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6. Santa Ana River, Reaches 2 & 3:

- Beneficial Uses: AGR, GWR, REC1, REC2, WARM, WILD, RARE
- Hydrologic Unit: 801.21 AND 801.21
- Total Water Body Size: 18 and 19 miles
- Size Impaired: Unknown at this time
- Extent of Impairment: Unknown at this time

- Data Analyses:

Orange County Water District Data:

- Reach 3 – 0/6 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection 1-hr avg arsenic standard of 340 ug/L
- Reach 3 – 0/6 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection 1-hr avg copper standard of 29-36 ug/L
- Reach 3 – 0/1 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr) lead standard of 190 ug/L
- Reach 3 – 0/6 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection 1-hr avg nickel standard of 934-1100 ug/L
- Reach 3 – 0/1 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr) silver standard of 14 ug/L
- Reach 3 - 0/1 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" arsenic standard of 340 ug/L (1-hr avg)
- Reach 3 - 0/1 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" copper standard of 16 ug/L (1-hr avg)
- Reach 3 - 0/1 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" nickel standard of 559 ug/L (1-hr avg)
- Reach 3 - 0/3 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" arsenic standard of 340 ug/L (1-hr avg)
- Reach 3 - 0/3 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" copper standard of 28-33 ug/L (1-hr avg)

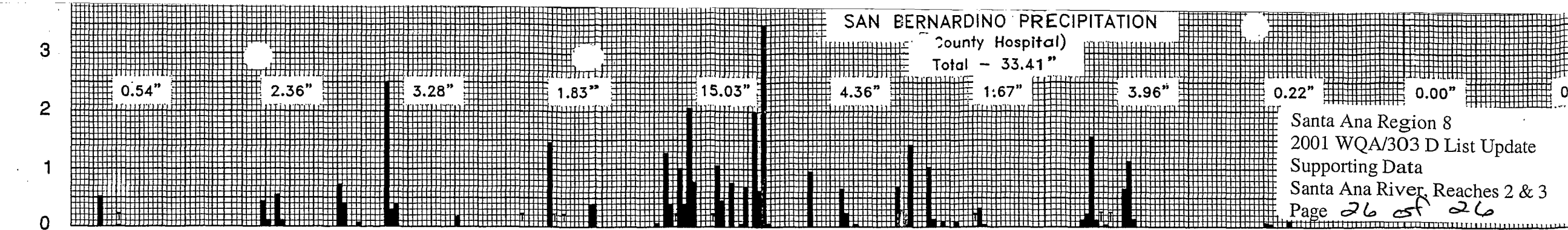
- Reach 3 - 0/3 exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" nickel standard of 900-1100 ug/L (1-hr avg)
- Reach 3 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" selenium standard of 20 ug/L (1-hr avg)
- Reach 2 - 0/18 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection" arsenic standard of 340 ug/L (1-hr avg)
- Reach 2 - 0/19 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection" copper standard of 13-35 ug/L (1-hr avg)
- Reach 2 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" cyanide standard of 22 ug/L (1-hr avg)
- Reach 2 - 0/3 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" lead standard of 140-154 ug/L (1-hr avg)
- Reach 2 - 0/17 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection" nickel standard of 161-274 ug/L (1-hr avg)
- Reach 2 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" selenium standard of 20 ug/L (1-hr avg)
- Reach 2 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" zinc standard of 226 ug/L (1-hr avg)
- Reach 3 - 0/4 (1/yr) exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection 1-hr avg arsenic standard of 340 ug/L
- Reach 3 - 0/4 (1/yr) exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection 1-hr avg copper standard of 29-36 ug/L
- Reach 3 - 0/1 (1/yr) exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection 1-hr avg lead standard of 190 ug/L
- Reach 3 - 0/4 (1/yr) exceeded the CTR for Inorganic Constituents Fresh Water Aquatic Life Protection 1-hr avg nickel standard of 935-1100 ug/L

Regional Board Compliance Monitoring Data:

- Reach 3 - 1/18 data points exceed the Basin Plan TDS objective of 700 mg/L
- Reach 3 - 1/55 data points exceed the Basin Plan Total Nitrogen objective of 10 mg/L

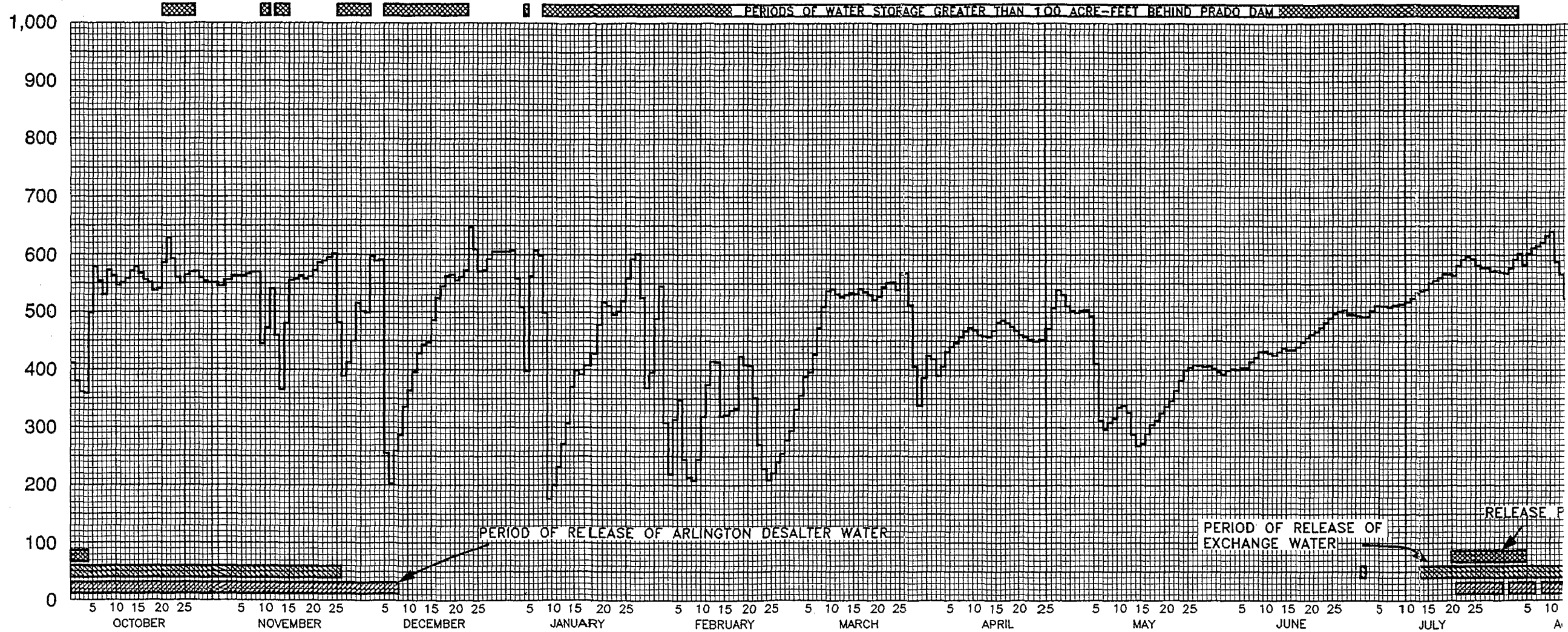
- Potential Sources: Unknown at this time
- Recommendation:
 - Delist for TDS and Total Nitrogen
 - More monitoring for other constituents due to not enough data points available per parameter to reach a conclusion for impairment and insufficient data to back up results.
- TMDL Priority: None at this time
- TMDL Start Date: Not applicable at this time
- TMDL End Date: Not applicable at this time

INCHES

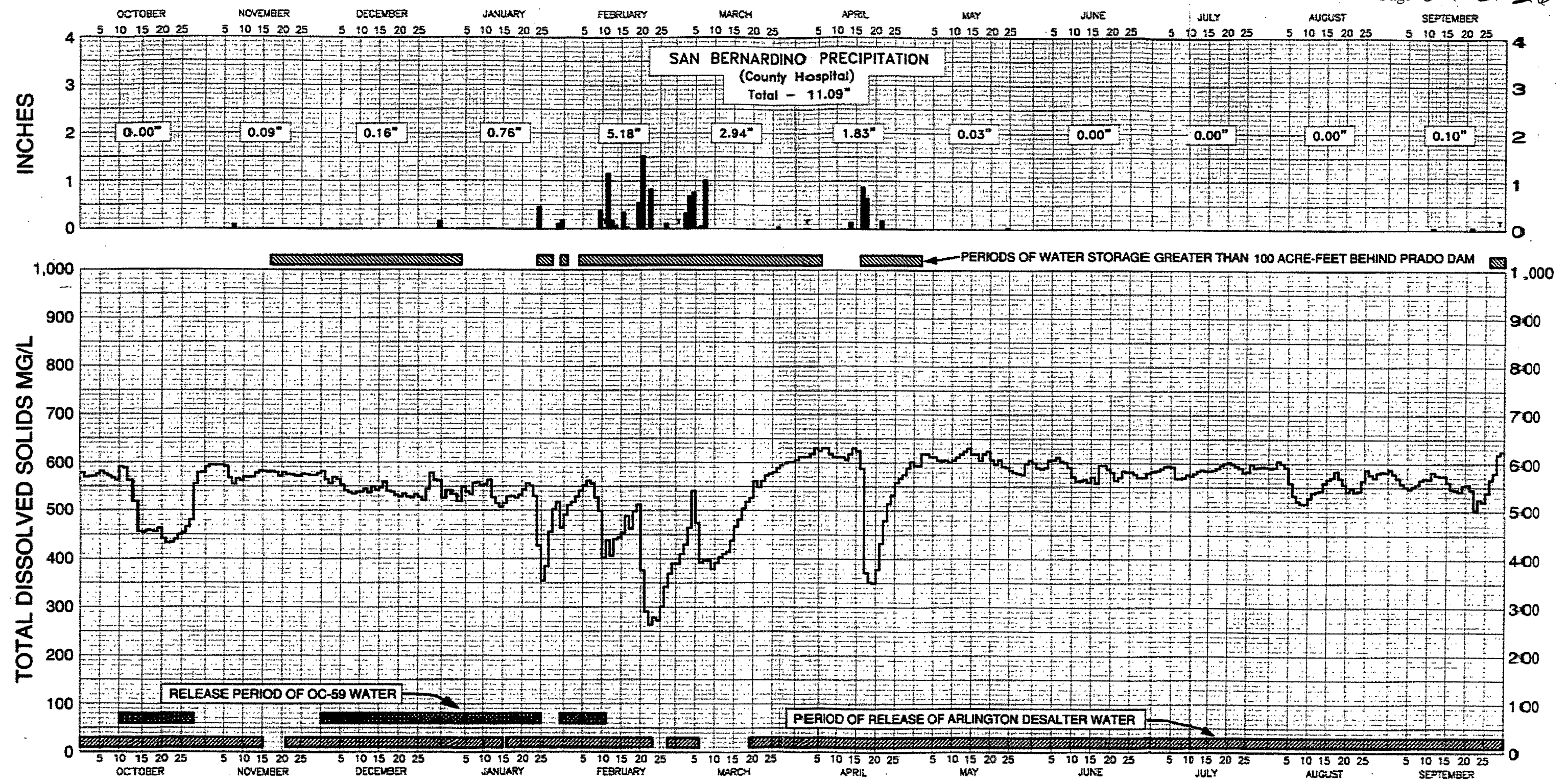


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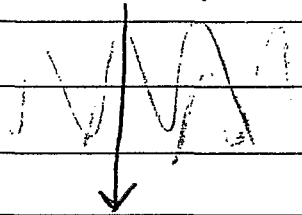
TOTAL DISSOLVED SOLIDS MG/L



DISSOLVED SOLIDS IN SANTA ANA RIVER BELOW PRADO DAM WATER YEAR 1997-98



DISSOLVED SOLIDS IN SANTA ANA RIVER BELOW PRADO DAM
 WATER YEAR 1999-00

(Station Name) Receiving Water Body	Parameter Name	Number of times above std. *	organics Standard ($\mu\text{g/L}$)	Source of Standard
• CK-CHINO-REACH 1	bromodibromomethane	14/14	0.56 $\mu\text{g/L}$	California X
• CK-CHINO-REACH 1	tribromochloromethane	11/11	0.41 $\mu\text{g/L}$	Toxics Rule X
CK-CHINO-REACH 2	dibromo...	1/1	0.41	Criteria (USEPA) X Inland Surface
CK-CUCAMONGA-REACH 1	bromodi...	2/2	0.56	Waters. ✓
CK-CUCAMONGA-REACH 1	di bromo...	1/1	0.41	Human Health ✓ 30 Day Avg.
CK-CUCAMONGA-REACH 1	bromodi...	1/1	0.56	Drinking Water ✓
CK-CUCAMONGA-REACH 1	dibromo...	1/1	0.41	Sources ✓
• CK-MILL-01 NO REACH LISTED	bromodi...	13/13	0.56	(consumption of ✓ water + aquatic
CK-MILL-01 NO REACH LISTED	dibromo...	4/5	0.41	organisms). X
X RP-HVEFFLUENT-01	bromodi...	11/11	0.56	
X RP-HVEFFLUENT-01	dibromo...	11/11	0.41	
? SAR-RIVER RD-01	bromodi...	1/1	0.56	

* none of the numerical results where available as a 30-day average.

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[illegible]

[illegible]

California Regional Water Quality Control Board
Santa Ana Region

March 2, 2001

Item: 12

Subject: **RESULTS OF ANNUAL WATER QUALITY SAMPLING FOR THE
YEAR 2000 – SANTA ANA RIVER BELOW PRADO DAM**

Summary

The Basin Plan specifies water quality objectives applicable to Reach 3 of the Santa Ana River (River). To determine compliance with these objectives, the Basin Plan requires that sampling of the River be conducted annually at Prado Dam during base flow conditions.

Regional Board staff conducted the year 2000 sampling over a five week period during August and September. The results of the year 2000 sampling program indicate that the River at base flow is meeting Basin Plan objectives for most constituents.

Stream flow at Prado Dam during the sampling period ranged from 164 to 204 cubic feet per second (cfs).

Background

The Santa Ana River is the major source of recharge to the Orange County groundwater basin. The Basin Plan specifies certain water quality objectives applicable to Reach 3 of the River (Mission Blvd. in Riverside to Prado Dam) at base flow. The intent of these objectives is to protect the Santa Ana River quality and its use for groundwater recharge. Compliance with these objectives is verified by annual measurement of the base flow quality. Base flow is composed of wastewater discharges, nonpoint sources discharges (such as agricultural and urban runoff other than stormwater) and rising groundwater. Storm flow is not a component of base flow, therefore, the River is sampled at that time of year (normally August and September) when the influence of storm flow is at a minimum¹.

¹ In setting the base flow objectives, it was assumed that storm flows that recharge the Orange County groundwater basins would improve the quality of that groundwater. It was also recognized that there could be no assurance that such storm flows would occur each year. Therefore, it was imperative to control base flow quality such that under these worst case conditions (no high quality storm flows), Orange County groundwater quality would remain protected.

