	---	---	---	---	---	---	---	---	<2
	05/17/00	520	320	11	1	99	<1	51	50	130	<2
	06/13/00	520	310	---	---	---	---	---	---	---	<2
	07/11/00	---	---	---	---	---	---	---	---	---	<2
	12/20/01	790	500	---	---	---	---	110	140	---	<2
	12/11/02	870	510	---	---	---	---	---	---	---	ND
	06/19/03	620	370	22	3.8	95	<1	77	63	140	<2
	03/17/04	830	510	---	---	---	---	110	85	---	<2
	06/22/04	---	---	---	---	---	---	---	---	---	<2
	09/21/04	900	550	---	---	---	---	110	82	---	<2
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
	07/16/97	---	---	---	---	---	---	---	---	---	1.1 as N
	07/23/97	---	---	---	---	---	---	---	---	---	1.2 as N
	08/20/97	---	---	---	---	---	---	---	---	---	1.1 as N
	09/03/97	---	---	---	---	---	---	---	---	---	1.1 as N
	09/18/97	---	---	---	---	---	---	---	---	---	1.1 as N
	10/03/97	790	520	21	2	130	2	170	33	85	6
	08/06/98	---	---	---	---	---	---	---	---	---	6
	09/16/98	---	460	---	---	---	---	---	---	---	1.4 as N
	07/20/99	---	---	---	---	---	---	---	---	---	6
	05/10/00	---	450	20	2	130	<1	---	---	85	---
	07/06/00	---	---	---	---	---	---	---	---	---	6
	08/02/00	740	450	21	2	140	1	180	38	87	7
	07/19/01	---	---	---	---	---	---	---	---	---	7
	11/19/02	---	---	---	---	---	---	---	---	---	5
	01/13/03	---	---	---	---	---	---	---	---	---	1.1 as N
	08/20/03	880	490	21	2.1	140	1.5	190	33	83	5
	01/07/04	---	---	---	---	---	---	---	---	---	6
	11/11/05	---	---	---	---	---	---	---	---	---	6

ND - None Detected

TABLE D-4

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS SAMPLED BY RANCHO CALIFORNIA WATER DISTRICT

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
No. 309	01/04/06	---	---	---	---	---	---	---	---	---	5.4
7S/3W-27H	12/07/06	870	470	21	1.9	140	2	190	36	84	5.4
(Cont)	01/10/07	---	---	---	---	---	---	---	---	---	5.3
	01/08/08	---	---	---	---	---	---	---	---	---	5.4
	08/12/08	---	470	---	---	---	---	---	---	---	---
	01/06/09	---	---	---	---	---	---	---	---	---	6.7
	02/03/09	---	450	---	---	---	---	---	---	---	---
	04/01/09	---	---	25	2.9	---	---	---	---	---	---
	05/11/09	---	460	---	---	---	---	---	---	---	---
	08/04/09	---	450	---	---	---	---	---	---	---	---
	01/07/10	---	---	---	---	---	---	---	---	---	5.7
	02/02/10	---	480	---	---	---	---	---	---	---	---
	05/06/10	---	500	---	---	---	---	---	---	---	---
	08/09/10	---	490	---	---	---	---	---	---	---	---
	11/10/10	---	460	---	---	---	---	---	---	---	---
	01/04/11	---	---	---	---	---	---	---	---	---	5.8
	02/02/11	---	480	---	---	---	---	---	---	---	---
	05/04/11	---	470	---	---	---	---	---	---	---	---
	08/04/11	---	480	---	---	---	---	---	---	---	---
	11/02/11	---	460	---	---	---	---	---	---	---	---
	01/17/12	---	---	---	---	---	---	---	---	---	5.5
	02/08/12	---	480	---	---	---	---	---	---	---	---
	05/03/12	---	490	---	---	---	---	---	---	---	---
	08/09/12	---	440	---	---	---	---	---	---	---	---
	11/02/12	---	500	---	---	---	---	---	---	---	---
	12/04/12	950	500	24	2.5	150	1.7	190	45	92	5.8
	01/10/13	---	---	---	---	---	---	---	---	---	5.5
	02/05/13	---	490	---	---	---	---	---	---	---	---
	05/02/13	---	470	---	---	---	---	---	---	---	---
	08/14/13	---	460	---	---	---	---	---	---	---	---
	11/05/13	---	460	---	---	---	---	---	---	---	---
	01/21/14	---	---	---	---	---	---	---	---	---	5.9
	02/05/14	---	480	---	---	---	---	---	---	---	---
	05/23/14	---	560	---	---	---	---	---	---	---	---
	06/26/14	---	480	---	---	---	---	200	---	---	---
	06/26/14	---	510	---	---	---	---	220	---	---	---
	06/26/14	---	510	---	---	---	---	200	---	---	---
	06/26/14	---	530	---	---	---	---	240	---	---	---
	06/26/14	---	510	---	---	---	---	240	---	---	---
	06/26/14	---	430	---	---	---	---	210	---	---	---
	06/26/14	---	480	---	---	---	---	200	---	---	---
	06/26/14	---	410	---	---	---	---	180	---	---	---
	08/07/14	---	480	---	---	---	---	---	---	---	---

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TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Sampled	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-28M03	08/26/99	562	319	38	13	52	0.77	68	15	---	2.59 as N
	08/12/03	534	344	40.7	14.7	53.5	0.86	58.9	14.1	---	4.21 as N
	08/19/04	708	440	61.4	22.5	51	0.93	87.6	52	---	6.16 as N
	08/02/05	746	459	69.7	26.9	44.3	1.01	87.8	61.8	---	5.09 as N
	08/02/06	678	413	55.9	21	42.6	0.85	74.9	43.1	153	8.25 as N
	09/04/07	663	392	53.7	19.5	51.1	0.92	70.1	32.1	158	8.32 as N
8S/2W-28M05	09/01/09	457	253	10.7	0.483	77.7	0.53	65.6	17.4	91	0.08 as N
	07/26/10	---	261	11	0.942	83.3	0.53	78.3	17.1	---	E 0.048
	08/31/11	482	272	10.7	0.999	86.0	0.49	77.8	16.9	88	0.052
	08/13/13	475	281	12.3	1.14	81.9	0.51	77.6	15.8	87.9	<.177
	09/17/14	475	256	10.9	0.98	83.9	0.52	74.2	15.1	85.9	0.177
8S/2W-28Q02	10/05/89	629	378	48	19	49	0.7	76	14	169	4.2 as N
	07/26/90	613	383	48	18	47	0.6	75	12	171	3.9 as N
	07/18/91	618	379	49	18	49	0.7	83	14	172	3.0 as N
	07/28/93	620	400	51	20	47	0.7	63	15	174	9.6 as N
	08/17/94	641	396	51	21	50	0.8	60	17	179	11.0 as N
	08/31/95	653	396	53	21	48	0.7	60	19	184	12.0 as N
	08/28/96	---	---	---	---	---	---	---	---	---	11.0 as N
	08/12/97	614	411	47	19	47	0.7	63	15	176	8.9 as N
	08/19/98	625	402	47	20	47	0.7	60	14	---	9.85 as N
	08/21/02	598	394	47	19	46	0.7	64	15	---	8.5 as N
	08/12/03	604	405	48.8	19.8	47.8	0.7	69.1	14.0	---	7.1 as N
	08/18/04	615	386	51.6	20.2	45.6	0.9	78.8	16.5	---	4.03 as N
	08/02/05	822	514	76.8	30.2	54	0.8	93.7	30.9	---	14.7 as N
8S/2W-28R01	08/03/89	495	286	41	4.0	60	0.9	37	13	177	1.1 as N
	07/26/90	525	296	48	4.8	54	1.0	45	14	191	1.5 as N
	07/17/91	462	261	31	3.2	66	0.8	44	12	155	.8 as N
	07/27/93	445	269	44	4.4	43	0.5	28	14	170	1.9 as N
	08/15/94	421	232	32	3.3	55	0.9	28	11	156	1.5 as N
	08/30/95	375	200	21	2.2	55	0.6	31	11	129	.7 as N
	08/27/96	---	---	---	---	---	---	---	---	---	1.5 as N
	08/13/97	398	241	20	2.1	59	0.62	37	11	130	.572 as N
	08/20/98	481	282	36	3.9	60	0.85	38	14	167	1.1 as N
	08/25/99	446	252	28	3.1	59	0.66	41	12	---	.758 as N
	08/22/00	456	265	29	3.3	61	0.73	39	14	---	.759 as N
	08/21/01	522	320	51	5.9	48	1.0	42	16	---	1.73 as N
	08/21/02	457	284	33	3.7	61	0.87	41	13	---	1.09 as N
	08/12/03	518	330	55	6.5	50.4	1.1	39.7	14.3	---	1.94 as N
	08/18/04	516	317	56.8	6.2	47.9	1.4	42.6	14.2	---	1.64 as N

* - Alkalinity as CaC03
E - estimated

TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Sampled	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-28R01	08/03/05	541	333	60.5	6.5	45.3	1.2	40.2	14.1	---	2.23 as N
(Cont)	09/10/08	480	278	37.2	4.67	62.4	1.14	41.2	11.4	160	---
	08/04/09	543	329	50	5.49	55.5	1.12	38.7	18.4	194	1.78 as N
	07/26/10	564	335	58.3	6.57	49.9	1.12	41.9	18.7	203	9.89
	08/22/11	548	357	55.0	6.75	52.9	1.07	41.3	18.8	187	10.5
	08/21/12	507	287	44.7	5.19	60.5	0.95	39.2	17.4	178	8.33
	07/24/13	498	302	43.9	4.87	60.6	0.91	39.8	17.6	178	7.63
	09/17/14	592	339	59.3	7.23	54.7	1.17	43.4	20.8	206	10
8S/2W-29A01	08/02/89	346	207	31	11	24	0.4	18	7.0	131	2.0 as N
	07/24/90	354	193	32	11	25	0.4	24	6.7	133	2.0 as N
	07/18/91	361	194	32	10	26	0.4	25	6.0	134	1.8 as N
	08/15/94	363	216	33	12	25	0.5	24	7.7	132	2.6 as N
	08/31/95	363	208	32	11	23	0.4	21	8.1	137	2.6 as N
	08/28/96	---	---	---	---	---	---	---	---	---	2.9 as N
	08/12/97	368	238	32	12	24	0.44	22	7.4	138	3.05 as N
	08/19/98	411	246	36	11	31	0.45	25	8.2	153	2.94 as N
	08/25/99	375	222	33	12	23	0.39	20	6.7	---	3.81 as N
	08/22/00	374	237	33	12	24	0.42	18	7.3	---	3.48 as N
	08/21/01	374	236	34	12	24	0.46	20	7.3	---	3.56 as N
	08/02/05	382	243	38.7	11.6	27.1	0.53	27.6	7.7	---	2.79 as N
8S/2W-29A02	08/02/06	392	242	36.2	10.9	26.6	0.43	29.4	7.94	139	2.64 as N
	08/04/09	394	245	29.8	11.3	32.2	0.64	34.5	7.38	133	0.81 as N
	07/26/10	---	268	37.5	11.9	32.5	0.55	38.5	12.9	---	E 10.8
	08/22/11	434	299	35.9	12.0	35.7	0.59	41.9	12.7	132	9.30
	08/21/12	465	298	42.0	13.2	38.1	0.55	42.4	15.8	148	11.8
	07/24/13	464	297	39.7	13.6	37.0	0.62	45.6	16.3	147	11.3
	09/17/14	481	284	38.7	13.2	36.4	0.63	46	16.3	145	11.2
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 as N
8S/2W-29B03	03/06/90	478	275	14	1.9	84	0.8	65	16	123	<0.1 as N
8S/2W-29B05	03/02/90	397	229	29	9.5	43	1.2	35	4.9	141	1.8 as 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 as N
8S/2W-29B07	03/07/90	396	230	8.6	2.5	71	0.9	51	11	102	<0.1 as N
	08/16/90	371	199	8.4	1.8	69	0.8	50	14	106	<0.1 as N

* - Alkalinity as CaC03
E - estimated

TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Sampled	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-29B08	03/07/90	464	272	31	9.4	52	1.2	58	12	134	0.45 as N
	08/16/90	458	261	34	9.1	48	1.1	59	17	135	0.4 as N
8S/2W-29B09	03/07/90	343	210	21	9.2	39	1.0	24	6.7	131	1.3 as N
	08/17/90	317	197	26	10	26	1.1	22	3.4	130	1.6 as N
8S/2W-29B10	08/19/98	367	223	12	0.64	75	0.62	50	10	121	<.05 as N
	08/26/99	393	219	12	0.72	68	0.56	46	11	---	<.05 as N
	08/22/00	393	228	12	0.76	69	0.58	43	11	---	<.05 as N
	08/21/01	398	231	11	0.62	72	0.57	49	15	---	.04 as N
	08/12/03	387	239	11.3	0.65	75.1	0.57	47.2	18.4	---	2.41as N
	08/18/04	390	232	11.2	0.64	72.6	0.64	48	20.8	---	<.06 as N
	08/02/05	404	242	12.5	0.67	69.9	0.65	47.2	23.2	---	<.06 as N
	08/03/06	381	222	12.3	0.77	62.8	0.54	40.3	17.3	110	<.06 as N
	09/04/07	430	237	12.1	0.70	78.3	0.65	47.2	27.5	107	<.06 as N
	09/15/08	420	242	11.2	0.664	77.3	0.59	45.3	29.6	106	E .03 as N
	08/04/09	381	217	12.1	0.76	66	0.64	39.9	23.7	108	E .03 as N
	07/26/10	394	220	11.4	0.67	71.6	0.64	42.2	26	107	E 0.079
	08/22/11	421	265	11.5	0.697	75.5	0.58	45.5	31.0	99	0.115
	08/21/12	432	245	12.8	0.734	82.4	0.62	47.1	34.9	106	<.177
	07/24/13	451	264	13.6	0.756	83.6	0.63	49.2	43.1	107	<.177
	09/17/14	490	274	14.8	0.853	84.8	0.67	51.1	52	105	0.177
8S/2W-29B11	08/02/06	483	285	30.1	7.84	51.5	0.93	57.1	11.8	138	1.44 as N
	08/04/09	497	281	33	8.51	51	0.98	52.6	16.6	140	2.33 as N
	07/26/10	---	287	34.7	9.09	53.4	1.05	56.8	15.3	---	E 10.3
	08/22/11	482	308	32.7	9.52	53.0	1.00	54.2	16.0	131	10.9
	08/21/12	492	300	35.9	10.0	55.9	1.03	54.3	17.9	142	11.9
	07/24/13	505	300	36.2	10.1	57.2	1.05	54.5	20.4	144	12.3
	09/17/14	542	315	37.1	10.4	55.3	1.11	56.2	23.9	145	13.8
8S/2W-29F3	08/03/06	378	251	21.9	7.67	38.9	1.9	47.2	10.4	104	0.46 as N
8S/2W-29J02	08/26/99	565	329	39	15	47	1.6	66	14	---	2.67 as N
	08/22/00	562	337	39	15	47	1.5	65	14	---	2.70 as N
	08/21/01	574	351	40	15	50	1.6	70	15	---	2.63 as N
	08/21/02	554	345	41	16	50	1.8	68	14	---	2.93 as N
	08/12/03	592	372	45.4	16.6	54.2	1.65	78.2	15.4	---	2.41 as N
	08/19/04	598	362	48.8	16.9	---	1.88	80	17	---	3.06 as N
8S/2W-29J03	08/02/06	532	337	40.3	13.2	43.1	1.34	44.8	17.5	152	8.48 as N

* - Alkalinity as CaC03
E - estimated

TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Sampled	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-34B04	10/05/89	617	371	51	8.2	67	1	58	30	192	.47 as N
	07/26/90	605	341	50	8	65	1	61	31	194	.50 as N
	07/18/91	564	339	46	7.4	67	1	53	27	185	.87 as N
	07/27/93	267	170	18	2.8	34	0.5	14	9.7	96	1.10 as N
8S/2W-35D01	08/03/89	660	358	43	5.5	87	1.2	78	35	169	.35 as N
	07/26/90	669	384	41	4.9	92	1.5	82	36	176	.40 as N
	07/17/91	641	371	40	4.4	98	1.7	81	36	175	.39 as N
	07/27/93	638	374	49	5.9	79	1.8	71	27	199	.34 as N
	08/16/94	601	334	30	3.2	95	1.5	71	29	163	.16 as N
	08/30/95	587	322	33	4	81	1.5	68	25	178	.11 as N
	08/27/96	596	352	28	3.3	92	1.4	72	29	167	.10 as N

