

2003 data

Map ID	Waterbody	HAS	Sample Location Description	Location ID	Latitude	Longitude	Name	Parameter			Type	Samples Dates	No. Taken	Exceedance		Reference
								Std.	Std. Unit	Std. Ref				No.	%	
1	Murrieta Creek	902.32	RCWD Station No. 1 (immed. upstream of SRWRF)				NO FLOW				water chemistry (monthly)	3/14/00, 5/9/00, 6/20/00, 7/18/00, 8/22/00, 9/19/00, 10/17/00, 12/11/00	0	0	0%	RCWD Annual Receiving Water Monitoring Report (2000)
2	Murrieta Creek	902.52	Murrieta Creek @ Temecula (4 mi us of Temecula Creek confluence)	USGS 11043000	332847	1170835	Conductivity	900	mg/L	Secondary MCL	water chemistry	12/9/97, 3/3/98, 5/26/98, 8/4/98, 11/9/98, 2/10/99, 5/11/99, 9/28/99, 12/6/99, 3/7/00, 6/2/00	11	4	36%	Final Report of Water Quality Studies & Proposed Watershed Monitoring Program for portions of San Mateo & Santa Margarita River Watershed. Marine Corps Base, Camp Pendleton, CA. Contract No. N68711-95-D-7573, D.O. 0021.
2	Murrieta Creek	902.52	Murrieta Creek @ Temecula (4 mi us of Temecula Creek confluence)	USGS 11043000	332847	1170835	TDS	750	mg/L	Basin Plan	water chemistry	12/9/97, 3/3/98, 5/26/98, 8/4/98, 11/9/98, 2/10/99, 5/11/99, 9/28/99, 12/6/99, 3/7/00, 6/2/00	11	1	9%	Final Report of Water Quality Studies & Proposed Watershed Monitoring Program for portions of San Mateo & Santa Margarita River Watershed. Marine Corps Base, Camp Pendleton, CA. Contract No. N68711-95-D-7573, D.O. 0021.
2	Murrieta Creek	902.52	Murrieta Creek @ Temecula (4 mi us of Temecula Creek confluence)	USGS 11043000	332847	1170835	MBAS	0.5	mg/L	Basin Plan	water chemistry	12/9/97, 3/3/98, 5/26/98, 8/4/98, 11/9/98, 2/10/99, 5/11/99, 9/28/99, 12/6/99, 3/7/00, 6/2/00	11	1	9%	Final Report of Water Quality Studies & Proposed Watershed Monitoring Program for portions of San Mateo & Santa Margarita River Watershed. Marine Corps Base, Camp Pendleton, CA. Contract No. N68711-95-D-7573, D.O. 0021.
2	Murrieta Creek	902.52	Murrieta Creek @ Temecula (4 mi us of Temecula Creek confluence)	USGS 11043000	332847	1170835	Fe	0.3	mg/L	Secondary MCL	water chemistry	12/9/97, 3/3/98, 5/26/98, 8/4/98, 11/9/98, 2/10/99, 5/11/99, 9/28/99, 12/6/99, 3/7/00, 6/2/00	11	5	45%	Final Report of Water Quality Studies & Proposed Watershed Monitoring Program for portions of San Mateo & Santa Margarita River Watershed. Marine Corps Base, Camp Pendleton, CA. Contract No. N68711-95-D-7573, D.O. 0021.
2	Murrieta Creek	902.52	Murrieta Creek @ Temecula (4 mi us of Temecula Creek confluence)	USGS 11043000	332847	1170835	Mn	0.05	mg/L	Secondary MCL	water chemistry	12/9/97, 3/3/98, 5/26/98, 8/4/98, 11/9/98, 2/10/99, 5/11/99, 9/28/99, 12/6/99, 3/7/00, 6/2/00	11	7	84%	Final Report of Water Quality Studies & Proposed Watershed Monitoring Program for portions of San Mateo & Santa Margarita River Watershed. Marine Corps Base, Camp Pendleton, CA. Contract No. N68711-95-D-7573, D.O. 0021.
2	Murrieta Creek	902.52	Murrieta Creek @ Temecula (4 mi us of Temecula Creek confluence)	USGS 11043000	332847	1170835	total phosphorous	0.1	mg/L	Secondary MCL	water chemistry	12/9/97, 3/3/98, 5/26/98, 8/4/98, 11/9/98, 2/10/99, 5/11/99	7	5	71%	Final Report of Water Quality Studies & Proposed Watershed Monitoring Program for portions of San Mateo & Santa Margarita River Watershed. Marine Corps Base, Camp Pendleton, CA. Contract No. N68711-95-D-7573, D.O. 0021.
2	Murrieta Creek	902.52	Murrieta Creek @ Temecula (4 mi us of Temecula Creek confluence)	USGS 11043000	332847	1170835	Sulfate	250	mg/L	Secondary MCL	water chemistry	12/9/97, 3/3/98, 5/26/98, 8/4/98, 11/9/98, 2/10/99, 5/11/99, 9/28/99, 12/6/99, 3/7/00, 6/2/00	11	1	9%	Final Report of Water Quality Studies & Proposed Watershed Monitoring Program for portions of San Mateo & Santa Margarita River Watershed. Marine Corps Base, Camp Pendleton, CA. Contract No. N68711-95-D-7573, D.O. 0021.
2	Murrieta Creek	902.52	Murrieta Creek (us of Temecula Creek confluence)				Total chlordane	1.1	ppm	MTRLs	fish file/liver tissue	8/26/99	2	1	50%	TSMF Preliminary Summary of 1999 Data
3	Murrieta Creek	902.52	Murrieta Creek 3 riffles ds of Calle del Oso Oronear USGS gauging station	MC-WB	333406	1171421					BMI	5/1/99	1		0%	SDRWQCB 1999 Biological Assessment Annual Report
4	Murrieta Creek	902.52	Murrieta Creek 5 riffles near USGS gauging station	MC-GS	332836	1170825					BMI	5/99, 9/99, 11/99, 5/99	4		0%	SDRWQCB 1999 Biological Assessment Annual Report
5	Murrieta Creek	902.52	Murrieta Creek @ Calle Del Oso Rd.	DFG-878-318			Total Phosphorous	0.1	mg/L	Basin Plan	water chemistry	6/6/98	1	1	100%	SDRWQCB (L. Pardy)
5	Murrieta Creek	902.52	Murrieta Creek @ Calle Del Oso Rd.	DFG-878-318			Arsenic	0.06	mg/L	MCL	water chemistry	6/6/98	1	1	100%	SDRWQCB (L. Pardy)
5	Murrieta Creek	902.52	Murrieta Creek @ Calle Del Oso Rd.	DFG-878-318			Cd	0.005	mg/L	MCL	water chemistry	6/6/98	1	1	100%	SDRWQCB (L. Pardy)
5	Murrieta Creek	902.52	Murrieta Creek @ Calle Del Oso Rd.	DFG-878-318			Cr	0.06	mg/L	MCL	water chemistry	6/6/98	1	1	100%	SDRWQCB (L. Pardy)
5	Murrieta Creek	902.52	Murrieta Creek @ Calle Del Oso Rd.	DFG-878-318			Cu	1	mg/L	Secondary MCL	water chemistry	6/6/98	1	1	100%	SDRWQCB (L. Pardy)

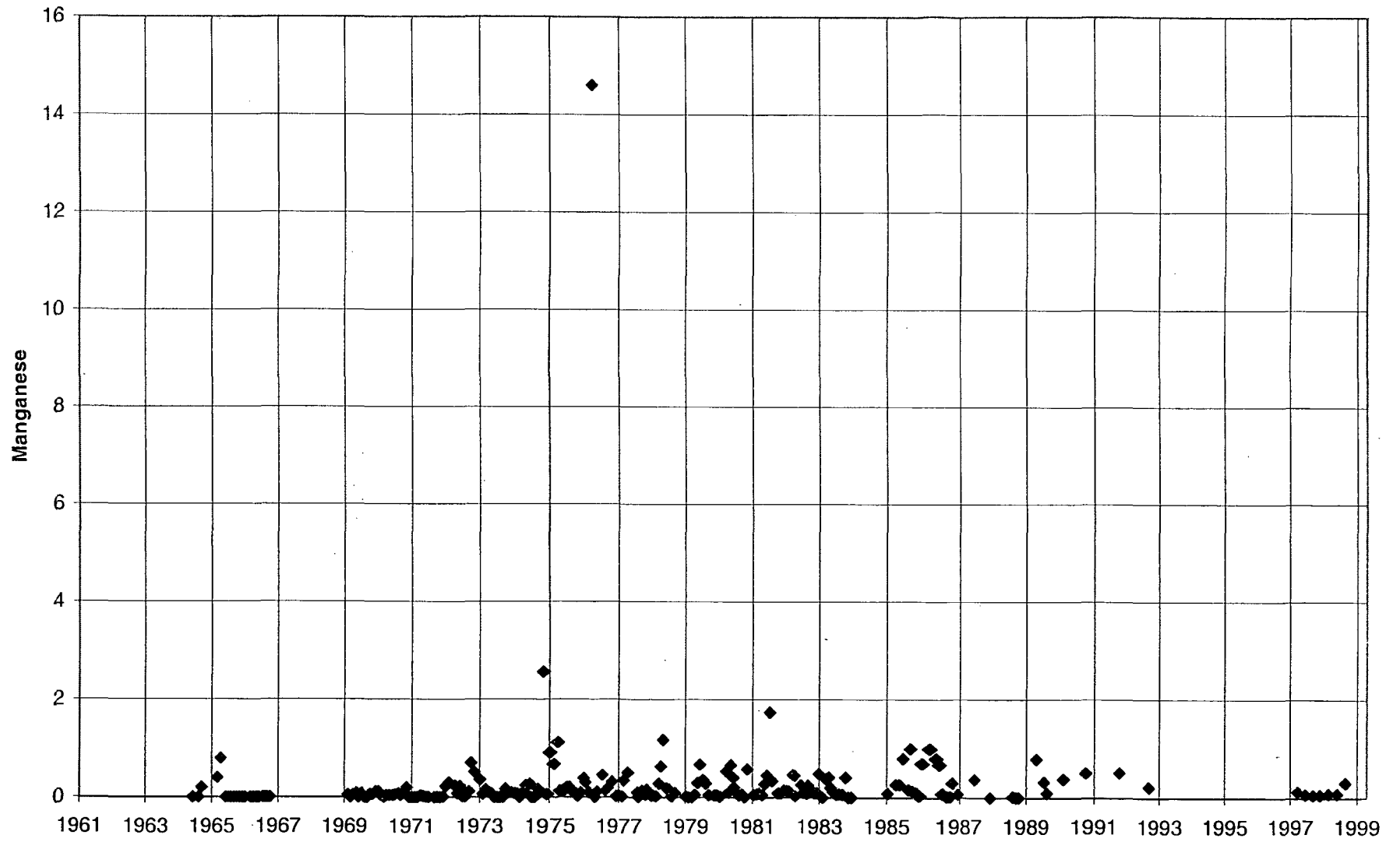
Map ID	Waterbody	HAS	Sample Location Description	Location ID	Latitude	Longitude	Name	Parameter			Type	Samples Dates	No. Taken	Exceedance		Reference
								Std.	Unit	Std. Ref.				No.	%	
5	Murrieta Creek	902.52	Murrieta Creek @ Calle Del Oso Rd.	DFG-978-318			Ni	0.1	mg/L	MCL	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
5	Murrieta Creek	902.52	Murrieta Creek @ Calle Del Oso Rd.	DFG-978-318			Pb	0.015	mg/L	MCL	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
6	Murrieta Creek	902.52	Murrieta Creek behind cement factory	DFG-978-319			TDS	750	mg/L	Basin Plan	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
6	Murrieta Creek	902.52	Murrieta Creek behind cement factory	DFG-978-319			As	0.05	mg/L	MCL	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
6	Murrieta Creek	902.52	Murrieta Creek behind cement factory	DFG-978-319			Cr	0.05	mg/L	MCL	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
6	Murrieta Creek	902.52	Murrieta Creek behind cement factory	DFG-978-319			Ni	0.1	mg/L	MCL	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
6	Murrieta Creek	902.52	Murrieta Creek behind cement factory	DFG-978-319			Cu	1	mg/L	Secondary MCL	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
6	Murrieta Creek	902.52	Murrieta Creek behind cement factory	DFG-978-319			Pb	0.015	mg/L	MCL	water chemistry	6/9/98	1	1	100%	SDRWQCB (L. Pardy)
7	Temecula Creek		Temecula Ck east of confluence & west of 115	DFG-978-320							water chemistry	6/9/98	1	none	0%	SDRWQCB (L. Pardy)

Sampling Date	Station Name	Station ID	Hydrologic Subarea	Station Location	Detection Limit	Beryllium	Cadmium	Chromium, Total	Chromium, Dissolved	Copper	Lead, Total	Lead, Dissolved	Mercury	Nickel	Selenium	Silver	Thallium	Zinc, Total	Zinc, Dissolved	Ceriodaphnia-survival	Ceriodaphnia-reproduction	Pimephales-survival	Pimephales-growth
						0.0005	0.0005	0.4	0.01	0.01	0.001	0.001	0.0005	0.01	0.002	0.01	0.001	0.01	0.01	0.01			
5/20/98	LAC-CB-T1	DFG-978-300		Loma Alta Creek at College Blvd																			
5/20/98	BVC-SVW-T3	DFG-978-301		Buena Vista Creek at South Vista Way																			
5/20/98	SLRR-FR-T1	DFG-978-302		San Luis Rey River at Foussat Road																			
5/20/98	LAC-ECR-A	DFG-978-303		Loma Alta Creek at El Camino Real																			
6/2/98	SR-79	DFG-978-304		Sweetwater River at Hwy 79 near Interstate 8																			
6/2/98	SR-94	DFG-978-305		Sweetwater River upstream of Hwy 94 (Campo Road)																			
6/2/98	SR-WS	DFG-978-306		Sweetwater River downstream of Willow Street																			
6/2/98	SDR-MD	DFG-978-307	7.11	San Diego River up stream of Mission Dam																			
6/2/98	SDR-MT	DFG-978-308	7.11	San Diego River at Mission Trails Regional Park																			
6/2/98	SDR-FVR	DFG-978-309	7.11	San Diego River at Fashion Valley Road																			
6/3/98	LPC-BMR	DFG-978-310		Los Penasquitos Creek upstream of Black Mountain Road																			
6/3/98	LPC-CCR	DFG-978-311		Los Penasquitos Creek at Cobblestone Creek Road.																			
6/3/98	RC-HP	DFG-978-312	6.20	Rattlesnake Creek at Hilleary Park, off Community Road																			
6/3/98	EC-HRB	DFG-978-313	4.60	Escondido Creek below Harmony Grove Bridge.																			
6/3/98	EC-EF	DFG-978-314	4.60	Escondido Creek at intersection Elfin Forest and Harmony Grove (end of Elfin Forest Resort).		ND	ND	11.0		13.7	150		ND	2.4	ND	ND	ND	72.8					
6/3/98	EC-LCA	DFG-978-315		Encinitas Creek at Green Valley Road																			
6/3/98	SMC-RSFR	DFG-978-316	4.51	San Marcos Creek at Rancho Santa Fe Road																			
6/3/98	SMC-M	DFG-978-317	4.51	San Marcos Creek at McMahr																			
6/9/98	MC-WB	DFG-978-318		Murrieta Creek at Calle Del Oso Rd		ND	1.1	16.2		26.3	36.7		0.068	9.4	ND	ND	ND	182					
6/9/98	MC-GS	DFG-978-319		Murrieta Ck behind cement factory		ND	ND	2.8		6.1	9.2		ND	1.9	ND	ND	3.0	53.8					
6/9/98	TC-115	DFG-978-320		Temecula Ck east of confluence, west of I-15																			

These are in units of mg/kg wet weight.