Methods

The sampling program was carried out weekly from August to September 2000. Each week, an ISCO² sequential sampler was deployed to automatically collect a 24-hour composite sample. The composite sample was then sent to Associated Laboratories for mineral analyses, including total dissolved solids (TDS), chloride, sulfate, sodium, boron, hardness and electrical conductivity (EC). In addition, three grab samples were collected during each 24-hour period and analyzed for nutrients, chemical oxygen demand (COD) and total organic carbon (TOC). Associated Laboratories, the Regional Board's contract laboratory, performed all chemical analyses.

Water temperature, dissolved oxygen, pH and EC were measured in the field using a calibrated YSI² multi-parameter probe each time a grab sample was collected. Stream flow measurements were obtained from the US. Geological Survey after the sampling program was completed.

Orange County Water District (OCWD) also conducts an independent water quality monitoring program in the River and in some River tributaries in proximity to Prado Basin. OCWD collects samples in the following locations: Santa Ana River at River Road (just upstream of the Prado wetlands Santa Ana River diversion); in Mill/Cucamonga Creek and Chino Creek (tributaries entering the Santa Ana River in Prado Basin); and Prado Dam (identical location to the Regional Board's Prado Dam station (see Figure 1)). Board staff used OCWD's data to compare and confirm the Prado Dam results and also to evaluate how tributary water quality affects the results at Prado Dam.

Results and Discussion

2000

The year 2000 Prado Dam sample results for the mineral constituents (TDS, hardness, sodium, chloride, boron, sulfate and EC) are shown in Table 1. Five separate composite samples were collected during the base flow period. Except for sodium, all mineral parameters were below the respective Basin Plan objective.

The field data (pH, temperature, EC and dissolved oxygen) and grab sample data for total nitrogen, COD and TOC are shown in Table 2. Total nitrogen concentrations ranged from 4.5 to 11.1 mg/L, with an average concentration of 6.8 mg/L. Except for the August 31, 2000 results, all total nitrogen concentrations were below the Basin Plan objective.

COD concentrations ranged from 11 to 24 mg/L, with an average of 16 mg/L. None of the COD measurements exceeded the Basin Plan objective of 30 mg/L.

TOC is a direct measurement of the organic content in water. TOC was added to the annual sampling program in 1989 because the California Department of Health Services

² Mention of trade names does not imply endorsement of these products.

(DHS) has proposed specific TOC concentrations when reclaimed water is used to recharge groundwater. DHS has not finalized the groundwater recharge regulations; however, the latest draft provides TOC guidelines for the Santa Ana River recharge activities. When, as in the case of the River, 46 – 50% reclaimed water is used in surface spreading for recharge purposes, the draft regulations specify a maximum allowable TOC of 6 mg/L. Once the guidelines become regulations, a TOC objective may be recommended for incorporation into the Basin Plan. The 2000 TOC concentrations in the River ranged from 4.2 to 5.5 mg/L with an average concentration of 4.78 mg/L.

OCWD sample results for dissolved oxygen, electrical conductivity, pH, water temperature, nutrients, boron, TOC and chloride are shown in Table 3. These results are consistent with the Regional Board's results from Prado Dam.

1983-2000

Table 4 summarizes the yearly averages of various constituents along with their respective water quality objectives over time for the Prado Dam sampling program. The data indicate that the water quality of the Santa Ana River at Prado Dam for most of these parameters continues to improve.

The 1983 – 2000 data in Table 4 are represented graphically in Figures 2 through 10. TDS concentrations over time are shown in Figure 2. TDS concentrations continue to decrease from the elevated concentrations measured in the early 1980s.

Two of the sodium concentrations for the year 2000 were above the Basin Plan objective (see Figure 4); however, for the majority of the samples, sodium concentrations were well below the Basin Plan objective.

Figure 8 depicts total nitrogen concentrations from 1983 to 2000. In recent years, total nitrogen concentrations have been consistently below the Basin Plan objective. This may be due to a number of factors including improvements in the wastewater nitrogen discharges as the result of the Regional Board nitrogen control strategies. In addition, both OCWD and the City of Riverside operate wetland treatment facilities that serve to reduce nitrogen levels in the River and in the City's wastewater effluent.

COD concentrations over time are shown in Figure 9. The COD concentrations in 2000 were below the Basin Plan objective, unlike previous years.

Conclusion

The results of the year 2000 Prado Dam sampling program indicate overall compliance with the Basin Plan objectives. Unlike previous years, COD concentrations in 2000 were below the Basin Plan objective. In two instances the sodium concentrations were above the objectives. Flow in the River was slightly lower than usual.

TABLE 1
Santa Ana River below Prado Dam
Year 2000 Mineral Analyses

Date	Discharge (cfs)	Conductivity (umhos/cm)	TDS (mg/L)	Total Hardness (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Boron (mg/L)
8/9/00	185		566	279	111*	111	106	
8/15/00	179	880	560	267	102	105	102	0.356
8/15/00	179	890	560	266	101	105	103	0.366
8/23/00	185	820	542	196	123*	108	105	0.26
8/31/00	202	880	612	279	102	100	101	0.359
9/6/00	169	812	580	228	98.5	102	103	0.343
9/14/00	169	790	514	245	96.7	117	116	0.247
Average	181	845	562	251	105	107	105	0.321
Basin Plan Obj.	-	-	700	350	110	140	150	0.75

* Value equals or exceeds Basin Plan Objectives

TABLE 2
Santa Ana River below Prado Dam
Year 2000 Nutrient Analyses

Date	Time	Water Temp. (deg. C)	pH (units)	Electrical Conductivity (umhos/cm)	Dissolved Oxygen (mg/L)	Total Nitrogen (mg/L)	COD (mg/L)	TOC (mg/L)
8/2/00	11:17	24.52	8.12	857	8.16	5.9	17	4.7
8/2/00	11:48	24.88	8.14	859	8.19	4.5	16	5.2
8/3/00	10:54	23.53	8.13	888	8.32	6.3	15	4.2
8/8/00	9:42	22.19	8.13	860	8.67	5.8	13	4.4
8/8/00	11:38	23.05	8.21	872	8.77	6.4	13	4.5
8/9/00	9:28	22.42	8.14	869	8.44	8.3	18	5
8/15/00	9:45	22.9	7.88	834	8.12	6.54	12	N/A*
8/15/00	11:15	24.02	8.17	850	8.17	6.4	9	N/A
8/22/00	9:25	22.01	8.14	890	9.8	5.7	16	N/A
8/22/00	11:51	22.96	8.21	898	10.25	5.7	18	N/A
8/23/00	12:17	23.41	8.4	896	12.31	5.7	15	4.4
8/30/00	9:15	21.49	8.19	880	9.51	7.8	11	N/A
8/30/00	9:45	21.55	8.20	882	9.47	7.7	12	N/A
8/31/00	11:40	21.77	8.27	888	9.02	11.1**	13	N/A
9/5/00	10:30	20.19	8.1	884	11.91	7.9	24	N/A
9/5/00	12:25	21.42	8.26	891	12.61	7.4	15	N/A
9/6/00	10:00	19.85	8.22	882	10.91	6	18	N/A
9/13/00	11:45	22.26	7.33	885	5.78	7.2	18	5.1
9/13/00	1:40	23.83	7.29	892	5.56	6.6	20	5.5
9/14/00	2:30	24.91	7.31	870	5.35	6.3	18	5.2
Average	-	22.66	8.04	876	8.97	6.77	15.42	4.78
Basin Plan Obj.		-	6.5-8.5	-	5.0	10	30	-

* N/A = not analyzed

** Value equals or exceeds Basin Plan Objective

Table 3 – Orange County Water District's Year 2000 Monitoring Results

Date	Station Name	Dissolved Oxygen (mg/L)	EC (umho/cm)	pH (units)	Temp. (deg C)	Ammonia Nitrogen (mg/L)	Nitrate Nitrogen (mg/L)	Nitrite Nitrogen (mg/L)	Boron (mg/L)	TOC@ (mg/L)	Chloride (mg/L)
8/1/00	CK-Chino - O3	7.1	872	7.6	25.0	<.1	4.42	0.064	0.33	6.41	106
8/8/00	CK-Chino - O3	7.3	820	7.6	24.3	<.1	4.32	0.045	0.36	5.89	103
8/15/00	CK-Chino - O3	6.7	850	7.9	25.2	<.1	3.58	0.06	0.33	6.91	103
8/22/00	CK-Chino - O3	8.09	918	8.4	26.2	<.1	3.7	0.06	0.29	6.75	95
8/29/00	CK-Chino - O3	6.69	884	7.5	24.4	0.3	4.95	0.073	0.38	28.1	100
8/1/00	CK-Mill - O1	14.8	690	9.5	30.3	0.2	3.25	0.081	0.33	8.17	94.5
8/8/00	CK-Mill - O1	10.9	690	9.2	24.4	0.2	3.25	0.191	0.31	7.76	87.4
8/15/00	CK-Mill - O1	12.9	660	9.6	23.8	0.2	2.49	0.146	0.31	8.76	86.5
8/22/00	CK-Mill - O1	8.87	702	9.9	30.9	0.1	4.15	0.118	0.32	8.24	83.4
8/29/00	CK-Mill - O1	11.9	687	9.6	25.6	<.1	5.65	0.135	0.39	8.39	88.4
8/1/00	CK-Temescal - 02	N/A	N/A	N/A	N/A	<.1	6.72	0.275	0.25	3.83	90.8
8/8/00	CK-Temescal - 02	8.0	880	8.5	19.8	<.1	7.44	0.235	0.25	3.77	87
8/15/00	CK-Temescal - 02	8.60	945	8.3	23.1	<.1	7.43	0.196	0.24	4.1	90
8/22/00	CK-Temescal - 02	9.79	836	9.2	27.7	<.1	7.2	<.002	0.23	5.13	86.6
8/1/00	SAR-belowdam-01	7.35	960	7.8	23.6	0.1	5.18	0.077	0.35	4.55	109

*value equals or exceeds Basin Plan Objective

NA – not analyzed

@- value is for unfiltered sample

Table 3 – Orange County Water District's Year 2000 Monitoring Results - Continued

Date	Station Name	Dissolved Oxygen (mg/L)	EC (umho/cm)	pH (units)	Temp. (deg C)	Ammonia Nitrogen (mg/L)	Nitrate Nitrogen (mg/L)	Nitrite Nitrogen (mg/L)	Boron (mg/L)	TOC@ (mg/L)	Chloride (mg/L)
8/8/00	SAR-belowdam-01	7.35	960	8.1	22.1	<.1	5.05	0.099	0.35	4.43	88
8/15/00	SAR-belowdam-01	7.9	960	7.9	23.3	<.1	5.23	0.095	0.35	4.57	94
8/21/00	SAR-belowdam-01	8.02	981	8.0	23.5	<.1	5.4	0.058	0.33	4.45	98.5
8/29/00	SAR-belowdam-01	9.2	975	7.9	22.5	<.1	5.49	0.069	0.43	4.83	99
8/1/00	SW-RP2MillCRK-02	7.6	757	7.8	27.2	0.2	5.42	0.063	0.33	5.27	105
8/8/00	SW-RP2MillCRK-02	8.0	760	7.8	27.3	<.1	4.39	0.044	0.33	6.89	93
8/15/00	SW-RP2MillCRK-02	8.4	760	8.3	27.4	<.1	4.66	0.041	0.32	5.56	94.8
8/22/00	SW-RP2MillCRK-02	9.52	757	9.2	28.8	<.1	5.11	0.05	0.31	6.12	95.4
8/29/00	SW-RP2MillCRK-02	8.37	767	8.5	26.2	<.1	6.28	0.059	0.41	6.08	94.1
8/1/00	SAR-RIVRRD-01	N/A	N/A	N/A	N/A	<.1	8.25	0.014	0.18	2.71	104
8/8/00	SAR-RIVRRD-01	8.8	970	8.5	22.4	<.1	8.10	0.013	0.18	2.87	98
8/15/00	SAR-RIVRRD-01	7.55	1030	8.3	25.7	<.1	11.3	0.061	0.17	3.03	99.8
8/22/00	SAR-RIVRRD-01	7.12	1010	9.1	30.1	<.1	7.99	0.015	0.16	7.18	86.5
8/29/00	SAR-RIVRRD-01	7.63	991	8.1	22.3	<.1	7.81	0.012	0.18	3.4	93.7

*v value equals or exceeds Basin Plan Objective

NA – not analyzed

@- value is for unfiltered sample

TABLE 4
Santa Ana River Base Flow Results for 1983 – 2000

Date	Discharge (cfs)	TDS (mg/L)	Total Hardness (mg/L)	Sodium (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Boron (mg/L)	Total Nitrogen (mg/L)	COD (mg/L)	TOC @ (mg/L)
1983	213	716*	356*	91	85	NA	0.30	8.2	86*	NA
1984	128	683	350*	96	116	159*	0.40	7.3	58*	NA
1985	138	682	339	96	115	150*	0.33	9.8	33*	NA
1986	123	656	290	98	110	127	0.25	10.2*	43*	NA
1987	132	641	323	97	97	134	0.45	10.2*	27	NA
1988	134	629	297	102	111	130	0.25	10.3*	38*	NA
1989	127	635	290	102	115	128	0.30	10.2*	31*	9.9
1990	131	640	289	107	117	128	0.36	11.9*	26	9
1991	124	648	281	89	101	114	0.36	10.9*	18	5.3
1992	136	617	282	98	110	108	0.36	10.6*	18	4.9
1993	130	672	288	99	125	128	NA	8.2	30*	NA
1994	119	629	286	101	114	140	0.38	8.6	40*	5.5
1995	141	636	276	91	103	104	0.28	7.5	27	4.8
1996	168	578	250	88	97	106	0.27	9.5	22	5.4
1997	149+	607+	218+	89+	99+	112+	0.36+	6.3+	NA	9.7+
1998	245	524	264	85	96	100	0.30	7.4	30@	4.7
1999	190	586	271	99.5	101	110	0.341	6.3	30*	4.8
2000	186	562	251	105	107	105	0.321	6.765	15.47	4.78
Basin Plan Objective		700	350	110	140	150	0.75	10	30	-