* - Alkalinity as CaC03

TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3*	NO3
Cahuilla Indian Reservation											
7S/2E14M01	12/14/83	1220	708	130	40	45	11	53	390	98	0.04 as N
7S/2E-23H01	05/18/06	428	288	39.6	5.7	33.7	3.1	31	14	---	8.26 as N
7S/2E-23Q01	05/18/06	245	160	15.6	2.55	26.6	2.5	29.5	5.4	---	1.07 as N
7S/2E-26B03	07/11/07	296	197	23.7	3.04	31	2.94	33.9	7.64	76	1.79 as N
7S/2E-33N1	08/02/89	355	206	16	2.1	53	3.5	48	15	78	.73 as N
7S/2E-36J01	02/03/84	---	252	43	4.4	36	4.8	32	5.4	---	3.40 as N
7S-3E-14P03	08/10/05	1080	741	113	42.4	70	9.7	66.8	296	---	.15 as N
7S-3E-20J05	08/23/07	753	466	49.4	7.09	89.2	3.19	87.9	83.6	110	6.88 as N
7S/3E-21L01	05/27/53	750	---	66	20	70	---	67	76	---	---
	08/02/89	1050	675	90	19	100	3.5	84	190	216	3.1 as N
	08/01/90	1020	610	87	18	100	3.4	85	180	217	3.0 as N
	07/17/91	995	636	93	18	100	3.7	95	180	206	2.5 as N
	08/23/07	1040	677	96.1	20.2	90.9	3.67	96.2	169	190	3.42 as N
7S/3E-31L02	02/03/84	---	184	23	4.8	24	2.9	24	0	---	2.0 as N
7S/3E-31N01	07/27/84	684	412	69	12	37	---	75	12	---	---
7S/3E-34E01	07/07/76	---	---	25	4.6	21	4.2	26	7.3	---	4.0 as N
	09/22/77	---	---	25	4.9	23	4.4	25	6.9	---	---
	07/19/78	---	---	26	5.1	22	4.5	24	6.5	---	3.7 as N
	06/28/79	---	190	26	5	22	4.3	24	6	---	---
	07/02/80	---	---	26	4.9	23	4.7	28	6.9	---	3.7 as N
	07/08/81	309	---	27	5	23	4.7	26	7.7	81	4.1 as N
	06/29/82	311	---	27	5.3	27	4.9	27	10	88	4.0 as N
	08/10/83	306	---	27	5	23	4.8	29	7.7	90	3.8 as N
	08/21/84	319	---	30	5.3	24	4.3	29	7.2	92	3.7 as N
	08/01/85	321	---	28	5.2	24	4.6	29	7.0	86	3.5 as N

* - Alkalinity as CaC03

TABLE D-5

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON INDIAN RESERVATIONS

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3*	NO3
Cahuilla Indian Reservation (Continued)											
7S/3E-34E01	08/14/87	332	207	29	5.6	25	4.8	28	8.0	96	3.5 as N
	07/20/89	338	204	30	5.6	26	5.0	29	7.0	98	3.3 as N
	07/31/91	337	109	31	5.5	25	4.5	31	6.3	99	3.5 as N
	07/16/91	335	209	31	5.9	26	4.7	32	6.3	99	3.5 as N
8S/2E-4P01	01/21/86	1870	---	190	54	64	7.9	480	13	136	4.0 as N
	05/18/06	794	441	59.8	19.3	44.1	4.44	101	10.4	---	5.45 as N
8S/3E-2A01	02/05/86	591	---	54	11	43	3.2	93	21	103	3.4 as N
8S/3E-2D01	07/08/81	293	---	17	2.2	39	1.7	30	8.8	68	2.5 as N
	07/24/85	279	---	11	1.2	42	1.5	28	8	71	2.1 as N
8S/3E-2E01	12/07/50	---	---	30	10	53	---	50	14	---	---
	11/15/51	---	---	38	8	43	---	50	6	---	---
	05/27/76	---	---	39	9.4	32	2.2	49	12		4.9 as N
	09/22/77	---	280	39	9.6	33	2.6	42	8.4	---	---
	07/19/78	---	---	42	10	36	2.4	57	13		5.7 as N
	06/28/79	---	284	40	9	32	2.8	42	9	---	---
	07/02/80	---	---	34	6.5	22	2.4	27	7.4	---	0
	07/08/81	296	---	33	4.8	19	1.9	36	1	61	2.0 as N
	06/29/82	494	---	43	9.7	41	3	54	14	127	5.7 as N
	07/26/83	427	---	40	9.6	32	3	42	9.7	131	4.8 as N
	08/21/84	428	---	42	9.3	32	2.9	39	9.6	129	4.7 as N
	08/13/87	428	276	39	9.4	32	3.2	37	9.6	129	4.6 as N
	08/10/05	424	283	42.4	10.2	33.6	3.4	39.9	9.14	---	4.88 as N
8S/3E-2K01	09/22/77	---	---	43	10	48	3.2	65	18	---	---
	07/19/78	---	---	42	9.8	48	3.4	68	17	---	3.7 as N
	06/28/79	---	342	46	10	46	3.1	69	19	---	---
	07/02/80	---	---	64	12	92	2.7	140	48	---	4.1 as N
	06/29/82	454	---	41	10	38	3.7	46	13	129	3.6 as N
	08/10/83	435	---	39	9.5	32	3.6	43	13	133	3.6 as N
	08/21/84	561	---	50	11	48	3.1	68	27	139	4.0 as N
	08/01/85	472	---	41	9.7	34	3.4	48	15	125	3.7 as N
	08/13/87	451	282	40	9.9	31	3.4	41	16	133	3.6 as N
	07/20/89	531	323	46	11	41	3.4	60	22	136	3.6 as N
	08/01/90	508	310	46	11	38	3.3	60	19	134	3.8 as N
	07/16/91	522	306	50	10	39	3.3	61	21	139	3.7 as N

* - Alkalinity as CaC03

TABLE D-6

SANTA MARGARITA RIVER WATERSHED

WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-26C1	10/60	1060	639	66.5	24.0	116.0	4.5	160	110.0	264.0	trace
(Bldg 220001)	06/62	1190	718	60.0	33.2	123.0	3.8	190	124.0	232.0	1.4
	07/64	1217	734	79.2	27.8	144.0	1.6	180	150.0	248.9	---
	05/65	1485	896	75.2	30.3	158.0	2.4	180	120.0	253.8	0
	01/66	---	808	76.8	33.2	157.0	3.4	170	180.0	292.8	0.62
	06/66	---	684	75.2	26.8	112.0	2.4	128	148.0	263.5	3.9
	01/67	---	856	81.6	26.3	138.0	3.5	162	140.0	310.0	3
	08/67	---	880	99.2	38.1	156.0	3.6	160	230.0	322.1	5.3
	02/68	---	768	65.6	25.4	156.0	3.4	160	164.0	236.7	0
	04/69	---	852	66.0	32.0	162.0	3.2	166	210.0	249.0	0
	11/69	---	844	87.0	31.0	140.0	3.6	164	180.0	262.0	0
	07/70	---	672	99.0	32.0	139.0	3.0	158	205.0	259.0	2.7
	12/70	1180	712	83.0	28.0	138.0	3.0	166	170.0	266.0	0
	09/71	1062	640	83.0	27.0	128.0	2.8	136	175.0	278.0	0.4
	05/72	1130	681	56.0	24.0	140.0	2.8	136	165.0	220.0	0
	10/72	1165	703	64.0	27.0	159.0	3.6	132	180.0	293.0	1.8
	10/73	1140	688	72.0	27.0	131.0	3.8	144	190.0	200.0	0.3 as N
	02/76	1140	688	70.4	28.3	143.0	3.1	132	182.0	273.3	1.8 as N
	09/76	1100	663	67.0	25.0	152.0	2.5	152	131.0	327.0	2.8 as N
	03/77	1080	651	67.0	28.0	173.0	3.1	128	160.0	254.0	4.4 as N
	10/78	1150	694	70.0	25.0	120.0	3.5	139	145.0	253.8	<1 as N
	06/79	1100	663	72.0	27.3	125.0	3.0	134	142.0	258.6	<1 as N
	10/80	1200	693	78.8	23.7	136.0	3.3	172	136.0	273.3	0.2 as N
	04/81	1160	737	82.4	22.4	126.0	3.6	140	134.0	268.4	<0.5 as N
	11/81	1300	863	97.6	31.5	169.0	2.2	204	209.0	248.9	0.8 as N
	11/81	950	573	74.0	18.3	120.0	2.1	144	130.0	224.5	0.3 as N
	05/82	1100	663	80.8	26.6	140.0	1.5	181	138.0	268.4	<0.5 as N
	03/83	1000	603	84.0	20.5	144.0	3.2	152	143.0	273.3	<0.5 as N
	05/84	1150	694	80.0	27.6	126.0	3.1	133	150.0	283.0	0.2 as N
	06/85	1100	680	89.0	26.0	140.0	3.0	150	64.0	440.0	<0.4
	09/85	1242	724	78.0	28.0	122.0	6.0	154	149.1	244.4	<0.4
	05/86	1387	750	85.2	29.1	130.7	4.3	166	130.8	242.6	<1
	06/89	1302	734	78.1	23.0	85.9	---	136	145.0	212.0	<0.4
	01/91	1271	---	81.0	36.1	152.0	---	166	---	---	<0.04
	06/91	1290	752	99.0	32.4	133.0	---	167	136.0	237.0	<0.4
	03/92	1210	792	91.0	29.8	146.0	---	159	135.0	279.0	<0.4
	06/93	1290	764	68.3	27.5	149.0	---	168	130.0	265.0	<0.4
	03/94	1210	783	100.0	37.1	100.0	---	145	167.0	---	2.2
	08/94	1160	741	87.5	35.5	96.1	---	141	187.0	---	4.23
	06/95	1330	806	97.7	37.4	142.0	---	207	166.0	---	<0.04
	01/96	1300	764	91.0	33.0	140.0	---	177	142.0	363.0	---
	06/96	1300	751	93.0	30.0	130.0	---	164	156.0	252.0	---
	06/97	1215	758	88.0	29.0	130.0	<2.0	151	148.0	292.0	<2 as N
	12/97	1200	690	81.0	29.0	140.0	3.0	155	150.0	250.0	ND
	04/98	1200	790	83.0	31.0	101.0	3.0	165	156.0	240.0	ND
	06/98	1230	714	85.0	30.0	136.0	3.0	163	158.0	293.0	ND
	02/99	1250	731	84.0	29.0	127.0	3.0	160	140.0	281.0	ND
	04/99	1220	769	88.0	30.0	127.0	3.0	168	160.0	317.0	ND
	05/01	1300	794	98.0	36.0	130.0	3.0	173	179.0	317.0	ND

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-18M5	06/89	1156	688	74.6	24.4	67.9	---	130	138.0	197.0	8.9
(Bldg 23073)	01/90	1120	630	86.4	32.3	101.0	---	156	166.0	210.0	<0.05
(Previously	04/90	1160	720	98.8	34.8	107.0	---	152	146.0	218.0	1.4
reported as	01/91	1202	---	84.1	40.5	117.0	---	162	153.0	---	<0.04
10S/4W-18M4)	06/91	1180	736	102.0	37.1	106.0	---	163	138.0	197.0	<0.4
	03/94	1020	658	69.6	27.8	104.0	---	135	140.0	---	0.89
	08/94	1110	684	81.4	32.2	178.0	---	144	157.0	---	<0.44
	06/95	1170	679	95.3	35.2	113.0	---	145	116.0	---	13.8
	06/96	1100	682	86.0	32.0	95.0	---	155	261.0	210.0	<0.0
	02/97	1180	640	79.0	32.0	110.0	---	142	162.0	190.0	<2 as N
	06/97	1117	709	85.0	33.0	110.0	<5.0	150	164.0	223.0	<2 as N
	12/97	1100	700	82.0	33.0	110.0	3.0	141	157.0	220.0	ND
	03/98	1100	710	83.0	33.0	100.0	3.0	182	158.0	150.0	ND
	06/98	1200	720	85.0	34.0	119.0	4.0	159	154.0	281.0	ND
	02/99	1020	613	70.0	30.0	85.0	4.0	130	85.0	179.0	8
	05/00	1020	709	81.0	33.0	94.0	4.0	146	149.0	220.0	ND
	08/00	1160	728	83.0	33.0	89.0	4.0	161	178.0	232.0	ND
	02/01	1200	736	85.0	35.0	116.0	4.0	164	180.0	244.0	0.7
	04/01	1200	606	85.0	34.0	112.0	4.0	154	177.0	232.0	ND
	09/01	1250	761	90.0	37.0	115.0	4.0	166	188.0	232.0	ND
	11/01	1290	737	91.0	37.0	118.0	3.0	181	207.0	256.0	0
	02/02	1260	781	89.0	36.0	123.0	4.6	170	189.0	255.0	1.3
	04/02	1250	755	90.0	37.0	116.0	4.1	175	195.0	200.0	1
	05/02	1290	750	92.0	38.0	110.0	4.0	157	194.0	180.0	0.6
	07/02	1260	753	90.0	37.0	114.0	4.0	171	196.0	200.0	0
	01/03	1350	816	96.0	40.0	131.0	4.6	160	201.0	193.0	0
	04/03	1210	738	95.0	27.0	118.0	3.9	175	210.0	192.0	0
	10/03	1290	752	91.0	37.0	134.0	5.0	167	193.0	199.0	0
	01/04	1230	717	93.0	38.0	111.0	6.0	159	194.0	173.0	0
	04/04	1280	722	82.0	36.0	112.0	6.0	168	213.0	180.0	2.2
	07/04	1080	739	88.0	37.0	92.0	7.0	156	198.0	190.0	0
	11/04	1230	563	91.0	38.0	124.0	4.8	172	215.0	175.0	0
	01/05	1240	687	96.0	39.0	124.0	4.0	172	215.0	190.0	0
	04/07	1240	770	98.0	40.0	100.0	3.8	160	220.0	240.0	0
	04/08	1370	908	100	42	110	3.7	180	240	234	<2
	04/09	1300	800	97	39	120	3.7	140	200	220	8.7
	8/11/10	1300	780	97	39	110	3.6	180	220	220	<2
	4/22/11	1300	810	90	37	110	3.6	170	230	220	<2
	4/20/12	1200	810	94	38	120	3.8	160	220	240	2.0
	4/18/13	1200	780	88	37	100	3.9	160	200	210	<2

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23J1 (Bldg 2301)	05/56	1090	685	61.5	24.3	142.0	---	142	110.0	293.0	0.06
	12/56	1060	666	67.0	27.0	96.0	---	124	85.0	274.0	---
	12/57	---	780	66.3	23.9	159.0	---	138	155.0	308.0	10.6
	05/59	1100	691	75.2	25.3	112.0	---	136	152.0	297.7	---
	01/60	1120	704	72.7	27.3	116.5	---	112	144.0	291.0	---
	10/60	1045	657	63.2	21.4	99.0	3.6	140	112.0	242.0	0
	05/61	1280	770	76.0	36.5	136.0	3.0	124	195.0	299.6	0
	05/62	1133	712	68.8	30.3	136.0	2.0	128	175.0	275.7	---
	01/63	1111	698	72.0	35.1	127.0	2.8	128	199.0	268.4	---
	06/63	1108	696	78.4	25.4	118.0	2.9	148	130.0	258.6	0 as N
	07/64	1165	732	74.4	27.8	128.0	1.2	139	160.0	268.4	---
	05/65	1130	710	80.0	26.4	145.0	2.1	148	120.0	268.4	0.14
	01/66	---	736	88.0	18.1	142.0	2.8	124	155.0	263.5	1.8
	06/66	---	736	75.2	29.3	138.0	2.7	145	175.0	295.2	4.8
	01/67	---	744	76.8	25.9	118.0	3.0	136	125.0	287.9	2.2
	08/67	---	680	70.4	28.3	128.0	2.3	140	100.0	292.8	8.4
	02/68	---	660	48.0	19.5	130.0	2.8	124	119.0	234.0	6.1
	04/69	---	708	70.0	28.0	126.0	2.5	128	170.0	278.0	0
	11/69	---	684	73.0	28.0	126.0	2.8	138	165.0	273.0	0
	05/70	---	716	74.0	25.0	122.0	0.1	134	170.0	210.0	4.4
	12/70	1090	385	78.0	25.0	126.0	2.6	142	170.0	250.0	3.1
	09/71	1025	644	75.0	38.0	120.0	2.7	124	190.0	229.0	0.9
	05/72	1050	660	75.0	21.0	124.0	2.3	124	155.0	244.0	2.2
	10/73	1140	716	74.0	22.0	128.0	2.8	136	160.0	220.0	0.5 as N
	06/74	1060	680	74.0	13.0	131.0	2.9	158	138.0	220.0	0.01 as N
	02/76	1050	660	73.6	25.4	136.0	2.9	119	170.0	248.9	2.0 as N
	09/76	1100	691	58.0	32.0	146.0	2.6	140	148.0	321.8	2.6 as N
	03/77	1080	679	69.0	29.0	110.0	3.0	128	155.0	259.0	4.3 as N
	01/78	1100	691	70.0	23.0	147.0	3.0	140	135.0	259.0	4.4 as N
	10/78	1150	723	74.0	22.0	120.0	2.9	134	149.0	248.9	<1 as N
	04/79	1000	628	70.4	22.4	118.0	2.6	122	138.0	239.1	<1 as N
	10/80	1150	745	74.0	22.5	128.0	3.0	152	138.0	239.1	0.2 as N
	05/81	1020	580	67.2	17.3	116.0	3.1	132	111.0	205.0	<0.5 as N
	03/83	900	599	65.6	19.5	129.0	2.8	136	129.0	234.2	<0.5 as N
	12/83	1000	628	72.4	22.4	127.0	2.6	140	150.0	249.0	<0.1 as N
	05/84	1100	691	78.8	25.9	120.0	2.8	130	150.0	254.0	0.2 as N
	06/85	1100	691	59.0	26.0	130.0	3.0	140	70.0	440.0	3.5
	09/85	1203	705	66.0	26.0	110.0	6.0	150	144.0	226.6	<0.4
	06/89	1139	662	71.5	21.7	80.8	---	117	128.0	209.0	<0.4
	01/90	1150	632	90.6	32.4	102.0	---	160	170.0	214.0	<0.5
	01/91	1112	---	73.7	32.0	128.0	---	136	136.0	---	<0.04
	06/91	1090	662	87.4	29.7	117.0	---	140	121.0	204.0	<0.4
	03/92	1080	644	74.2	25.8	133.0	---	127	118.0	282.0	1.3
	03/93	1210	674	72.8	24.5	117.0	---	127	124.0	261.0	<0.4
	06/93	1090	670	63.9	25.7	119.0	---	117	128.0	237.0	<0.4
	03/94	1120	683	73.9	27.0	121.0	---	141	130.0	---	<0.4