0.05 1 1 0.025

# Murrieta Creek at Temecula



Handwritten notes and stamps: "NAS 100 T-100 300", "117.3", "78.95 dkt", and a circular stamp.

**Table 1**  
**Toxic Substances Monitoring Program**  
**Preliminary Summary of 1999 Data: Trace Elements in Fish and Clams (ppm, wet weight)**

Station Number	Station Name	Species Code	Tissue	Sample Date	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Zinc
801.11.89	Lower Newport Bay/Rhine Ch	YFC	L	08/10/99	NA	NA	0.089	5.3300	0.1290	NA	NA	NA	0.0060	23.90
801.11.96	Peters Canyon Channel	PRS	W	08/05/99	0.179	0.0350	0.121	1.2300	0.0300	0.048	0.1370	4.110	<0.0020	45.80
801.11.96	Peters Canyon Channel	PRS	W	08/05/99	0.190	0.0360	0.171	1.2900	0.0380	0.040	0.1390	4.240	0.0030	44.70
801.11.99	Upper Newport Bay/Newport Dunes	ORC	F	08/04/99	1.300	<0.0020	NA	NA	NA	0.050	0.0170	0.760	NA	NA
801.11.99	Upper Newport Bay/Newport Dunes	ORC	L	08/04/99	NA	NA	0.088	6.2600	0.0080	NA	NA	NA	<0.0020	18.40
901.12.##	Aliso Cr/Pacific Park Dr	PRS	W	08/27/99	0.245	0.2240	0.110	1.3000	0.0710	<0.015	0.1950	1.610	<0.0020	32.50
902.11.01	Santa Margarita R/Stuart Mesa Rd	CKF	W	08/25/99	0.221	0.0050	0.050	1.1200	0.0320	<0.015	0.1900	0.248	0.0270	28.30
902.22.03	Rainbow Creek	GSF	F	08/26/99	0.031	<0.0020	NA	NA	NA	0.051	0.0080	0.388	NA	NA
902.22.03	Rainbow Creek	GSF	L	08/26/99	NA	NA	0.067	2.4500	0.0100	NA	NA	NA	<0.0020	16.70
902.32.##	Murrietta Cr/u/s Temecula Cr	BLB	F	08/26/99	0.036	<0.0020	NA	NA	NA	0.059	0.0370	0.287	NA	NA
902.32.##	Murrietta Cr/u/s Temecula Cr	BLB	L	08/26/99	NA	NA	0.100	9.2500	0.0070	NA	NA	NA	0.0290	19.20
904.10.##	Loma Alta Cr/College Blvd	GAM	W	08/26/99	0.217	0.0220	0.236	3.6900	0.0770	0.061	0.1990	0.371	0.0340	37.70
904.21.02	Buena Vista Lagoon	LMB	F	08/25/99	0.072	<0.0020	NA	NA	NA	0.054	0.0100	0.392	NA	NA
904.21.02	Buena Vista Lagoon	LMB	L	08/25/99	NA	NA	0.122	3.8300	0.0210	NA	NA	NA	0.0060	21.90
904.31.##	Agua Hedionda Cr/El Camino Real	GAM	W	08/24/99	0.386	0.0250	0.220	1.3400	0.0380	<0.015	0.1520	0.461	0.0050	25.90
904.51.03	San Marcos Cr	LMB	F	08/24/99	0.045	<0.0020	NA	NA	NA	0.046	0.0230	0.335	NA	NA
904.51.03	San Marcos Cr	LMB	L	08/24/99	NA	NA	0.193	3.0800	<0.0020	NA	NA	NA	<0.0020	16.00
904.61.07	Escondido Cr/Elfin Forest Park	GSF	F	08/24/99	0.064	0.0010	NA	NA	NA	0.050	0.3410	0.496	NA	NA
904.61.07	Escondido Cr/Elfin Forest Park	GSF	L	08/24/99	NA	NA	0.070	2.4400	0.0100	NA	NA	NA	0.0050	17.30
907.11.03	San Diego R/u/s Taylor St	LMB	F	08/23/99	0.096	<0.0020	NA	NA	NA	0.035	0.0150	0.854	NA	NA
907.11.03	San Diego R/u/s Taylor St	LMB	L	08/23/99	NA	NA	0.112	5.9400	0.0130	NA	NA	NA	0.0130	23.10

L = Liver. F = Filet. W = Whole Body. < = Below Indicated Detection Limit. NA = Not Analyzed.  
 Species codes are listed in Table 3.

**TABLE 2**  
**Toxic Substances Monitoring Program**  
**Preliminary Summary of 1999 Data: Organic Chemicals in Fish and Clams (ppb, wet weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
801.11.09	San Diego Cr/Barranca Pkwy	PRS	W	08/05/99	<1.0	<1.0	4.2	<1.0	2.3	2.3	5.7	2.1	16.6	<2.0	<2.0
801.11.89	Lower Newport Bay/Rhine Ch	YFC	F	08/10/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
801.11.96	Peters Canyon Channel	PRS	W	08/05/99	<1.0	<1.0	3.2	<1.0	2.6	2.9	9.1	1.4	19.3	4.2	<2.0
801.11.96	Peters Canyon Channel	PRS	W	08/05/99	<1.0	<1.0	3.3	<1.0	2.8	3.2	9.8	1.5	20.7	5.2	<2.0
801.11.99	Upper Newport Bay/Newport Dunes	ORC	F	08/04/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	1.9	<1.0	1.9	<2.0	<2.0
901.12.##	Aliso Cr/Pacific Park Dr ✓	PRS	W	08/27/99	<1.0	<1.0	5.4	1.2	2.0	<2.0	5.3	3.6	17.5	4.3	4.1
902.11.01	Santa Margarita R/Stuart Mesa Rd/	CKF	W	08/25/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
902.22.03	Rainbow Creek ✓	GSF	F	08/26/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
902.32.##	Murrietta Cr/u/s Temecula Cr ✓	BLB	F	08/26/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	2.0	<1.0	2.0	<2.0	<2.0
904.10.##	Loma Alta Cr/College Blvd ✓	GAM	W	08/26/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	1.6	<1.0	1.6	<2.0	<2.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DEMU	p,p' DDEMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
801.11.09	4.1	3.2	27.0	<2.0	139.0	<3.0	<5.0	8.9	NA	178.1	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
801.11.89	<2.0	<2.0	<2.0	<2.0	22.8	<3.0	<5.0	<3.0	NA	22.8	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
801.11.96	3.3	5.8	24.4	2.7	503.0	<3.0	<5.0	10.9	NA	546.8	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
801.11.96	3.4	5.8	25.8	2.8	516.0	3.1	<5.0	11.4	NA	564.9	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
801.11.99	<2.0	<2.0	6.0	<2.0	54.5	<3.0	<5.0	3.3	NA	63.9	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
901.12.##	8.8	<2.0	<2.0	<2.0	9.4	<3.0	<5.0	<3.0	NA	9.4	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
902.11.01	<2.0	2.6	4.8	<2.0	15.2	<3.0	<5.0	<3.0	NA	22.5	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
902.22.03	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<5.0	<3.0	NA	ND	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
902.32.##	<2.0	<2.0	<2.0	<2.0	2.9	<3.0	<5.0	<3.0	NA	2.9	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
904.10.##	<2.0	<2.0	<2.0	<2.0	7.6	<3.0	<5.0	<3.0	NA	7.6	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
801.11.09	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	0.7	<5.0	329.0	<2.0	<4.0	<25.0	71.0	14.0	85.0	81.4	102.1
801.11.89	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	39.0	<10.0	39.0	<20.0	ND
801.11.96	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	0.6	<5.0	59.6	<2.0	<4.0	<25.0	26.0	15.0	41.0	72.0	94.6
801.11.96	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	0.6	<5.0	62.7	<2.0	<4.0	<25.0	29.0	15.0	44.0	80.5	104.6
801.11.99	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	21.0	<10.0	21.0	<20.0	1.9
901.12.##	<1.0	<2.0	<2.0	<1.0	ND	<2.0	2.9	0.4	<5.0	41.9	<2.0	<4.0	<25.0	22.0	<10.0	22.0	<20.0	29.2
902.11.01	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	5.2	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
902.22.03	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
902.32.##	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	2.0
904.10.##	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	4.9	<2.0	<4.0	<25.0	21.0	<10.0	21.0	<20.0	1.6

NA Means that the sample was not analyzed for the chemical.

F = Filet.

ND Means that the chemical was not detected.

W = Whole Body.

&lt; Means that the chemical was not detected above the indicated limit of detection.

Species codes are listed in Table 3.

**TABLE 2**  
**Toxic Substances Monitoring Program**  
**Preliminary Summary of 1999 Data: Organic Chemicals in Fish and Clams (ppb, wet weight)**

Station Number	Station Name	Species Code	Tissue Type	Sample Date	Aldrin	alpha-Chlor-dene	cis-Chlor-dane	gamma-Chlor-dene	trans-Chlor-dane	cis-Nona-chlor	trans-Nona-chlor	Oxy-chlor-dane	Total Chlor-dane	Chlor-pyrifos	Dacthal
904.21.02	Buena Vista Lagoon	LMB	F	08/25/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
904.31.##	Agua Hedionda Cr/El Camino Real	GAM	W	08/24/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	4.7	2.6	7.2	<2.0	<2.0
904.51.03	San Marcos Cr	LMB	F	08/24/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
904.61.07	Escondido Cr/Elfin Forest Park	GSF	F	08/24/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	<1.0	<1.0	ND	<2.0	<2.0
907.11.03	San Diego R/u/s Taylor St	LMB	F	08/23/99	<1.0	<1.0	<2.0	<1.0	<2.0	<2.0	3.0	<1.0	3.0	<2.0	<2.0

Station Number	Dieldrin	o,p' DDD	p,p' DDD	o,p' DDE	p,p' DDE	o,p' DDT	p,p' DDT	p,p' DDMU	p,p' DDMS	Total DDT	Dicofol	Diazinon	Endo-sulfan I	Endo-sulfan II	Endo-sulfan Sulfate	Total Endo-sulfan	Endrin	Ethion
904.21.02	<2.0	<2.0	<2.0	<2.0	2.2	<3.0	<5.0	<3.0	NA	2.2	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
904.31.##	<2.0	<2.0	3.3	<2.0	42.8	<3.0	<5.0	<3.0	NA	46.1	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
904.51.03	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<5.0	<3.0	NA	ND	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
904.61.07	<2.0	<2.0	<2.0	<2.0	<2.0	<3.0	<5.0	<3.0	NA	ND	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0
907.11.03	<2.0	<2.0	<2.0	<2.0	4.8	<3.0	<5.0	<3.0	NA	4.8	NA	<20.0	<2.0	NA	NA	ND	<2.0	<6.0

Station Number	alpha-HCH	beta-HCH	delta-HCH	gamma-HCH (Lindane)	Total HCH	Hepta-chlor	Hepta-chlor-epoxide	Hexa-chloro-benzene	Methoxy-chlor	Oxa-diazon	Ethyl Para-thion	Methyl Para-thion	PCB 1248	PCB 1254	PCB 1260	Total PCB	Toxaphene	Chemical Group A
904.21.02	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
904.31.##	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	7.2
904.51.03	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
904.61.07	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	<10.0	<10.0	ND	<20.0	ND
907.11.03	<1.0	<2.0	<2.0	<1.0	ND	<2.0	<1.0	<0.3	<5.0	<3.0	<2.0	<4.0	<25.0	18.0	<10.0	18.0	<20.0	3.0

NA Means that the sample was not analyzed for the chemical.

ND Means that the chemical was not detected.

&lt; Means that the chemical was not detected above the indicated limit of detection.

F = Filet.

W = Whole Body.

Species codes are listed in Table 3.

**TABLE 3**  
 Toxic Substances Monitoring Program  
 1999 Species Code List

**Freshwater Fish \***

Species Code	Common Name	Species Name	Family Name
AC	Arroyo Chub	<i>Gila orcutti</i>	Cyprinidae
BB	Brown Bullhead	<i>Ameiurus nebulosus</i>	Ictaluridae
BCR	Black Crappie	<i>Pomoxis nigromaculatus</i>	Centrarchidae
BG	Bluegill	<i>Lepomis macrochirus</i>	Centrarchidae
BK	Brook Trout	<i>Salvelinus fontinalis</i>	Salmonidae
BLB	Black Bullhead	<i>Ameiurus melas</i>	Ictaluridae
BN	Brown Trout	<i>Salmo trutta</i>	Salmonidae
CCF	Channel Catfish	<i>Ictalurus punctatus</i>	Ictaluridae
CP	Carp	<i>Cyprinus carpio</i>	Cyprinidae
GAM	Mosquitofish	<i>Gambusia affinis</i>	Poeciliidae
GSF	Green Sunfish	<i>Lepomis cyanellus</i>	Centrarchidae
LMB	Largemouth Bass	<i>Micropterus salmoides</i>	Centrarchidae
PCP	Prickly Sculpin	<i>Cottus asper</i>	Cottidae
PRS	Red Shiner	<i>Cyprinella lutrensis</i>	Cyprinidae
RBT	Rainbow Trout	<i>Oncorhynchus mykiss</i>	Salmonidae
RCH	California Roach	<i>Hesperoleucus symmetricus</i>	Cyprinidae
SKR	Sucker	<i>Catostomus sp.</i>	Catostomidae
SPM	Sacramento Pike Minnow	<i>Ptychocheilus grandis</i>	Cyprinidae
STB	Threespine Stickleback	<i>Gasterosteus aculeatus</i>	Gasterosteidae
TL	Tilapia	<i>Tilapia sp.</i>	Cichlidae

**Marine Fish \***

Species Code	Common Name	Species Name	Family Name
CKF	California Killifish	<i>Fundulus parvipinnis</i>	Cyprinodontidae
ORC	Orangemouth Corvina	<i>Cynoscion xanthulus</i>	Sciaenidae
SSP	Shiner Perch	<i>Cymatogaster aggregata</i>	Embiotocidae
STF	Starry Flounder	<i>Platichthys stellatus</i>	Pleuronectidae
YFC	Yellowfin Croaker	<i>Umbrina roncador</i>	Sciaenidae

**Non-Fish**

Species Code	Common Name	Species Name	Family Name
TFC	Asiatic Clam (transplant)	<i>Corbicula manilensis</i>	Corbiculidae

\* Common and scientific fish names were obtained from Robins, C.R., R.M. Bailey, C.E. Bond, J.R. Brooker, E.A. Lachner, R.N. Lea, and W.B. Scott. 1991. Common and Scientific Names of Fishes from the United States and Canada. American Fisheries Society Special Publication 20, Bethesda, Maryland.



fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
05	05	surface water	Zinc	0.216	mg/L	0.01	11/9/98	11
10	05	surface water	Zinc	ND	mg/L	0.01	3/7/00	3
11	05	surface water	Zinc	ND	mg/L	0.01	6/1/00	6
09	05	surface water	Zinc	ND	mg/L	0.03	12/6/99	12
08	05	surface water	Zinc	ND	mg/L	0.02	9/28/99	9
06	05	surface water	Zinc	0.0423	mg/L	0.01	2/10/99	2
04	05	surface water	Zinc	0.0144	mg/L	0.01	8/4/98	8
01	05	surface water	Zinc	0.019	mg/L	0.0100	12/9/97	12
07	05	surface water	Zinc	ND	mg/L	0.02	5/11/99	5
02	05	surface water	Zinc	ND	mg/L	0.03	3/3/98	3
03	05	surface water	Zinc	ND	mg/L	0.01	5/26/98	5
04	05	surface water	Total Organic Carbon	3.83	mg/L	1	8/4/98	8
02	05	surface water	Total Organic Carbon	6.07	mg/L	1	3/3/98	3
03	05	surface water	Total Organic Carbon	6.01	mg/L	1	5/26/98	5
06	05	surface water	Total Organic Carbon	8.95	mg/L	1	2/10/99	2
07	05	surface water	Total Organic Carbon	2.26	mg/L	1	5/11/99	5
05	05	surface water	Total Organic Carbon	20.4	mg/L	1	11/9/98	11
01	05	surface water	Total Organic Carbon	8.68	mg/L	1.00	12/9/97	12
09	05	surface water	Total Organic Carbon	4.4	mg/L	0.5	12/6/99	12
08	05	surface water	Total Organic Carbon	7.4	mg/L	0.5	9/28/99	9
10	05	surface water	Total Organic Carbon	10	mg/L	0.1	3/7/00	3
11	05	surface water	Total Organic Carbon	5.0	mg/L	0.5	6/1/00	6
02	05	surface water	Total Dissolved Solids	658	mg/L	10	3/3/98	3
11	05	surface water	Total Dissolved Solids	600	mg/L	5	6/1/00	6
04	05	surface water	Total Dissolved Solids	506	mg/L	10	8/4/98	8
05	05	surface water	Total Dissolved Solids	498	mg/L	10	11/9/98	11
03	05	surface water	Total Dissolved Solids	879	mg/L	10	5/26/98	5
06	05	surface water	Total Dissolved Solids	425	mg/L	10	2/10/99	2
07	05	surface water	Total Dissolved Solids	602	mg/L	10	5/11/99	5
09	05	surface water	Total Dissolved Solids	552	mg/L	10	12/6/99	12
08	05	surface water	Total Dissolved Solids	504	mg/L	10	9/28/99	9
10	05	surface water	Total Dissolved Solids	444	mg/L	5	3/7/00	3
01	05	surface water	Total Dissolved Solids	387	mg/L	10.0	12/9/97	12
05	05	surface water	Total Coliform	>1600	mpn/100ml	2	11/9/98	11
03	05	surface water	Total Coliform	<2	mpn/100ml	2	5/26/98	5
11	05	surface water	Total Coliform	ND	MPN/100 m	2	6/1/00	6
02	05	surface water	Total Coliform	>1600	mpn/100ml	2	3/3/98	3
06	05	surface water	Total Coliform	>1600	mpn/100ml	2	2/10/99	2

fldRound	fldWell	fldMatrix	fldNewName	fldWell5	fldUnits	fldDL	fldSampleDate	fldSampleMont
08	05	surface water	Total Coliform	>1600	mpn/100ml	2	9/28/99	9
01	05	surface water	Total Coliform	>1600	mpn/100ml	2	12/9/97	12
09	05	surface water	Total Coliform	>1600	mpn/100ml	2	12/6/99	12
07	05	surface water	Total Coliform	>23	mpn/100ml	2	5/11/99	5
10	05	surface water	Total Coliform	>1,600	MPN/100 m	3.0	3/7/00	3
04	05	surface water	Total Coliform	<2	mpn/100ml	2	8/4/98	8
07	05	surface water	Surfactants (MBAS)	ND	mg/L	0.1	5/11/99	5
06	05	surface water	Surfactants (MBAS)	0.224	mg/L	0.1	2/10/99	2
03	05	surface water	Surfactants (MBAS)	ND	mg/L	0.1	5/26/98	5
02	05	surface water	Surfactants (MBAS)	ND	mg/L	0.1	3/3/98	3
01	05	surface water	Surfactants (MBAS)	ND	mg/L	0.100	12/9/97	12
05	05	surface water	Surfactants (MBAS)	0.516	mg/L	0.1	11/9/98	11
04	05	surface water	Surfactants (MBAS)	ND	mg/L	0.1	8/4/98	8
11	05	surface water	Surfactants (MBAS)	ND	mg/L	0.03	6/1/00	6
08	05	surface water	Surfactants (MBAS)	ND	mg/L	0.05	9/28/99	9
10	05	surface water	Surfactants (MBAS)	ND	mg/L	0.03	3/7/00	3
09	05	surface water	Surfactants (MBAS)	ND	mg/L	0.05	12/6/99	12
08	05	surface water	Sulfate	130	mg/L	10	9/28/99	9
05	05	surface water	Sulfate	115	mg/L	5	11/9/98	11
11	05	surface water	Sulfate	118	mg/L	5	6/1/00	6
03	05	surface water	Sulfate	260	mg/L	10	5/26/98	5
09	05	surface water	Sulfate	75	mg/L	10	12/6/99	12
06	05	surface water	Sulfate	93	mg/L	5	2/10/99	2
10	05	surface water	Sulfate	66	mg/L	5	3/7/00	3
01	05	surface water	Sulfate	75.4	mg/L	10.0	12/9/97	12
07	05	surface water	Sulfate	134	mg/L	25	5/11/99	5
02	05	surface water	Sulfate	164	mg/L	4	3/3/98	3
04	05	surface water	Sulfate	194	mg/L	50	8/4/98	8
05	05	surface water	Sodium	91.9	mg/L	0.3	11/9/98	11
01	05	surface water	Sodium	73.9	mg/L	0.300	12/9/97	12
10	05	surface water	Sodium	74.5	mg/L	0.25	3/7/00	3
06	05	surface water	Sodium	88.3	mg/L	0.3	2/10/99	2
03	05	surface water	Sodium	141	mg/L	0.3	5/26/98	5
04	05	surface water	Sodium	84.6	mg/L	0.3	8/4/98	8
08	05	surface water	Sodium	75.3	mg/L	0.3	9/28/99	9
11	05	surface water	Sodium	89.1	mg/L	0.25	6/1/00	6
07	05	surface water	Sodium	134	mg/L	0.3	5/11/99	5
02	05	surface water	Sodium	100	mg/L	4	3/3/98	3

fldRound	fldWell	fldMatrix	fldNewName	fldWell5	fldUnits	fldDL	fldSampleDate	fldSampleMont
09	05	surface water	Sodium	101	mg/L	0.5	12/6/99	12
10	05	surface water	Potassium	4.3	mg/L	0.5	3/7/00	3
02	05	surface water	Potassium	5	mg/L	2	3/3/98	3
03	05	surface water	Potassium	7.91	mg/L	0.3	5/26/98	5
06	05	surface water	Potassium	6.76	mg/L	1	2/10/99	2
04	05	surface water	Potassium	3.6	mg/L	0.3	8/4/98	8
07	05	surface water	Potassium	4.67	mg/L	1	5/11/99	5
11	05	surface water	Potassium	3.4	mg/L	0.5	6/1/00	6
05	05	surface water	Potassium	11.8	mg/L	0.3	11/9/98	11
08	05	surface water	Potassium	3.4	mg/L	1.0	9/28/99	9
09	05	surface water	Potassium	2.3	mg/L	1.0	12/6/99	12
01	05	surface water	Potassium	4.67	mg/L	0.300	12/9/97	12
04	05	surface water	Phosphorus	0.04	mg/L	0.01	8/4/98	8
03	05	surface water	Phosphorus	0.092	mg/L	0.01	5/26/98	5
01	05	surface water	Phosphorus	0.266	mg/L	0.01	12/9/97	12
06	05	surface water	Phosphorus	0.255	mg/L	0.01	2/10/99	2
07	05	surface water	Phosphorus	0.161	mg/L	0.01	5/11/99	5
05	05	surface water	Phosphorus	0.45	mg/L	0.01	11/9/98	11
02	05	surface water	Phosphorus	0.53	mg/L	0.01	3/3/98	3
02	05	surface water	Phosphate	NS	mg/L	0.3	3/3/98	3
06	05	surface water	Phosphate	NS	mg/L	0.3	2/10/99	2
11	05	surface water	Phosphate	0.3	mg/L	0.30	6/1/00	6
01	05	surface water	Phosphate	NS	mg/L	0.3	12/9/97	12
07	05	surface water	Phosphate	NS	mg/L	0.3	5/11/99	5
03	05	surface water	Phosphate	NS	mg/L	0.3	5/26/98	5
04	05	surface water	Phosphate	NS	mg/L	0.3	8/4/98	8
09	05	surface water	Phosphate	ND	mg/L	0.3	12/6/99	12
05	05	surface water	Phosphate	NS	mg/L	0.3	11/9/98	11
08	05	surface water	Phosphate	0.3	mg/L	0.3	9/28/99	9
10	05	surface water	Phosphate	1.4	mg/L	0.30	3/7/00	3
01	05	surface water	pH	7.63	pH units	2.0-12.5	12/9/97	12
09	05	surface water	pH	7.34	pH units	1.00	12/6/99	12
04	05	surface water	pH	7.75	pH units	2.5-12.0	8/4/98	8
02	05	surface water	pH	8.29	pH units	2.0-12.5	3/3/98	3
03	05	surface water	pH	7.64	pH units	2.5-12.0	5/26/98	5
11	05	surface water	pH	7.55	mg/L	0.01	6/1/00	6
06	05	surface water	pH	7.58	pH units		2/10/99	2
10	05	surface water	pH	7.84	mg/L	0.01	3/7/00	3

fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
09	05	surface water	pH	7.34	pH units	1.00	12/6/99	12
08	05	surface water	pH	7.85	pH units	1.00	9/28/99	9
08	05	surface water	pH	7.85	pH units	1.00	9/28/99	9
10	05	surface water	pH	7.84	mg/L	0.01	3/7/00	3
11	05	surface water	pH	7.55	mg/L	0.01	6/1/00	6
07	05	surface water	pH	7.65	pH units	2.5-12.0	5/11/99	5
06	05	surface water	Oil and Grease	1.2	mg/L	1	2/10/99	2
08	05	surface water	Oil and Grease	ND	mg/L	1.0	9/28/99	9
10	05	surface water	Oil and Grease	ND	mg/L	0.5	3/7/00	3
11	05	surface water	Oil and Grease	ND	mg/L	0.5	6/1/00	6
04	05	surface water	Oil and Grease	ND	mg/L	1	8/4/98	8
11	05	surface water	Oil and Grease	ND	mg/L	0.5	6/1/00	6
05	05	surface water	Oil and Grease	ND	mg/L	1	11/9/98	11
07	05	surface water	Oil and Grease	ND	mg/L	0.99	5/11/99	5
08	05	surface water	Oil and Grease	ND	mg/L	1.0	9/28/99	9
09	05	surface water	Oil and Grease	ND	mg/L	1.0	12/6/99	12
02	05	surface water	Oil and Grease	ND	mg/L	1.05	3/3/98	3
09	05	surface water	Oil and Grease	ND	mg/L	1.0	12/6/99	12
10	05	surface water	Oil and Grease	ND	mg/L	0.5	3/7/00	3
01	05	surface water	Oil and Grease	ND	mg/L	1.19	12/9/97	12
03	05	surface water	Oil and Grease	ND	mg/L	0.952	5/26/98	5
06	05	surface water	Nitrogen	NS	mg/L	0.1	2/10/99	2
10	05	surface water	Nitrogen	0.1	mg/L	0.05	3/7/00	3
07	05	surface water	Nitrogen	0.546	mg/L	0.4	5/11/99	5
06	05	surface water	Nitrogen	NS	mg/L	0.1	2/10/99	2
04	05	surface water	Nitrogen	NS	mg/L	0.1	8/4/98	8
02	05	surface water	Nitrogen	NS	mg/L	0.1	3/3/98	3
03	05	surface water	Nitrogen	0.8	mg/Kg	0.5	5/26/98	5
04	05	surface water	Nitrogen	NS	mg/L	0.1	8/4/98	8
04	05	surface water	Nitrogen	NS	mg/L	0.1	8/4/98	8
08	05	surface water	Nitrogen	0.4	mg/L	0.1	9/28/99	9
05	05	surface water	Nitrogen	1.8	mg/L	0.1	11/9/98	11
02	05	surface water	Nitrogen	NS	mg/L	0.1	3/3/98	3
06	05	surface water	Nitrogen	NS	mg/L	0.1	2/10/99	2
02	05	surface water	Nitrogen	NS	mg/L	0.1	3/3/98	3
01	05	surface water	Nitrogen	0.483	mg/L	0.100	12/9/97	12
09	05	surface water	Nitrogen	NS	mg/L	0.1	12/6/99	12
09	05	surface water	Nitrogen	NS	mg/L	0.1	12/6/99	12

fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
08	05	surface water	Nitrite	ND	mg/L	0.02	9/28/99	9
09	05	surface water	Nitrite	ND	mg/L	0.02	12/6/99	12
06	05	surface water	Nitrate-N	0.153	mg/L	0.05	2/10/99	2
10	05	surface water	Nitrate-N	2.2	mg/L	0.05	3/7/00	3
07	05	surface water	Nitrate-N	0.153	mg/L	0.05	5/11/99	5
01	05	surface water	Nitrate-N	0.872	mg/L	0.100	12/9/97	12
09	05	surface water	Nitrate-N	ND	mg/L	0.1	12/6/99	12
08	05	surface water	Nitrate-N	2.1	mg/L	0.1	9/28/99	9
03	05	surface water	Nitrate-N	0.724	mg/L	0.1	5/26/98	5
11	05	surface water	Nitrate-N	1.2	mg/L	0.05	6/1/00	6
02	05	surface water	Nitrate-N	1.42	mg/L	0.1	3/3/98	3
04	05	surface water	Nitrate-N	0.29	mg/L	0.05	8/4/98	8
05	05	surface water	Nitrate-N	1.21	mg/L	0.05	11/9/98	11
09	05	surface water	Mercury	NS	mg/L	0.0002	12/6/99	12
01	05	surface water	Mercury	ND	mg/L	0.000200	12/9/97	12
10	05	surface water	Mercury	ND	mg/L	0.0002	3/7/00	3
11	05	surface water	Mercury	NS	mg/L	0.0002	6/1/00	6
07	05	surface water	Mercury	ND	mg/L	0.0002	5/11/99	5
08	05	surface water	Mercury	ND	mg/L	0.0002	9/28/99	9
02	05	surface water	Mercury	NS	mg/L	0.0002	3/3/98	3
06	05	surface water	Mercury	NS	mg/L	0.0002	2/10/99	2
05	05	surface water	Mercury	ND	mg/L	0.0002	11/9/98	11
04	05	surface water	Mercury	NS	mg/L	0.0002	8/4/98	8
03	05	surface water	Mercury	ND	mg/L	0.0002	5/26/98	5
08	05	surface water	Manganese	ND	mg/L	0.01	9/28/99	9
09	05	surface water	Manganese	0.05	mg/L	0.01	12/6/99	12
03	05	surface water	Manganese	0.058	mg/L	0.01	5/26/98	5
01	05	surface water	Manganese	0.126	mg/L	0.0100	12/9/97	12
07	05	surface water	Manganese	0.308	mg/L	0.01	5/11/99	5
11	05	surface water	Manganese	0.02	mg/L	0.005	6/1/00	6
05	05	surface water	Manganese	0.0882	mg/L	0.01	11/9/98	11
04	05	surface water	Manganese	0.0633	mg/L	0.01	8/4/98	8
02	05	surface water	Manganese	0.07	mg/L	0.01	3/3/98	3
10	05	surface water	Manganese	0.006J	mg/L	0.005	3/7/00	3
06	05	surface water	Manganese	0.0891	mg/L	0.01	2/10/99	2
07	05	surface water	Magnesium	16.8	mg/L	0.2	5/11/99	5
09	05	surface water	Magnesium	20.2	mg/L	0.5	12/6/99	12
08	05	surface water	Magnesium	19.7	mg/L	0.2	9/28/99	9