* Value equals or exceeds Basin Plan Objective

N/A Not analyzed

+ 1997 Calculated results

@ value is for unfiltered sample

Figure 1 – Orange County Water District's Sampling Sites

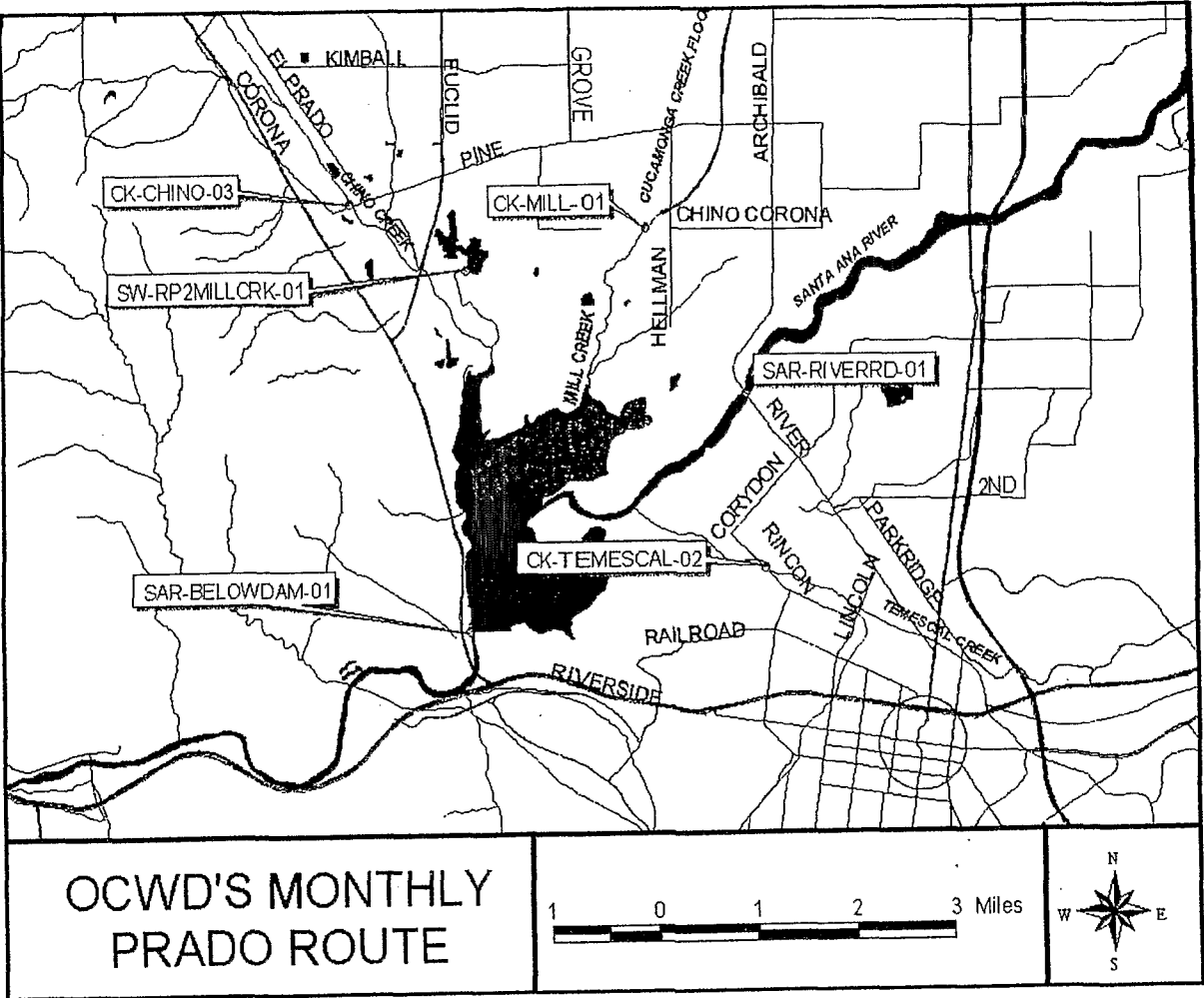


Figure 2 - Total Dissolved Solids concentrations over time

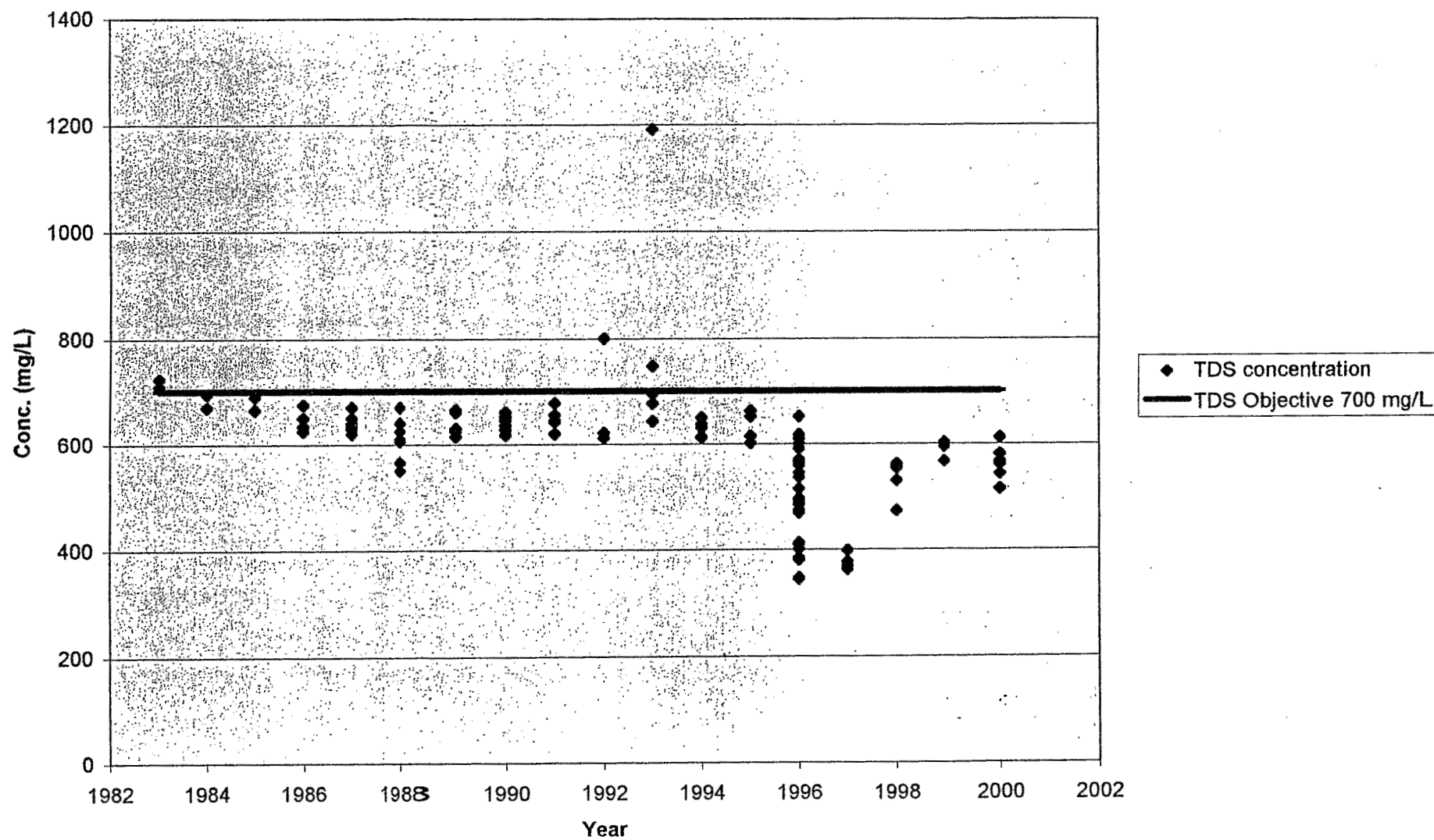


Figure 3 - Total Hardness concentrations over time

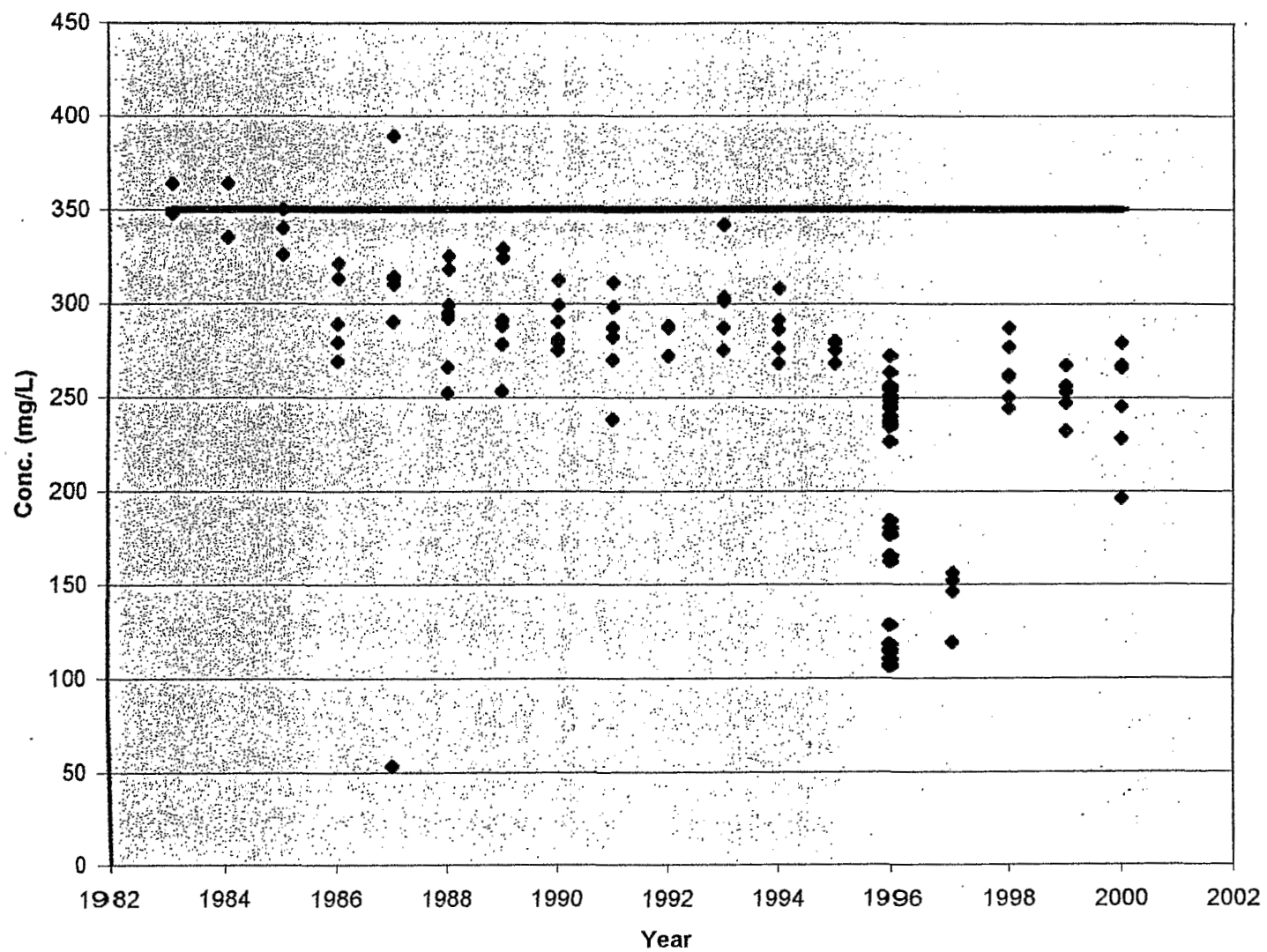


Figure 4 - Sodium concentrations over time

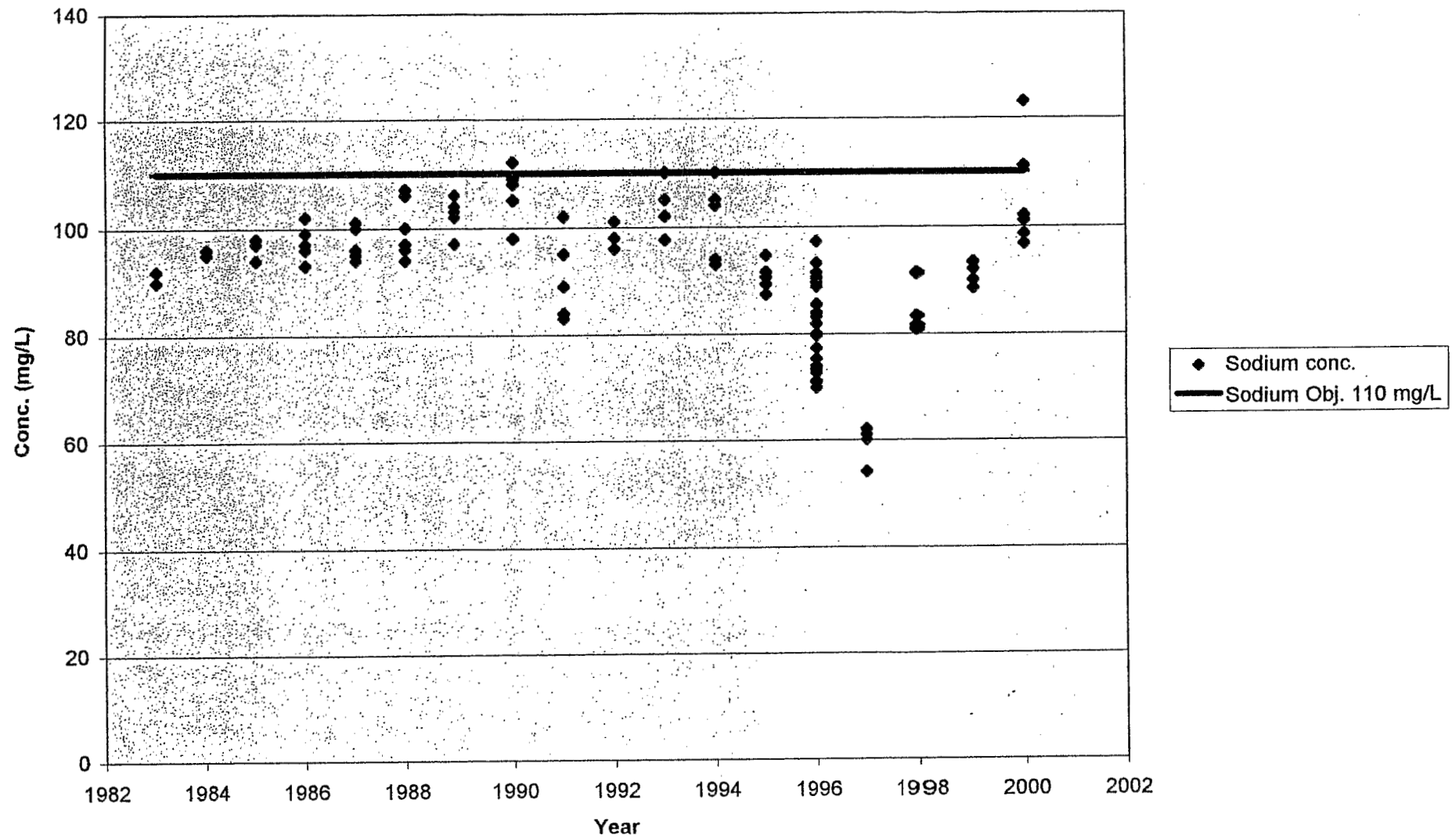


Figure 5 - Chloride concentrations over time

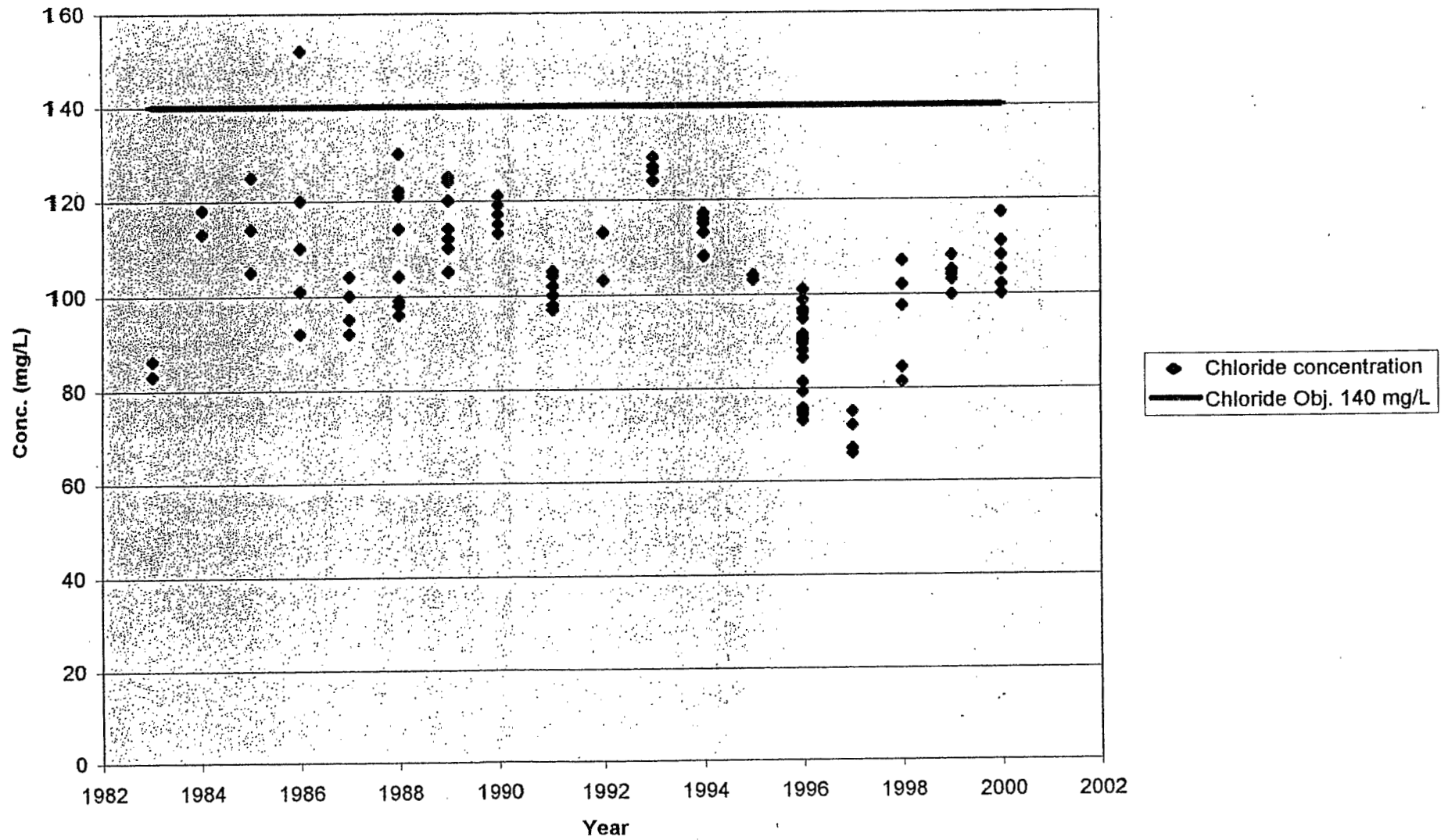


Figure 6 - Sulfate concentrations over time

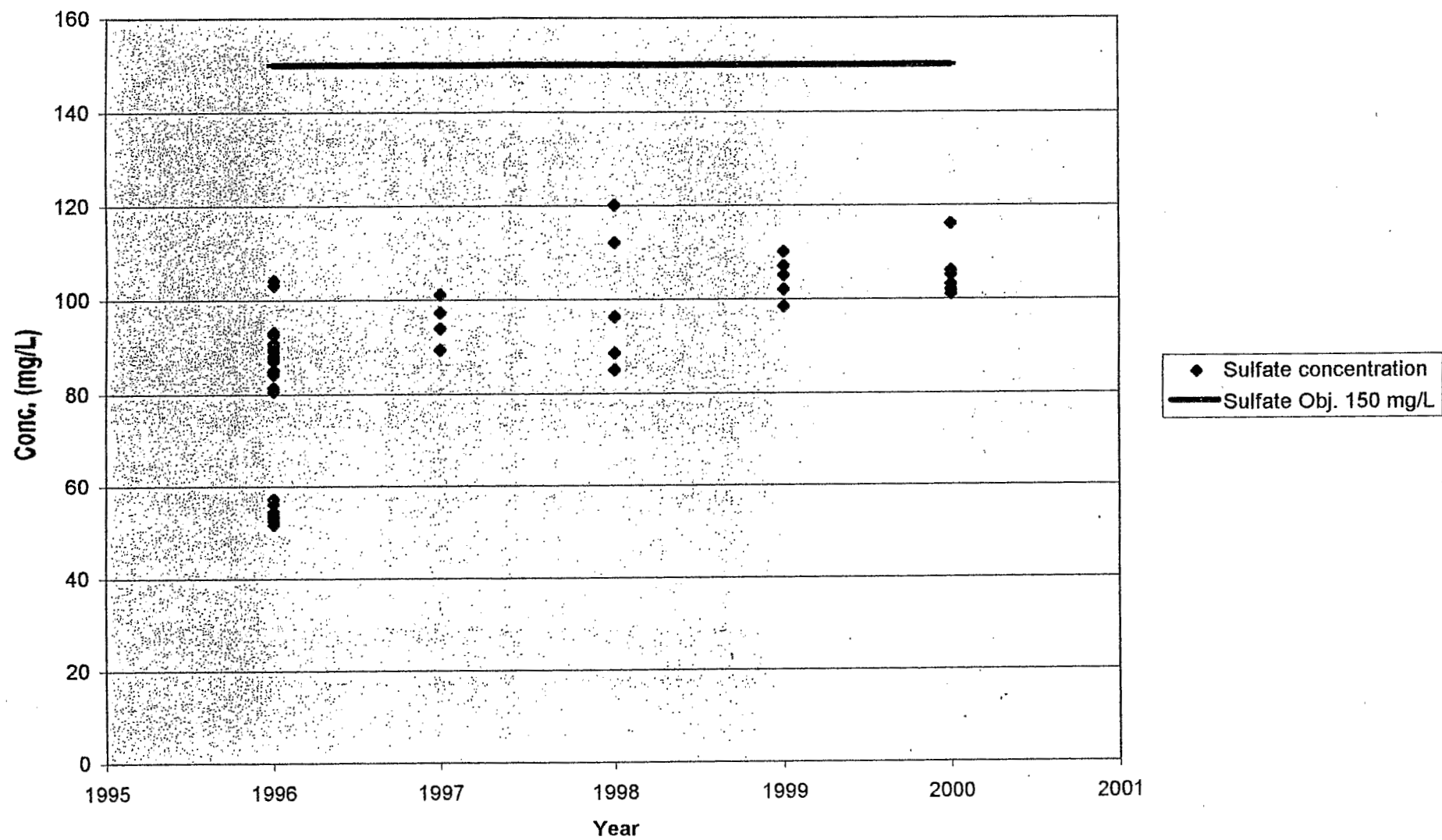


Figure 7 - Boron concentrations over time

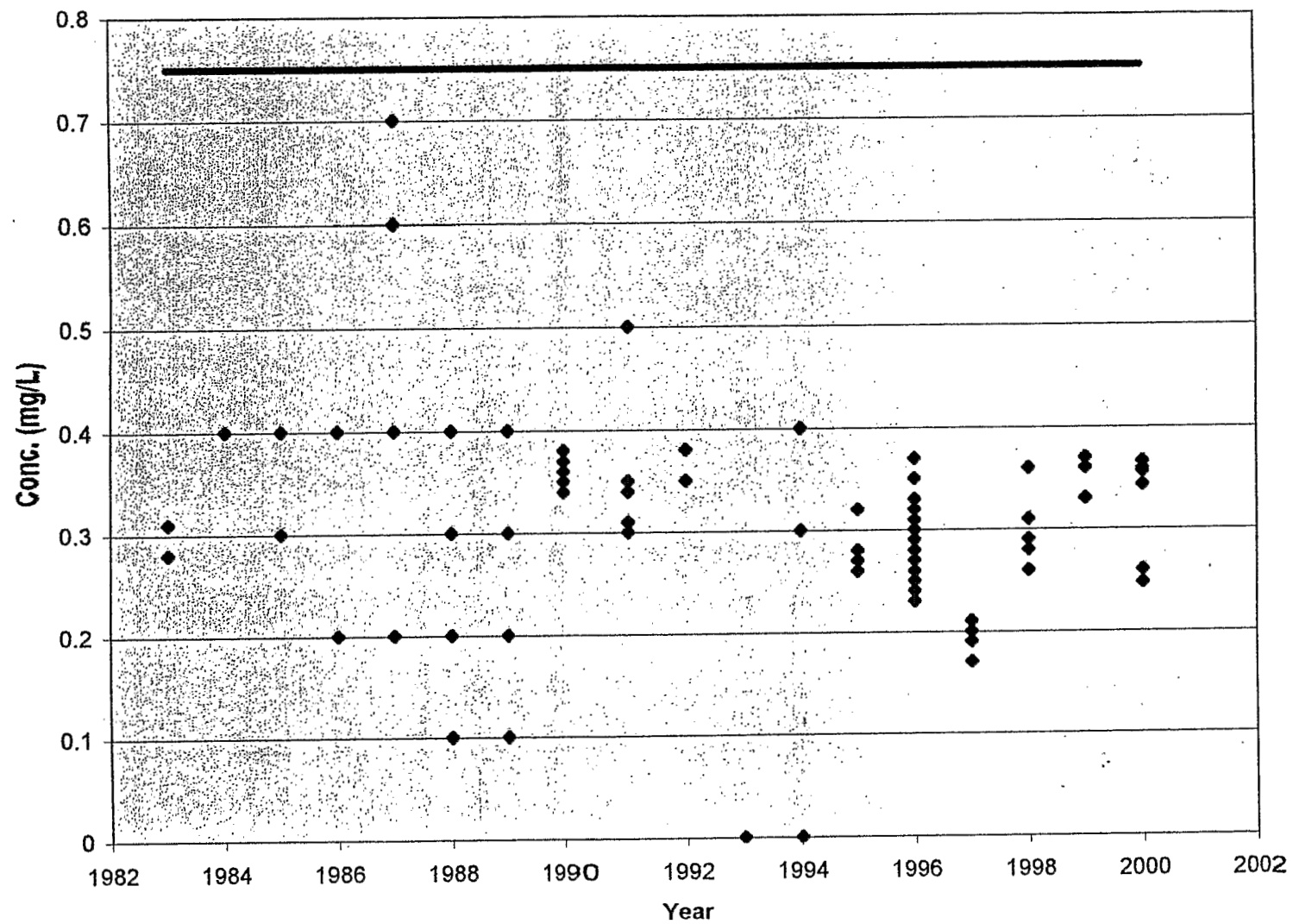


Figure 8 - Total Nitrogen concentrations over time

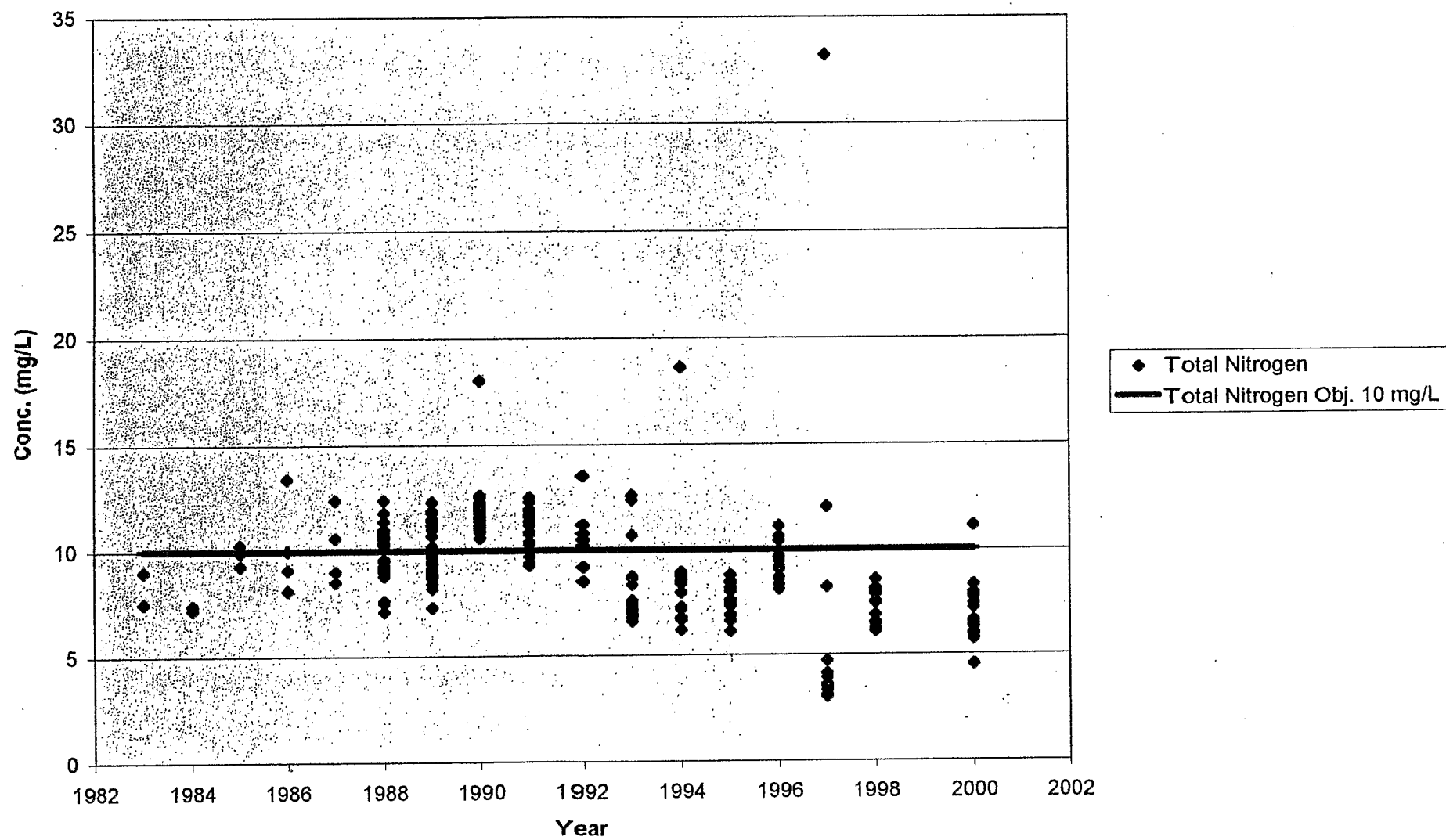


Figure 9 - Chemical Oxygen Demand concentrations over time

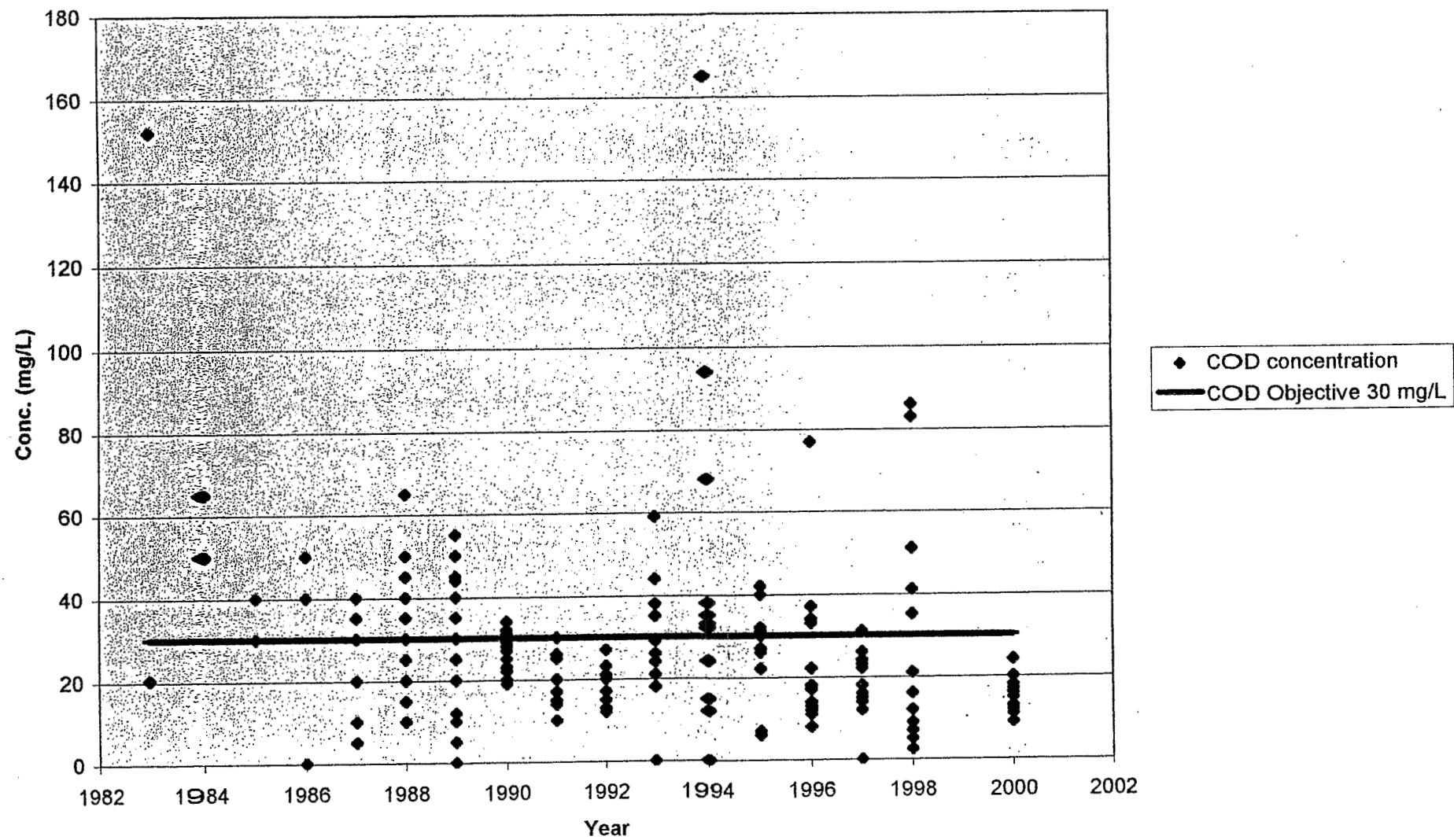
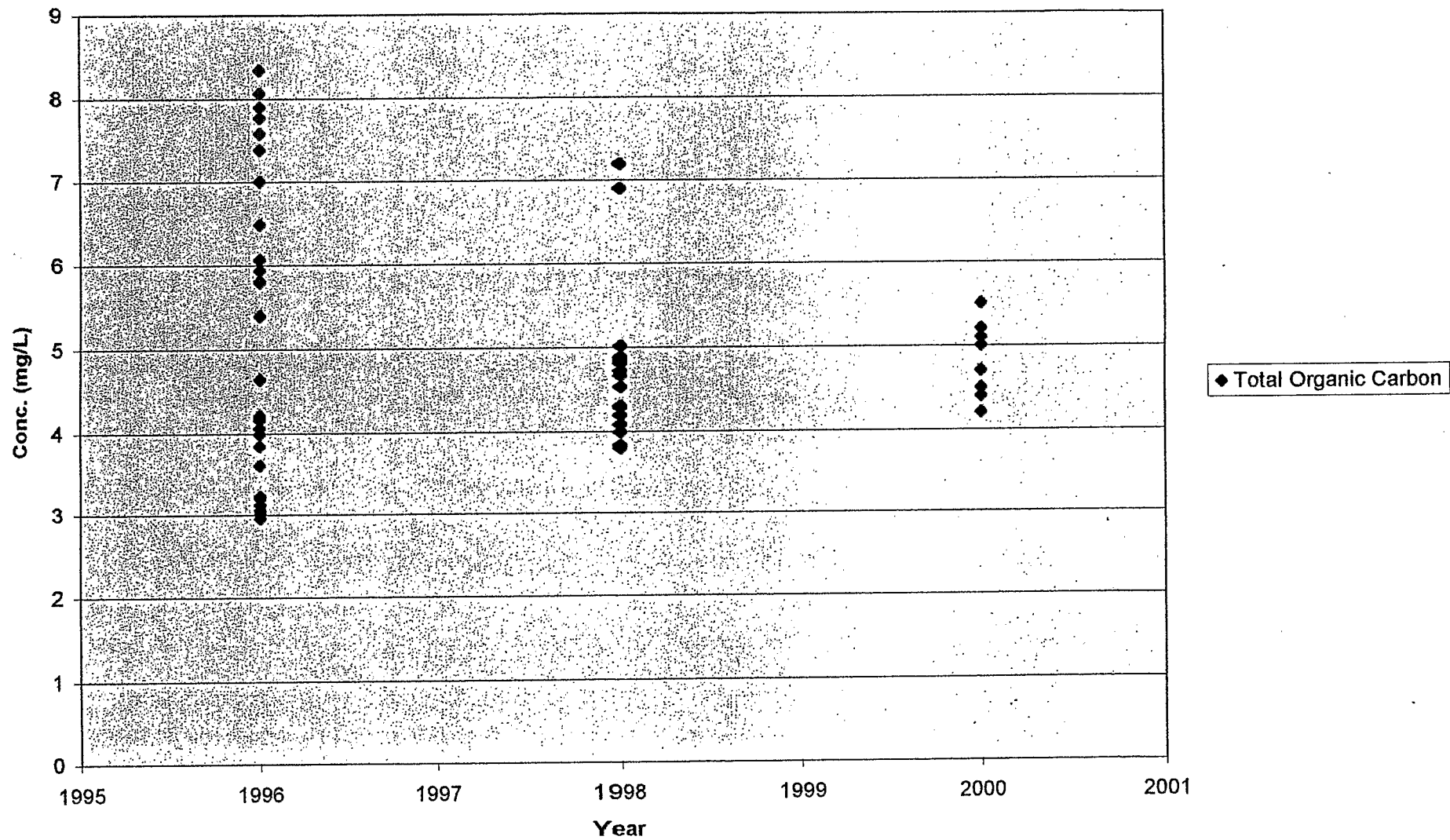


Figure 10 - Total Organic Carbon concentrations over time



SAR - Beach 3 - no objectives available for wet weather.

Site 8 - WW Grab

Program I.D. No.		WW94-0108	WW94-0208	WW95-0108	WW95-0208	WW95-0308	WW96-0108	WW96-0208	WW96-0308	WW96-0408	WW96-0508
Sample I.D. No.		940217-1617	940321-1618	L2743-001	L4665-003	L6006-003	L12979-001	L14419-015	L14981-015	L15397-015	L15705-015
Sample Date		2/17/94	3/19/94	11/10/94	1/23/95	3/10/95	12/12/95	1/31/96	2/19/96	3/4/96	3/13/96
Constituent	Units	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
BOD	mg/L	21	15	5	18	8	ND	ND	18	13	9
COD	mg/L	70	75	15	30	20	20	ND	140	130	71
TDS	mg/L	240	180	495	420	325	591	460	150	210	200
TSS	mg/L	540	1440	25	415	985	17	71	2800	2700	800
Cd, tr	mg/L	0.01	0.02	ND	NR	ND	ND	ND	0.02	ND	ND
Cu, tr	mg/L	0.04	0.07	0.01	0.02	0.01	ND	0.02	0.13	0.11	0.04
Pb, tr	mg/L	0.03	0.06	ND	0.02	0.02	ND	ND	0.1	0.08	0.04
Zn, tr	mg/L	0.16	0.24	0.03	0.1	0.04	0.01	0.03	0.45	0.55	0.15
P-Ortho	mg/L	0.45	0.35	0.95	0.1	0.5	1.2	1	0.24	0.21	0.35
P-Total	mg/L	1.3	2.5	1.1	1.7	1.5	1.2	1.2	2.8	1.8	1.1
NO2-N	mg/L	ND	0.1	ND	0.1	ND	ND	ND	ND	0.3	ND
NO3-N	mg/L	2.4	1.6	7.9	5.7	2.2	7.4	7.5	1.2	1.6	2.3
TKN	mg/L	2.7	4.2	0.8	0.5	2.5	0.9	1	5.7	5	3