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23J1	08/94	1160	707	78.9	28.2	129.0	---	139	153.0	---	<0.44
(Bldg 2301)	06/95	1160	742	88.2	28.8	131.0	---	165	147.0	---	<0.04
(Cont)	01/96	1300	690	79.0	29.0	140.0	---	147	131.0	292.0	---
	06/96	1020	674	82.0	29.0	120.0	---	134	129.0	204.0	---
	02/97	1100	650	74.0	27.0	150.0	---	126	172.0	245.0	<2 as N
	03/97	1073	630	77.0	28.0	130.0	---	142	134.0	254.0	<2 as N
	02/99	1180	647	75.0	27.0	125.0	3.0	150	130.0	272.0	ND
	04/99	1240	722	81.0	30.0	124.0	3.0	157	150.0	293.0	ND
	08/99	1180	735	79.0	29.0	120.0	3.0	190	183.0	281.0	ND
	12/99	1190	699	83.0	30.0	118.0	3.0	100	158.0	278.0	ND
	02/00	1110	723	81.0	30.0	116.0	3.0	90	163.0	293.0	ND
	05/00	1070	714	81.0	29.0	115.0	3.0	170	152.0	273.0	ND
	08/00	1200	735	80.0	29.0	117.0	3.0	150	118.0	275.0	ND
	02/01	1230	730	84.0	31.0	132.0	---	158	158.0	293.0	ND
	04/01	1190	636	81.0	30.0	123.0	3.0	146	148.0	287.0	ND
	09/01	1300	751	88.0	32.0	132.0	3.0	155	160.0	293.0	ND
	10/01	1380	757	88.0	33.0	133.0	3.0	152	159.0	311.0	ND
	02/02	1220	724	86.0	31.0	124.0	2.6	146	156.0	293.0	ND
	04/02	1210	726	89.0	32.0	124.0	2.8	151	162.0	240.0	---
	07/02	1280	735	85.0	31.0	129.0	3.1	155	165.0	236.0	ND
	10/02	1300	701	87.0	31.0	141.0	2.9	157	170.0	257.0	ND
	01/03	1260	760	88.0	32.0	139.0	3.5	146	162.0	239.0	ND
	02/03	---	---	68.0	32.0	139.0	3.5	---	---	---	---
	04/03	1200	708	87.0	32.0	127.0	2.8	158	175.0	245.0	ND
	10/03	1210	696	82.0	30.0	144.0	3.0	167	177.0	232.0	0 as N
	01/04	1170	678	87.0	31.0	121.0	4.0	151	175.0	227.0	0 as N
	04/04	1270	697	82.0	31.0	120.0	4.0	155	171.0	250.0	0 as N
	07/04	1030	702	87.0	31.0	98.0	5.0	138	151.0	245.0	0 as N
	10/04	1230	879	89.0	31.0	102.0	5.0	158	176.0	---	0 as N
	02/05	1170	704	88.0	31.0	134.0	3.1	157	171.0	235.0	0 as N
	04/05	1220	755	88.0	30.0	121.0	2.7	132	167.0	213.0	0 as N
	07/05	1190	725	83.0	29.0	117.0	2.8	153	---	206.0	0 as N
	04/07	1200	708	89.0	32.0	120.0	2.6	150	170.0	270.0	0
	04/08	1210	718	90	32	100	2.5	150	170	274	<2
	04/09	1200	720	90	32	110	2.6	130	160	250	<2
	04/14/10	1200	740	92	33	120	2.6	150	180	260	<2
	04/22/11	1200	770	90	32	110	2.6	160	190	260	<2
	04/20/12	1200	790	96	34	120	2.9	160	190	250	<2
	05/02/13	1200	790	93	34	120	2.8	160	190	240	<2
10S/5W-23J8 (Bldg 23001)	06/11/14	1300	810	100	35	120	2.7	160	200	250	<2
10S/4W-18E3	06/89	1166	758	80.5	28.1	67.4	---	132	157	198.0	9.5
(Bldg 230093)	01/90	1230	748	97.4	39.7	106.0	---	178	179	226.0	<0.05
	04/90	1190	733	99.6	37.5	112.0	---	159	156	207.0	2.5
	06/91	1130	680	97.6	37.6	100.0	---	139	142	166.0	2.7
	02/94	1180	731	83.3	35.5	104.0	---	142	159	---	11.1
	08/94	1150	725	84.3	35.2	102.0	---	147	164	---	1
	06/95	932	636	75.4	29.1	86.6	---	102	140	---	14

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED

WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-18E3	06/96	1117	710	92.0	36.0	93.0	---	180	297	206.0	---
(Bldg 230093)	02/97	1100	686	89.0	38.0	110.0	---	157	166	220.0	<2 as N
(Cont)	03/97	1116	673	87.0	36.0	110.0	---	147	113	213.0	<2 as N
	06/97	1131	779	90.0	37.0	99.0	<5.0	151	177	199.0	<2 as N
	09/98	1160	727	83.0	36.0	90.0	3.0	160	181	232.0	ND
	10/99	1200	325	88.0	39.0	117.0	4.0	130	180	268.0	ND
	02/00	1100	739	84.0	37.0	100.0	4.0	130	180	281.0	ND
	05/00	1030	717	80.0	35.0	96.0	4.0	168	183	229.0	2
	02/01	1360	798	97.0	44.0	111.0	4.0	184	212	244.0	ND
	04/01	1310	728	94.0	42.0	114.0	4.0	168	208	232.0	ND
	09/01	1330	791	96.0	42.0	115.0	4.0	173	209	224.0	1
	03/02	1320	778	102.0	44.0	123.0	4.4	196	229	242.0	1
	04/02	1300	808	101.0	44.0	117.0	4.0	183	220	200.0	1.1
	07/02	1390	778	96.0	42.0	114.0	3.7	180	214	209.0	ND
	10/02	1360	763	97.0	41.0	126.0	4.0	180	207	214.0	ND
	01/03	1290	749	96.0	40.0	116.0	3.7	172	200	200.0	ND
	04/03	1210	783	99.0	42.0	129.0	3.9	176	229	191.0	1.3
	10/03	1320	775	97.0	41.0	126.0	5.0	168	231	174.0	0
	01/04	1270	763	101.0	42.0	106.0	6.0	162	220	180.0	0
	04/04	1320	781	96.0	43.0	105.0	6.0	179	250	195.0	0
	07/04	1370	784	100.0	43.0	89.0	6.0	169	219	203.0	0
	10/04	1300	857	99.0	42.0	88.0	6.0	188	245	210.0	0
	01/05	1270	760	99.0	42.0	115.0	4.3	170	234	185.0	2.7
	07/05	1120	724	89.0	36.0	91.0	3.5	133	---	203.0	0 as N
	11/05	1230	815	101.0	40.0	113.0	4.1	153	213	174.0	0 as N
	04/06	1350	832	110.0	44.0	120.0	3.8	180	250	220.0	0 as N
	04/07	1298	806	100.0	45.0	110.0	3.7	180	247	230.0	0
	04/08	1270	816	92	40	100	3.4	150	220	202	4.7
	04/09	1300	840	100	43	120	3.8	150	220	230	<2
	04/28/10	1200	700	83	36	99	3.4	140	200	190	2.8
	07/27/11	1200	810	88	39	98	3.4	160	230	190	4.3
	04/25/12	1200	830	95	42	100	4.0	170	240	190	<2
	05/08/13	1300	800	88	37	120	3.6	170	220	190	<2
	06/24/14	1300	820	95	41	120	3.5	170	240	190	<2
10S/4W-7R2	06/89	1281	765	76.5	25.1	82.4	---	149	153	209.0	10.3
(Bldg 260003)	04/89	1270	788	104.0	36.5	126.0	---	173	161	215.0	2.6
	06/91	1400	836	111.0	41.1	130.0	---	195	155	215.0	0.04
	02/94	1260	738	83.3	32.0	131.0	---	169	155	---	<0.04
	08/94	1260	738	84.3	33.7	129.0	---	166	149	---	<0.44
	06/95	1290	897	93.6	35.2	129.0	---	202	164	---	0.69
	02/97	1200	720	84	36	130	---	150	152	240	<1 as N
	03/97	1143	708	83	35	130	---	152	137	240	<2 as N
	06/97	1227	831	94	34	120	<5.0	185	147	247	<2 as N
	12/97	1200	700	84	36	120	3.0	150	173	240	ND
	12/97	1200	700	84	36	120	3.0	150	173	240	ND
	03/98	1200	780	85	36	110	3.0	187	162	180	ND
	06/98	1190	734	83	35	110	3.0	160	167	275	ND
	02/99	1160	663	76	32	102	3.0	150	150	214	ND

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7R2	08/99	1120	727	76	33	99	3.0	156	230	281	ND
(Bldg 260003)	10/99	1130	660	78	33	120	3.0	110	160	262	ND
(Cont)	02/00	1030	592	79	35	96	3.0	120	160	244	ND
	05/00	1010	699	76	33	96	3.0	129	127	229	ND
	08/00	1140	720	77	33	87	3.0	---	157	232	ND
	12/02	1120	617	73	32	102	3.6	132	164	174	0.4
	01/03	1150	689	76	34	113	3.6	135	165	185	ND
	04/03	1190	717	82	37	122	4.0	164	182	209	ND
	05/03	1190	---	---	---	---	---	156	182	---	---
	10/03	1250	737	81	37	130	5.0	163	201	192	0
	01/04	1240	694	86	39	107	6.0	153	182	185	0
	04/04	1320	750	84	40	108	6.0	170	210	220	0
	07/04	1100	761	92	41	88	7.0	172	204	205	0
	10/04	1280	893	93	41	88	6.0	179	222	---	0
	02/05	1270	839	99	44	121	5.2	180	215	198	0
	04/05	1300	880	98	41	109	3.8	158	216	183	0 as N
	07/05	1380	870	101	43	109	4.0	430	540	176	0 as N
	11/05	1310	865	104	43	115	3.8	164	221	181	0 as N
	04/06	1220	810	100	43	110	3.8	170	240	206	0 as N
	04/07	1400	856	99	44	110	3.6	170	250	210	0
	04/08	1290	888	91	39	100	3.4	160	230	207	2.6
10S/4W-7R3	04/09	1300	830	100	45	110	4.5	170	240	220	<2
(Bldg 260002)	04/13/10	1300	800	100	43	100	3.6	160	240	200	<2
	04/13/11	1300	870	96	42	98	3.7	160	240	200	<2
	04/25/12	1300	860	100	44	110	3.6	170	260	200	<2
	04/18/13	1300	840	96	41	100	4.0	180	240	220	<2
	04/23/14	1300	830	94	41	110	3.9	170	220	200	<2
10S/4W-7H2	08/56	1060	882	78.0	30.0	112.0	---	150	82	326.0	---
(Bldg 260071)	01/60	820	500	55.2	14.7	85.0	---	76	98	224.0	---
	10/60	1300	793	74.5	20.5	126.0	4.3	182	116	320.0	---
	05/61	1390	840	100.0	29.2	170.0	3.3	170	135	362.0	---
	05/62	1220	744	70.4	39.0	142.0	2.4	184	86	312.3	---
	01/63	1300	740	65.6	26.4	162.0	2.4	166	153	259.0	0.7
	07/63	1100	671	64.0	25.4	118.0	2.7	148	97	280.6	0.0 as N
	01/64	1020	622	70.4	33.2	117.0	2.7	172	98	302.6	3.3
	07/64	1400	854	83.2	27.3	134.0	1.4	164	98	322.1	---
	04/65	1490	909	97.6	23.4	152.0	4.7	196	110	346.5	0.9
	01/66	---	832	102.0	28.0	166.0	3.1	194	88	414.8	6.6
	06/66	---	768	86.4	26.3	150.0	3.1	184	110	331.8	6.9
	01/67	---	768	72.0	29.3	128.0	3.1	174	72	324.5	6.9
	08/67	---	608	57.6	24.4	116.0	2.4	132	70	251.3	10.2
	02/68	---	572	67.2	17.6	105.0	2.4	118	94	251.0	0
	09/68	---	636	74.0	19.0	112.0	3.0	144	96	268.0	0.4
	04/69	---	820	72.0	33.0	138.0	2.8	180	140	285.0	0.9
	11/69	---	604	66.0	24.0	116.0	2.8	140	110	259.0	1.8
	05/70	---	640	65.0	26.0	115.0	2.4	142	120	183.0	3.1
	09/71	1075	656	77.0	24.0	120.0	2.8	144	125	273.0	1.3

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7H2	05/72	1000	610	46.0	24.0	117.0	2.4	140	130	141.0	0
(Bldg 260071)	10/72	1110	677	88.0	26.0	105.0	3.6	144	126	283.0	3.5
(Cont)	10/73	1120	683	75.0	23.0	118.0	2.7	132	130	200.0	0.6 as N
	06/74	1210	712	72.0	19.0	150.0	3.1	208	112	195.0	0.01 as N
	01/75	850	519	61.0	21.0	93.0	2.4	102	95	212.0	2.3 as N
	02/76	1200	732	91.2	20.5	126.0	3.2	176	130	244.0	2.6 as N
	09/76	1200	732	48.0	29.0	180.0	2.4	192	123	336.7	4.2 as N
	03/77	1400	854	94.0	33.0	158.0	2.8	216	140	342.0	2.8 as N
	01/78	1000	610	66.0	23.0	100.0	2.7	128	123	205.0	4.4 as N
	10/78	1300	793	82.0	31.0	134.0	2.7	160	157	258.6	<1 as N
	04/79	1200	732	84.8	28.3	144.0	3.1	164	116	312.3	<1 as N
	01/80	1450	885	93.0	30.0	163.0	3.0	196	200	273.0	<1 as N
	10/80	1050	591	70.4	21.7	104.0	3.7	140	125	219.6	2.0 as N
	05/81	1000	645	72.4	21.7	105.0	3.5	128	123	209.8	<0.5 as N
	05/82	1330	811	100.8	35.9	176.0	1.6	269	198	263.5	<0.5 as N
	03/83	890	669	77.2	23.7	95.0	3.4	132	136	209.8	0.65 as N
	12/83	1000	610	70.4	23.7	123.0	2.6	136	150	224.0	0.5 as N
	05/84	1100	671	77.2	24.6	116.0	2.7	133	155	244.0	0.2 as N
	09/84	1300	650	6.6	29.0	120.0	2.6	200	170	250.0	12
	11/84	1100	671	81.6	23.4	124.0	2.7	149	175	249.0	1.2 as N
	05/86	1592	994	104.7	39.7	167.3	4.4	232	167	301.8	<1 as N
	06/89	1137	826	79.1	28.5	85.5	---	157	158	246.0	12.6
	01/90	1290	772	96.3	38.6	116.0	---	184	179	252.0	0.9/1.2
	04/90	1320	817	109.0	42.1	128.0	---	177	167	249.0	5.4
	01/91	401	---	87.3	44.4	103.1	---	205	179	---	1.1
	03/93	1500	824	92.6	33.1	136.0	---	194	154	277.0	1.8
	03/94	1370	827	103.0	36.4	135.0	---	163	145	---	0.9
	08/94	1270	762	91.1	35.5	129.0	---	162	172	---	5.64
	06/95	1260	771	100.0	35.8	127.0	---	197	178	---	2.8
	06/96	1300	751	96.0	36.0	120.0	---	162	174	247.0	1.1
	02/97	1300	830	100.0	41.0	150.0	---	186	161	186.0	<2 as N
	06/97	1323	831	94.0	36.0	140.0	<5.0	158	149	271.0	2 as N
	12/97	1200	670	91.0	36.0	120.0	3.0	150	169	220.0	ND
	12/97	1200	710	87.0	35.0	120.0	2.0	152	182	220.0	1.5
	03/98	1200	810	89.0	36.0	120.0	3.0	201	168	240.0	ND
	06/98	1390	830	91.0	36.0	140.0	2.0	185	150	366.0	ND
	02/99	1130	663	75.0	31.0	106.0	3.0	150	150	238.0	5
	05/99	1170	711	75.0	32.0	85.0	4.0	---	180	268.0	ND
	08/99	1040	692	74.0	30.0	94.0	2.0	100	400	207.0	ND
	10/99	1210	757	86.0	35.0	120.0	3.0	154	100	295.0	3
	08/00	1290	766	83.0	33.0	89.0	2.0	184	150	323.0	ND
	02/01	1140	707	85.0	35.0	107.0	2.0	152	179	232.0	4.9
	04/01	1190	718	88.0	37.0	112.0	3.0	153	193	218.0	5
	09/01	1200	729	89.0	38.0	106.0	3.0	158	192	201.0	4.6
	11/01	1210	693	90.0	38.0	106.0	3.0	169	209	214.0	5.4