fldRound	fldWell	fldMatrix	fldNewName	fldWell5	fldUnits	fldDL	fldSampleDate	fldSampleMont
01	05	surface water	Magnesium	13.8	mg/L	0.200	12/9/97	12
04	05	surface water	Magnesium	22.6	mg/L	0.2	8/4/98	8
06	05	surface water	Magnesium	13.2	mg/L	0.2	2/10/99	2
03	05	surface water	Magnesium	38.2	mg/L	0.2	5/26/98	5
02	05	surface water	Magnesium	28	mg/L	0.1	3/3/98	3
10	05	surface water	Magnesium	12.9	mg/L	0.20	3/7/00	3
05	05	surface water	Magnesium	12.4	mg/L	0.2	11/9/98	11
11	05	surface water	Magnesium	16.7	mg/L	0.2	6/1/00	6
06	05	surface water	Lead	0.00188	mg/L	0.001	2/10/99	2
11	05	surface water	Lead	ND	mg/L	0.005	6/1/00	6
01	05	surface water	Lead	ND	mg/L	0.0200	12/9/97	12
10	05	surface water	Lead	ND	mg/L	0.005	3/7/00	3
02	05	surface water	Lead	ND	mg/L	0.015	3/3/98	3
04	05	surface water	Lead	ND	mg/L	0.001	8/4/98	8
05	05	surface water	Lead	ND	mg/L	0.001	11/9/98	11
07	05	surface water	Lead	0.0012	mg/L	0.001	5/11/99	5
09	05	surface water	Lead	ND	mg/L	0.05	12/6/99	12
08	05	surface water	Lead	ND	mg/L	0.005	9/28/99	9
03	05	surface water	Lead	ND	mg/L	0.001	5/26/98	5
03	05	surface water	Iron	0.184	mg/L	0.05	5/26/98	5
07	05	surface water	Iron	2.12	mg/L	0.05	5/11/99	5
06	05	surface water	Iron	6.47	mg/L	0.05	2/10/99	2
11	05	surface water	Iron	0.07	mg/L	0.03	6/1/00	6
10	05	surface water	Iron	0.038J	mg/L	0.03	3/7/00	3
05	05	surface water	Iron	0.98	mg/L	0.05	11/9/98	11
04	05	surface water	Iron	0.244	mg/L	0.05	8/4/98	8
01	05	surface water	Iron	2.21	mg/L	0.0500	12/9/97	12
08	05	surface water	Iron	ND	mg/L	0.05	9/28/99	9
02	05	surface water	Iron	1.4	mg/L	0.1	3/3/98	3
09	05	surface water	Iron	0.18	mg/L	0.05	12/6/99	12
03	05	surface water	Hydroxide	ND	mg/L	0.5	5/26/98	5
02	05	surface water	Hydroxide	ND	mg/L	0.5	3/3/98	3
06	05	surface water	Hydroxide	NS	mg/L	0.5	2/10/99	2
07	05	surface water	Hydroxide	ND	mg/L	0.5	5/11/99	5
11	05	surface water	Hydroxide	ND	mg/L	0.5	6/1/00	6
09	05	surface water	Hydroxide	ND	mg/L	2	12/6/99	12
10	05	surface water	Hydroxide	ND	mg/L	0.5	3/7/00	3
05	05	surface water	Hydroxide	ND	mg/L	0.5	11/9/98	11

fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
04	05	surface water	Hydroxide	ND	mg/L	0.5	8/4/98	8
01	05	surface water	Hydroxide	ND	mg/L	1.00	12/9/97	12
08	05	surface water	Hydroxide	ND	mg/L	0.5	9/28/99	9
11	05	surface water	Hardness (CaCO3)	208	mg/L	1	6/1/00	6
05	05	surface water	Hardness (CaCO3)	153	mg/L	1	11/9/98	11
04	05	surface water	Hardness (CaCO3)	277	mg/L	2	8/4/98	8
07	05	surface water	Hardness (CaCO3)	201	mg/L	2	5/11/99	5
06	05	surface water	Hardness (CaCO3)	148	mg/L	1	2/10/99	2
01	05	surface water	Hardness (CaCO3)	174	mg/L	1.00	12/9/97	12
03	05	surface water	Hardness (CaCO3)	339	mg/L	5	5/26/98	5
10	05	surface water	Hardness (CaCO3)	164	mg/L	1	3/7/00	3
08	05	surface water	Hardness (CaCO3)	236	mg/L	2	9/28/99	9
02	05	surface water	Hardness (CaCO3)	342	mg/L	10	3/3/98	3
09	05	surface water	Hardness (CaCO3)	240	mg/L	2	12/6/99	12
10	05	surface water	Fluoride	0.5	mg/L	0.1	3/7/00	3
08	05	surface water	Fluoride	0.5	mg/L	0.1	9/28/99	9
11	05	surface water	Fluoride	0.5	mg/L	0.1	6/1/00	6
01	05	surface water	Fluoride	0.236	mg/L	0.200	12/9/97	12
04	05	surface water	Fluoride	0.313	mg/L	0.1	8/4/98	8
02	05	surface water	Fluoride	0.343	mg/L	0.2	3/3/98	3
09	05	surface water	Fluoride	0.5	mg/L	0.2	12/6/99	12
03	05	surface water	Fluoride	0.502	mg/L	0.2	5/26/98	5
07	05	surface water	Fluoride	0.526	mg/L	0.1	5/11/99	5
05	05	surface water	Fluoride	0.356	mg/L	0.1	11/9/98	11
06	05	surface water	Fluoride	0.279	mg/L	0.1	2/10/99	2
08	05	surface water	Fecal Coliform	14	mpn/100ml	2	9/28/99	9
01	05	surface water	Fecal Coliform	>1600	mpn/100ml	2	12/9/97	12
09	05	surface water	Fecal Coliform	9	mpn/100ml	2	12/6/99	12
04	05	surface water	Fecal Coliform	<2	mpn/100ml	2	8/4/98	8
03	05	surface water	Fecal Coliform	<2	mpn/100ml	2	5/26/98	5
06	05	surface water	Fecal Coliform	>1600	mpn/100ml	2	2/10/99	2
07	05	surface water	Fecal Coliform	>23	mpn/100ml	2	5/11/99	5
02	05	surface water	Fecal Coliform	110	mpn/100ml	2	3/3/98	3
10	05	surface water	Fecal Coliform	1,600	MPN/100 m	2	3/7/00	3
11	05	surface water	Fecal Coliform	ND	MPN/mL	2	6/1/00	6
05	05	surface water	Fecal Coliform	>1600	mpn/100ml	2	11/9/98	11
09	05	surface water	Cyanide (Total)	NS	mg/L	0.005	12/6/99	12
06	05	surface water	Cyanide (Total)	NS	mg/L	0.005	2/10/99	2

fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
09	05	surface water	Cyanide (Total)	NS	mg/L	0.005	12/6/99	12
02	05	surface water	Cyanide (Total)	NS	mg/L	0.005	3/3/98	3
06	05	surface water	Cyanide (Total)	NS	mg/L	0.005	2/10/99	2
04	05	surface water	Cyanide (Total)	NS	mg/L	0.005	8/4/98	8
01	05	surface water	Cyanide (Total)	ND	mg/L	0.00500	12/9/97	12
04	05	surface water	Cyanide (Total)	NS	mg/L	0.005	8/4/98	8
10	05	surface water	Cyanide (Total)	ND	mg/L	0.01	3/7/00	3
05	05	surface water	Cyanide (Total)	ND	mg/L	0.005	11/9/98	11
07	05	surface water	Cyanide (Total)	ND	mg/L	0.005	5/11/99	5
08	05	surface water	Cyanide (Total)	ND	mg/L	0.01	9/28/99	9
02	05	surface water	Cyanide (Total)	NS	mg/L	0.005	3/3/98	3
03	05	surface water	Cyanide (Total)	ND	mg/L	0.005	5/26/98	5
11	05	surface water	Cyanide (Total)	NS	mg/L	0.01	6/1/00	6
11	05	surface water	Copper	ND	mg/L	0.005	6/1/00	6
08	05	surface water	Copper	ND	mg/L	0.005	9/28/99	9
09	05	surface water	Copper	ND	mg/L	0.02	12/6/99	12
01	05	surface water	Copper	ND	mg/L	0.00500	12/9/97	12
06	05	surface water	Copper	0.00706	mg/L	0.005	2/10/99	2
04	05	surface water	Copper	ND	mg/L	0.005	8/4/98	8
05	05	surface water	Copper	0.0075	mg/L	0.005	11/9/98	11
02	05	surface water	Copper	ND	mg/L	0.02	3/3/98	3
10	05	surface water	Copper	ND	mg/L	0.005	3/7/00	3
07	05	surface water	Copper	ND	mg/L	0.005	5/11/99	5
03	05	surface water	Copper	ND	mg/L	0.005	5/26/98	5
09	05	surface water	Conductivity	917	umhos/cm	10	12/6/99	12
06	05	surface water	Conductivity	697	umhos/cm	1	2/10/99	2
05	05	surface water	Conductivity	755	umhos/cm	1	11/9/98	11
07	05	surface water	Conductivity	1020	umhos/cm	1	5/11/99	5
11	05	surface water	Conductivity	843	mg/L	5	6/1/00	6
10	05	surface water	Conductivity	697	mg/L	5	3/7/00	3
08	05	surface water	Conductivity	794	umhos/cm	10	9/28/99	9
03	05	surface water	Conductivity	1260	umhos/cm	1	5/26/98	5
01	05	surface water	Conductivity	755	umhos/cm	1.00	12/9/97	12
02	05	surface water	Conductivity	1000	umhos/cm	1	3/3/98	3
04	05	surface water	Conductivity	812	umhos/cm	1	8/4/98	8
11	05	surface water	Chloride	93	mg/L	0.5	6/1/00	6
01	05	surface water	Chloride	134	mg/L	10.0	12/9/97	12
03	05	surface water	Chloride	212	mg/L	50	5/26/98	5



fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
09	05	surface water	Chloride	104	mg/L	1	12/6/99	12
08	05	surface water	Chloride	73	mg/L	1	9/28/99	9
05	05	surface water	Chloride	104	mg/L	1	11/9/98	11
02	05	surface water	Chloride	133	mg/L	20	3/3/98	3
11	05	surface water	Chloride	93	mg/L	0.5	6/1/00	6
10	05	surface water	Chloride	100	mg/L	0.5	3/7/00	3
08	05	surface water	Chloride	73	mg/L	1	9/28/99	9
10	05	surface water	Chloride	100	mg/L	0.5	3/7/00	3
06	05	surface water	Chloride	90.8	mg/L	1	2/10/99	2
04	05	surface water	Chloride	78.2	mg/L	1	8/4/98	8
07	05	surface water	Chloride	124	mg/L	1	5/11/99	5
09	05	surface water	Chloride	104	mg/L	1	12/6/99	12
11	05	surface water	Carbonate	8	mg/L	0.5	6/1/00	6
02	05	surface water	Carbonate	2.32	mg/L	0.5	3/3/98	3
04	05	surface water	Carbonate	0.736	mg/L	0.5	8/4/98	8
03	05	surface water	Carbonate	0.9	mg/L	0.5	5/26/98	5
10	05	surface water	Carbonate	ND	mg/L	0.5	3/7/00	3
05	05	surface water	Carbonate	ND	mg/L	0.5	11/9/98	11
07	05	surface water	Carbonate	1.09	mg/L	0.5	5/11/99	5
06	05	surface water	Carbonate	0.687	mg/L	0.5	2/10/99	2
08	05	surface water	Carbonate	ND	mg/L	0.5	9/28/99	9
09	05	surface water	Carbonate	ND	mg/L	2	12/6/99	12
01	05	surface water	Carbonate	ND	mg/L	1.00	12/9/97	12
08	05	surface water	Calcium	65.2	mg/L	0.1	9/28/99	9
11	05	surface water	Calcium	56.8	mg/L	0.1	6/1/00	6
02	05	surface water	Calcium	76	mg/L	0.2	3/3/98	3
09	05	surface water	Calcium	60.7	mg/L	0.5	12/6/99	12
07	05	surface water	Calcium	53.5	mg/L	0.1	5/11/99	5
04	05	surface water	Calcium	58.7	mg/L	0.1	8/4/98	8
03	05	surface water	Calcium	100	mg/L	0.1	5/26/98	5
06	05	surface water	Calcium	36.2	mg/L	0.1	2/10/99	2
10	05	surface water	Calcium	43.8	mg/L	0.10	3/7/00	3
05	05	surface water	Calcium	37.5	mg/L	0.1	11/9/98	11
01	05	surface water	Calcium	50.7	mg/L	0.100	12/9/97	12
04	05	surface water	Boron	0.175	mg/L	0.1	8/4/98	8
02	05	surface water	Boron	ND	mg/L	0.5	3/3/98	3
11	05	surface water	Boron	0.2	mg/L	0.1	6/1/00	6
10	05	surface water	Boron	0.3	mg/L	0.1	3/7/00	3

fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
03	05	surface water	Boron	ND	mg/L	0.5	5/26/98	5
01	05	surface water	Boron	ND	mg/L	0.5	12/9/97	12
09	05	surface water	Boron	ND	mg/L	0.2	12/6/99	12
08	05	surface water	Boron	0.1	mg/L	0.1	9/28/99	9
07	05	surface water	Boron	0.44	mg/L	0.1	5/11/99	5
06	05	surface water	Boron	0.378	mg/L	0.1	2/10/99	2
05	05	surface water	Boron	0.389	mg/L	0.1	11/9/98	11
01	05	surface water	Biochemical Oxygen Dem	2.67	mg/L	2.00	12/9/97	12
10	05	surface water	Biochemical Oxygen Dem	ND	mg/L	2	3/7/00	3
11	05	surface water	Biochemical Oxygen Dem	NS	mg/L	2	6/1/00	6
05	05	surface water	Biochemical Oxygen Dem	10	mg/L	2	11/9/98	11
04	05	surface water	Biochemical Oxygen Dem	NS	mg/L	2	8/4/98	8
02	05	surface water	Biochemical Oxygen Dem	NS	mg/L	2	3/3/98	3
08	05	surface water	Biochemical Oxygen Dem	ND	mg/L	2	9/28/99	9
03	05	surface water	Biochemical Oxygen Dem	ND	mg/L	2	5/26/98	5
06	05	surface water	Biochemical Oxygen Dem	NS	mg/L	2	2/10/99	2
09	05	surface water	Biochemical Oxygen Dem	NS	mg/L	2	12/6/99	12
07	05	surface water	Biochemical Oxygen Dem	2.11	mg/L	2	5/11/99	5
03	05	surface water	Bicarbonate	200	mg/L	1	5/26/98	5
06	05	surface water	Bicarbonate	121	mg/L	1	2/10/99	2
04	05	surface water	Bicarbonate	139	mg/L	1	8/4/98	8
10	05	surface water	Bicarbonate	124	mg/L	1	3/7/00	3
01	05	surface water	Bicarbonate	126	mg/L	1.00	12/9/97	12
07	05	surface water	Bicarbonate	184	mg/L	1	5/11/99	5
02	05	surface water	Bicarbonate	167	mg/L	1	3/3/98	3
09	05	surface water	Bicarbonate	238	mg/L	2	12/6/99	12
11	05	surface water	Bicarbonate	156	mg/L	1	6/1/00	6
08	05	surface water	Bicarbonate	142	mg/L	1	9/28/99	9
05	05	surface water	Bicarbonate	114	mg/L	1	11/9/98	11
06	05	surface water	Arsenic	0.0387	mg/L	0.025	2/10/99	2
04	05	surface water	Arsenic	ND	mg/L	0.025	8/4/98	8
11	05	surface water	Arsenic	ND	mg/L	0.025	6/1/00	6
01	05	surface water	Arsenic	ND	mg/L	0.0250	12/9/97	12
03	05	surface water	Arsenic	ND	mg/L	0.025	5/26/98	5
09	05	surface water	Arsenic	ND	mg/L	0.005	12/6/99	12
08	05	surface water	Arsenic	ND	mg/L	0.025	9/28/99	9
07	05	surface water	Arsenic	ND	mg/L	0.025	5/11/99	5
10	05	surface water	Arsenic	ND	mg/L	0.025	3/7/00	3

fIdRound	fIdWell	fIdMatrix	fIdNewName	fIdWell5	fIdUnits	fIdDL	fIdSampleDate	fIdSampleMont
02	05	surface water	Arsenic	ND	mg/L	0.01	3/3/98	3
05	05	surface water	Arsenic	ND	mg/L	0.025	11/9/98	11
09	05	surface water	Aluminum	0.2	mg/L	0.1	12/6/99	12
01	05	surface water	Alkalinity (CaCO3)	127	mg/L	1.00	12/9/97	12
04	05	surface water	Alkalinity (CaCO3)	140	mg/L	1	8/4/98	8
02	05	surface water	Alkalinity (CaCO3)	169	mg/L	1	3/3/98	3
03	05	surface water	Alkalinity (CaCO3)	201	mg/L	1	5/26/98	5
11	05	surface water	Alkalinity (CaCO3)	164	mg/L	1	6/1/00	6
06	05	surface water	Alkalinity (CaCO3)	122	mg/L	1	2/10/99	2
05	05	surface water	Alkalinity (CaCO3)	114	mg/L	1	11/9/98	11
07	05	surface water	Alkalinity (CaCO3)	185	mg/L	1	5/11/99	5
09	05	surface water	Alkalinity (CaCO3)	238	mg/L	2	12/6/99	12
08	05	surface water	Alkalinity (CaCO3)	142	mg/L	1	9/28/99	9
10	05	surface water	Alkalinity (CaCO3)	124	mg/L	1	3/7/00	3