pH	units	7.7	7.7	7.5	8	8.1	8.3	7.7	7.9	7.9	7.8
EC	µmho/cm	320	260	790	720	470	958	770	200	250	300
O&G	mg/L	2	ND	2	2	2	ND	ND	ND	ND	ND
As, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	0.03	0.02	0.01
Ba, tr	mg/L	0.2	0.3	ND	0.1	0.1	ND	ND	0.8	0.6	0.2
B, tr	mg/L	0.1	0.1	0.3	0.2	0.1	3	0.2	ND	ND	0.1
Cr, tr	mg/L	0.03	0.05	ND	ND	ND	ND	ND	0.11	0.07	0.03
Fe, tr	mg/L	24	50	2.2	13	6	0.62	2.1	100	120	30
Mn, tr	mg/L	0.52	1.1	0.06	0.31	0.3	0.03	0.07	2	3.1	0.68
Hg, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Se, tr	mg/L	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Ag, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Hardness as CaCO ₃	mg/L	156	180	253	248	189	288	210	330	390	160
Ca	mg/L	39	37	76	69	54	85	62	68	70	39
Mg	mg/L	14	21	15	18	13	18	13	38	51	16
Na	mg/L	28	17	59	58	37	89	64	19	25	28
K	mg/L	5	6	9	7	1	9	8	28	35	13
Total Alkalinity as CaCO ₃	mg/L	83	73	175	163	140	228	160	75	75	80
OH	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CO ₃	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
HCO ₃	mg/L	101	88	214	198	171	275	200	92	92	98
SO ₄	mg/L	34	20	96	81	48	110	82	15	19	27
Cl	mg/L	27	16	74	70	40	97	55	10	16	26

Site 8 - WW Grab

F	mg/L	0.3	0.3	0.6	0.5	0.4	0.6	0.4	0.3	0.3	0.3
NH ₄ -N	mg/L	0.3	0.4	ND	0.4	0.4	ND	ND	0.4	0.7	0.5
N-Total	mg/L	5.1	5.9	8.7	6.3	4.7	8.3	8.5	6.9	6.9	5.2
Acenaphthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Site 8 - WW Grab

Program I.D. No.		WW97-0108	WW97-0208	WW97-0308	WW98-0108	WW98-0208	WW98-0308	WW98-0408	WW00-0108	WW00-0208
Sample I.D. No.		L22804-001	L23600-015	L24196-017	C7111706	L37151-015	L38045-015	L39880-015	L64804-013	L66218-009
Sample Date		10/30/96	11/21/96	12/9/96	11/26/97	1/9/98	2/3/98	3/25/98	1/25/00	2/27/00
Constituent	Units	Results	Results	Results	Results	Results	Results	Results	Results	Results
BOD	mg/L	ND	6	ND	9.4	ND	13	11	18	9
COD	mg/L	ND	33	12	240	30	160	22	63	42
TDS	mg/L	520	380	490	280	620	230	590	390	500
TSS	mg/L	7	76	28	2200	39	1700	61	78	48
Cd, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cu, tr	mg/L	ND	0.01	ND	0.10	ND	0.07	ND	0.01	0.02
Pb, tr	mg/L	ND	ND	ND	0.062	ND	0.07	ND	ND	0.01
Zn, tr	mg/L	0.02	0.04	0.01	0.42	0.03	0.4	0.02	0.05	0.08
P-Ortho	mg/L	0.93	0.76	0.78	0.55	0.09	0.05	0.97	0.79	0.79