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7H2	02/02	1190	726	94.0	39.0	106.0	2.7	147	184	218.0	5.9
(Bldg 260071)	04/02	1190	724	91.0	38.0	107.0	2.9	153	204	173.0	6.6
(Cont)	07/02	1200	755	88.0	37.0	107.0	3.1	162	201	180.0	6
	10/02	1250	722	91.0	38.0	99.0	2.6	150	197	177	6.2
	01/03	1260	781	95.0	39.0	119.0	3.2	144	204	169	4.5
	04/03	1310	776	93.0	38.0	125.0	3.0	178	217	185	4.1
	04/04	1660	890	112.0	47.0	143.0	4.0	208	162	370	ND
	07/04	1460	785	98.0	38.0	109.0	4.0	186	191	275	3.4
	05/06	1380	870	100.0	41.0	110.0	2.3	180	240	210	3.0
	04/07	1300	812	99.0	41.0	110.0	2.5	160	230	220	5.2
	04/09	1300	830	100	43	110	2.9	170	260	190	4.7
	04/22/10	1300	790	100	42	110	2.7	170	230	210	4.2
	04/20/11	1400	860	97	42	110	3.2	180	250	210	2.4
	04/20/12	1200	840	93	40	110	3.3	160	220	200	5.1
	04/14/13	1300	830	88	40	100	3.6	160	220	230	12
	04/28/14	1400	860	93	42	110	3.1	170	220	230	3.7
10S/4W-7A2	05/56	920	651	59.0	22.0	100.0	---	104	94	213.0	---
(Bldg 260073)	05/59	---	745	52.8	16.5	60.3	---	84	41	207.4	---
	01/60	---	840	51.2	17.6	95.0	---	98	92	210.0	---
	10/60	870	566	62.0	23.0	80.0	4.2	110	104	234.0	0
	05/61	1180	710	72.0	34.0	114.0	3.3	104	150	227.0	---
	05/62	797	518	63.2	23.4	75.0	2.0	100	96	214.7	---
	01/63	1195	730	64.0	24.9	157.0	3.1	162	183	220.0	0
	07/63	574	610	57.6	19.5	85.0	2.7	102	100	244.0	0.3 as N
	01/64	760	494	59.2	19.3	82.0	3.3	100	85	253.7	0.5 as N
	07/64	980	637	64.0	21.5	94.0	1.4	100	95	241.6	---
	04/65	1230	800	73.3	22.5	106.0	4.5	120	110	248.9	1.3
	01/66	---	448	---	---	86.0	2.5	82	75	190.3	9.7
	06/66	---	540	60.8	21.0	81.0	2.5	102	95	222.0	9.1
	01/67	---	544	60.8	19.5	88.0	2.9	106	69	229.4	6.9
	08/67	---	504	54.4	20.0	79.0	2.1	96	58	214.7	8
	02/68	---	456	60.8	17.6	86.0	2.7	94	78	222.0	0
	09/68	---	600	67.0	18.0	90.0	3.0	110	96	232.0	0
	04/69	---	428	46.0	18.0	73.0	---	76	90	183.0	3.1
	11/69	---	476	59.0	18.0	88.0	2.7	98	110	198.0	0.9
	05/70	---	416	54.0	18.0	79.0	2.6	92	90	151.0	2.9
	12/70	780	507	64.0	16.0	89.0	2.7	100	90	222.0	10.1
	05/72	990	644	77.0	24.0	86.0	2.8	116	135	207.0	0
	10/72	965	627	77.0	27.0	94.0	2.9	104	145	239.0	5.3
	10/73	960	624	72.0	19.0	105.0	2.8	112	140	195.0	0.9 as N
	06/74	950	548	68.0	19.0	101.0	3.1	138	102	207.0	0.35 as N
	01/75	840	546	58.0	22.0	87.0	2.7	98	95	217.0	2.2 as N
	02/76	820	533	68.8	20.5	76.0	3.0	106	88	214.7	2.2 as N
	09/76	900	585	48.0	45.0	98.0	2.3	116	112	258.6	3.0 as N
	03/77	900	585	70.0	23.0	76.0	2.8	123	113	195.0	2.6 as N
	01/78	950	618	64.0	24.0	100.0	2.7	124	108	200.0	4.3 as N
	10/78	1050	683	74.0	20.0	80.0	3.0	113	128	205.0	<1 as N
	04/79	950	618	65.6	19.5	98.0	3.1	109	118	190.3	<1 as N

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7A2	01/80	1000	650	67.0	23.0	99.0	3.1	128	111	187.0	<1 as N
(Bldg 260073)	10/80	900	546	67.2	20.5	86.0	3.4	108	86	205.0	2.3 as N
(Cont)	05/81	810	585	57.2	14.4	83.0	3.4	92	84	180.6	0.7 as N
	11/81	800	451	57.2	16.3	85.0	2.0	92	110	185.4	0.5 as N
	05/82	930	605	68.8	21.5	97.0	1.6	115	96	205.0	<0.5 as N
	03/83	900	663	78.8	23.7	95.0	3.4	132	135	209.8	0.7 as N
	09/84	1000	530	51.0	23.0	80.0	2.9	110	110	200.0	4.2
	11/84	850	553	67.2	28.3	73.0	2.9	111	137	190.0	1.7 as N
	09/85	1007	593	66.0	26.0	64.0	5.8	124	139	180.6	6
	05/86	1051	623	72.6	26.5	79.5	3.5	131	124	153.6	8.8
	06/89	1073	688	72.1	23.9	59.6	---	120	140	184	15.9
	01/89	1080	572	91.2	34.2	80.2	---	151	178	174	1.4
	04/90	1130	718	111.0	42.1	91.0	---	148	167	175	9.1
	06/91	1190	718	113.0	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	100.0	37.1	100.0	---	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	101.0	---	173	200	---	2.9
	06/96	1129	739	91.0	37.0	90.0	---	188	312	206	---
	02/97	1100	690	82.0	35.0	140.0	---	127	131	180	<2 as N
	03/97	1109	695	91.0	39.0	93.0	---	137	191	166	2.2 as N
	06/97	1096	749	89.0	36.0	90.0	<5.0	138	178	187	2 as N
	12/97	1100	690	84.0	36.0	83.0	4.0	140	181	160	<.2 as N
	05/99	1050	648	78.0	32.0	111.0	3.0	171	---	207	ND
	08/99	1040	696	78.0	33.0	84.0	4.0	120	390	146	ND
	10/99	1070	663	78.0	34.0	90.0	4.0	132	120	195	6 as N
	02/00	1010	559	83.0	36.0	82.0	4.0	140	190	220	4 as N
	05/00	972	688	80.0	34.0	79.0	4.0	144	167	190	4 as N
	02/01	1200	753	92.0	40.0	100.0	3.0	164	212	195	ND
	04/01	1210	736	91.0	40.0	103.0	5.0	159	217	183	4.2
	09/01	1200	741	93.0	41.0	98.0	4.0	153	202	183	7.6
	11/01	1220	750	92.0	41.0	106.0	4.0	170	228	189	8.0
	02/02	1230	769	99.0	43.0	101.0	4.2	173	218	195	7.9
	04/02	1260	793	101.0	45.0	102.0	4.5	170	229	160	8.5
	07/02	1350	784	98.0	43.0	103.0	4.3	183	239	159	4.8
	10/02	1370	788	102.0	45.0	104.0	4.3	175	241	167	3.4
	01/03	1330	825	108.0	45.0	121.0	5.4	180	231	168	2.4
	04/03	1260	721	90.0	40.0	102.0	4.3	170	228	153	9.9
	10/03	1340	791	94.0	41.0	121.0	6.0	180	268	144	3
	01/04	1390	800	99.0	46.0	105.0	7.0	173	264	136	4.1
	04/04	1270	739	86.0	42.0	98.0	6.0	160	252	160	5.1
	07/04	1390	764	97.0	45.0	87.0	7.0	176	262	163	3.7
	10/04	1290	943	95.0	44.0	84.0	7.0	178	267	---	3.6
	01/05	1030	610	76.0	35.0	93.0	3.8	136	194	155	6.9
	04/05	1060	630	77.0	34.0	82.0	3.2	125	174	139	2.71
	07/05	1120	750	81.0	35.0	84.0	3.4	129	---	129	0 as N

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7A2	11/05	1170	790	94.7	41.2	97.9	3.7	138	199	156	7.53
(Bldg 260073)	04/06	1140	704	91.0	39.0	98.0	4.5	150	220	180	7.3
(Cont)	04/07	1200	716	97	44	97	3.7	160	240	190	4.2
	04/08	1270	900	98	45	97	3.8	180	260	170	14
	04/09	1200	780	94	42	100	3.7	130	230	180	22
	04/13/10	1300	770	93	42	100	3.8	160	240	180	8.7
	04/13/11	1200	780	83	38	93	3.5	150	220	170	3.9
	04/19/12	1300	790	92	42	94	3.8	160	240	260	6.2
	04/17/13	1200	780	85	40	94	4.3	160	230	190	2.1
	04/23/14	1200	770	84	40	93	3.7	150	220	170	2.8
10S/5W-23G3	06/91	1160	684	83.4	28.3	125.0	---	145	124	223	<0.04
(Bldg 33926)	03/92	1060	674	75.9	24.1	127.0	---	139	111	269	<0.4
	03/93	1182	584	67.8	21.1	110.0	---	135	101	274	<0.4
	06/93	1020	623	60.5	22.4	116.0	---	125	107	225	<0.4
	03/94	1120	665	80.0	25.0	122.0	---	129	117	---	1.8
	08/94	1150	699	78.7	26.4	125.0	---	141	118	---	<0.44
	06/95	1060	673	75.9	23.1	118.0	---	158	114	---	<0.04
	01/96	1200	619	71.0	24.0	120.0	---	139	107	262	---
	07/96	---	---	---	---	---	---	---	---	---	---
10S/5W-23K2	06/89	1207	698	75.6	22.8	84.0	---	138	137	231	<0.4
(Bldg 33924)	04/89	1240	728	100.0	32.9	129.0	---	158	148	245	1.3
	01/91	1193	---	80.6	35.2	131.0	---	21	146	---	<0.04
	06/91	1160	676	88.1	29.6	118.0	---	141	129	224	<0.04
	03/92	1130	705	76.7	26.0	126.0	---	149	125	279	<0.4
	06/92	1130	717	66.8	26.7	124.0	---	146	140	232	<0.4
	03/93	1285	331	72.1	23.8	115.0	---	131	122	273	<0.4
	02/97	1200	780	89.0	32.0	130.0	---	166	165	250	<2 as N
	03/97	1230	700	94.0	34.0	140.0	---	187	162	264	<2 as N
	06/97	1231	778	91.0	31.0	130.0	<2.0	171	165	264	<2 as N
	12/97	1200	710	82.0	30.0	130.0	2.0	156	162	230	ND
	03/98	1200	710	82.0	30.0	110.0	2.0	191	146	240	ND
	06/98	1170	658	79.0	28.0	123.0	2.0	157	151	293	ND
	02/99	1170	698	75.0	27.0	123.0	3.0	160	130	259	ND
	04/99	1210	667	76.0	27.0	118.0	3.0	148	140	268	ND
	08/99	1140	714	79.0	27.0	116.0	3.0	180	165	268	ND
	10/99	1150	721	80.0	28.0	131.0	3.0	110	150	281	ND
	02/00	1050	619	82.0	28.0	108.0	3.0	100	140	293	ND
	05/00	1060	716	80.0	29.0	112.0	3.0	173	141	268	ND
	08/00	1210	722	82.0	29.0	105.0	3.0	162	156	268	ND
	04/01	1210	705	85.0	30.0	130.0	3.0	163	157	281	ND
	09/01	1190	672	81.0	30.0	125.0	3.0	152	149	275	ND
	10/01	1200	680	81.0	29.0	143.0	3.0	162	159	281	ND
	02/02	1160	675	80.0	29.0	129.0	3.5	143	152	268	ND
	04/02	1180	682	84.0	31.0	124.0	2.9	151	155	230	ND
	07/02	1210	706	80.0	29.0	127.0	2.9	156	156	221	ND
	10/02	1210	669	83.0	30.0	122.0	2.9	151	162	206	8
	01/03	1320	801	97.0	34.0	140.0	2.8	154	180	245	ND

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23K2	04/03	1330	743	89.0	32.0	133.0	2.8	165	183	234	ND
(Bldg 33924)	10/03	1210	712	87.0	31.0	135.0	4.0	155	177	204	ND
(Cont)	04/04	1320	713	85.0	32.0	121.0	5.0	165	167	228	ND
	07/04	1070	703	89.0	32.0	101.0	5.0	147	173	230	ND
	10/04	1230	806	91.0	33.0	102.0	5.0	166	183	---	ND
	02/05	1310	837	104.0	37.0	136.0	4.2	175	191	253	0 as N
	07/05	1170	750	83.0	29.0	114.0	2.7	139	---	210	ND
	11/05	1260	750	91.9	29.6	119.0	3.1	144	171	225	ND
	04/06	1220	774	92.0	32.0	120.0	2.8	160	180	284	ND
	04/07	1010	706	86.0	29.0	120.0	2.7	150	170	260	0
	04/08	1270	792	91	30	110	2.6	160	190	175	<2
	04/09	1300	800	100	34	120	2.7	160	200	260	<2
	04/15/10	1200	740	95	34	120	2.8	150	180	260	<2
	04/27/11	1200	740	87	29	110	2.7	160	170	230	<2
	04/30/12	1200	800	92	32	110	2.6	170	190	220	<2
	05/16/13	1200	740	92	32	120	3.0	160	190	220	<2
10S/5W-23G9 (Bldg 330924)	06/12/14	1200	780	90	30	120	2.4	160	190	210	<2
10S/5W-13R2	01/90	1030	540	96.0	26.6	94.8	---	141	130	200	0.7
(Bldg 230063)	06/91	1150	702	98.7	32.0	109.0	---	149	125	288	1.3
	06/93	1130	705	72.0	28.4	107.0	---	140	139	262	0.9
	03/94	1020	658	69.6	27.8	104.0	---	135	140	---	0.89
	06/95	1140	636	92.5	30.7	115.0	---	149	151	---	14.2
	06/96	1103	680	91.0	31.0	100.0	---	148	251	233	---
	06/97	1082	708	85.0	29.0	110.0	<5.0	135	145	244	<2 as N
	12/97	1000	640	81.0	28.0	100.0	2.0	119	128	250	ND
	03/98	1100	620	85.0	31.0	110.0	2.0	161	144	220	ND
	06/98	1100	680	83.0	30.0	109.0	3.0	137	140	275	0.68
	09/98	1160	662	81.0	28.0	90.0	3.0	144	90	256	ND
	04/01	1100	612	83.0	29.0	106.0	3.0	131	146	238	3.5
	09/01	1150	679	89.0	31.0	103.0	2.0	142	156	241	3.2
	11/01	1130	658	87.0	30.0	104.0	2.0	148	169	262	3.4
	02/02	1120	674	85.0	30.0	112.0	3.2	140	160	257	3.1
	04/02	1120	682	89.0	32.0	106.0	2.7	142	167	205	2.8
	07/02	1150	676	83.0	30.0	111.0	2.7	145	64	205	2.3
	10/02	1220	711	87.0	31.0	110.0	2.7	149	175	203	ND
	01/03	1210	713	91.0	33.0	106.0	2.7	138	165	197	2
	05/03	1230	728	93.0	33.0	112.0	2.9	155	183	181	2.2
	10/03	1190	741	93.0	33.0	123.0	3.0	188	212	179	0 as N
	04/04	1270	701	87.0	32.0	103.0	4.0	163	186	220	ND
	07/04	1270	701	220.0	32.0	103.0	4.0	163	186	220	0 as N
	4/25/12	1200	790	100	37	120	2.8	160	220	220	<2
10S/4W-7D1	03/99	1280	765	91.0	34.0	127.0	2.0	190	160	272	ND
(Previously	06/99	1080	706	76.0	31.0	88.0	2.2	163	118	220	ND
reported as	08/99	1080	690	76.0	32.0	93.0	3.0	160	191	244	ND
10S/4W-7A3	10/99	1070	660	76.0	32.0	100.0	3.0	131	120	232	4
(Bldg 260072)	05/00	1010	702	79.0	34.0	94.0	3.0	177	164	254	ND
	08/00	1170	732	84.0	36.0	89.0	3.0	155	188	201	5