*Murrieta**2002  
Data*

**From:** Brian Kelley  
**To:** Keri Cole  
**Date:** 5/4/01 10:39AM  
**Subject:** Re: EMWD

Keri,

You can check with Adam Laputz for data regarding Eastern MWD/Rancho Calif. WD. We have a lot of data regarding plant effluent quality, but very little (if any) data on upstream and downstream water quality. Rancho's discharge has had some recent violations of permit effluent limits.

The same goes for other POTW discharges to inland surface waters, including Padre Dam and Escondido wet weather discharge. We don't have much water quality data on the water bodies that receive the discharges. You can check with Chiara for the Padre Dam discharge. For the Escondido wet weather discharge, Chiara may also have information and David Hanson may also have some info.

Sorry our unit can't be of more help to you as far as the quality of the surface waters for determining 303(d) listings.

Brian

>>> Keri Cole 05/04/01 10:20AM >>>

Hi Brian

Dave Gibson suggested asking you for information/data re: EMWD/Rancho Cal Water District, specifically with respect to TSS, turbidity, nutrient, bacteria monitoring data. John Robertus has asked me to take a hard look at the Santa Margarita River for potential 303d listing for sedimentation and Dave indicated potential for other problems.

I am currently trying to contact Camp Pendleton for their assistance but want to make sure I have looked at what we already have in-house.

Are there any other waterbodies for which you have data that I should be looking into in addition to these?

Any help/guidance you can provide will be helpful.

Thanks.

Keri

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**CC:** Adam Laputz; Chiara Clemente; David Hanson



**Rancho  
Water**

April 24, 2001

SAN DIEGO REGIONAL  
WATER QUALITY  
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2001 APR 25 A 11:06

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C. Michael Cowett  
Best Best & Krieger LLP  
General Counsel

Enclosed is the requested information for the Annual Monitoring Report dated January-December 2000.

1. Summary and Analysis of Year 2000 Data Receiving Water Stations 1-4.

If you have any recommendations or questions, please call me at (909) 296-6900, Extension 6951.

Sincerely,

**RANCHO CALIFORNIA WATER DISTRICT**

Kenneth C. Dealy  
Director of Operations and Maintenance

ADAM L.

File: 01-0601.01

Technical. Part of January - Dec. 2000 AT

AL

# SUMMARY AND ANALYSIS OF YEAR 2000 DATA RECEIVING WATER STATIONS 1 - 4

## STATION NO. 1

### Station Location

Receiving Water Station No. 1 is located on Murrieta Creek immediately upstream from the Rancho California Water District (RCWD) Santa Rosa Water Reclamation Facility (SRWRF).

### Summary and Analysis of 2000 Data

Monitoring and Reporting Program No. 96-54 requires RCWD to record visual observations at Station No. 1 and to collect samples when Murrieta Creek flow is observed. Monitoring is required on a quarterly basis during November through April, and on a monthly basis during March through December. In accordance with this schedule, visual observations were recorded on the following dates:

March 14, 2000  
May 9, 2000  
June 20, 2000  
July 19, 2000  
August 22, 2000  
September 19, 2000  
October 24, 2000  
December 11, 2000

As reported to the Regional Board, no flow in Murrieta Creek was observed at Station No. 1 on any of the above dates. As a result, no water quality samples were collected at Station No. 1 during 2000.

### Effect of RCWD Discharge

Receiving Water Station No. 1 is located upstream from the SRWRF recycled water stream discharge point, and is not affected by SRWRF operations.

### Recommended Management Actions

No management actions are recommended.

## STATION NO. 2

### Station Location

Receiving Water Station No. 2 (Willow Glen) is located on the Santa Margarita River near Willow Glen Road. The station is located approximately six miles downstream from the confluence of Murrieta and Temecula Creeks.

### Summary and Analysis of 2000 Data

Monitoring and Reporting Program No. 96-54 requires RCWD to record visual observations and collect samples at Station No. 2 on a quarterly basis during November through April, and on a monthly basis during March through December.

**Visual Observations.** Table 1 summarizes sample dates and visual observations during 2000 at Receiving Water Station No. 2. As shown in Table 1, no unusual visual or aesthetic conditions were observed at Station No. 2 during 2000. Water clarity was described as "clear" on all observation dates. No incidents of excessive biostimulation were recorded. Sandy and rock streambed conditions were observed year-round. Emergent vegetation was noted only in the March observation at the end of the storm flow season.

**Table 1**  
**Summary of 2000 Visual Observations<sup>1</sup>**  
**Station No. 2 - Santa Margarita River at Willow Glen**

2000 Sample Date	Observed Water Velocity (fps)	Observed Percent Algae Cover	Observed Percent Emergent Vegetation	Observed Water Clarity
Mar 14	0.25	0%	20%	"clear"
May 9	0.5	0%	0%	"clear"
Jun 20	0.25	0%	0%	"clear"
Jul 19	0.25	0%	0%	"clear"
Aug 22	0.25	0%	0%	"clear"
Sept 19	0.25	0%	0%	"clear"
Oct 17	0.25	0%	0%	"clear"
Dec 11	0.15	0%	0%	"visibility 100%"

<sup>1</sup> From 2000 monitoring reports submitted to Regional Board.

**Nutrients.** Table 2 summarizes nutrient concentrations at Station No. 2 during 2000. Several conclusions are evident from the 2000 data:

- ▶ During the period May through October (which represents the period when the SRWRF discharge may most influence downstream conditions), total phosphorus concentrations at Station No. 2 are in compliance with the Basin Plan objective of 0.1 mg/l. The only total phosphorus sample which exceeded 0.1 mg/l was the March sample, which was 0.11 mg/l.
- ▶ Phosphorus appears to be the limiting nutrient at Station No. 2 on a year-round basis. Nitrogen to phosphorus (N:P) ratios exceeded 15:1 for all 2000 samples, and N:P ratios frequently exceed 30:1. Because phosphorus is the limiting nutrient, increased concentrations of nitrogen would appear to represent less a threat to biostimulation than increased concentrations of phosphorus.
- ▶ Nitrogen concentrations in the Santa Margarita River are almost exclusively comprised of organic nitrogen and nitrate.
- ▶ Concentrations of nitrogen and phosphorus are typically lower during summer months (May through October) than during months of probable storm flow (November through April). Since storm flows can be a number of orders of magnitude greater than the SRWRF discharge flow, river conditions during November through April are primarily dependent on hydrologic conditions. The SRWRF discharge would likely have the greatest potential for affecting concentrations during months of little or no storm flow (May through October). Based on the Table 2 data, however, the 2 mgd SRWRF discharge does not appear to have any discernible negative impacts on nutrient concentrations at Station No. 2.

**Table 2**  
**Summary of 2000 Nutrient Concentrations<sup>1</sup>**  
**Station No. 2 - Santa Margarita River at Willow Glen**

2000 Sample Date	Concentration in mg/l				N:P Ratio
	Total phosphorus	Total nitrogen	Organic Nitrogen (as N)	Nitrate Nitrogen (as N)	
Mar 14	0.11	4.4	0.5	3.9	40
May 10	< 0.05	1.4	0.6	0.8	> 28
Jun 20	< 0.05	1.7	0.7	1.0	> 34
Jul 19	0.06	1.0	0.5	0.5	17
Aug 22	< 0.05	0.9	0.6	0.3	> 18
Sept 19	< 0.05	1.1	0.5	0.5	> 22
Oct 17	< 0.05	1.7	0.4	1.3	> 34
Dec 11	0.06	2.8	1.1	1.7	47

<sup>1</sup> From 2000 monitoring reports submitted to Regional Board.



**Dissolved Oxygen.** Monitoring and Reporting Program No. 96-54 requires the collection of 24-hour profiles of receiving water dissolved oxygen. Table 3 summarizes minimum observed dissolved oxygen (DO) concentrations observed at Station No. 2 during the year 2000 sampling periods. As shown in the table, minimum hourly average observed DO concentrations remained near saturation at all times. Minimum DO concentrations were typically observed in early morning.

Because of the low concentrations of BOD in the SRWRF effluent (typically less than 5 mg/l) and high observed receiving water DO concentrations, the RCWD discharge does not appear to discernibly affect receiving water DO at Station No. 2.

**Bacteriological Parameters.** Table 3 also summarizes year 2000 data at Station No. 2 for bacteriological parameters. Detectable concentrations of fecal streptococci, total coliform, and fecal coliform were reported at Station No. 2 throughout 2000. SRWRF is not the source of the bacteriological contamination, however. At all times during 2000, SRWRF 7-day median total and fecal coliform concentrations remained below 2 organisms per 100.

**Table 3**  
**Summary of 2000 TDS, DO, and Bacteriological Concentrations<sup>1</sup>**  
**Station No. 2 - Santa Margarita River at Willow Glen**

2000 Sample Date	TDS Concentration (mg/l)	Minimum Average Hourly DO Concentration (mg/l)	Time of Day for Minimum Hourly DO	Fecal Streptococci (organisms per 100 ml)	Total Coliform (organisms per 100 ml)	Fecal Coliform (organisms per 100 ml)
Mar 14	960	8.75	2 a.m.	130	300	13
May 10	780	7.16	6 a.m.	300	300	50
Jun 20	730	7.23	5 a.m.	300	800	8
Jul 19	660	8.28	1 a.m.	1700	3000	11
Aug 22	670	8.75	2 a.m.	1300	230	< 2
Sept 19	640	8.43	6 a.m.	230	240	4
Oct 17	740	10.1	7 a.m.	50	500	13
Dec 11	920	9.28	8 a.m.	80	170	2

<sup>1</sup> From 2000 monitoring reports submitted to Regional Board.

**TDS.** Table 3 also summarizes year 2000 TDS concentrations at Station No. 2. As shown in Table 3, TDS concentrations were lowest during the May through October period (when the SRWRF discharge would be expected to have the highest potential for affecting downstream waters). It is concluded that the SRWRF discharge does not discernibly and adversely affect receiving water TDS concentrations at Station No. 2.

**Effect of SRWRF Discharge**

As documented above, the SRWRF discharge does not appear to have any observable negative effect on the receiving waters at Station No. 2.

**Recommended Management Actions**

No additional management actions are recommended.

## STATION NO. 3

### Station Location

Station No. 3 is located on the Santa Margarita River near De Luz Road. The station is located approximately 10 miles downstream from the confluence of Murrieta and Temecula Creeks.

### Summary and Analysis of 2000 Data

Monitoring and Reporting Program No. 96-54 requires RCWD to record visual observations and collect samples at Station No. 3 on a quarterly basis during November through April, and on a monthly basis during March through December.

**Visual Observations.** Hydraulic conditions at Station No. 3 are, in part, influenced by a Camp Pendleton diversion dam that exists at the site. Table 4 summarizes observation dates and visual observations at Station No. 3 during 2000. Visual observations at Station No. 3 did not indicate any unusual visual or aesthetic conditions. Water clarity was described as "clear" during all 2000 observation dates. No incidents of excessive biostimulation were recorded. Algae was observed only during May at the end of the storm flow season; algae cover was estimated at 5% during this May observation.

**Table 4**  
**Summary of 2000 Visual Observations<sup>1</sup>**  
**Station No. 3 - Santa Margarita River at De Luz**

2000 Sample Date	Observed Water Velocity (fps)	Observed Percent Algae Cover	Observed Percent Emergent Vegetation	Observed Water Clarity
Mar 14	1.5	0%	0%	"clear"
May 9	1.0	5%	0%	"clear"
Jun 20	2.0	0%	0%	"clear"
Jul 19	2.0	0%	0%	"clear"
Aug 22	0	(no flow)	0%	(no flow)
Sept 19	0	(no flow)	0%	(no flow)
Oct 17	1.0	0%	0%	"clear"
Dec 11	1.0	0%	0%	"visibility 100%"

<sup>1</sup> From 2000 monitoring reports submitted to Regional Board.

**Nutrients.** Table 5 summarizes nutrient concentrations at Station No. 3 during 2000. As shown in Table 5, total phosphorus concentrations at Station No. 3 are in compliance with the Basin Plan objective of 0.1 mg/l during May through October. The only total phosphorus sample which exceeded 0.1 mg/l was the March sample, which was 0.13 mg/l. Other conclusions evident from the Station No. 3 nutrient data include:

- ▶ In general, phosphorus appears to be the limiting nutrient. N:P ratios exceeded 20:1 during the March and May samples, and phosphorus concentrations were below detection limits for the all samples in the latter half of 2000. A N:P ratio of 9:1, however, was observed during June 2000, suggesting (given the accuracy of the tests) that either nitrogen or phosphorus could be limiting during the June sample.
- ▶ Nitrogen concentrations in the river are almost exclusively comprised of organic nitrogen and nitrate.
- ▶ Concentrations of nitrogen and phosphorus are typically lower during summer months (May through October) than during months of probable storm flow (November through April).

Overall, based on the Table 5 data (and data presented for Station No. 2 in Table 2), the 2 mgd SRWRF discharge does not appear to have any discernible negative impacts on nutrient concentrations at Station No. 3.

**Table 5**  
**Summary of 2000 Nutrient Concentrations<sup>1</sup>**  
**Station No. 3 - Santa Margarita River at De Luz**

2000 Sample Date	Concentration in mg/l				N:P Ratio
	Total phosphorus	Total nitrogen	Organic nitrogen (as N)	Nitrate nitrogen (as N)	
Mar 14	0.13	3.6	0.6	3.0	28
May 10	0.05	1.5	0.4	1.1	30
Jun 20	0.08	< 0.7	0.5	< 0.2	< 9
Jul 19	< 0.05	0.4	0.4	< 0.2	> 8
Aug 22	(no flow)	(no flow)	(no flow)	(no flow)	(no flow)
Sept 19	(no flow)	(no flow)	(no flow)	(no flow)	(no flow)
Oct 17	< 0.05	0.3	0.2	< 0.2	> 6
Dec 11	< 0.05	0.7	0.3	0.4	> 14

<sup>1</sup> From 2000 monitoring reports submitted to Regional Board.