P-Total	mg/L	1.6	0.91	0.81	0.56	0.13	0.66	1.1	1	1.2
NO2-N	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
NO3-N	mg/L	9.6	7.5	7.9	4.30	9.30	2.30	8.00	5.20	5.80
TKN	mg/L	0.8	1.7	0.7	5.60	ND	1.20	1.20	2.20	1.70
pH	units	7.9	8	8.3	8.4	7	7.9	8.3	7.6	8.0
EC	µmho/cm	900	660	830	320.00	910.00	300.00	910.00	570	700
O&G	mg/L	3	ND	ND	6.6	ND	2	ND	ND	ND
As, tr	mg/L	ND	ND	ND	0.024	ND	0.02	ND	ND	0.006
Ba, tr	mg/L	ND	ND	ND	0.37	ND	0.4	ND	0.06	0.11
B, tr	mg/L	0.3	0.2	0.2	0.13	0.2	ND	0.3	0.2	0.3
Cr, tr	mg/L	ND	ND	ND	0.072	ND	0.06	ND	ND	ND
Fe, tr	mg/L	0.45	3.7	1.3	55.00	1.30	60.00	1.40	4.80	12.00
Mn, tr	mg/L	0.02	0.11	0.05	1.10	0.05	1	0.04	0.11	0.29
Hg, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Se, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ag, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Hardness as CaCO ₃	mg/L	260	200	240	250	270	240	250	190	220
Ca	mg/L	79	58	72	55	82	53	74	57	65
Mg	mg/L	16	12	14	28	16	26	17	12	15
Na	mg/L	82	56	74	31	80	24	78	62	62
K	mg/L	10	10	9	12	10	14	11	14	11
Total Alkalinity as CaCO ₃	mg/L	200	150	190	130	200	85	210	140	170
OH	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND
CO ₃	mg/L	6	ND	6	6	ND	ND	ND	ND	ND
HCO ₃	mg/L	230	180	220	120	240	100	250	170	210
SO ₄	mg/L	100	72	82	44.00	84.00	25.00	89.00	59.0	71.0
Cl	mg/L	86	59	74	41.00	78.00	24.00	91.00	51	62

Site 8 - WW Grab

F	mg/L	1.1	0.5	0.6	0.30	0.50	0.20	0.50	0.40	0.50
NH ₄ -N	mg/L	ND	0.4	0.1	ND	ND	0.10	0.50	0.30	0.30
N-Total	mg/L	10	9.2	8.6	9.90	9.30	3.40	9.20	7.40	7.50
Acenaphthene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Acenaphthylene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Benzo(a)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	ND	ND	ND		
2-Chloronaphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Chrysene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Dibenzo(a,h)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Fluorene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Indeno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Napthalene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Phenanthrene	µg/L	ND	ND	ND	ND	ND	ND	ND		
Pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND		