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/4W-7D1	02/01	1230	753	89.0	39.0	113.0	2.0	170	198	220	2.7
(Previously	04/01	1230	726	89.0	39.0	115.0	4.0	160	191	243	2.9
reported as	09/01	1210	735	89.0	39.0	107.0	4.0	153	185	217	5.3
10S/4W-7A3	11/01	1240	725	89.0	39.0	117.0	3.0	168	205	220	5.6
(Bldg 260072)	02/02	1250	765	97.0	43.0	109.0	3.4	155	198	234	4.7
(Cont)	04/02	1290	790	98.0	44.0	109.0	3.4	158	208	200	3.9
	07/02	1320	809	96.0	43.0	117.0	3.7	182	217	200	ND
	10/02	1380	787	99.0	43.0	113.0	3.7	170	216	203	2.8
	01/03	1370	810	101.0	44.0	134.0	4.0	155	194	217	ND
	04/03	1440	789	93.0	40.0	125.0	3.6	177	205	216	2.1
	10/03	1370	820	91.0	40.0	130.0	4.0	175	235	180	4.3
	01/04	1350	747	97.0	42.0	114.0	6.0	168	226	184	2.1
	04/04	1400	766	92.0	42.0	112.0	6.0	162	228	198	2
	07/04	1410	784	98.0	43.0	92.0	6.0	171	231	200	3.8
	11/04	1290	831	100.0	43.0	134.0	4.2	176	224	203	ND
	01/05	1310	804	102.0	44.0	125.0	3.7	184	241	200	2.7
	04/05	1100	690	78.0	34.0	84.0	3.2	128	177	162	2.6
	07/05	1160	716	84.0	35.0	96.0	3.0	136	---	166	0 as N
	11/05	1180	785	92.5	40.4	97.1	3.8	138	202	174	5.93 as N
	04/06	1280	786	98.0	43.0	110.0	3.3	160	220	233	7.1
	04/07	1400	784	98.0	43.0	110.0	3.4	165	230	230	5
	04/08	1230	840	88	40	98	3.4	160	250	169	7.1
	11/09	---	---	---	---	---	---	---	---	---	<2
	04/13/10	1300	820	96	42	120	3.5	170	240	220	4.5
	07/27/11	1200	800	89	39	110	3.2	150	200	220	5.0
	04/19/12	1200	860	97	42	120	3.8	180	210	160	<2
	04/18/13	1500	960	120	45	150	4.0	200	210	370	<2
10S/5W-23G4	06/99	1070	668	69	23	106	1.7	163	144	305	ND
(Bldg 330925)	08/99	1090	657	72	25	115	2.0	180	153	317	ND
	10/99	1150	716	79	27	140	2.0	120	140	305	ND
	02/00	956	522	67	23	117	2.0	90	120	268	ND
	05/00	1040	686	77	27	116	2.0	181	141	307	ND
	08/00	1180	722	80	28	105	2.0	155	143	232	ND
	02/01	1100	706	73	25	125	2.0	149	164	268	ND
	04/01	1170	701	81	29	128	2.0	154	149	282	ND
	09/01	1180	671	80	28	126	2.0	149	142	271	ND
	10/01	1180	678	81	28	132	2.0	161	156	281	ND
	02/02	1170	685	80	28	134	2.8	143	144	279	ND
	04/02	1200	711	87	31	127	2.3	150	204	235	ND
	07/02	1180	730	83	29	130	2.5	158	151	230	ND
	10/02	1180	649	78	27	115	2.1	135	138	217	ND
	01/03	1210	740	87	30	129	2.2	145	154	225	ND
	04/03	1200	681	79	27	128	2.5	150	152	215	ND
	10/03	1160	647	80	27	136	3.0	152	155	216	ND
	04/04	1140	604	66	24	117	3.0	147	133	215	ND
	08/04	1180	657	68	24	99	4.0	140	114	245	ND
	10/04	1170	712	85	29	97	5.0	160	172	---	ND

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-23G4	02/05	1070	661	84	29	125	3.3	154	148	185	ND
(Bldg 330925)	07/05	1050	655	72	23	118	2.0	127	---	202	ND
(Cont)	11/05	1080	665	76	23	121	2.0	135	125	227	ND
	05/06	1110	650	71	24	120	1.9	140	130	217	ND
	04/07	950	632	72	25	120	1.9	140	130	260	0
	04/08	1150	672	73	25	120	1.8	150	130	250	<2
	04/09	1100	670	76	26	120	2.1	150	140	250	<2
	04/22/10	1100	660	71	24	120	1.8	140	120	250	<2
	04/20/11	1200	720	83	29	110	2.1	150	170	240	<2
	04/30/12	1100	720	83	29	120	2.0	150	160	230	<2
	04/17/13	1200	750	82	29	110	2.4	160	170	230	<2
	04/24/14	1300	770	88	31	120	2.3	160	180	220	<2
10S/5W-23K3	06/99	1150	700	75.0	27.0	106.0	2.2	163	155	317	ND
(Bldg 330923)	08/99	1170	722	79.0	28.0	114.0	3.0	330	161	342	ND
	10/99	1170	723	78.0	28.0	140.0	3.0	120	140	293	ND
	02/00	1120	712	83.0	30.0	117.0	3.0	120	157	293	ND
	02/01	1240	758	85.0	31.0	136.0	3.0	167	152	305	ND
	04/01	1220	735	85.0	31.0	135.0	3.0	162	154	293	ND
	09/01	1240	682	81.0	29.0	132.0	3.0	162	144	281	ND
	10/01	1330	746	87.0	32.0	134.0	3.0	166	156	293	ND
	02/02	1190	720	83.0	29.0	140.0	3.5	150	155	281	ND
	04/02	1210	691	82.0	29.0	127.0	2.7	145	142	231	ND
	07/02	1230	738	81.0	29.0	134.0	3.1	167	151	240	ND
	10/02	1270	716	85.0	30.0	137.0	2.9	150	162	221	ND
	01/03	1340	826	100.0	35.0	141.0	2.6	156	185	252	0.4
	04/03	1350	733	85.0	30.0	129.0	2.6	162	171	235	ND
	10/03	887	800	84.0	30.0	141.0	3.0	160	173	224	ND
	02/04	1250	698	83.0	29.0	120.0	4.0	154	172	233	ND
	04/04	1240	706	78.0	28.0	121.0	4.0	163	170	220	ND
	07/04	1040	729	84.0	30.0	99.0	5.0	158	169	240	ND
	10/04	1180	857	86.0	30.0	97.0	5.0	159	172	235	ND
	02/05	1160	685	87.0	31.0	125.0	3.7	159	168	210	ND
	04/05	1230	760	91.0	30.0	122.0	2.6	149	148	213	ND
	07/05	1170	755	83.0	29.0	115.0	2.6	135	---	210	ND
	11/05	1230	735	92.8	29.5	123.0	3.0	141	165	332	ND
	04/06	1190	720	89.0	31.0	120.0	2.7	160	170	233	ND
	04/07	1010	718	87.0	30.0	120.0	2.6	160	170	250	0
	04/08	1250	754	91	32	110	2.5	160	180	184	ND
	04/09	1200	760	92	33	120	2.7	160	180	250	<2
	04/15/10	1200	760	98	34	120	2.6	160	180	240	<2
	04/13/11	1300	760	88	30	110	2.6	160	180	240	<2
	04/16/12	1200	760	98	34	120	2.9	170	190	230	<2
	04/10/13	1300	780	95	33	130	3.3	160	190	240	<2
10S/5W-26C3	09/01	1410	819	101.0	38.0	138.0	3.0	173	175	296	ND
(Bldg 220002)	10/01	1370	814	104.0	38.0	131.0	3.0	199	198	317	ND
	02/02	1380	834	99.0	36.0	128.0	3.0	172	183	318	ND
	04/02	1370	808	104.0	39.0	124.0	3.2	180	184	258	ND
	07/02	1450	829	101.0	37.0	137.0	3.3	187	193	260	ND
	10/02	1400	793	98.0	35.0	143.0	3.4	179	195	248	ND

ND - None Detected

TABLE D-6

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

WELLS ON CAMP PENDLETON

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
10S/5W-26C3	01/03	1300	806	94.0	33.0	144.0	2.0	163	180	235	ND
(Bldg 220002)	04/03	1290	759	94.0	33.0	137.0	3.1	182	198	230	ND
(Cont)	04/03	1290	759	94.0	32.0	137.0	3.1	182	198	230	ND
	10/03	1340	761	90.0	31.0	146.0	4.0	162	188	210	ND
	01/04	1320	743	94.0	32.0	124.0	5.0	182	212	203	ND
	04/04	1350	731	90.0	32.0	127.0	5.0	184	197	235	ND
	07/04	1100	773	91.0	32.0	98.0	5.0	167	197	215	ND
	10/04	1290	826	93.0	32.0	106.0	5.0	187	185	---	ND
	02/05	1260	735	101.0	35.0	127.0	3.7	175	188	215	ND
	04/05	1300	760	98.0	33.0	122.0	2.8	160	184	200	ND
	07/05	1450	1260	97.0	33.0	119.0	2.9	154	---	200	ND
	11/05	1240	795	99.0	32.0	122.0	2.9	159	169	202	ND
	06/06	1300	796	95.0	34.0	140.0	2.9	180	170	250	ND
	04/07	1080	764	91.0	31.0	130.0	2.9	190	190	250	0
	04/08	1260	694	80	29	140	2.7	180	150	286	<2
10S/5W-18B1	04/01/10	1400	840	100	42	110	3.6	170	230	240	<2
(Bldg 260018)	04/20/11	1400	880	100	41	100	3.4	180	250	220	<2
	04/25/12	1300	910	100	44	120	3.8	180	---	230	<2
	04/18/13	1300	880	98	42	120	4.2	180	240	220	<2

ND - None Detected

TABLE D-12

SANTA MARGARITA RIVER WATERSHED
WATER QUALITY DATA

SURFACE STREAMS SAMPLED BY USGS ON CAHUILLA CREEK

Site Location	Date Sampled	Specific Conductance umhos	Total Dissolved Solids (mg/l)	Chemical Constituents - mg/l							
				Ca	Mg	Na	K	Cl	SO4	HCO3	NO3
Cahuilla Creek	02/28/05	644	446	41.90	11.20	76.90	10.10	---	---	---	.23 @N
Cahuilla Creek Below Highway 371	02/28/05	476	337	34.20	10.10	51.90	3.69	36.9	---	---	.64 @N
Unnamed Tributary to Cahuilla Creek	02/14/05	783	529	64.00	17.50	80.70	8.94	35.2	---	---	3.05 @N

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

APPENDIX E

COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS CALENDAR YEAR 2014

August 2015

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

JANUARY 2014 - BELOW NORMAL YEAR

Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		CAMP PENDLETON GROUNDWATER BANK				
										Input 3/	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	9.8	9.8				10.0	19.9	3.7	7.4	1.7	3.4	0.0	0.0	5,000.0
2	10.0	10.0				10.2	20.3	3.9	7.8	1.7	3.4	0.0	0.0	5,000.0
3	9.9	9.9				10.2	20.3	3.9	7.8	1.7	3.4	0.0	0.0	5,000.0
4	9.9	9.9				10.1	20.1	3.8	7.6	1.7	3.4	0.0	0.0	5,000.0
5	9.8	9.8				10.1	20.0	3.8	7.5	1.7	3.4	0.0	0.0	5,000.0
6	9.8	9.8				10.0	19.8	3.7	7.3	1.7	3.4	0.0	0.0	5,000.0
7	10.0	10.0				10.0	19.8	3.7	7.3	1.7	3.4	0.0	0.0	5,000.0
8	10.0	10.0				9.8	19.5	3.5	7.0	1.7	3.4	0.0	0.0	5,000.0
9	10.0	10.0				9.8	19.4	3.5	6.9	1.7	3.4	0.0	0.0	5,000.0
10	9.8	9.8				9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
11	10.0	10.0	9.9	9.8	0.1	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
12	9.9	9.9	9.9	9.8	0.1	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
13	9.9	9.9	9.9	9.8	0.1	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
14	9.8	9.8	9.9	9.8	0.1	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
15	9.7	9.7	9.9	9.8	0.1	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
16	9.7	9.7	9.9	9.8	0.1	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
17	9.8	9.8	9.9	9.8	0.1	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
18	9.7	9.7	9.8	9.8	0.0	9.7	19.3	3.4	6.8	1.7	3.4	0.0	0.0	5,000.0
19	9.8	9.8	9.8	9.8	0.0	9.8	19.4	3.5	6.9	1.7	3.4	0.0	0.0	5,000.0
20	9.8	9.8	9.8	9.8	0.0	9.7	19.3	3.4	6.8	1.7	3.4	0.0	0.0	5,000.0
21	9.8	9.8	9.8	9.8	0.0	9.7	19.3	3.4	6.8	1.7	3.4	0.0	0.0	5,000.0
22	10.0	10.0	9.8	9.8	0.0	9.7	19.3	3.4	6.8	1.7	3.4	0.0	0.0	5,000.0
23	10.0	10.0	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
24	9.8	9.8	9.8	9.8	0.0	9.3	18.5	3.0	6.0	1.7	3.4	0.0	0.0	5,000.0
25	9.8	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
26	9.9	9.9	9.8	9.8	0.0	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
27	9.6	9.6	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
28	9.8	9.8	9.8	9.8	0.0	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
29	9.8	9.8	9.8	9.8	0.0	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
30	10.0	10.0	9.9	9.8	0.1	9.7	19.3	3.4	6.8	1.7	3.4	0.0	0.0	5,000.0
31	9.8	9.8	9.9	9.8	0.1	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
TOTAL SFD	305.4	305.4	206.7	205.8	0.9	301.8		106.5		52.7		0.0		
TOTAL AF	605.8	605.8	410.0	408.2	1.8		599.5		212.0		105.4		0.0	5,000.0

1/ Required flows for January through April are equal to 11.5 cfs less 1.7 cfs of credits (406 AF of Climatic Credit earned in 2013).

2/ Climatic Credits equal the WR-34 discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.

3/ Art. 17 - Camp Pendleton rights to groundwater equal the flow indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs. Input to Groundwater Bank shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

FEBRUARY 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input 3/	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	9.6	9.6	9.8	9.8	0.0	9.4	18.6	3.1	6.1	1.7	3.4	0.0	0.0	5,000.0
2	9.8	9.8	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
3	9.9	9.9	9.8	9.8	0.0	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
4	9.8	9.8	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
5	9.8	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
6	9.9	9.9	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
7	9.9	9.9	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
8	9.8	9.8	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
9	9.9	9.9	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
10	9.8	9.8	9.8	9.8	0.0	9.4	18.6	3.1	6.1	1.7	3.4	0.0	0.0	5,000.0
11	9.8	9.8	9.8	9.8	0.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
12	9.9	9.9	9.9	9.8	0.1	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
13	9.8	9.8	9.8	9.8	0.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
14	9.8	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
15	9.7	9.7	9.8	9.8	0.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
16	9.8	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
17	9.8	9.8	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
18	9.9	9.9	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
19	9.9	9.9	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
20	9.8	9.8	9.8	9.8	0.0	9.4	18.6	3.1	6.1	1.7	3.4	0.0	0.0	5,000.0
21	9.8	9.8	9.8	9.8	0.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
22	9.8	9.8	9.8	9.8	0.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
23	9.8	9.8	9.8	9.8	0.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
24	9.9	9.9	9.8	9.8	0.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
25	9.8	9.8	9.8	9.8	0.0	9.3	18.5	3.0	6.0	1.7	3.4	0.0	0.0	5,000.0
26	9.8	9.8	9.8	9.8	0.0	9.3	18.4	3.0	5.9	1.7	3.4	0.0	0.0	5,000.0
27	9.9	9.9	9.8	9.8	0.0	9.3	18.5	3.0	6.0	1.7	3.4	0.0	0.0	5,000.0
28	741.0	741.0	83.0	9.8	73.2	0.2	0.3	0.0	0.0	1.7	3.4	0.0	0.0	5,000.0
TOTAL SFD	1,006.2	1,006.2	347.7	274.4	73.3	255.3		85.0		47.6		0.0		
TOTAL AF	1,995.8	1,995.8	689.7	544.3	145.4		506.7		168.9		95.2		0.0	5,000.0

1/ Required flows for January through April are equal to 11.5 cfs less 1.7 cfs of credits (406 AF of Climatic Credit earned in 2013).
2/ Climatic Credits equal the WR-34 discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
3/ Art. 17 - Camp Pendleton rights to groundwater equal the flow indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs. Input to Groundwater Bank shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