**Dissolved Oxygen.** Monitoring and Reporting Program No. 96-54 requires the collection of 24-hour profiles of receiving water dissolved oxygen. Table 6 summarizes minimum observed dissolved oxygen (DO) concentrations observed at Station No. 3 during the year 2000 sampling periods. As shown in the table, except during the early morning hours of the June sample, minimum observed DO concentrations remained near saturation at all times. During the June 20 sampling period, DO concentrations decreased from approximately 15 mg/l during midnight to near 3 mg/l during the hours at dawn.

Because of the low concentrations of BOD in the SRWRF effluent (typically less than 5 mg/l), the high concentrations of DO at the upstream Station No. 2, and the typically high observed receiving water DO concentrations at Station No. 3, the RCWD discharge does not appear to discernibly affect receiving water DO at Station No. 3.

**Bacteriological Parameters.** Table 6 also summarizes year 2000 data at Station No. 3 for bacteriological parameters. As shown in Table 6, detectable concentrations of fecal streptococci, total coliform, and fecal coliform were reported at Station No. 3 throughout 2000. Again, however, SRWRF is not the source of the bacteriological contamination. At all times during 2000, SRWRF 7-day median coliform concentrations remained below 2 organisms per 100 for both fecal coliform and total coliform.

**Table 6**  
**Summary of 2000 TDS, DO, and Bacteriological Concentrations<sup>1</sup>**  
**Station No. 3 - Santa Margarita River at De Luz**

2000 Sample Date	TDS Concentration (mg/l)	Minimum Average Hourly DO Concentration (mg/l)	Time of Day for Minimum Hourly DO	Fecal Streptococci (organisms per 100 ml)	Total Coliform (organisms per 100 ml)	Fecal Coliform (organisms per 100 ml)
Mar 14	780	9.66	5 p.m.	300	9000	50
May 10	870	9.50	12 p.m.	130	800	50
Jun 20	860	3.30	7 a.m.	230	2200	17
Jul 19	840	7.50	2 p.m.	230	2400	500
Aug 22	(no flow)	(no flow)	(no flow)	(no flow)	(no flow)	(no flow)
Sept 19	(no flow)	(no flow)	(no flow)	(no flow)	(no flow)	(no flow)
Oct 17	850	5.38	1 a.m.	230	3000	170
Dec 11	890	9.44	12 a.m.	50	500	7

<sup>1</sup> From 2000 monitoring reports submitted to Regional Board.

**TDS.** Table 6 also summarizes year 2000 TDS concentrations at Station No. 3. As shown in Table 6, TDS concentrations were relatively consistent throughout the year at Station No. 3. As noted in the discussion regarding Station No. 2 (see Table 3), it does not appear that the SRWRF discharge discernibly and adversely affect receiving water TDS concentrations at either Station Nos. 2 or 3.

### **Effect of SRWRF Discharge**

As documented above, the SRWRF discharge does not appear to have any observable negative effect on the receiving waters at Station No. 3.

### **Recommended Management Actions**

No additional management actions are recommended.

## STATION NO. 4

### Station Location

Station No. 4 is located at the Santa Margarita River Estuary. The station is downstream from Camp Pendleton's wastewater treatment plant discharges of secondary effluent.

### Summary and Analysis of 2000 Data

Monitoring and Reporting Program No. 96-54 requires RCWD to record visual observations and collect samples at Station No. 4 on a quarterly basis during November through April, and on a monthly basis during March through December.

**Visual Observations.** Station No. 4 is under tidal influence. Table 7 compares visual observations with receiving water TDS for 2000. As shown in the table, visual observations at Station No. 4 during 2000 indicate that water clarity was generally good during the first half of 2000, regardless of whether the estuary water was saline, brackish, or fresh water. Poor water clarity during the latter half of 2000 may have been caused by a spill of Camp Pendleton raw sewage.

**Table 7**  
**Summary of 2000 TDS, DO, and Bacteriological Concentrations<sup>1</sup>**  
**Station No. 4 - Santa Margarita River Estuary**

2000 Sample Date	TDS Concentration (mg/l)	Observed Water Velocity (fps)	Observed Percent Algae Cover	Observed Percent Emergent Vegetation	Observed Water Clarity
Mar 14	780	1.0	0%	0%	"clear"
May 10	1,290	1.0	0%	0%	"clear"
Jun 20	20,800	0	0%	0%	"clear"
Jul 19	17,400	0	0%	0%	"clear"
Aug 22	6,340	0	0%	0%	"clear"
Sept 19	No samples <sup>2</sup>	0	0%	0%	"not clear"
Oct 17	12,600	0	0%	0%	"not clear"
Dec 11	9,700	0	0%	0%	"12-inch visibility"

1 From 2000 monitoring reports submitted to Regional Board.

2 No samples collected due to 2.7 million gallon raw sewage spill at Camp Pendleton.

**Nutrients.** As noted, Station No. 4 is located downstream from Camp Pendleton discharges of secondary treated wastewater. Table 8 summarizes nutrient concentrations at Station No. 4 during 2000. As shown by comparing Table 8 with Table 2 (Station No. 2) and Table 5 (Station No. 3), receiving water nutrient quality at Station No. 4 appears to be influenced by the Camp Pendleton secondary effluent discharges. Total phosphorus concentrations at Station No. 4 varied significantly. Summer concentrations of total phosphorus were typically 1 mg/l, and concentrations in excess of 2 mg/l occurred after a August 2000 spill of raw sewage at Camp Pendleton.

Nitrogen to phosphorus (N:P) ratios were typically less than 10, suggesting nitrogen as the limiting nutrient. N:P ratios at Station No. 4, however, may be highly influenced by the Camp Pendleton secondary effluent discharges; natural N:P ratios in the estuary are unknown.

**Table 8**  
**Summary of 2000 Nutrient Concentrations<sup>1</sup>**  
**Station No. 4 - Santa Margarita River Estuary**

2000 Sample Date	Concentration in mg/l				N:P Ratio
	Total phosphorus	Total nitrogen	Organic nitrogen (as N)	Nitrate nitrogen (as N)	
Mar 14	0.23	1.4	0.6	0.8	6
May 10	0.32	1.3	1.3	< 0.2	4
Jun 20	1.0	8.7	1.2	7.5	9
Jul 19	1.1	5.9	1.9	4.0	5
Aug 22	1.1	1.1	1.1	< 0.2	1
Sept 19	No samples <sup>2</sup>	No samples <sup>2</sup>	No samples <sup>2</sup>	No samples <sup>2</sup>	No samples <sup>2</sup>
Oct 17	2.1	7.4	1.9	5.5	4
Dec 11	2.2	8.7	1.6	6.0	4

1 From 2000 monitoring reports submitted to Regional Board.

2 No samples collected due to 2.7 million gallon raw sewage spill at Camp Pendleton.

**Dissolved Oxygen.** Table 9 summarizes minimum observed dissolved oxygen (DO) concentrations observed at Station No. 4 during the year 2000 sampling periods. As shown in the table, minimum hourly DO concentrations varied during the year. Observed DO concentrations at Station No. 4 may be influenced by the Camp Pendleton secondary effluent discharges and by tides.

**Bacteriological Parameters.** Table 9 also summarizes year 2000 data at Station No. 4 for bacteriological parameters. As discussed above, however, the SRWRF is not believed to influence concentrations of bacteriological parameters anywhere along the Santa Margarita River.



Table 9  
 Summary of 2000 TDS, DO, and Bacteriological Concentrations<sup>1</sup>  
 Station No. 4 - Santa Margarita River Estuary

2000 Sample Date	TDS Concentration (mg/l)	Minimum Average Hourly DO Concentration (mg/l)	Time of Day for Minimum Hourly DO	Fecal Streptococci (organisms per 100 ml)	Total Coliform (organisms per 100 ml)	Fecal Coliform (organisms per 100 ml)
Mar 14	780	7.93	11 p.m.	230	9000	30
May 10	1,290	5.80	6 a.m.	80	5000	30
Jun 20	20,800	3.30	7 a.m.	230	80	23
Jul 19	17,400	10.8	8 a.m.	300	3000	70
Aug 22	6,340	8.47	9 a.m.	50	130	2
Sept 19	No samples <sup>2</sup>	No samples <sup>2</sup>	No samples <sup>2</sup>	No samples <sup>2</sup>	No samples <sup>2</sup>	No samples <sup>2</sup>
Oct 17	12,600	4.43	7 a.m.	50	300	30
Dec 11	9,700	5.61	7 a.m.	220	300	130

- 1 From 2000 monitoring reports submitted to Regional Board.  
 2 No samples collected due to 2.7 million gallon raw sewage spill at Camp Pendleton.

**TDS.** As shown in Table 9, significant variability in TDS occurs at Station No. 4. TDS concentrations at Station No. 4 are most influenced by storm flows and tides.

### Effect of SRWRF Discharge

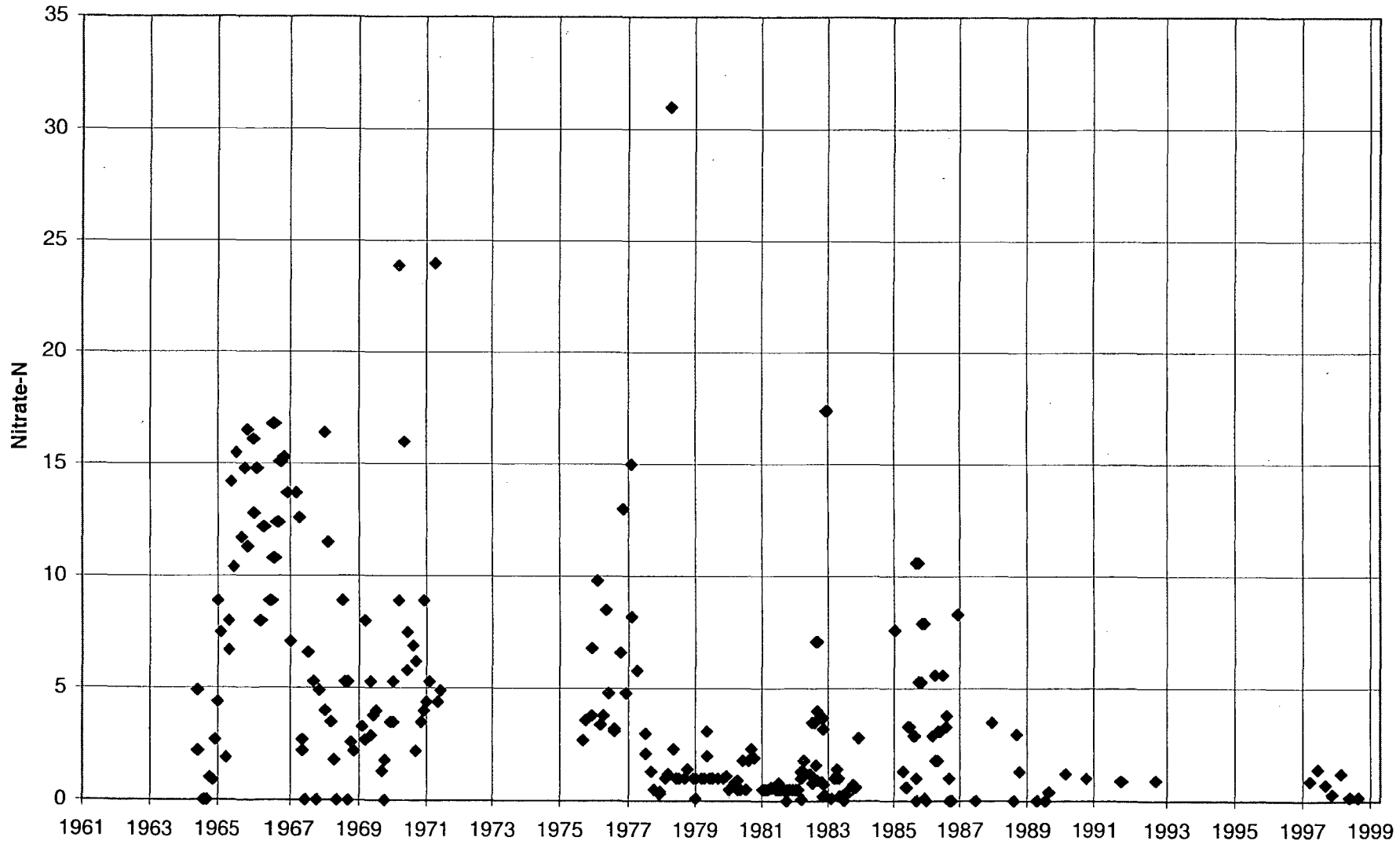
As documented above, the SRWRF discharge does not appear to have any observable negative effect on the receiving waters at Station No. 4.

### Recommended Management Actions

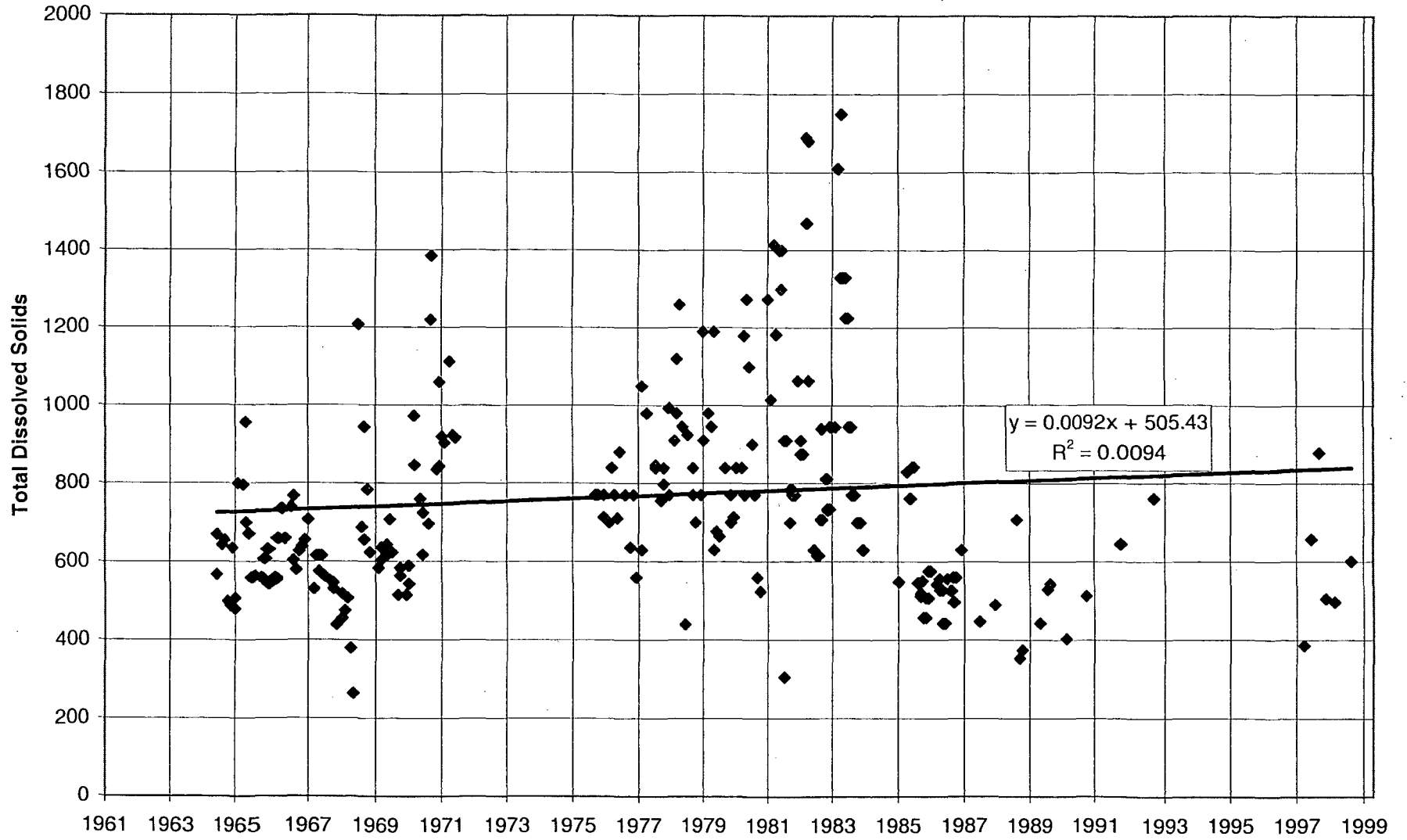
No additional management actions (relative to the SRWRF discharge) are recommended.