Program I.D. No.		WW00-0308	WW00-0408
Sample I.D. No.		L66478-015	L68386-015
Sample Date		3/4/00	4/17/00
Constituent	Units	Results	Results
BOD	mg/L	9	14
COD	mg/L	85	87
TDS	mg/L	210	250
TSS	mg/L	740	690
Cd, tr	mg/L	ND	ND
Cu, tr	mg/L	0.04	0.04
Pb, tr	mg/L	0.03	0.03
Zn, tr	mg/L	0.14	0.2
P-Ortho	mg/L	0.29	0.5
P-Total	mg/L	1.3	1.3
NO2-N	mg/L	ND	ND
NO3-N	mg/L	1.90	2.70
TKN	mg/L	2.50	3.00
pH	units	7.9	7.8
EC	µmho/cm	290	350
O&G	mg/L	ND	ND
As, tr	mg/L	0.007	0.012
Ba, tr	mg/L	0.23	0.2
B, tr	mg/L	0.1	ND
Cr, tr	mg/L	0.04	0.03
Fe, tr	mg/L	40.00	24.00
Mn, tr	mg/L	0.75	0.56
Hg, tr	mg/L	ND	ND
Se, tr	mg/L	ND	ND
Ag, tr	mg/L	NF	ND
Total Hardness as CaCO ₃	mg/L	180	150
Ca	mg/L	43	37
Mg	mg/L	18	14
Na	mg/L	22	24
K	mg/L	11	9
Total Alkalinity as CaCO ₃	mg/L	83	86
OH	mg/L	ND	ND
CO ₃	mg/L	ND	ND
HCO ₃	mg/L	100	110
SO ₄	mg/L	27.0	30.0
Cl	mg/L	17	25

F	mg/L	0.30	0.30
NH ₄ -N	mg/L	0.30	1.40
N-Total	mg/L	4.40	5.70
Acenaphthene	μg/L		
Acenaphthylene	μg/L		
Anthracene	μg/L		
Benzo(a)anthracene	μg/L		
Benzo(b)fluoranthene	μg/L		
Benzo(k)fluoranthene	μg/L		
Benzo(a)pyrene	μg/L		
Benzo(ghi)perylene	μg/L		
2-Chloronaphthalene	μg/L		
Chrysene	μg/L		
Dibenzo(a,h)anthracene	μg/L		
Fluoranthene	μg/L		
Fluorene	μg/L		
Indeno(1,2,3-cd)pyrene	μg/L		
Napthalene	μg/L		
Phenanthrene	μg/L		
Pyrene	μg/L		

SAR - Reach ~~3~~ 3 Wei Weather

			<u>Beneficial Uses</u>
COD	30	6/8	AGR
TDS	700	0/8	GWR
Na	110	0/8	REC 1
			REC 2
SO ₄	150	0/8	WARM
			WILD
			RARE
Cl	140	0/8	
TIN	10	0/8	
hardness	350 mg/L	0/8	
boron	0.75 mg/L	0/8	

SAR - Reach 3 Dry Weather

COD ~~700~~ 30 0/2

TDS 700 0/2

MA 110 0/2

SO₄ 130 0/2

Cl 140 0/2

TIN 10 0/2

hardness 350 mg/l 0/2

Boron 75 mg/l 0/2

Beneficial User

AGR

GWR

REC 1

REC 2

WARM

WILD

RARE

Source: San Bernardino Co. NPDES Stormwater Monitoring Program

Site 8 - DW Grab

Program I.D. No.		DW94-0108	DW94-0208	DW94-0308	DW95-0108	DW95-0208	DW96-0108	DW97-0108	DW98-0108
Sample I.D. No.		0	0	L2438-001	L8196-001	L9920-001	L19857-007	L32317-001	L44330-008
Sample Date		6/8/94	8/16/94	11/1/94	6/6/95	8/14/95	7/30/96	8/20/97	7/29/98
Constituent	Units	Results	Results	Results	Results	Results	Results	Results	Results
BOD	mg/L	NR	NR	15	ND	ND	ND	ND	ND
COD	mg/L	NR	NR	ND	20	30	ND	ND	ND
TDS	mg/L	NR	NR	595	485	615	480	590	570
TSS	mg/L	NR	NR	10	25	25	14	17	54
Cd, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Cu, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Pb, tr	mg/L	NR	NR	ND	ND	0.04	ND	ND	ND
Zn, tr	mg/L	NR	NR	0.02	0.01	0.02	0.02	0.03	0.02
P-Ortho	mg/L	NR	NR	1.3	0.8	1	1	1.1	0.71
P-Total	mg/L	NR	NR	1.2	0.9	1.1	1	1.4	0.99
NO2-N	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
NO3-N	mg/L	NR	NR	10	6.9	7.6	10	7.20	7.10
TKN	mg/L	NR	NR	0.2	0.6	0.6	1	0.50	0.90
pH	units	NR	NR	8.1	8.3	8.5	8.3	8.1	8.4
EC	µmho/cm	NR	NR	880	730	960	970	890.00	860.00
O&G	mg/L	NR	NR	595	485	615	480	ND	1
As, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	0.007
Ba, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	0.07
B, tr	mg/L	NR	NR	0.3	0.3	0.3	0.3	0.3	0.3
Cr, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Fe, tr	mg/L	NR	NR	0.21	0.31	0.7	0.38	0.44	2.00
Mn, tr	mg/L	NR	NR	0.02	0.02	0.04	0.02	0.02	0.07
Hg, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Se, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Ag, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Total Hardness as CaCO ₃	mg/L	NR	NR	272	250	293	280	250	270
Ca	mg/L	NR	NR	82	75	87	83	74	82
Mg	mg/L	NR	NR	16	15	18	18	15	16
Na	mg/L	NR	NR	77	61	90	90	82	83
K	mg/L	NR	NR	8	7	9	11	10	10
Total Alkalinity as CaCO ₃	mg/L	NR	NR	188	185	218	210	210	210
OH	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
CO ₃	mg/L	NR	NR	ND	6	9	9	ND	3
HCO ₃	mg/L	NR	NR	229	214	247	240	250	250
SO ₄	mg/L	NR	NR	110	82	110	100	97.00	81.00
Cl	mg/L	NR	NR	94	66	100	92	90.00	79.00
F	mg/L	NR	NR	0.6	0.6	0.6	0.6	0.60	0.60
NH ₄ -N	mg/L	NR	NR	ND	0.1	ND	0.2	0.10	ND
N-Total	mg/L	NR	NR	10	7.5	8.2	11	7.60	8.00
Acenaphthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND

Site 8 - DW Grab

Acenaphthylene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Anthracene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Chrysene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Fluoranthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Fluorene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Napthalene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Phenanthrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Pyrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND

ORGANICS

Santa Ana Region 8

8-140

2001 WQA/303 D List Update

Supporting Data

Santa Ana River, Reaches 2 & 3

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StationName SAR-BELOWDAM-01

SampDate	SampTime	ParamName	Result_T	ParamType	ParamGrp
2/17/98	9:50	Bromodichloromethane	0.1	ORGANIC	551
3/16/98	9:20	Toluene	1.4	ORGANIC	502
3/26/98	13:15	Toluene	5.1	ORGANIC	502

StationName SAR-RIVERRD-01

SampDate	SampTime	ParamName	Result_T	ParamType	ParamGrp
2/17/98	14:50	Bromodichloromethane	0.6	ORGANIC	502

SAR hardness

StationName SAR-BELOWDAM-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	7/14/97	9:10	186
Total Hardness (as CaCO3)	7/28/97	12:10	192
Total Hardness (as CaCO3)	8/5/97	11:35	162
Total Hardness (as CaCO3)	8/13/97	9:15	162
Total Hardness (as CaCO3)	8/19/97	9:15	171
Total Hardness (as CaCO3)	8/25/97	12:40	161
Total Hardness (as CaCO3)	9/17/97	11:00	166
Total Hardness (as CaCO3)	9/23/97	12:50	166
Total Hardness (as CaCO3)	10/20/97	10:00	234
Total Hardness (as CaCO3)	11/12/97	9:30	224
Total Hardness (as CaCO3)	12/15/97	9:30	212
Total Hardness (as CaCO3)	1/19/98	9:00	186
Total Hardness (as CaCO3)	2/17/98	9:50	146
Total Hardness (as CaCO3)	3/16/98	9:20	253
Total Hardness (as CaCO3)	3/30/98	15:10	148
Total Hardness (as CaCO3)	4/2/98	9:40	192
Total Hardness (as CaCO3)	4/3/98	9:00	178
Total Hardness (as CaCO3)	4/20/98	10:30	236
Total Hardness (as CaCO3)	5/18/98	10:40	162
Total Hardness (as CaCO3)	6/15/98	10:40	202
Total Hardness (as CaCO3)	7/20/98	10:30	261
Total Hardness (as CaCO3)	8/4/98	10:10	298
Total Hardness (as CaCO3)	8/11/98	10:00	272
Total Hardness (as CaCO3)	8/17/98	11:30	245
Total Hardness (as CaCO3)	8/27/98	10:00	255
Total Hardness (as CaCO3)	9/3/98	7:35	239
Total Hardness (as CaCO3)	9/10/98	7:35	244

Total Hardness (as CaCO ₃)	9/14/98	10:00	253
Total Hardness (as CaCO ₃)	9/22/98	7:30	280
Total Hardness (as CaCO ₃)	10/20/98	11:15	290
Total Hardness (as CaCO ₃)	11/17/98	10:45	254
Total Hardness (as CaCO ₃)	12/14/98	9:40	273
Total Hardness (as CaCO ₃)	1/18/99	9:50	272
Total Hardness (as CaCO ₃)	2/8/99	9:20	245
Total Hardness (as CaCO ₃)	3/15/99	9:45	257
Total Hardness (as CaCO ₃)	4/19/99	9:30	204
Total Hardness (as CaCO ₃)	5/17/99	9:00	274
Total Hardness (as CaCO ₃)	6/21/99	9:25	267
Total Hardness (as CaCO ₃)	7/19/99	9:05	257
Total Hardness (as CaCO ₃)	8/2/99	10:00	267
Total Hardness (as CaCO ₃)	8/9/99	9:15	232
Total Hardness (as CaCO ₃)	8/16/99	11:00	247
Total Hardness (as CaCO ₃)	8/23/99	9:30	256
Total Hardness (as CaCO ₃)	8/30/99	9:45	253
Total Hardness (as CaCO ₃)	9/20/99	12:30	243
Total Hardness (as CaCO ₃)	10/18/99	12:15	197
Total Hardness (as CaCO ₃)	11/15/99	10:00	265
Total Hardness (as CaCO ₃)	12/13/99	14:00	254
Total Hardness (as CaCO ₃)	1/19/00	10:15	220
Total Hardness (as CaCO ₃)	2/14/00	12:00	220
Total Hardness (as CaCO ₃)	3/20/00	10:50	223
Total Hardness (as CaCO ₃)	4/17/00	11:45	281
Total Hardness (as CaCO ₃)	5/15/00	12:15	254
Total Hardness (as CaCO ₃)	6/19/00	12:00	245
Total Hardness (as CaCO ₃)	7/24/00	13:30	249
Total Hardness (as CaCO ₃)	8/1/00	9:10	243
Total Hardness (as CaCO ₃)	8/8/00	8:20	237
Total Hardness (as CaCO ₃)	8/15/00	9:35	239

Total Hardness (as CaCO3)	8/21/00	12:25	243
Total Hardness (as CaCO3)	8/29/00	10:45	250
Total Hardness (as CaCO3)	9/25/00	11:15	256
Total Hardness (as CaCO3)	10/23/00	12:30	222
Total Hardness (as CaCO3)	11/13/00	10:20	216
Total Hardness (as CaCO3)	12/18/00	12:40	252
Total Hardness (as CaCO3)	1/22/01	12:00	177

StationName SAR-ETIWANDA-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	8/25/97	16:15	248
Total Hardness (as CaCO3)	8/17/98	11:55	217
Total Hardness (as CaCO3)	8/23/99	12:20	258

StationName SAR-HAMNER-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	8/25/97	10:00	123

StationName SAR-LAKEVIEW-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	7/20/98	9:00	269
Total Hardness (as CaCO3)	7/21/98	10:20	281
Total Hardness (as CaCO3)	7/22/98	8:55	273
Total Hardness (as CaCO3)	7/23/98	7:30	250
Total Hardness (as CaCO3)	7/24/98	10:00	295
Total Hardness (as CaCO3)	7/27/98	15:45	279
Total Hardness (as CaCO3)	7/28/98	7:20	298
Total Hardness (as CaCO3)	7/29/98	10:00	316
Total Hardness (as CaCO3)	7/30/98	8:55	264
Total Hardness (as CaCO3)	7/31/98	7:15	262
Total Hardness (as CaCO3)	8/4/98	8:40	303

StationName SAR-MWDXING-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	8/25/97	12:10	167
Total Hardness (as CaCO3)	4/2/98	13:15	174
Total Hardness (as CaCO3)	4/3/98	12:10	332
Total Hardness (as CaCO3)	8/17/98	11:10	250
Total Hardness (as CaCO3)	8/23/99	11:30	323
Total Hardness (as CaCO3)	8/22/00	12:15	306

StationName SAR-RIVERRD-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	7/14/97	10:20	260
Total Hardness (as CaCO3)	8/5/97	10:00	261
Total Hardness (as CaCO3)	8/13/97	10:40	262
Total Hardness (as CaCO3)	8/19/97	10:55	267
Total Hardness (as CaCO3)	8/25/97	14:55	256
Total Hardness (as CaCO3)	9/17/97	11:40	253
Total Hardness (as CaCO3)	9/23/97	11:30	264
Total Hardness (as CaCO3)	10/3/97	12:15	244
Total Hardness (as CaCO3)	10/20/97	11:20	251
Total Hardness (as CaCO3)	11/12/97	11:25	229
Total Hardness (as CaCO3)	12/15/97	10:40	273
Total Hardness (as CaCO3)	1/19/98	11:05	284
Total Hardness (as CaCO3)	2/17/98	14:50	99.4
Total Hardness (as CaCO3)	3/16/98	11:00	274
Total Hardness (as CaCO3)	4/2/98	11:30	167
Total Hardness (as CaCO3)	4/3/98	10:45	396
Total Hardness (as CaCO3)	4/20/98	12:15	237
Total Hardness (as CaCO3)	5/18/98	12:35	162
Total Hardness (as CaCO3)	6/15/98	12:15	236
Total Hardness (as CaCO3)	7/20/98	12:40	269
Total Hardness (as CaCO3)	8/4/98	11:20	294

Total Hardness (as CaCO3)	8/11/98	12:15	248
Total Hardness (as CaCO3)	8/17/98	14:30	226
Total Hardness (as CaCO3)	8/27/98	11:45	262
Total Hardness (as CaCO3)	9/14/98	12:10	280
Total Hardness (as CaCO3)	10/20/98	13:00	299
Total Hardness (as CaCO3)	11/17/98	14:35	273
Total Hardness (as CaCO3)	12/14/98	13:15	297
Total Hardness (as CaCO3)	1/18/99	12:35	296
Total Hardness (as CaCO3)	2/8/99	13:00	274
Total Hardness (as CaCO3)	3/15/99	12:35	263
Total Hardness (as CaCO3)	4/19/99	11:40	269
Total Hardness (as CaCO3)	5/17/99	12:15	288
Total Hardness (as CaCO3)	6/21/99	11:30	284
Total Hardness (as CaCO3)	7/19/99	11:00	256
Total Hardness (as CaCO3)	8/2/99	11:50	294
Total Hardness (as CaCO3)	8/9/99	10:25	266
Total Hardness (as CaCO3)	8/16/99	11:35	276
Total Hardness (as CaCO3)	8/23/99	11:30	279
Total Hardness (as CaCO3)	8/30/99	11:00	301
Total Hardness (as CaCO3)	9/20/99	10:45	266
Total Hardness (as CaCO3)	10/18/99	11:00	288
Total Hardness (as CaCO3)	11/16/99	11:30	297
Total Hardness (as CaCO3)	12/13/99	11:05	269
Total Hardness (as CaCO3)	1/17/00	11:40	275
Total Hardness (as CaCO3)	2/22/00	9:40	151
Total Hardness (as CaCO3)	3/20/00	10:20	281
Total Hardness (as CaCO3)	4/17/00	9:55	287
Total Hardness (as CaCO3)	5/16/00	10:20	304
Total Hardness (as CaCO3)	6/20/00	11:15	309
Total Hardness (as CaCO3)	7/25/00	12:55	268
Total Hardness (as CaCO3)	8/1/00	11:00	276