MARCH 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input 3/	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	1,370.0	1,370.0	219.0	9.8	209.2	0.0	0.0	0.0	0.0	1.7	3.4	0.0	0.0	5,000.0
2	226.0	226.0	240.6	9.8	230.8	0.0	0.0	0.0	0.0	1.7	3.4	0.0	0.0	5,000.0
3	47.0	47.0	244.3	9.8	234.5	0.0	0.0	0.0	0.0	1.7	3.4	0.0	0.0	5,000.0
4	15.0	15.0	244.8	9.8	235.0	0.0	0.0	0.0	0.0	1.7	3.4	0.0	0.0	5,000.0
5	9.7	9.6	244.8	9.8	235.0	6.0	11.9	0.0	0.0	1.7	3.4	0.0	0.0	5,000.0
6	10.0	9.9	244.8	9.8	235.0	8.8	17.4	2.5	4.9	1.7	3.4	0.0	0.0	5,000.0
7	9.9	9.7	244.8	9.8	235.0	9.1	18.1	2.8	5.6	1.7	3.4	0.0	0.0	5,000.0
8	9.9	9.7	244.8	9.8	235.0	9.4	18.7	3.1	6.2	1.7	3.4	0.0	0.0	5,000.0
9	9.8	9.7	244.8	9.8	235.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
10	9.9	9.8	171.6	9.8	161.8	9.7	19.3	3.4	6.8	1.7	3.4	0.0	0.0	5,000.0
11	10.0	9.9	35.6	9.8	25.8	9.8	19.5	3.5	7.0	1.7	3.4	0.0	0.0	5,000.0
12	10.0	9.9	14.0	9.8	4.2	9.8	19.5	3.5	7.0	1.7	3.4	0.0	0.0	5,000.0
13	10.0	9.9	10.3	9.8	0.5	9.8	19.4	3.5	6.9	1.7	3.4	0.0	0.0	5,000.0
14	10.0	9.9	9.8	9.8	0.0	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
15	10.0	9.9	9.8	9.8	0.0	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
16	10.0	9.7	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
17	10.0	9.8	9.8	9.8	0.0	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
18	10.0	9.8	9.8	9.8	0.0	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
19	10.0	9.8	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
20	10.0	9.8	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
21	10.0	9.9	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
22	10.0	9.9	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
23	10.0	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
24	10.0	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
25	10.0	9.9	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
26	10.0	9.9	9.8	9.8	0.0	9.4	18.6	3.1	6.1	1.7	3.4	0.0	0.0	5,000.0
27	10.0	9.8	9.8	9.8	0.0	9.3	18.4	3.0	5.9	1.7	3.4	0.0	0.0	5,000.0
28	10.0	9.8	9.8	9.8	0.0	9.3	18.5	3.0	6.0	1.7	3.4	0.0	0.0	5,000.0
29	10.0	9.8	9.8	9.8	0.0	9.3	18.5	3.0	6.0	1.7	3.4	0.0	0.0	5,000.0
30	10.0	9.6	9.8	9.8	0.0	9.3	18.5	3.0	6.0	1.7	3.4	0.0	0.0	5,000.0
31	10.0	9.7	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
TOTAL SFD	1,927.2	1,922.7	2,580.6	303.8	2,276.8	253.2		83.4		52.7		0.0		
TOTAL AF	3,822.5	3,813.6	5,118.5	602.6	4,516.0		502.4		165.5		105.4		0.0	5,000.0

1/ Required flows for January through April are equal to 11.5 cfs less 1.7 cfs of credits (406 AF of Climatic Credit earned in 2013).
2/ Climatic Credits equal the WR-34 discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
3/ Art. 17 - Camp Pendleton rights to groundwater equal the flow indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs. Input to Groundwater Bank shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

APRIL 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input 3/	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	10.0	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
2	10.0	9.8	9.8	9.8	0.0	9.4	18.6	3.1	6.1	1.7	3.4	0.0	0.0	5,000.0
3	10.0	9.7	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
4	10.0	9.9	9.8	9.8	0.0	9.8	19.4	3.5	6.9	1.7	3.4	0.0	0.0	5,000.0
5	10.0	10.0	9.8	9.8	0.0	9.8	19.4	3.5	6.9	1.7	3.4	0.0	0.0	5,000.0
6	10.0	9.8	9.8	9.8	0.0	9.7	19.3	3.4	6.8	1.7	3.4	0.0	0.0	5,000.0
7	10.0	9.9	9.8	9.8	0.0	9.8	19.5	3.5	7.0	1.7	3.4	0.0	0.0	5,000.0
8	10.0	9.8	9.8	9.8	0.0	9.9	19.6	3.6	7.1	1.7	3.4	0.0	0.0	5,000.0
9	10.0	9.8	9.8	9.8	0.0	9.9	19.6	3.6	7.1	1.7	3.4	0.0	0.0	5,000.0
10	10.0	9.7	9.8	9.8	0.0	9.9	19.6	3.6	7.1	1.7	3.4	0.0	0.0	5,000.0
11	10.0	9.7	9.8	9.8	0.0	10.0	19.8	3.7	7.3	1.7	3.4	0.0	0.0	5,000.0
12	10.0	9.8	9.8	9.8	0.0	10.0	19.8	3.7	7.3	1.7	3.4	0.0	0.0	5,000.0
13	10.0	9.8	9.8	9.8	0.0	10.0	19.8	3.7	7.3	1.7	3.4	0.0	0.0	5,000.0
14	10.0	9.9	9.8	9.8	0.0	10.0	19.9	3.7	7.4	1.7	3.4	0.0	0.0	5,000.0
15	10.0	9.8	9.8	9.8	0.0	10.0	19.8	3.7	7.3	1.7	3.4	0.0	0.0	5,000.0
16	10.0	10.0	9.8	9.8	0.0	10.0	19.8	3.7	7.3	1.7	3.4	0.0	0.0	5,000.0
17	9.9	9.9	9.8	9.8	0.0	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
18	9.9	9.9	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
19	9.8	9.8	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
20	9.7	9.7	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
21	9.7	9.7	9.8	9.8	0.0	9.5	18.9	3.2	6.4	1.7	3.4	0.0	0.0	5,000.0
22	9.8	9.8	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
23	9.8	9.8	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
24	9.7	9.7	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
25	9.7	9.7	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
26	9.9	9.9	9.8	9.8	0.0	9.7	19.2	3.4	6.7	1.7	3.4	0.0	0.0	5,000.0
27	9.9	9.9	9.8	9.8	0.0	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
28	9.8	9.8	9.8	9.8	0.0	9.6	19.0	3.3	6.5	1.7	3.4	0.0	0.0	5,000.0
29	9.8	9.8	9.8	9.8	0.0	9.6	19.1	3.3	6.6	1.7	3.4	0.0	0.0	5,000.0
30	9.6	9.6	9.8	9.8	0.0	9.5	18.8	3.2	6.3	1.7	3.4	0.0	0.0	5,000.0
TOTAL SFD	297.0	294.2	294.0	294.0	0.0	291.5		102.5		51.0		0.0		
TOTAL AF	589.1	583.5	583.1	583.1	0.0		577.8		202.8		102.0		0.0	5,000.0

1/ Required flows for January through April are equal to 11.5 cfs less 1.7 cfs of credits (406 AF of Climatic Credit earned in 2013).
2/ Climatic Credits equal the WR-34 discharge less the Actual Flow Maintenance Requirement which is the flow indicated in Section 5 of the CWRMA less applicable credits, but not less than 3.0 cfs.
3/ Art. 17 - Camp Pendleton rights to groundwater equal the flow indicated in Section 5 of the CWRMA minus the Actual Flow Maintenance Requirement which cannot be less than 3.0 cfs. Input to Groundwater Bank shown but cumulative balance did not increase due to account balance maximum of 5,000 AF.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

MAY 2014 - BELOW NORMAL YEAR

Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		CAMP PENDLETON GROUNDWATER BANK				
										Input	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	5.2	5.5				5.8	11.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	5.4	5.7				6.1	12.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	5.4	5.7				6.1	12.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	5.5	5.8				5.9	11.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	5.4	5.7				5.8	11.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	5.6	5.9				5.7	11.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	5.5	5.8				5.5	11.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	5.5	5.8				5.5	10.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	5.5	5.8				5.4	10.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	5.5	5.7				5.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	5.2	5.5	5.7	5.7	0.0	5.2	10.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	5.3	5.6	5.7	5.7	0.0	5.2	10.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	5.4	5.6	5.7	5.7	0.0	5.3	10.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	5.3	5.6	5.7	5.7	0.0	5.4	10.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	5.3	5.6	5.7	5.7	0.0	5.7	11.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	5.4	5.7	5.7	5.7	0.0	5.8	11.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	5.3	5.8	5.7	5.7	0.0	5.9	11.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	5.3	5.9	5.7	5.7	0.0	5.9	11.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	5.3	5.6	5.7	5.7	0.0	5.8	11.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	5.6	5.9	5.7	5.7	0.0	6.1	12.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	5.5	5.8	5.7	5.7	0.0	6.0	11.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	5.3	5.6	5.7	5.7	0.0	5.9	11.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	5.2	5.7	5.7	5.7	0.0	6.1	12.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	5.2	5.8	5.7	5.7	0.0	6.1	12.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	5.2	5.6	5.7	5.7	0.0	5.4	10.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	5.4	5.8	5.8	5.7	0.1	4.5	8.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	5.2	5.7	5.7	5.7	0.0	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.9	5.6	5.7	5.7	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	5.1	5.9	5.7	5.7	0.0	4.6	9.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.8	5.6	5.7	5.7	0.0	4.5	8.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	4.9	5.6	5.7	5.7	0.0	4.3	8.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	164.6	176.9	119.8	119.7	0.1	169.0		0.0		0.0		0.0		
TOTAL AF	326.5	350.9	237.6	237.4	0.2		336.0		0.0		0.0		0.0	5,000.0

1/ Minimum Flow Maintenance Requirement equals the Section 5 flow for a Below Normal year.
2/ Climatic Credits not applicable in May through December.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

JUNE 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	4.4	4.9				3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.2	4.9				3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.1	4.9				4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.1	4.9				4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.1	4.9				4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	4.1	4.9				4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	4.1	5.0				4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.9	4.9				3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	3.9	4.9				3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.8	4.8				4.9	9.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.9	4.9	4.9	4.9	0.0	5.1	10.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.9	4.9	4.9	4.9	0.0	5.1	10.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	4.9	4.9	4.9	4.9	0.0	4.8	9.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	4.9	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	4.9	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.9	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	4.9	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.9	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.9	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.8	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.8	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	4.7	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.7	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.8	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.8	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.8	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	4.9	4.9	4.9	4.9	0.0	4.8	9.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.7	4.9	4.9	4.9	0.0	4.7	9.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	4.7	4.9	4.9	4.9	0.0	4.7	9.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.7	4.9	4.9	4.9	0.0	4.7	9.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	138.2	147.0	98.0	98.0	0.0	136.7		0.0		0.0		0.0		
TOTAL AF	274.1	291.6	194.4	194.4	0.0		270.7		0.0		0.0		0.0	5,000.0

1/ Minimum Flow Maintenance Requirement equals the Section 5 flow for a Below Normal year.
2/ Climatic Credits not applicable in May through December.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

JULY 2014 - BELOW NORMAL YEAR

Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		CAMP PENDLETON GROUNDWATER BANK				
										Input	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	4.3	4.3				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.3	4.3				4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.3	4.3				4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.2	4.2				3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.2	4.2				4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	4.3	4.3				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	4.3	4.3				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	4.3	4.3				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	4.3	4.3				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.3	4.3				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.3	4.3	4.3	4.3	0.0	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.3	4.3	4.3	4.3	0.0	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	4.3	4.3	4.3	4.3	0.0	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	4.4	4.4	4.3	4.3	0.0	4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	4.3	4.3	4.3	4.3	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.3	4.3	4.3	4.3	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	4.3	4.3	4.3	4.3	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.3	4.3	4.3	4.3	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.3	4.3	4.3	4.3	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.5	4.5	4.3	4.3	0.0	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.6	4.7	4.4	4.3	0.1	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	4.5	4.5	4.4	4.3	0.1	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.3	4.3	4.4	4.3	0.1	3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.4	4.4	4.4	4.3	0.1	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.3	4.3	4.4	4.3	0.1	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.3	4.3	4.4	4.3	0.1	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	4.3	4.3	4.4	4.3	0.1	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.3	4.3	4.4	4.3	0.1	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	4.1	4.1	4.4	4.3	0.1	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.1	4.1	4.3	4.3	0.0	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	4.0	4.0	4.3	4.3	0.0	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	133.3	133.4	91.2	90.3	0.9	125.2		0.0		0.0		0.0		
TOTAL AF	264.4	264.6	180.9	179.1	1.8		248.1		0.0		0.0		0.0	5,000.0

1/ Minimum Flow Maintenance Requirement equals the Section 5 flow for a Below Normal year.
2/ Climatic Credits not applicable in May through December.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

AUGUST 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	4.4	4.4				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.5	4.5				4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.4	4.4				4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.3	4.3				4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.4	4.4				4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	4.4	4.4				4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	4.4	4.4				4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	4.4	4.4				4.2	8.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	4.4	4.4				4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.4	4.4				4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.4	4.4	4.4	4.4	0.0	4.3	8.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.4	4.4	4.4	4.4	0.0	4.2	8.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	4.8	4.8	4.4	4.4	0.0	4.7	9.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	5.1	5.1	4.5	4.4	0.1	4.8	9.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	4.4	4.4	4.5	4.4	0.1	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.4	4.4	4.5	4.4	0.1	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	4.4	4.4	4.5	4.4	0.1	4.1	8.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.4	4.4	4.5	4.4	0.1	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.4	4.4	4.5	4.4	0.1	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.5	4.5	4.5	4.4	0.1	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.4	4.4	4.5	4.4	0.1	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	4.6	4.6	4.5	4.4	0.1	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.4	4.4	4.5	4.4	0.1	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.3	4.3	4.4	4.4	0.0	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.3	4.3	4.4	4.4	0.0	3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.3	4.3	4.4	4.4	0.0	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	4.3	4.3	4.4	4.4	0.0	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.3	4.3	4.4	4.4	0.0	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	4.4	4.4	4.4	4.4	0.0	4.1	8.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	4.4	4.4	4.4	4.4	0.0	4.0	8.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	4.3	4.3	4.4	4.4	0.0	4.0	7.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	137.2	137.2	93.4	92.4	1.0	127.0		0.0		0.0		0.0		
TOTAL AF	272.1	272.1	185.3	183.3	2.0		252.3		0.0		0.0		0.0	5,000.0

1/ Minimum Flow Maintenance Requirement equals the Section 5 flow for a Below Normal year.
2/ Climatic Credits not applicable in May through December.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

SEPTEMBER 2014 - BELOW NORMAL YEAR

Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		CAMP PENDLETON GROUNDWATER BANK				
										Input	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	4.1	4.1				3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	4.1	4.1				3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	4.1	4.1				3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	4.1	4.1				3.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	4.1	4.1				3.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	4.1	4.1				3.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	4.1	4.1				3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	4.1	4.1				3.9	7.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	4.1	4.1				3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.1	4.1				3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.1	4.1	4.1	4.1	0.0	3.9	7.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	4.1	4.1	4.1	4.1	0.0	3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	4.1	4.1	4.1	4.1	0.0	3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	4.1	4.1	4.1	4.1	0.0	3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	4.1	4.1	4.1	4.1	0.0	3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	4.1	4.1	4.1	4.1	0.0	3.8	7.6	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	4.1	4.1	4.1	4.1	0.0	3.8	7.5	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	4.1	4.1	4.1	4.1	0.0	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	4.1	4.1	4.1	4.1	0.0	3.7	7.4	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	4.1	4.1	4.1	4.1	0.0	3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	3.9	3.9	4.1	4.1	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	122.8	122.8	82.0	82.0	0.0	112.9		0.0		0.0		0.0		
TOTAL AF	243.6	243.6	162.6	162.6	0.0		224.9		0.0		0.0		0.0	5,000.0

1/ Minimum Flow Maintenance Requirement equals the Section 5 flow for a Below Normal year.
2/ Climatic Credits not applicable in May through December.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

OCTOBER 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	3.9	3.9				3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
2	3.9	3.9				3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
3	3.9	3.9				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
4	3.9	3.9				3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
5	3.9	3.9				3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
6	3.9	3.9				3.7	7.3	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
7	3.9	3.9				3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
8	3.9	3.9				3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
9	4.0	4.0				3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
10	4.0	4.0				3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
11	4.0	4.0	3.9	3.9	0.0	3.6	7.2	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
12	3.9	3.9	3.9	3.9	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
13	3.9	3.9	3.9	3.9	0.0	3.6	7.1	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
14	3.9	3.9	3.9	3.9	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
15	3.9	3.9	3.9	3.9	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
16	3.8	3.8	3.9	3.9	0.0	3.4	6.7	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
17	3.9	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
18	3.9	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
19	3.9	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
20	3.9	3.9	3.9	3.9	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
21	3.9	3.9	3.9	3.9	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
22	3.8	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
23	3.6	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
24	3.6	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
25	3.6	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
26	3.6	3.8	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
27	3.6	3.9	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
28	3.6	3.8	3.9	3.9	0.0	3.4	6.8	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
29	3.7	3.9	3.9	3.9	0.0	3.5	6.9	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
30	3.6	3.9	3.9	3.9	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
31	3.7	3.9	3.9	3.9	0.0	3.5	7.0	0.0	0.0	0.0	0.0	0.0	0.0	5,000.0
TOTAL SFD	118.5	120.9	81.9	81.9	0.0	108.7		0.0		0.0		0.0		
TOTAL AF	235.0	239.8	162.4	162.4	0.0		216.5		0.0		0.0		0.0	5,000.0