2002 Data

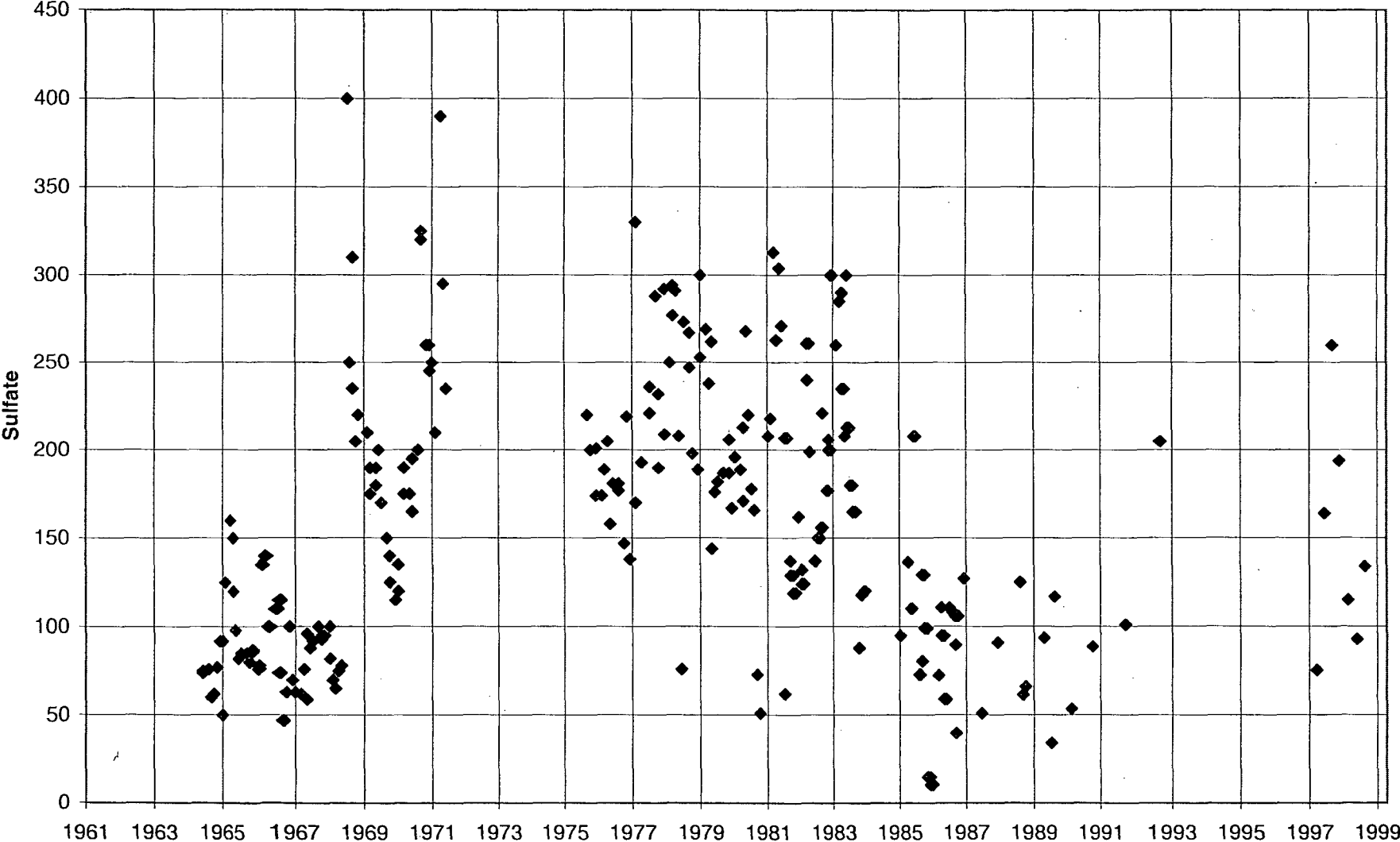
### Murrieta Creek at Temecula



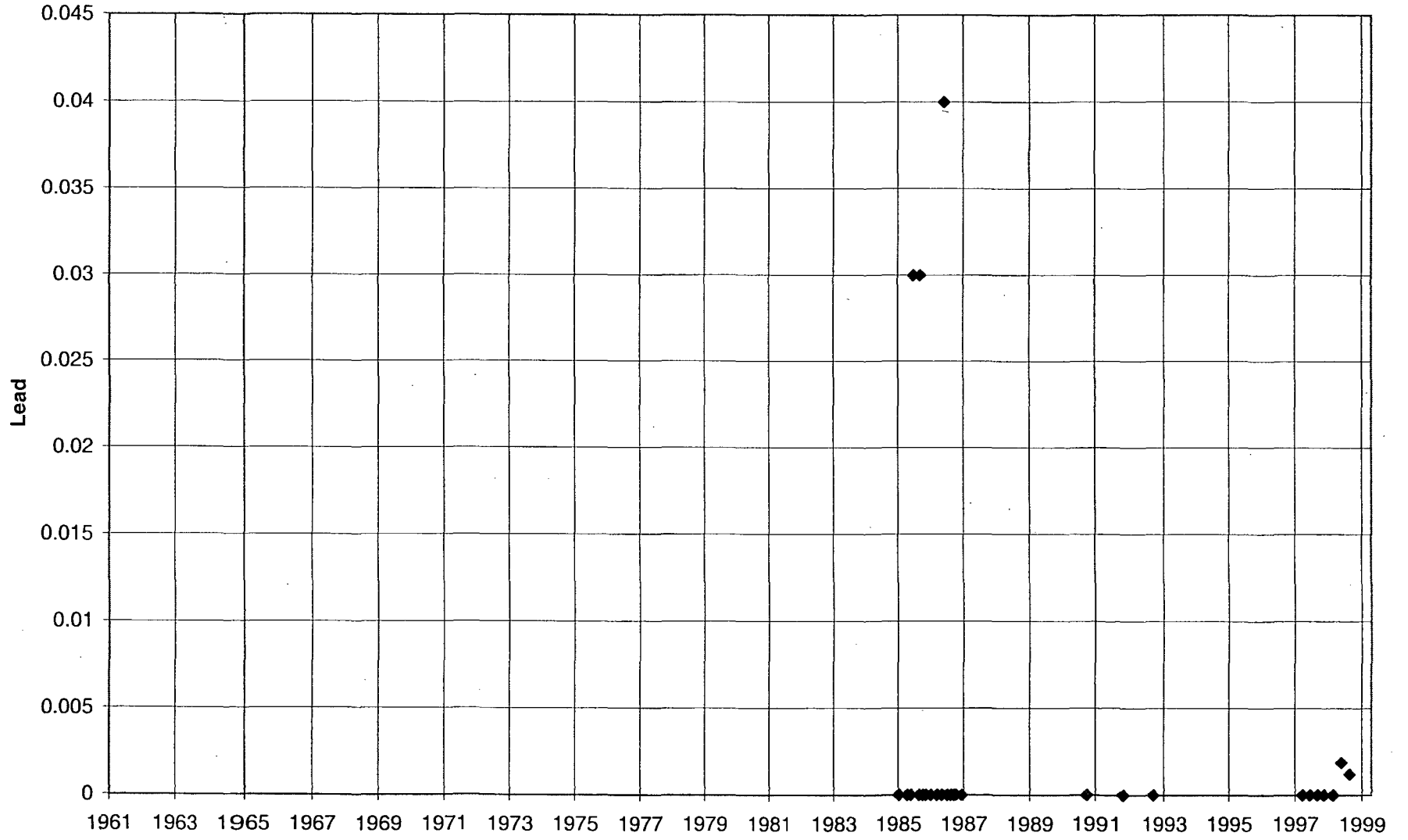
# Murrieta Creek at Temecula



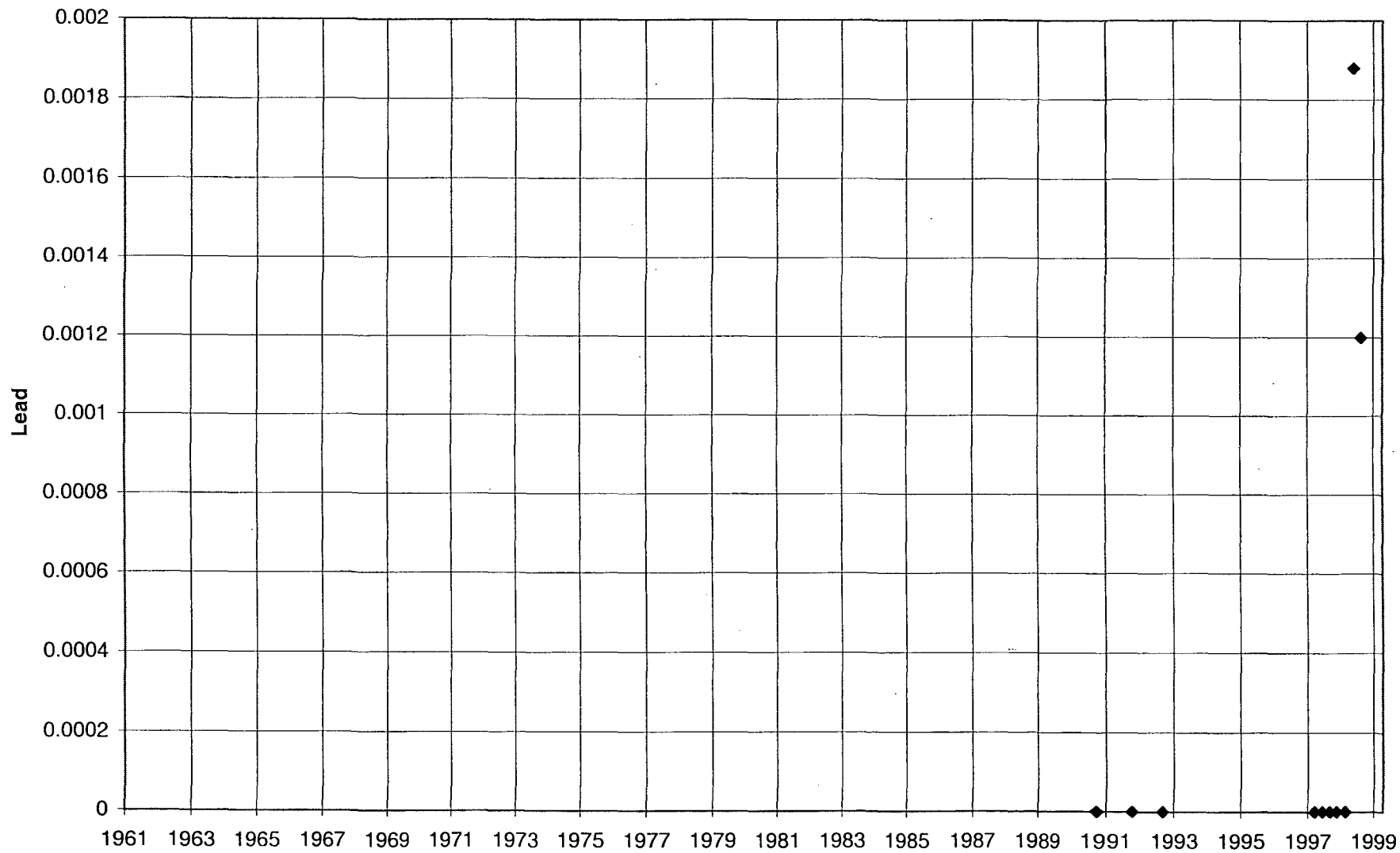
Murrieta Creek at Temecula



# Murrieta Creek at Temecula



### Murrieta Creek at Temecula



# Marrietta Creek

## DATA SUMMARY

Disc 1 of 2 (submitted by Camp Pendleton)

*See Santa Marg File for Data*

### LAW-Crandall

11043000	Daily Mean Discharge Data, "Murrieta C A Temecula, CA", 1930 to 1997, discharge as ft <sup>3</sup> / s
11044250	Daily Mean Discharge Data, Rainbow Cr near Fallbrook, CA, 1989 – 1998
11044800	Daily Mean Discharge Data, De Luz Cr near De Luz, CA, 1992 – 1997
11045300	Daily Mean Discharge Data, Fallbrook Cr, near Fallbrook, CA, 1993 – 1998
11046360	Daily Mean Discharge Data, Cristianitos C Ab San Mateo C Nr San Clemente, CA, 1993 – 1997
CADMaps	Southern California Road Map, San Mateo and Santa Margarita Watersheds, Monitoring Locations (San Mateo), Monitoring Locations (Santa Margarita)
Cover	2 pg cover = Final "Water Quality Studies and Proposed Watershed Monitoring Program for Portions of San Mateo and Santa Margarita River Watersheds (Vol. 2 of 2)
Cover2	2 pg cover = Final "Water Quality Studies and Proposed Watershed Monitoring Program for Portions of San Mateo and Santa Margarita River Watersheds (Vol. 1 of 2)
precip	trouble opening document, but appears to be rainfall data for 1942 – 1999 SC Dam, Oceanside, Escondido, Escondido 2
precip1	Graph with rainfall data from 1942 – 1999 SC Dam, Oceanside, Escondido, Escondido 2
precip10	San Clemente Dam 1942 – 1997 data = ?
precip11	Sam Clemente Dam Rainfall data 1942 – 1997
precip12	San Clemente Dam Precipitation Record 1940 – 1998
precip13	Oceanside & Oceanside Harbor Station Precipitation Record 1940 - 1998
precip14	Oceanside 1942 – 1997 data = ?
precip15	Oceanside Harbor Rainfall data 1943 – 1997
precip2	Combined Precipitation Record 1940 – 1998, location=?
precip3	Escondido, CA 1979 – 1997 data = ?
precip4	Escondido 2 Rainfall data 1979 – 1997
precip5	Escondido 2 Precipitation Record 1979 – 1997
precip6	Escondido 1931 – 1979 data = ?
precip7	Escondido Rainfall Record 1934 – 1979
precip8	Escondido Precipitation Record, 1940 – 1979
precip9	San Clem 1931 – 1979 data = ?
Report	Final Report of Water Quality Studies and Proposed Watershed Monitoring Program for Portions of San Mateo and Santa Margarita River Watershed Marine Corps Base, Camp Pendleton, California. Contract No. N68711-95-D-7573, D.O. 0021
table10	San Mateo Watershed 1998-1999 data on alkalinity, arsenic, bicarbonate, BOD, boron, calcium, carbonate, chloride, conductivity, copper, cyanide, fecal coliform, fluoride, hardness, hydroxide, iron, lead, magnesium, manganese, mercury, nitrate, nitrogen, oil & grease, pH, phosphorus, potassium, sodium, sulfate, surfactants, total coliform, TDS, TOC and zinc.

table11 Santa Margarita Watershed 1997-1999 data on alkalinity, arsenic, bicarbonate, BOD, boron, calcium, carbonate, chloride, conductivity, copper, cyanide, fecal coliform, fluoride, hardness, hydroxide, iron, lead, magnesium, manganese, mercury, nitrate, nitrogen, oil & grease, pH, phosphorus, potassium, sodium, sulfate, surfactants, total coliform, TDS, TOC and zinc.