Total Hardness (as CaCO3)	8/8/00	9:40	266
Total Hardness (as CaCO3)	8/15/00	10:50	308
Total Hardness (as CaCO3)	8/22/00	14:20	278
Total Hardness (as CaCO3)	8/29/00	13:00	277
Total Hardness (as CaCO3)	9/26/00	14:05	260
Total Hardness (as CaCO3)	10/24/00	11:25	270
Total Hardness (as CaCO3)	11/14/00	11:00	267
Total Hardness (as CaCO3)	12/18/00	11:20	262
Total Hardness (as CaCO3)	1/16/01	11:00	215



SAR-HAMNER-01

ParamName Arsenic

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	10:00	3.1	ug/L	SAR-HAMNER-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	10:00	5.6	ug/L	SAR-HAMNER-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	10:00	3.0	ug/L	SAR-HAMNER-01	INORGANIC

SAR-MWDXING-01

ParamName Arsenic

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	12:10	6.8	ug/L	SAR-MWDXING-01	INORGANIC
8/17/98	11:10	4.6	ug/L	SAR-MWDXING-01	INORGANIC
8/23/99	11:30	7.2	ug/L	SAR-MWDXING-01	INORGANIC
8/22/00	12:15	4.6	ug/L	SAR-MWDXING-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	12:10	3.2	ug/L	SAR-MWDXING-01	INORGANIC
8/17/98	11:10	7.3	ug/L	SAR-MWDXING-01	INORGANIC
8/23/99	11:30	9.5	ug/L	SAR-MWDXING-01	INORGANIC
8/22/00	12:15	9.8	ug/L	SAR-MWDXING-01	INORGANIC

ParamName Lead

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/22/00	12:15	1.6	ug/L	SAR-MWDXING-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	12:10	1.0	ug/L	SAR-MWDXING-01	INORGANIC
8/17/98	11:10	1.4	ug/L	SAR-MWDXING-01	INORGANIC
8/23/99	11:30	2.6	ug/L	SAR-MWDXING-01	INORGANIC
8/22/00	12:15	2.1	ug/L	SAR-MWDXING-01	INORGANIC

SAR-RIVERRD-01

ParamName Arsenic

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/13/97	10:40	4.1	ug/L	SAR-RIVERRD-01	INORGANIC
8/25/97	14:55	7.6	ug/L	SAR-RIVERRD-01	INORGANIC
8/4/98	11:20	5.0	ug/L	SAR-RIVERRD-01	INORGANIC
8/17/98	14:30	5.3	ug/L	SAR-RIVERRD-01	INORGANIC
8/23/99	11:30	8.2	ug/L	SAR-RIVERRD-01	INORGANIC
8/22/00	14:20	5.4	ug/L	SAR-RIVERRD-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/13/97	10:40	7.0	ug/L	SAR-RIVERRD-01	INORGANIC
8/25/97	14:55	6.0	ug/L	SAR-RIVERRD-01	INORGANIC
8/4/98	11:20	6.4	ug/L	SAR-RIVERRD-01	INORGANIC
8/17/98	14:30	4.5	ug/L	SAR-RIVERRD-01	INORGANIC
8/23/99	11:30	8.2	ug/L	SAR-RIVERRD-01	INORGANIC
8/22/00	14:20	6.5	ug/L	SAR-RIVERRD-01	INORGANIC

ParamName Lead

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/22/00	14:20	1.3	ug/L	SAR-RIVERRD-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/13/97	10:40	2.6	ug/L	SAR-RIVERRD-01	INORGANIC
8/25/97	14:55	3.4	ug/L	SAR-RIVERRD-01	INORGANIC
8/4/98	11:20	2.2	ug/L	SAR-RIVERRD-01	INORGANIC
8/17/98	14:30	2.3	ug/L	SAR-RIVERRD-01	INORGANIC
8/23/99	11:30	6.7	ug/L	SAR-RIVERRD-01	INORGANIC
8/22/00	14:20	3.2	ug/L	SAR-RIVERRD-01	INORGANIC

ParamName Silver

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/17/98	14:30	12	ug/L	SAR-RIVERRD-01	INORGANIC

qry SAR-BELOWDAM-01

StationName SAR-BELOWDAM-01

ParamName	SampDate	SampTime	Result_Tx	ParamType	Units
Arsenic	7/28/97	12:10	3.5	INORGANIC	ug/L
Arsenic	8/25/97	12:40	4.6	INORGANIC	ug/L
Arsenic	11/12/97	9:30	5.4	INORGANIC	ug/L
Arsenic	2/17/98	9:50	2.2	INORGANIC	ug/L
Arsenic	5/18/98	10:40	3.7	INORGANIC	ug/L
Arsenic	8/17/98	11:30	6.0	INORGANIC	ug/L
Arsenic	11/17/98	10:45	4.8	INORGANIC	ug/L
Arsenic	2/8/99	9:20	2.2	INORGANIC	ug/L
Arsenic	4/19/99	9:30	4.1	INORGANIC	ug/L
Arsenic	5/17/99	9:00	4.0	INORGANIC	ug/L
Arsenic	8/2/99	10:00	5.6	INORGANIC	ug/L
Arsenic	8/16/99	11:00	4.9	INORGANIC	ug/L
Arsenic	8/23/99	9:30	6.2	INORGANIC	ug/L
Arsenic	11/15/99	10:00	5.2	INORGANIC	ug/L
Arsenic	2/14/00	12:00	4.2	INORGANIC	ug/L
Arsenic	5/15/00	12:15	5.4	INORGANIC	ug/L
Arsenic	8/21/00	12:25	4.8	INORGANIC	ug/L
Arsenic	11/13/00	10:20	3.3	INORGANIC	ug/L
Copper	7/28/97	12:10	2.8	INORGANIC	ug/L
Copper	8/13/97	9:15	5.6	INORGANIC	ug/L
Copper	8/25/97	12:40	4.8	INORGANIC	ug/L
Copper	11/12/97	9:30	6.3	INORGANIC	ug/L
Copper	2/17/98	9:50	8.3	INORGANIC	ug/L
Copper	5/18/98	10:40	11	INORGANIC	ug/L
Copper	8/17/98	11:30	5.4	INORGANIC	ug/L
Copper	11/17/98	10:45	5.1	INORGANIC	ug/L
Copper	2/8/99	9:20	5.7	INORGANIC	ug/L

Copper	4/19/99	9:30 6.9	INORGANIC	ug/L
Copper	5/17/99	9:00 5.7	INORGANIC	ug/L
Copper	8/2/99	10:00 6.0	INORGANIC	ug/L
Copper	8/16/99	11:00 10	INORGANIC	ug/L
Copper	8/23/99	9:30 9.7	INORGANIC	ug/L
Copper	11/15/99	10:00 6.8	INORGANIC	ug/L
Copper	2/14/00	12:00 11	INORGANIC	ug/L
Copper	5/15/00	12:15 10	INORGANIC	ug/L
Copper	8/21/00	12:25 4.1	INORGANIC	ug/L
Copper	11/13/00	10:20 11.9	INORGANIC	ug/L
Cyanide	5/15/00	12:15 6.3	INORGANIC	ug/L
Lead	11/12/97	9:30 1.5	INORGANIC	ug/L
Lead	4/19/99	9:30 1.0	INORGANIC	ug/L
Lead	11/13/00	10:20 1.3	INORGANIC	ug/L
Nickel	8/13/97	9:15 1.9	INORGANIC	ug/L
Nickel	8/25/97	12:40 2.1	INORGANIC	ug/L
Nickel	11/12/97	9:30 4.0	INORGANIC	ug/L
Nickel	5/18/98	10:40 2.3	INORGANIC	ug/L
Nickel	8/17/98	11:30 2.9	INORGANIC	ug/L
Nickel	11/17/98	10:45 3.6	INORGANIC	ug/L
Nickel	2/8/99	9:20 2.4	INORGANIC	ug/L
Nickel	4/19/99	9:30 2.4	INORGANIC	ug/L
Nickel	5/17/99	9:00 2.4	INORGANIC	ug/L
Nickel	8/2/99	10:00 3.7	INORGANIC	ug/L
Nickel	8/16/99	11:00 3.3	INORGANIC	ug/L
Nickel	8/23/99	9:30 3.7	INORGANIC	ug/L
Nickel	11/15/99	10:00 4.0	INORGANIC	ug/L
Nickel	2/14/00	12:00 2.8	INORGANIC	ug/L
Nickel	5/15/00	12:15 3.6	INORGANIC	ug/L
Nickel	8/21/00	12:25 3.2	INORGANIC	ug/L
Nickel	11/13/00	10:20 14.6	INORGANIC	ug/L

Selenium	11/13/00	10:20 7.9	INORGANIC	ug/L
Zinc	11/13/00	10:20 19.1	INORGANIC	ug/L

SAR-WATERMAN-01

ParamName Chromium

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/23/99	9:45	5.8	ug/L	SAR-WATERMAN-01	INORGANIC
8/22/00	9:45	6.2	ug/L	SAR-WATERMAN-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/17/98	100	9:05	3.0 ¹³ ug/L	SAR-WATERMAN-01	INORGANIC
8/23/99	21 ⁰¹	9:45	6.2 ²⁶ ug/L	SAR-WATERMAN-01	INORGANIC
8/22/00	190	9:45	9.1 ²⁴ ug/L	SAR-WATERMAN-01	INORGANIC

ParamName Lead

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/22/00	9:45	1.9	ug/L	SAR-WATERMAN-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/22/00	9:45	2.0	ug/L	SAR-WATERMAN-01	INORGANIC

SAR-BELOWDAM-01

ParamName Arsenic

SampDate	SampTime	Result_T	Units	StationName	ParamType
7/28/97	12:10	3.5	ug/L	SAR-BELOWDAM-01	INORGANIC
8/25/97	12:40	4.6	ug/L	SAR-BELOWDAM-01	INORGANIC
11/12/97	9:30	5.4	ug/L	SAR-BELOWDAM-01	INORGANIC
2/17/98	9:50	2.2	ug/L	SAR-BELOWDAM-01	INORGANIC
5/18/98	10:40	3.7	ug/L	SAR-BELOWDAM-01	INORGANIC
8/17/98	11:30	6.0	ug/L	SAR-BELOWDAM-01	INORGANIC
11/17/98	10:45	4.8	ug/L	SAR-BELOWDAM-01	INORGANIC
2/8/99	9:20	2.2	ug/L	SAR-BELOWDAM-01	INORGANIC
4/19/99	9:30	4.1	ug/L	SAR-BELOWDAM-01	INORGANIC
5/17/99	9:00	4.0	ug/L	SAR-BELOWDAM-01	INORGANIC
8/2/99	10:00	5.6	ug/L	SAR-BELOWDAM-01	INORGANIC
8/16/99	11:00	4.9	ug/L	SAR-BELOWDAM-01	INORGANIC
8/23/99	9:30	6.2	ug/L	SAR-BELOWDAM-01	INORGANIC
11/15/99	10:00	5.2	ug/L	SAR-BELOWDAM-01	INORGANIC
2/14/00	12:00	4.2	ug/L	SAR-BELOWDAM-01	INORGANIC
5/15/00	12:15	5.4	ug/L	SAR-BELOWDAM-01	INORGANIC
8/21/00	12:25	4.8	ug/L	SAR-BELOWDAM-01	INORGANIC
11/13/00	10:20	3.3	ug/L	SAR-BELOWDAM-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
7/28/97	12:10	2.8	ug/L	SAR-BELOWDAM-01	INORGANIC
8/13/97	9:15	5.6	ug/L	SAR-BELOWDAM-01	INORGANIC
8/25/97	12:40	4.8	ug/L	SAR-BELOWDAM-01	INORGANIC
11/12/97	9:30	6.3	ug/L	SAR-BELOWDAM-01	INORGANIC
2/17/98	9:50	8.3	ug/L	SAR-BELOWDAM-01	INORGANIC
5/18/98	10:40	11	ug/L	SAR-BELOWDAM-01	INORGANIC
8/17/98	11:30	5.4	ug/L	SAR-BELOWDAM-01	INORGANIC

11/17/98	10:45	5.1	ug/L	SAR-BELOWDAM-01	INORGANIC
2/8/99	9:20	5.7	ug/L	SAR-BELOWDAM-01	INORGANIC
4/19/99	9:30	6.9	ug/L	SAR-BELOWDAM-01	INORGANIC
5/17/99	9:00	5.7	ug/L	SAR-BELOWDAM-01	INORGANIC
8/2/99	10:00	6.0	ug/L	SAR-BELOWDAM-01	INORGANIC
8/16/99	11:00	10	ug/L	SAR-BELOWDAM-01	INORGANIC
8/23/99	9:30	9.7	ug/L	SAR-BELOWDAM-01	INORGANIC
11/15/99	10:00	6.8	ug/L	SAR-BELOWDAM-01	INORGANIC
2/14/00	12:00	11	ug/L	SAR-BELOWDAM-01	INORGANIC
5/15/00	12:15	10	ug/L	SAR-BELOWDAM-01	INORGANIC
8/21/00	12:25	4.1	ug/L	SAR-BELOWDAM-01	INORGANIC
11/13/00	10:20	11.9	ug/L	SAR-BELOWDAM-01	INORGANIC

ParamName Cyanide

SampDate	SampTime	Result_T	Units	StationName	ParamType
5/15/00	12:15	6.3	ug/L	SAR-BELOWDAM-01	INORGANIC

ParamName Lead

SampDate	SampTime	Result_T	Units	StationName	ParamType
11/12/97	9:30	1.5	ug/L	SAR-BELOWDAM-01	INORGANIC
4/19/99	9:30	1.0	ug/L	SAR-BELOWDAM-01	INORGANIC
11/13/00	10:20	1.3	ug/L	SAR-BELOWDAM-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/13/97	9:15	1.9	ug/L	SAR-BELOWDAM-01	INORGANIC
8/25/97	12:40	2.1	ug/L	SAR-BELOWDAM-01	INORGANIC
11/12/97	9:30	4.0	ug/L	SAR-BELOWDAM-01	INORGANIC
5/18/98	10:40	2.3	ug/L	SAR-BELOWDAM-01	INORGANIC
8/17/98	11:30	2.9	ug/L	SAR-BELOWDAM-01	INORGANIC
11/17/98	10:45	3.6	ug/L	SAR-BELOWDAM-01	INORGANIC
2/8/99	9:20	2.4	ug/L	SAR-BELOWDAM-01	INORGANIC
4/19/99	9:30	2.4	ug/L	SAR-BELOWDAM-01	INORGANIC
5/17/99	9:00	2.4	ug/L	SAR-BELOWDAM-01	INORGANIC