1/ Minimum Flow Maintenance Requirement equals the Section 5 flow for a Below Normal year.
2/ Climatic Credits not applicable in May through December.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

NOVEMBER 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input /3	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	2.7	2.9				2.2	4.3	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
2	2.8	3.0				2.7	5.3	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
3	2.8	3.0				2.7	5.4	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
4	2.8	3.0				2.8	5.6	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
5	2.8	3.0				2.8	5.6	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
6	2.8	3.0				2.8	5.6	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
7	2.9	2.9				2.9	5.7	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
8	3.0	3.0				3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
9	3.1	3.1				3.1	6.2	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
10	3.1	3.1				3.0	5.9	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
11	3.0	3.0	3.0	3.0	0.0	2.9	5.7	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
12	3.0	3.0	3.0	3.0	0.0	1.9	3.8	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
13	3.4	3.4	3.1	3.0	0.1	0.6	1.2	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
14	3.1	3.1	3.1	3.0	0.1	2.4	4.7	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
15	3.0	3.0	3.1	3.0	0.1	2.7	5.4	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
16	3.0	3.0	3.1	3.0	0.1	2.9	5.7	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
17	3.0	3.0	3.1	3.0	0.1	2.9	5.8	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
18	3.0	3.0	3.1	3.0	0.1	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
19	3.0	3.0	3.1	3.0	0.1	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
20	2.8	2.8	3.0	3.0	0.0	2.8	5.5	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
21	3.0	3.0	3.0	3.0	0.0	3.0	5.9	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
22	3.0	3.0	3.0	3.0	0.0	3.0	5.9	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
23	3.0	3.0	3.0	3.0	0.0	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
24	3.0	3.0	3.0	3.0	0.0	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
25	3.0	3.0	3.0	3.0	0.0	3.0	5.9	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
26	3.0	3.0	3.0	3.0	0.0	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
27	3.0	3.0	3.0	3.0	0.0	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
28	3.0	3.0	3.0	3.0	0.0	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
29	3.0	3.0	3.0	3.0	0.0	3.0	6.0	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
30	2.7	2.7	3.0	3.0	0.0	2.7	5.3	0.0	0.0	1.5	3.0	0.0	0.0	5,000.0
TOTAL SFD	88.8	90.0	60.7	60.0	0.7	82.8		0.0		45.0		0.0		
TOTAL AF	176.1	178.5	120.4	119.0	1.4		164.4		0.0		90.0		0.0	5,000.0

1/ Camp Pendleton's request to forego Make-Up Water implemented on November 1, 2014; Minimum Flow Requirement equals the Section 5 flow requirement for a Critically Dry year.
2/ Climatic Credits not applicable in May through December.
3/ Foregone Make-Up Water credited to Groundwater Bank but cumulative balance did not increase due to account balance maximum of 5,000 AF.

APPENDIX E

SANTA MARGARITA RIVER WATERSHED
COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT REQUIRED FLOWS AND ACCOUNTS
SANTA MARGARITA RIVER NEAR TEMECULA

DECEMBER 2014 - BELOW NORMAL YEAR

										CAMP PENDLETON GROUNDWATER BANK				
Day	USGS Official Discharge	USGS Daily Website Discharge	10-Day Running Average of Website Discharge	Minimum Flow Maintenance Requirement 1/	Running Average Less Required Flow	WR-34 Make-Up Discharge		Climatic Credit Earned 2/		Input /3	Input	Output	Output	Cumulative Balance
	cfs	cfs	cfs	cfs	cfs	cfs	AF	cfs	AF	cfs	AF	cfs	AF	AF
1	3.4	3.4				3.2	6.4	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
2	5.5	5.5				2.9	5.8	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
3	111.0	111.0				0.5	1.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
4	818.0	818.0				0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
5	93.0	93.0				0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
6	16.0	16.0				0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
7	3.4	3.4				0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
8	3.2	3.2				2.4	4.8	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
9	3.3	3.3				3.0	6.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
10	3.3	3.3				3.1	6.1	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
11	3.3	3.3	106.0	3.3	102.7	3.1	6.1	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
12	251.0	251.0	130.6	3.3	127.3	0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
13	108.0	108.0	130.3	3.3	127.0	0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
14	18.0	18.0	50.3	3.3	47.0	0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
15	4.0	4.0	41.4	3.3	38.1	0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
16	3.1	3.1	40.1	3.3	36.8	2.0	4.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
17	22.0	22.0	41.9	3.3	38.6	1.2	2.4	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
18	6.9	6.9	42.3	3.3	39.0	0.0	0.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
19	3.2	3.2	42.3	3.3	39.0	0.9	1.7	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
20	3.3	3.3	42.3	3.3	39.0	2.4	4.8	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
21	3.3	3.3	42.3	3.3	39.0	2.8	5.6	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
22	3.3	3.3	17.5	3.3	14.2	2.9	5.8	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
23	3.3	3.3	7.0	3.3	3.7	2.9	5.8	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
24	3.3	3.3	5.6	3.3	2.3	3.0	5.9	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
25	3.2	3.2	5.5	3.3	2.2	2.9	5.8	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
26	3.3	3.3	5.5	3.3	2.2	3.0	6.0	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
27	3.4	3.4	3.7	3.3	0.4	3.1	6.1	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
28	3.3	3.3	3.3	3.3	0.0	3.0	5.9	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
29	3.3	3.3	3.3	3.3	0.0	3.0	5.9	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
30	3.3	3.3	3.3	3.3	0.0	3.0	5.9	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
31	253.0	253.0	28.3	3.3	25.0	0.9	1.7	0.0	0.0	2.0	4.0	0.0	0.0	5,000.0
TOTAL SFD	1,768.9	1,768.9	792.8	69.3	723.5	55.2		0.0		62.0		0.0		
TOTAL AF	3,508.6	3,508.6	1,572.5	137.5	1,435.0		109.5		0.0		124.0		0.0	5,000.0

1/ Camp Pendleton's request to forego Make-Up Water implemented on November 1, 2014; Minimum Flow Requirement equals the Section 5 flow requirement for a Critically Dry year.
2/ Climatic Credits not applicable in May through December.
3/ Foregone Make-Up Water credited to Groundwater Bank but cumulative balance did not increase due to account balance maximum of 5,000 AF.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

APPENDIX F

ANNUAL REPORT ISSUES SUBORDINATED DURING EFFECTIVE PERIOD OF THE COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

August 2015

APPENDIX F

SANTA MARGARITA RIVER WATERSHED

ANNUAL REPORT ISSUES SUBORDINATED DURING EFFECTIVE PERIOD OF THE COOPERATIVE WATER RESOURCE MANAGEMENT AGREEMENT

Introduction

Prior to implementation of the Cooperative Water Resource Management Agreement (CWRMA) entered into by Rancho California Water District (RCWD) and the United States on behalf of Camp Pendleton, there were contentions raised by Camp Pendleton each year, with respect to various aspects of the Annual Watermaster Report. These contentions are settled so long as CWRMA is in effect. Accordingly, there is no need to raise those particular issues or publish them in the main text of the annual report or in related correspondence.

However, the respective positions on these issues need to be preserved and protected from any finding of waiver, and there is a need to continue to collect related data in the event of need in the future.

Therefore, the applicable textual material in the previous annual reports and related comments and responses have been gathered here for preservation and maintenance of rights, with the understanding that the previous annual exchange of applicable contentions in the process of preparing the annual report is no longer necessary.

Issues Reserved

Section 3, Surface Water Availability and Use: In the absence of CWRMA implementation, Camp Pendleton disputes the method of calculation used in the annual report in Subsection 3.2 (Surface Water Diversions) and Table 3.3 (Surface Water Diversions to Storage for Vail Lake) for presentation of the information regarding Vail Lake and further asserts its belief that the Vail Dam impoundment fails to comply with the 1940 Stipulated Judgment.

Section 4, Subsurface Water Availability and Use: In the absence of CWRMA implementation, and with respect to Figure 4.1 (Water Level Elevations – Windmill Well) and to Subsections 4.3 (Water Levels) and 4.4 (Groundwater Storage), Camp Pendleton is concerned about the apparent excessive pumping in the Upper Basin, and further asserts its belief that the lengthy and significant drawdown and concomitant loss in storage adversely affect the water supply for adjacent and downstream users holding senior water rights.

Section 7, Water Production and Use: First, in the absence of CWRMA implementation, and with regard to the local production figures shown in Table 7.1 (Water Production and Use), Camp Pendleton is concerned about the high level of groundwater production from the Upper Basin, a level that Camp Pendleton believes to be substantially greater than the safe yield.

Second, in the absence of CWRMA implementation, and with regard to Footnote 4 of Table 7.1 (distinction between RCWD pumping of older alluvium water and of Vail recovery water), Camp Pendleton has serious reservations as to the accounting system that is being used as well as the legal and technical bases upon which such system has been formulated.

Third, in the absence of CWRMA implementation, and as to the RCWD part of Subsection 7.2.8 (Water Purveyors – Rancho California Water District), Camp Pendleton has serious reservations as to the accounting system that is being used as well as the legal and technical bases upon which such system has been formulated. These reservations include the following:

1. As to the "Vail Appropriation" part: *Representatives of the United States contend that under the 1940 Stipulated Judgment storage of water in Vail Lake is limited to Rancho California Water District's share of the flood waters of the Santa Margarita River system. However, to date, the parties have not agreed on a definition of "flood waters."*

2. As to the "Division of Local Water" part: *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 ten wells shown on Table 7.7 of the 1994-95 report. 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 well logs, and general concepts about overall geologic setting.*

Section 8, Unauthorized Water Use: In the absence of CWRMA implementation, and with respect to water use by RCWD, Camp Pendleton asserts the following:

1. Such use is in violation of the 1940 Stipulated Judgment by reason of, among other things, Vail Lake operations in excess of entitlement and pumping from both younger and older alluvium in excess of entitlement, which contentions RCWD disputes;

2. Rediversion and use of water impounded by Vail Dam are not in accord with terms of Permit 7032;

3. Unauthorized pumping is being done, including pumping from the younger alluvium outside of Pauba Valley without a permit and pumping from the older alluvium in violation of Court adjudications.

Section 9, Threats to Water Supply: In the absence of CWRMA implementation, and with respect to Subsection 9.3 (Potential Overdraft Conditions) and as noted in the foregoing comments to Sections 4 and 7, Camp Pendleton is seriously concerned regarding the apparent excessive pumping in the Upper Basin.

SANTA MARGARITA RIVER WATERSHED

ANNUAL WATERMASTER REPORT

WATER YEAR 2013-14

APPENDIX G

INDEPENDENT AUDITOR'S REPORT

WATER YEAR 2013-14

August 2015

Hosaka, Rotherham & Company
Certified Public Accountants

hrccpa.com

James A. Rotherham, CPA
CEO & Managing Partner

Roy T. Hosaka, CPA
Retired

James C. Nagel, CPA
Retired

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED

INDEPENDENT AUDITORS' REPORT

FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2014

1011 Camino Del Rio South, Suite 410, San Diego, CA 92108 / T: 619.543.9702 / F: 619.543.0116

WATERMASTER OF THE
SANTA MARGARITA RIVER WATERSHED

INTRODUCTORY SECTION

SEPTEMBER 30, 2014

WATERMASTER OF THE
SANTA MARGARITA RIVER WATERSHED

FINANCIAL SECTION

SEPTEMBER 30, 2014

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED
TABLE OF CONTENTS
SEPTEMBER 30, 2014

Hosaka, Rotherham & Company
Certified Public Accountants

hrccpa.com

James A. Rotherham, CPA
CEO & Managing Partner

Roy T. Hosaka, CPA
Retired

James C. Nagel, CPA
Retired

INDEPENDENT AUDITORS' REPORT

Steering Committee
Watermaster of the Santa Margarita River Watershed
Fallbrook, California

Report on the Financial Statements

We have audited the accompanying financial statements of Watermaster of the Santa Margarita River Watershed, which comprise the statement of financial position as of September 30, 2014, and the related statements of activities and cash flows for the fiscal year then ended, and the related notes to the financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States and the State Controller's minimum audit requirements for California Special Districts. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Watermaster of the Santa Margarita River Watershed as of September 30, 2014, and the changes in its net assets and its cash flows for the fiscal year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Other Information

Our audit was conducted for the purpose of forming an opinion on the financial statements as a whole. The supplementary information as listed in the table of contents is presented for purposes of additional analysis and is not a required part of the financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the information is fairly stated in all material respects in relation to the financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated January 21, 2015, on our consideration of Watermaster of the Santa Margarita River Watershed's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering Watermaster of the Santa Margarita River Watershed's internal control over financial reporting and compliance.

Hosaka, Rotherham & Company

San Diego, California
January 21, 2015

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED
STATEMENT OF NET ASSETS
SEPTEMBER 30, 2014

ASSETS

Current assets:		
Cash and cash equivalents (Note 3)	$	314,370
Short-term investments (Note 4)		201,017
Prepaid Expenses		200
Total current assets		515,587
Fixed assets, net of depreciation (Note 5)		5,119
Total assets	$	520,706

LIABILITIES AND NET ASSETS

Current liabilities:		
Advanced assessments	$	145,650
Total current liabilities		145,650
Net assets:		
Unrestricted		375,056
Total net assets		375,056
Total liabilities and net assets	$	520,706

The notes to the financial statements are an integral part of this statement.

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED
STATEMENT OF ACTIVITIES
FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2014

Revenues	
Assessments	$ 658,840
Interest	562
Total revenues	659,402
Expenses	
Watermaster fees:	
Consulting services	221,328
Travel reimbursements	27,906
Other expenses:	
Gauging station operation	237,400
Rent	18,000
Accounting services	6,073
Supplies	2,215
Insurance	575
Printing	11,207
Audit	6,339
Legal services	11,955
Publications	3,009
Clerical / Analyst	96,781
Telephone / Internet	2,503
Travel	956
Postage	1,527
Conference/Training	662
IT System / Computer	4,248
Depreciation expense	607
Miscellaneous	317
Total expenses	653,608
Change in net assets	5,794
Net assets - beginning	369,262
Net assets - ending	$ 375,056

The notes to the financial statements are an integral part of this statement.

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED
STATEMENT OF CASH FLOWS
FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2014

Cash flows used by operating activities:		
Depreciation	$	607
Receipts from customers		663,110
Receipts from interest		562
Payment to suppliers and vendors		(653,608)
Net cash provided by operating activities		10,671
Cash flows from financing activities:		
Increase in short-term investments		(29)
Net cash used in financing activities		(29)
Cash flows used by investing activities:		
Acquisition of fixed assets		(2,601)
Net cash used by operating activities		(2,601)
Change in cash and cash equivalents		8,041
Cash and cash equivalents - beginning		306,329
Cash and cash equivalents - ending	$	314,370
Reconciliation of operating revenues to net cash used by operating activities		
Change in net assets	$	5,794
Adjustment to reconcile net income to net cash provided by operating activities		
Depreciation		607
(Increase) Decrease in:		
Prepaid Expenses		(200)
Increase (Decrease) in:		
Advanced assessments		4,470
Net cash provided by operating activities	$	10,671

The notes to the financial statements are an integral part of this statement.

NOTE 1 - ORGANIZATION

Nature of operations

Watermaster of the Santa Margarita River Watershed (Watermaster) was created by order of the United States District Court, Southern District of California (Court). The Court, as part of its continuing jurisdiction in the case of United States vs. Fallbrook Public Utility District et al., has authority to make judicial determination of all water rights within the Santa Margarita River Watershed. Watermaster is empowered by the Court to administer and enforce the provisions of a Modified Final Judgment and Decree entered April 6, 1966, and subsequent instructions and orders of the Court. On November 15, 2005, the Court issued an Order authorizing the Steering Committee to execute an Employment Agreement with Charles W. Binder, DBA Binder & Associates Consulting, Inc., to serve as Watermaster.

A Steering Committee was appointed by the Court to assist Watermaster and the Court. The Steering Committee is comprised of representatives from the United States (Camp Pendleton Marine Corps Base), Rancho California Water District, Fallbrook Public Utility District (FPUD), Eastern Municipal Water District, Metropolitan Water District of Southern California, the Pechanga Band of Luiseño Mission Indians, and Western Municipal Water District.

The fees and expenses of Watermaster during the water year ended September 30, 2014, were, per court order, paid from equal assessments against the Steering Committee members. The Court retains the right to assess other parties in the watershed in future years. Pursuant to an agreement between Watermaster and the United States Geological Survey (USGS), the USGS provides operations and maintenance services for stream gauging stations and groundwater monitoring wells in the watershed.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Basis of accounting

The accounting policies of the Watermaster substantially conform to generally accepted accounting principles. The accounting records are maintained on an accrual basis. Revenue is recognized when earned and expenses are recorded upon incurrence of a liability. Accounts receivable represent amounts due from Steering Committee members.

B. Cash and cash equivalents

Cash and cash equivalents are from time to time variously composed of cash in banks and liquid investments with original maturities of three months or less.