Table8PDF Water Quality Evaluation Summary, San Mateo Watershed  
WQ Microsoft Access Database: Many reports and tables (try reports on pollutant loading and surface waters)

SWR West Study

These GIS files require ArcView software before they can be opened. Some files also require the spatial analyst and 3-D analyst extensions to be loaded. Please see "Read me" file on disc. Some topo maps are .tif files.

SMRWQM-Group

SMR Figure3\_41

Figure 3-4 = Proposed Water Quality Sampling Locations

SMRWQM-Draft Plan

Framework Monitoring Plan for the Santa Margarita River Watershed California

SMRWQM-Group Presentation

Powerpoint Presentation: Water Quality Monitoring and Water Management



## Disc 2 of 2

### LAW-Crandall

chart	Alkalinity Chart Fallbrook Cr near Fallbrook, CA
chart1	De Luz Cr, Fallbrook Cr, Murrieta Cr, Rainbow Cr, San Mateo Cr (x2), Sandia Cr, Santa Margarita River (x3) for alkalinity (2 types), aluminum, antimony and arsenic
chart10	Cristianitos Cr, De Luz Cr, Fallbrook Cr, Murrieta Cr, Rainbow Cr, San Mateo Cr, Sandia Cr, Santa Margarita Rvr for sodium, sulfate, surfactants, thallium, tin,
chart11	Santa Margarita Rvr, De Luz Cr, Cristianitos Cr, Murrieta Cr, Rainbow Cr, Sandia Cr, San Mateo Cr, Fallbrook Cr for TOC, vanadium and zinc
chart12	same creeks for fluoride
chart13	same creeks for oil & grease, pH, phosphate, phosphorus
chart14	same creeks for nitrate, nitrite
chart15	same creeks for historical data
chart16	same creeks for phosphate, potassium, selenium, silica, silicon
chart17	same creeks for TDS, TOC, vanadium, zinc
chart2	same creeks for arsenic, barium, beryllium, bicarbonate, BOD, boron
chart3	could not be opened
chart4	opens as gibberish
chart5	opens as gibberish
chart6	same creeks for fluoride, hardness, hydroxide, iron, lead
chart7	same creeks for lead, lithium, magnesium, manganese, mercury
chart8	could not open
chart9	same creeks for phosphorus, potassium, selenium, silica, silicon, silver
Piper Diagrams	diagrams for 1997 – 1998 for magnesium, sodium + potassium, carbonate + bicarbonate, sulfate, chloride, calcium, sulfate + chloride, calcium + magnesium

### SMR West Study

#### Final West Project

Appendix A	literature review
Appendix B	Plot of computed hydrograph with observed hydrograph
Appendix C	Plot of computed lake storage with observed storage
Appendix D	Plot of precipitation during and preceding Jan 1995 event
Appendix E	Cross section locations and flood plain delineations
Appendix F	Water surface profile plots
Appendix G	Water surface profile tables
Appendix H	Cross section plots
Appendix J	Plot of sub basin frequency flows
Appendix I	Plot of sediment frequency yield by LA Corps method
SMR Final	Final Report Santa Margarita River Hydrology, Hydraulics and Sedimentation Study

### West Project Files

All supporting files and documents are included on this disc as word, excel and other file formats that are not .pdf.



## San Diego Regional Water Quality Control Board: 1999 Biological Assessment Annual Report

California Department of Fish and Game  
Office of Spill Prevention and Response  
Water Pollution Control Laboratory  
2005 Nimbus Road  
Rancho Cordova, CA. 95670  
(916) 358-2858; [jharring@ospr.dfg.ca.gov](mailto:jharring@ospr.dfg.ca.gov)

PROGRAM MANAGER  
James M. Harrington

PROJECT LEADERS  
Peter Ode, Angie Montalvo

LABORATORY AND FIELD TECHNICIANS  
Doug Post, Christopher Sheehy, Mike Dawson

			Detection Limit																							
Sampling Date	Station Name	Station ID	Hydrologic Subarea	Station Location	Beryllium	Cadmium	Chromium, Total	Chromium, Dissolved	Copper	Lead, Total	Lead, Dissolved	Mercury	Nickel	Selenium	Silver	Thallium	Zinc, Total	Zinc, Dissolved	Ceriodaphnia-survival	Ceriodaphnia-reproduction	Pimephales-survival	Pimephales-growth				
6/9/98	RC-WGR	DFG-978-321		Rainbow Creek at Willow Glen Rd																						
6/9/98	SMR-WGR	DFG-978-322		Santa Margarita at Willow Glen Rd (Stage Coach Ln).																						
6/9/98	SMR-SCD	DFG-978-323		SMR at DeLuz/ Pico Rd near Sandia Ck																						
6/9/98	SC-SCR	DFG-978-324		Sandia Ck at Sandia Ck Rd, 0.5 to 1 mile above confluence	ND	ND	17.0		20.0	1.7		ND	7.7	ND	ND	ND	26.2									
6/9/98	SMR-CP	DFG-978-325		Santa Margarita River below diversion weir on Camp Pendleton	ND	ND	5.7		4.0	6.7		ND	2.8	ND	ND	1.5	24.3									
6/9/98	SMR-SMB	DFG-978-326		SMR at Stuart Mesa Rd bridge on Camp Pendleton	ND	0.44	14.7		9.1	12.3		ND	5.5	ND	ND	ND	81.1									
6/10/98	BVR-ED	DFG-978-327		San Marcos Creek at Rancheros Drive																						
6/10/98	AHC-SA	DFG-978-328		Agua Hedionda Ck at Sycamore Ave																						
6/10/98	SMC-SP	DFG-978-329		Buena Vista Ck at Wildwood Park																						
6/10/98	AC-CCR	DFG-978-330		Aliso Ck along Country Club Rd	ND	ND	7.6		2.2	ND		ND	3.4	ND	ND	1.2	16.0									
6/10/98	AC-PPD	DFG-978-331		Aliso Ck at Pacific Park Dr/ Oso Pkwy																						
6/10/98	AHC-ECR	DFG-978-332		Agua Hedionda Ck at El Camino Real																						
6/11/98	SLRR-395	DFG-978-333		San Luis Rey River at old Hwy 395 (Couser Canyon Rd)	are in units of milligrams per liter.																					
6/29/98		LLP-978-405-BUV		Buena Vista Creek	ND	ND	0.0	0.01	ND	ND	ND	ND	ND	ND	ND	ND	0.04	0.02	No Difference							
6/29/98		LLP-978-405-AGH		Agua Hedionda Creek	ND	ND	0.0	0.01	ND	ND	ND	ND	ND	ND	ND	ND	0.03	0.02	No Difference							
6/29/98		LLP-978-405-ESC		Escondido Creek	ND	ND	0.0	0.01	ND	ND	0.002	ND	ND	ND	ND	ND	0.06	0.04	No Difference							

Sampling Date	Station Name	Station ID	Hydrologic Subarea	Station Location	Ammonia-N	Nitrate as N	Nitrite-N	Total Kjeldahl Nitrogen	Orthophosphate-P	Total Phosphate as P (revised)	Total Phosphate as PO <sub>4</sub>	Total Dissolved Solids	Turbidity NTU	Calcium	Sodium	Magnesium	Potassium	Chloride	Sulfate	Total Hardness	EC umhos	Antimony	Arsenic
					0.14	0.20	0.01	0.1	0.02	5.0		10.0		0.10	0.25	0.15	0.56	1.0	40.0	1.0		0.005	0.0
6/9/98	RC-WGR	DFG-978-321		Rainbow Creek at Willow Glen Rd	<.14	11.47	0.02	0.44	0.95	0.77		810	0.30										
6/9/98	SMR-WGR	DFG-978-322		Santa Margarita at Willow Glen Rd (Stage Coach Ln)	<.14	3.76	0.02	0.47	0.11	0.62		913	0.46										
6/9/98	SMR-SCD	DFG-978-323		SMR at DeLuz/ Pico Rd near Sandia Ck	<.14	4.69	0.01	0.34	0.18	0.35		923	0.50										
6/9/98	SC-SCR	DFG-978-324		Sandia Ck at Sandia Ck Rd, 0.5 to 1 mile above confluence	<.14	5.83	0.01	0.17	0.24	0.30		817	1.80									ND	7.8
6/9/98	SMR-CP	DFG-978-325		Santa Margarita River below diversion weir on Camp Pendleton	<.14	2.71	0.01	0.34	0.23	0.41		667	3.77									ND	5.9
6/9/98	SMR-SMB	DFG-978-326		SMR at Stuart Mesa Rd bridge on Camp Pendleton	<.14	1.63	0.01	0.28	0.23	0.35		713	3.60									ND	2.3
6/10/98	BVR-ED	DFG-978-327		San Marcos Creek at Rancheros Drive	<.14	14.70	0.05	0.53	0.14	0.95		1372	0.49										
6/10/98	AHC-SA	DFG-978-328		Agua Hedionda Ck at Sycamore Ave	0.17	15.30	0.08	0.58	1.00	0.90		1144	1.10										
6/10/98	SMC-SP	DFG-978-329		Buena Vista Ck at Wildwood Park	0.23	3.40	0.09	0.62	0.12	0.75		1360	1.70										
6/10/98	AC-CCR	DFG-978-330		Aliso Ck along Country Club Rd	3.30	3.10	1.00	0.81	1.10	0.93		1712	4.10									ND	1.2
6/10/98	AC-PPD	DFG-978-331		Aliso Ck at Pacific Park Dr/ Oso Pkwy	0.18	1.00	0.03	0.56	0.15	0.81		1961	1.10										
6/10/98	AHC-ECR	DFG-978-332		Agua Hedionda Ck at El Camino Real	<.14	5.80	0.02	0.53	0.44	0.61		1716	0.55										
6/11/98	SLRR-395	DFG-978-333		San Luis Rey River at old Hwy 395 (Couser Canyon Rd)	<.14	4.20	0.03	0.42	0.75	0.99		970	3.73										
6/29/98		LLP-978-405-BUV		Buena Vista Creek	<.14	1.20	0.02	0.64	0.83		7.1	1133	1.3	120	254	80.7	3.6	454	281	570	1965	ND	ND
6/29/98		LLP-978-405-AGH		Agua Hedionda Creek	<.14	4.50	0.03	0.76	0.25		4.2	1624	0.6	168	255	97.9	3.3	465	363	745	2300	ND	ND
6/29/98		LLP-978-405-ESC		Escondido Creek	<.14	3.60	0.01	0.76	0.25		4.6	1382	4.4	109	251	87.5	3.4	322	342	570	1969	ND	ND

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Sampling Date	Station Name	Station ID	Hydrologic Subarea	Station Location	Ammonia-N	Nitrate, as N	Nitrite-N	Total Kjeldahl Nitrogen	Orthophosphate-P	Total Phosphate as P (revised)	Total Phosphate as PO <sub>4</sub>	Total Dissolved Solids	Turbidity NTU	Calcium	Sodium	Magnesium	Potassium	Chloride	Sulfate	Total Hardness	Ec. umhos	Antimony	Arsenic
					0.14	0.20	0.01	0.1	0.02	5.0		10.0		0.10	0.25	0.15	0.56	1.0	40.0	1.0		0.005	0.0
5/20/98	LAC-CB-T1	DFG-978-300		Loma Alta Creek at College Blvd	0.23	0.61	0.04	0.70	0.12	0.40		2800	0.98										
5/20/98	BVC-SVW-T3	DFG-978-301		Buena Vista Creek at South Vista Way	<.14	2.50	0.02	0.42	0.22	0.22		1378	0.79										
5/20/98	SLRR-FR-T1	DFG-978-302		San Luis Rey River at Foussat Road	<.14	2.40	0.01	0.39	0.58	0.24		850	5.10										
5/20/98	LAC-ECR-A	DFG-978-303		Loma Alta Creek at El Camino Real	<.14	0.27	0.00	0.36	0.44	0.14		2459	0.58										
6/2/98	SR-79	DFG-978-304		Sweetwater River at Hwy 79 near Interstate 8	<.14	0.33	0.00	0.29	0.13	0.13		224	1.90										
6/2/98	SR-94	DFG-978-305		Sweetwater River upstream of Hwy 94 (Campo Road)	<.14	0.36	0.01	0.16	0.07	0.06		397	2.80										
6/2/98	SR-WS	DFG-978-306		Sweetwater River downstream of Willow Street	<.14	0.35	0.01	0.40	0.05	0.20		825	0.76										
6/2/98	SDR-MD	DFG-978-307	7.11	San Diego River up stream of Mission Dam	0.19	0.35	0.02	0.38	0.22	0.09		1038	3.70										
6/2/98	SDR-MT	DFG-978-308	7.11	San Diego River at Mission Trails Regional Park	<.14	0.28	0.01	0.49	0.14	0.05		1046	0.77										
6/2/98	SDR-FVR	DFG-978-309	7.11	San Diego River at Fashion Valley Road	<.14	0.23	0.00	0.42	0.23	0.06		1217	5.00										
6/3/98	LPC-BMR	DFG-978-310		Los Penasquitos Creek upstream of Black Mountain Road	<.14	0.34	0.01	0.76	0.30	0.55		1678	0.67										
6/3/98	LPC-CCR	DFG-978-311		Los Penasquitos Creek at Cobblestone Creek Road.	<.14	1.10	0.03	1.90	0.17	0.55		1633	3.80										
6/3/98	RC-HP	DFG-978-312	6.20	Rattlesnake Creek at Hilleary Park, off Community Road	<.14	1.50	0.02	1.50	0.46	0.67		1412	0.54										
6/3/98	EC-HRB	DFG-978-313	4.60	Escondido Creek below Harmony Grove Bridge.	<.14	7.20	0.07	0.46	0.46	0.37		1196	0.99										
6/3/98	EC-EF	DFG-978-314	4.60	Escondido Creek at intersection Elfin Forest and Harmony Grove (end of Elfin Forest Resort).	<.14	6.90	0.02	0.55	0.77	0.29		1145	0.38									ND	3.8
6/3/98	EC-LCA	DFG-978-315		Encinitas Creek at Green Valley Road	<.14	0.34	<.01	0.54	0.34	0.32		2082	3.70										
6/3/98	SMC-RSFR	DFG-978-316	4.51	San Marcos Creek at Rancho Santa Fe Road	<.14	0.00	0.01	0.60	0.42	0.52		780	0.99										
6/3/98	SMC-M	DFG-978-317	4.51	San Marcos Creek at McMahr	<.14	6.20	0.04	0.62	0.49	0.56		1346	13.80										
6/9/98	MC-WB	DFG-978-318		Murrieta Creek at Calle Del Oso Rd	<.14	1.29	<.01	0.31	0.21	0.28		709	0.38									ND	3.0
6/9/98	MC-GS	DFG-978-319		Murrieta Ck behind cement factory	<.14	0.32	0.01	0.44	0.09	0.06		753	2.31									ND	3.1
6/9/98	TC-I15	DFG-978-320		Temecula Ck east of confluence, west of I-15	<.14	1.40	0.01	0.44	0.30	0.17		840	0.67									Sheet 1	

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