C. Investments

The Watermaster presents its investments in accordance with Accounting Standards. Investments in marketable securities with readily determinable fair values and all investments in debt securities are reported at their fair values in the Statement of Net Assets. The fair values of these investments are subject to change based on the fluctuations of market values. Unrealized gains and losses are included in the change in net assets. Investment income and gains restricted by a donor or by the Watermaster are reported as increases in unrestricted net assets if the restrictions are met (either by the passage of time or by use) in the reporting period in which the income and gains are recognized.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

D. Accounts receivable

Watermaster considers accounts receivable to be fully collectible; accordingly, no allowance for doubtful accounts is required.

E. Fixed assets

Fixed assets are recorded at cost and depreciated under the straight-line method over their estimated useful lives of 3 to 10 years. Repair and maintenance costs, which do not extend the useful lives of the asset, are charged to expense. The cost of assets, sold or retired, and related amounts of accumulated depreciation are eliminated from the accounts in the year of disposal, and any resulting gain or loss is included in the earnings. Management has elected to capitalize and depreciate all assets costing $2,000 or more; all other assets are charged to expense in the year incurred.

F. Advanced assessments

Advanced assessments represent amounts levied or collected in the current year that apply to the next fiscal year.

G. Use of estimates

The preparation of financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Accordingly, actual results could differ from those estimates.

H. Classification of items

Certain items may have been classified different from one year to another.

I. Income taxes

Watermaster was created by order of the Court and is exempt from taxation.

J. Excess of expenses over budgets

Excess of actual expenses over budgeted amounts in individual accounts were as follows:

Watermaster fees - consulting	$	(2,328)
Watermaster travel reimbursements	$	(406)
Supplies	$	(415)
Printing	$	(407)
Audit	$	(39)
Legal services	$	(11,955)
Travel	$	(56)
Depreciation expense	$	(607)
Postage	$	(1,527)
Conference/Training	$	(662)

There was one major item where the actual expenses exceeded the budget amount.

NOTE 2 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (CONTINUED)

J. Excess of expenses over budgets (continued)

- Legal services - These services were not anticipated and were not listed as a separate line item in the 2014 budget. The specific services relate to retention of legal counsel to assist the Watermaster in responding to objections filed with the Court concerning the 2012 Annual Watermaster Report. Retention of legal counsel was approved by the Steering Committee with expenses to be paid from reserves. The Court and the Watermaster Steering Committee have approved legal services to be a budgeted expense item beginning in the fiscal year 2015.

K. New GASB Pronouncements

The Watermaster implemented the following Governmental Accounting Standards Board pronouncements:

Governmental Accounting Standards Board Statement No. 60

In November 2010, the GASB issued Statement No. 60, *Accounting and Financial Reporting for Service Concession Arrangements*. This Statement address how to account for and report service concession arrangements, a type of public-private or public-public partnership that state and local governments are increasingly entering into. No service concession arrangements were noted in the fiscal years transactions.

Governmental Accounting Standards Board Statement No. 61

In November 2010, the GASB issued Statement No. 61, *The Financial Reporting Entity, Omnibus*. This Statement is designed to improve financial reporting for governmental entities by amending the requirements of GASB Statement No. 14, The *Financial Reporting Entity*, and GASB Statement No. 34, *Basic Financial Statement and Management's Discussion and Analysis for State and local Governments.*

Governmental Accounting Standards Board Statement No. 62

In December 2010, The GASB issued Statement No. 62 – *Codification of Accounting and Financial Reporting Guidance Contained in Pre-November 30, 1989 FASB and AICPA Pronouncements*. The objective of this Statement is to incorporate into the GASB's authoritative literature certain accounting and financial reporting guidance that is included in the following pronouncements issued on or before November 30, 1989, which does not conflict with or contradict GASB pronouncements:

- Financial Accounting Standards Board (FASB) Statements and Interpretations
- Accounting Principles Board Opinions
- Accounting Research Bulletins of the American Institute of Certified Public Accountatnts' (AICPA) Committee on Accounting Procedure

Hereinafter, these pronouncements collectively are referred to as the "FASB and AICPA pronouncements." This Statement also supersedes Statement No. 20, *Accounting and Financial Reporting for Proprietary Funds and Other Governmental Entities That Use Proprietary Fund Accounting*, thereby eliminating the election provided in paragraph 7 of that Statement for enterprise funds and business-type activities to apply post-November 30, 1989 FASB Statements

K. New GASB Pronouncements (continued)

Governmental Accounting Standards Board Statement No. 62 (Continued)

and Interpretations that do not conflict with or contradict GASB pronouncements. However, those entities can continue to apply, as other accounting literature, post November 30, 1989 FASB pronouncements that do not conflict with or contradict GASB pronouncements, including this Statement.

Governmental Accounting Standards Board Statement No. 63

In June 2011, the GASB issued Statement No. 63, *Financial Reporting of Deferred Outflows of Resources, Deferred Inflows of Resources, and Net Position*. This Statement is designed to improve financial reporting by standardizing the presentation of deferred outflows of resources and deferred inflows of resources into the definitions of the required components of the residual measure and by renaming that measure as net position, rather than net assets.

NOTE 3 - CASH AND CASH EQUIVALENTS

Cash and cash equivalents at September 30, 2014, consisted of the following:

Cash in banks	$	4,765
Money market		309,605
Total cash and cash equivalents	$	314,370

Cash balances held in banks are insured up to $250,000 by the Federal Deposit Insurance Corporation (FDIC). In addition, the Watermaster has entered into a contract with Pacific Western Bank to collateralize deposits in the amount of 110 percent up to $1,000,000 of any deposits in excess of $250,000. At September 30, 2014, the Watermaster had $16,835 deposited with Pacific Western Bank in excess of $250,000 secured under the contract with Pacific Western Bank. The remaining cash balances at September 30, 2014 held at Wells Fargo and Union Bank of California were less than the $250,000 and thus insured by FDIC.

NOTE 4 - SHORT-TERM INVESTMENTS

Short-term investments at September 30, 2014, are stated at Fair Market Value and consist of the following:

	Cost	Fair Value	Carrying Value
Unrestricted:			
Pacific Western Bank certificate of deposit	$ 50,823	$ 51,017	$ 51,017
Union Bank certificate of deposit	150,000	150,000	150,000
Total unrestricted	$ 200,823	$ 201,017	$ 201,017

Short-term investment activity for the fiscal year ended September 30, 2014, consisted of the following:

NOTE 4 - SHORT-TERM INVESTMENTS (CONTINUED)

	Unrestricted
Interest and dividends	$ 300
Net investment return	$ 300

Watermaster realized a gain or loss on the Union Bank certificate of deposit when it earned its interest. During the fiscal year, Watermaster recognized the entire interest income related to the Union Bank certificate of deposit in the amount of $300.

NOTE 5 - FIXED ASSETS

Fixed assets at September 30, 2014, consisted of the following:

Computer equipment	$ 10,862
Office furniture and equipment	19,461
Less: accumulated depreciation	(25,204)
Total fixed assets, net of depreciation	$ 5,119

During the fiscal year ended September 30, 2014, $607 was charged to depreciation expense.

NOTE 6 - RELATED PARTY TRANSACTIONS

The Watermaster has entered into an agreement with Fallbrook Public Utility District (FPUD), which is a member of the Watermaster Steering Committee, whereby FPUD provides office space and accounting services. Rent of office space and accounting services for the fiscal year ended September 30, 2014, were $18,000 and $6,073, respectively.

Data management and clerical support services are performed at the Watermaster office by an FPUD employee under contract. Watermaster reimburses FPUD for the actual cost of wages and fringe benefits. For the fiscal year ended September 30, 2014, these reimbursements totaled $96,781.

NOTE 7 - OPERATING LEASES

The Watermaster leases a copier and electronic storage under operating lease arrangements. Future minimum lease payments under the signed lease arrangements are as follows:

Year Ending September 30,	Lease Payments
2015	$ 4,903
2016	4,903
2017	3,253
2018	3,103
Total	$ 16,162

The Watermaster will receive no sublease rental revenue, nor pay any contingent rentals for these leases. At September 30, 2014, Watermaster's lease expense was $5,574.

WATERMASTER OF THE
SANTA MARGARITA RIVER WATERSHED

SUPPLEMENTARY INFORMATION SECTION

SEPTEMBER 30, 2014

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED
STATEMENT OF ACTIVITIES - BUDGET AND ACTUAL
FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2014

	Original/ Final Budget	Actual	Variance Favorable (Unfavorable)
Revenues			
Assessments	$ 658,840	$ 658,840	$ -
Interest	-	562	562
Total revenues	658,840	659,402	562
Expenses			
Watermaster fees:			
Consulting services	219,000	221,328	(2,328)
Travel reimbursements	27,500	27,906	(406)
Other expenses:			
Gauging station operation	239,125	237,400	1,725
Rent	18,000	18,000	-
Accounting services	8,800	6,073	2,727
Supplies	1,800	2,215	(415)
Insurance	600	575	25
Printing	10,800	11,207	(407)
Audit	6,300	6,339	(39)
Legal services	-	11,955	(11,955)
Publications	4,200	3,009	1,191
Clerical / Analyst	99,700	96,781	2,919
Telephone / Internet	4,200	2,503	1,697
Travel	900	956	(56)
Postage	-	1,527	(1,527)
Conference/Training	-	662	(662)
Office equipment and furniture	2,000	-	2,000
IT System/Computer	10,000	4,248	5,752
Depreciation expense	-	607	(607)
Miscellaneous	5,915	317	5,598
Total expenses	658,840	653,608	5,232
Change in net assets	-	5,794	5,794
Net assets - beginning	369,262	369,262	-
Net assets - ending	$ 369,262	$ 375,056	$ 5,794

WATERMASTER OF THE
SANTA MARGARITA RIVER WATERSHED

OTHER INDEPENDENT AUDITORS' REPORTS SECTION

SEPTEMBER 30, 2014

Hosaka, Rotherham & Company
Certified Public Accountants

hrccpa.com

James A. Rotherham, CPA
CEO & Managing Partner

Roy T. Hosaka, CPA
Retired

James C. Nagel, CPA
Retired

INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Steering Committee
Watermaster of the Santa Margarita River Watershed
Fallbrook, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of Watermaster of the Santa Margarita River Watershed, which comprise the statement of financial position as of September 30, 2014, and the related statements of activities and cash flows for the fiscal year then ended, and the related notes to the financial statements, and have issued our report thereon dated January 21, 2015.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered Watermaster of the Santa Margarita River Watershed's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Watermaster of the Santa Margarita River Watershed's internal control. Accordingly, we do not express an opinion on the effectiveness of Watermaster of the Santa Margarita River Watershed's internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

1011 Camino Del Rio South, Suite 410, San Diego, CA 92108 / T: 619.543.9702 / F: 619.543.0116

Compliance and Other Matters

As part of obtaining reasonable assurance about whether Watermaster of the Santa Margarita River Watershed's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the organization's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the organization's internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

Hosaka, Rotherham & Company

San Diego, California
January 21, 2015

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED

FINDINGS AND RECOMMENDATIONS SECTION

SEPTEMBER 30, 2014

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED
SCHEDULE OF AUDIT FINDINGS AND QUESTIONED COSTS
FOR THE FISCAL YEAR ENDED SEPTEMBER 30, 2014

A. Summary of Auditors' Results

1. Financial Statements

Type of auditors' report issued:	Unqualified
Internal control over financial reporting:	
One or more material weaknesses identified?	____ Yes __X__ No
One or more significant deficiencies identified that are not considered to be material weaknesses?	____ Yes __X__ None Reported
Noncompliance material to financial statements noted?	____ Yes __X__ No

2. Federal Awards

Internal control over major programs:	
One or more material weaknesses identified?	____ Yes __N/A__ No
One or more significant deficiencies identified that are not considered to be material weaknesses?	____ Yes __N/A__ None Reported
Type of auditors' report issued on compliance for major programs:	N/A
Any audit findings disclosed that are required to be reported in accordance with section .510(a) or Circular A-133?	____ Yes __N/A__ No

Identification of major programs:

CFDA Number(s)	Name of Federal Program or Cluster

The Organization did not have over $500,000 in Federal Expenditures.

Dollar threshold used to distinguish between type A and type B programs:	N/A
Auditee qualified as low-risk auditee?	____ Yes __N/A__ No

A. Summary of Auditors' Results (continued)

3. State Awards

Internal control over state programs:

One or more material weaknesses identified?	____ Yes N/A No
One or more significant deficiencies identified that are not considered to be material weaknesses?	____ Yes N/A None Reported
Type of auditors' report issued on compliance for state programs:	N/A

B. Financial Statement Findings

None

C. Federal Award Findings and Questioned Costs

None

D. State Award Findings and Questioned Costs

None

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED
SUMMARY SCHEDULE OF PRIOR AUDIT FINDINGS
SEPTEMBER 30, 2014

Findings/Recommendations	Current Status	Explanation If Not Implemented
None	N/A	N/A

Hosaka, Rotherham & Company
Certified Public Accountants

hrccpa.com

James A. Rotherham, CPA
CEO & Managing Partner

Roy T. Hosaka, CPA
Retired

James C. Nagel, CPA
Retired

WATERMASTER OF THE SANTA MARGARITA RIVER WATERSHED

REPORT TO THE STEERING COMMITTEE

SEPTEMBER 30, 2014

1011 Camino Del Rio South, Suite 410, San Diego, CA 92108 / T: 619.543.9702 / F: 619.543.0116

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James C. Nagel, CPA
Retired

To the Steering Committee
Watermaster of the Santa Margarita River Watershed
Fallbrook, California

We have audited the financial statements of Watermaster of the Santa Margarita River Watershed (Watermaster), for the year ended September 30, 2014, and have issued our report thereon dated January 21, 2015. Professional standards require that we provide you with the following information related to our audit.

Our Responsibility Under U.S. Generally Accepted Auditing Standards and Government Auditing Standards

As stated in our engagement letter, our responsibility, as described by professional standards, is to plan and perform our audit to obtain reasonable, but not absolute, assurance about whether the financial statements are free of material misstatement and are fairly presented in accordance with U.S. generally accepted accounting principles. Because an audit is designed to provide reasonable, but not absolute, assurance and because we did not perform a detailed examination of all transactions, there is a risk that material misstatements may exist and not be detected by us.

As part of our audit, we considered the internal control of Watermaster. Such considerations were solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

As part of obtaining reasonable assurance about whether the financial statements are free of material misstatement, we performed tests of Watermaster's compliance with certain provisions of laws, regulations, contracts, and grants. However, the objective of our tests was not to provide an opinion on compliance with such provision.

Significant Accounting Policies

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by Watermaster are described in Note 2 to the financial statements. New accounting policies were adopted and the applications of existing policies were changed during the year ended September 30, 2014. We noted no transactions entered into by Watermaster during the year that were both significant and unusual, and of which, under professional standards, we are required to inform you, or transactions for which there is a lack of authoritative guidance or consensus.

Accounting Estimates

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events.

Audit Adjustments

For purposes of this letter, professional standards define an audit adjustment as a proposed correction of the financial statements that, in our judgment, may not have been detected except through our auditing procedures. An audit adjustment may or may not indicate matters that could have a significant effect on Watermaster's financial reporting process (that is, cause future financial statements to be materially misstated).

Disagreements With Management

For purposes of this letter, professional standards define a disagreement with management as a matter, whether or not resolved to our satisfaction, concerning a financial accounting, reporting, or auditing matter that could be significant to the financial statements or the auditors' report. We are pleased to report that no such disagreements arose during the course of our audit.

Consultations With Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle Watermaster's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Issues Discussed Prior to Retention of Independent Auditors

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as Watermaster's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Difficulties Encountered in Performing the Audit

We encountered no difficulties in dealing with management in performing and completing our audit.

This report is intended solely for the information and use of management and Steering Committee, and is not intended to be and should not be used by anyone other than these specified parties.

Hosaka, Rotherham & Company

San Diego, California
January 21, 2015

Major Water Purveyors

Santa Margarita River Watershed Watermaster

Map Produced by:
Rancho California Water District
Geographic Information Systems
March 2009

1 inch = 4 miles

0 0.5 1 2 3 Miles

Legend

- Gaging Station
- Santa Margarita River Watershed
- Indian Reservation

RCWD Divisions

R.C.W.D.-R - Rancho California Water District - Rancho Division
R.C.W.D.-SR - Rancho California Water District - Santa Rosa Division

Water Purveyors

E.M.W.D. - Eastern Municipal Water District
E.V.M.W.D. - Elsinore Valley Municipal Water District
F.P.U.D. - Fallbrook Public Utility District
R.M.W.D. - Rainbow Municipal Water District
W.M.W.D. - Western Municipal Water District
W.M.W.D.-M - Western Municipal Water District- Murrieta Division

Note: The Western Municipal Water District Service Area also includes the Elsinore Valley Municipal Water District and portions of the Rancho California Water District.
The Eastern Municipal Water District Service Area also includes portions of Rancho California Water District and Murrieta Division of the Western Municipal Water District.

DATE: 3/9/2009 NAME: rosul FILE: F:\GIS\Projects\WatermasterMap\01-28-09\watermasters_02-11-09_v5.mxd