8/2/99	10:00	3.7	ug/L	SAR-BELOWDAM-01	INORGANIC
8/16/99	11:00	3.3	ug/L	SAR-BELOWDAM-01	INORGANIC
8/23/99	9:30	3.7	ug/L	SAR-BELOWDAM-01	INORGANIC
11/15/99	10:00	4.0	ug/L	SAR-BELOWDAM-01	INORGANIC
2/14/00	12:00	2.8	ug/L	SAR-BELOWDAM-01	INORGANIC
5/15/00	12:15	3.6	ug/L	SAR-BELOWDAM-01	INORGANIC
8/21/00	12:25	3.2	ug/L	SAR-BELOWDAM-01	INORGANIC
11/13/00	10:20	14.6	ug/L	SAR-BELOWDAM-01	INORGANIC

ParamName Selenium

SampDate	SampTime	Result_T	Units	StationName	ParamType
11/13/00	10:20	7.9	ug/L	SAR-BELOWDAM-01	INORGANIC

ParamName Zinc

SampDate	SampTime	Result_T	Units	StationName	ParamType
11/13/00	10:20	19.1	ug/L	SAR-BELOWDAM-01	INORGANIC

SAR-ETIWANDA-01

ParamName Arsenic

SampDate	SampTime	Result_Txt	Units	StationName	ParamType
8/25/97	16:15	3.3	ug/L	SAR-ETIWANDA-01	INORGANIC
8/17/98	11:55	5.3	ug/L	SAR-ETIWANDA-01	INORGANIC
8/23/99	12:20	8.4	ug/L	SAR-ETIWANDA-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_Txt	Units	StationName	ParamType
8/25/97	16:15	5.4	ug/L	SAR-ETIWANDA-01	INORGANIC
8/17/98	11:55	6.4	ug/L	SAR-ETIWANDA-01	INORGANIC
8/23/99	12:20	9.6	ug/L	SAR-ETIWANDA-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_Txt	Units	StationName	ParamType
8/25/97	16:15	1.3	ug/L	SAR-ETIWANDA-01	INORGANIC
8/17/98	11:55	1.3	ug/L	SAR-ETIWANDA-01	INORGANIC
8/23/99	12:20	3.1	ug/L	SAR-ETIWANDA-01	INORGANIC

ParamName Selenium

SampDate	SampTime	Result_Txt	Units	StationName	ParamType
8/25/97	16:15	7.3	ug/L	SAR-ETIWANDA-01	INORGANIC

7. Santa Ana River, Reach 4:

- Beneficial Uses: GWR, REC1, REC2, WARM, WILD
- Hydrologic Unit: 801.27
- Total Water Body Size: 12 miles
- Size Impaired: Unknown at this time
- Extent of Impairment: Unknown at this time
- Data Analyses:
 - Orange County Water District Data:*
 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" arsenic standard of 340 ug/L (1-hr avg)
 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" copper standard of 26 ug/L (1-hr avg)
 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" nickel standard of 834 ug/L (1-hr avg)
- Potential Sources: Unknown at this time
- Recommendation: More monitoring due to not enough data points available per parameter to reach a conclusion for impairment and insufficient data to back up results.
- TMDL Priority: None at this time
- TMDL Start Date: Not applicable at this time
- TMDL End Date: Not applicable at this time

SAR hardness

StationName SAR-RIVERSIDEAVE-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	8/25/97	15:00	198

StationName SAR-MISSION-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	8/25/97	15:30	200

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SAR-RIVERISDEAVE-01

ParamName Arsenic

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	15:00	6.2	ug/L	SAR-RIVERSIDEAVE-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	15:00	8.3	ug/L	SAR-RIVERSIDEAVE-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	15:00	1.3	ug/L	SAR-RIVERSIDEAVE-01	INORGANIC

SAR-MISSION-01

ParamName Arsenic

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	15:30	12	ug/L	SAR-MISSION-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	15:30	15	ug/L	SAR-MISSION-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/25/97	15:30	2.4	ug/L	SAR-MISSION-01	INORGANIC

[illegible]

SAR-WATERMAN-01

ParamName Chromium

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/23/99	9:45	5.8	ug/L	SAR-WATERMAN-01	INORGANIC
8/22/00	9:45	6.2	ug/L	SAR-WATERMAN-01	INORGANIC

ParamName Copper

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/17/98	9:05	3.0	ug/L	SAR-WATERMAN-01	INORGANIC
8/23/99	9:45	6.2	ug/L	SAR-WATERMAN-01	INORGANIC
8/22/00	9:45	9.1	ug/L	SAR-WATERMAN-01	INORGANIC

ParamName Lead

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/22/00	9:45	1.9	ug/L	SAR-WATERMAN-01	INORGANIC

ParamName Nickel

SampDate	SampTime	Result_T	Units	StationName	ParamType
8/22/00	9:45	2.0	ug/L	SAR-WATERMAN-01	INORGANIC

SAR hardness

StationName SAR-WATERMAN-01

ParamName	SampDate	SampTime	Result_Txt
Total Hardness (as CaCO3)	3/16/98	15:00	86.6
Total Hardness (as CaCO3)	8/17/98	9:05	100
Total Hardness (as CaCO3)	8/23/99	9:45	219
Total Hardness (as CaCO3)	8/22/00	9:45	190

8. Santa Ana River, Reach 5:

- Beneficial Uses: MUN (applies upstream of Orange Ave (Redlands); downstream, water is exempted from MUN), AGR, GWR, REC1, REC2, WARM, WILD, RARE
- Hydrologic Unit: 801.52
- Total Water Body Size: 17 miles
- Size Impaired: Unknown at this time
- Extent of Impairment: Unknown at this time
- Data Analyses:
 - Orange County Water District Data:*
 - 0/3 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" copper standard of 13-28 ug/L (1-hr avg)
 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" lead standard of 130 ug/L (1-hr avg)
 - 0/1 exceeded the "CTR for Inorganic Constituents Fresh Water Aquatic Life Protection (1/yr)" nickel standard of 810 ug/L (1-hr avg)
- Potential Sources: Unknown at this time
- Recommendation: More monitoring due to not enough data points available per parameter to reach a conclusion for impairment and insufficient data to back up results.
- TMDL Priority: None at this time
- TMDL Start Date: Not applicable at this time
- TMDL End Date: Not applicable at this time

SAR Reac: 5

Wet Weather Data

CO₂ 25

2/13

TDS 30

13/13

Na 30

0/13

SO₄

60

0/13

Cl

20

0/13

TIN

5

1/13

hardness

190

2/13

Beneficial User

MUN

AGR

GWR

REC 1

REC 2

WARM

WILD

RARE

Site 10 - WW Grab

Program I.D. No.		WW97-0110	WW97-0210	WW97-0310	WW98-0110	WW98-0210	WW98-0310	WW98-0410	WW99-0110	0	0
Sample I.D. No.		L22873-016	L23600-017	L24196-016	C7111681	L37151-017	L38045-017	L39880-017	L47907-013	L50660-015	L51332-017
Sample Date		10/30/96	11/21/96	12/9/96	11/26/97	1/9/98	2/3/98	3/25/98	11/8/98	1/0/00	1/0/00
Constituent	Units	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
BOD	mg/L	ND	ND	ND	6	ND	ND	ND	ND	25	ND
COD	mg/L	ND	ND	12	240	16	11	18	10	110	20
TDS	mg/L	170	150	160	260	200	180	210	110	200	160
TSS	mg/L	ND	25	36	4800	52	28	25	32	2150	11
Cd, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cu, tr	mg/L	ND	ND	ND	0.11	ND	ND	ND	0.03	0.05	ND
Pb, tr	mg/L	ND	ND	ND	0.051	ND	ND	ND	ND	0.02	ND
Zn, tr	mg/L	ND	0.01	0.01	0.40	0.02	ND	0.01	0.04	0.21	ND
P-Ortho	mg/L	ND	ND	ND	ND	ND	0.09	ND	ND	ND	ND
P-Total	mg/L	ND	ND	0.06	0.93	0.07	0.17	ND	ND	1.3	ND
NO2-N	mg/L	ND	ND	ND	0.15	ND	ND	ND	ND	ND	ND
NO3-N	mg/L	ND	0.3	0.2	1.80	0.40	0.40	0.40	ND	0.30	ND
TKN	mg/L	0.2	0.3	0.3	6.20	0.30	0.20	0.30	0.20	0.30	0.30
pH	units	8.2	8.2	8.3	8.3	7.1	8.3	8.2	8.3	8.2	8.2
EC	µmho/cm	250	270	270	260	310	270	210	230	250	230
O&G	mg/L	2	ND	ND	6.4	ND	ND	ND	ND	ND	ND
As, tr	mg/L	ND	ND	ND	0.042	ND	ND	ND	ND	ND	ND
Ba, tr	mg/L	ND	ND	ND	1	ND	ND	ND	ND	0.36	ND
B, tr	mg/L	ND	ND	ND	0.11	ND	ND	ND	ND	ND	ND
Cr, tr	mg/L	ND	ND	ND	0.084	ND	ND	ND	ND	0.04	ND
Fe, tr	mg/L	0.11	3	2.5	77.00	2.40	0.65	0.47	1.50	49.00	0.44
Mn, tr	mg/L	ND	0.06	0.06	2.80	0.05	0.02	0.02	0.04	0.96	0.01
Hg, tr	mg/L	0.003	ND	ND	ND	ND	ND	ND	ND	ND	ND
Se, tr	mg/L	ND	ND	ND	0.006	ND	ND	ND	ND	ND	ND
Ag, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Hardness as CaCO ₃	mg/L	89	97	95	390	110	95	77	83	240	84
Ca	mg/L	27	28	29	77	33	29	24	25	51	26
Mg	mg/L	5	6	6	47	6	5	4	5	26	5
Na	mg/L	15	18	19	21	25	17	13	15	17	15
K	mg/L	2	3	3	18	3	2	2	2	13	2
Total Alkalinity as CaCO ₃	mg/L	100	110	100	156	110	110	87	90	110	100
OH	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CO ₃	mg/L	ND	ND	3	12	ND	6	ND	ND	ND	ND
HCO ₃	mg/L	120	130	120	140	130	120	110	110	130	120
SO ₄	mg/L	20.0	26.0	22.0	52.0	37.0	19.0	11.0	13.0	15.0	14.0
Cl	mg/L	5	4	5	15	5	4	4	4	4	4

Site 10 - WW Grab

F	mg/L	0.5	0.5	0.5	0.61	0.60	0.50	0.30	0.30	0.30	0.30
NH ₄ -N	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.20	ND
N-Total	mg/L	0.2	0.6	0.5	8.20	0.70	0.60	0.70	0.30	0.60	0.50
Acenaphthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Acenaphthylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Benzo(a)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
2-Chloronaphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Chrysene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Dibenzo(a,h)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Fluorene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Indeno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Napthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Phenanthrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		
Pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND		

Program I.D. No.		0	0	WW00-0110	WW00-0210	WW00-0310	WW00-0410
Sample I.D. No.		L52565-017	L53514-017	L64843-001	L66218-011	L66478-017	L68386-017
Sample Date		1/0/00	1/0/00	1/25/00	2/27/00	3/4/00	4/17/00
Constituent	Units	Results	Results	Results	Results	Results	Results
BOD	mg/L	ND	ND	ND	ND	9	ND
COD	mg/L	ND	ND	ND	ND	14	11
TDS	mg/L	150	150	160	150	140	130
TSS	mg/L	22	16	7	41	64	16
Cd, tr	mg/L	ND	ND	ND	ND	ND	ND
Cu, tr	mg/L	ND	ND	ND	ND	ND	ND
Pb, tr	mg/L	ND	ND	ND	ND	ND	ND
Zn, tr	mg/L	ND	0.01	ND	0.01	0.01	ND
P-Ortho	mg/L	ND	ND	ND	ND	ND	ND
P-Total	mg/L	ND	ND	0.62	0.06	0.07	ND
NO2-N	mg/L	ND	ND	ND	ND	ND	ND
NO3-N	mg/L	ND	ND	ND	0.60	0.60	ND
TKN	mg/L	0.40	0.20	0.40	0.50	0.60	0.40
pH	units	8.3	8.3	8.6	8.2	8.2	8.2
EC	µmho/cm	280	270	270	230	210	230
O&G	mg/L	ND	ND	ND	ND	ND	7
As, tr	mg/L	ND	ND	ND	ND	ND	ND
Ba, tr	mg/L	ND	ND	ND	ND	ND	ND
B, tr	mg/L	ND	ND	ND	ND	ND	ND
Cr, tr	mg/L	ND	ND	ND	ND	ND	ND
Fe, tr	mg/L	0.56	0.50	0.22	1.10	1.50	0.25
Mn, tr	mg/L	0.02	0.02	ND	0.03	0.04	0.01
Hg, tr	mg/L	ND	ND	ND	ND	ND	ND
Se, tr	mg/L	ND	ND	ND	ND	ND	ND
Ag, tr	mg/L	ND	ND	ND	ND	ND	ND
Total Hardness as CaCO ₃	mg/L	94	95	80	87	81	77
Ca	mg/L	28	30	26	27	25	24
Mg	mg/L	5	5	3	5	5	4
Na	mg/L	16	19	14	15	14	13
K	mg/L	2	2	2	2	2	2
Total Alkalinity as CaCO ₃	mg/L	100	110	100	97	84	95
OH	mg/L	ND	ND	ND	ND	ND	ND
CO ₃	mg/L	ND	ND	ND	ND	ND	ND
HCO ₃	mg/L	130	130	120	120	100	120
SO ₄	mg/L	20.0	25.0	8.8	15.0	11.0	13.0
Cl	mg/L	5	5	4	5	5	4

Site 10 - WW Grab

F	mg/L	0.40	0.50	0.40	0.40	0.40	0.40
NH ₄ -N	mg/L	ND	ND	ND	ND	ND	ND
N-Total	mg/L	0.50	0.30	0.50	1.10	1.20	0.50
Acenaphthene	µg/L						
Acenaphthylene	µg/L						
Anthracene	µg/L						
Benzo(a)anthracene	µg/L						
Benzo(b)fluoranthene	µg/L						
Benzo(k)fluoranthene	µg/L						
Benzo(a)pyrene	µg/L						
Benzo(ghi)perylene	µg/L						
2-Chloronaphthalene	µg/L						
Chrysene	µg/L						
Dibenzo(a,h)anthracene	µg/L						
Fluoranthene	µg/L						
Fluorene	µg/L						
Indeno(1,2,3-cd)pyrene	µg/L						
Napthalene	µg/L						
Phenanthrene	µg/L						
Pyrene	µg/L						

SAR R 14.5 Dry Weather -

COD - 25

0/2

TDS 30

2/2

Na 30

1/2

SO₄ 60

1/2

Cl 20

0/2

TIN 5

0/2

hardness 190 mg/l

0/2

Beneficial Uses

MUN

AGR

GWR

REC 1

REC 2

WARM

WILD

RARE

Site 10 - DW Grab

Program I.D. No.		DW94-0110	DW94-0210	DW94-0310	DW95-0110	DW95-0210	DW96-0110	DW97-0110	DW98-0110
Sample I.D. No.		0	0	L2438-003	L8196-003	L9920-003	L19857-009	L32383-008	L44330-010
Sample Date		6/8/94	8/16/94	11/1/94	6/6/95	8/14/95	7/30/96	8/20/97	7/29/98
Constituent	Units	Results	Results	Results	Results	Results	Results	Results	Results
BOD	mg/L	NR	NR	4	ND	ND	6	ND	ND
COD	mg/L	NR	NR	15	10	30	12	12	ND
TDS	mg/L	NR	NR	580	120	125	150	340	140
TSS	mg/L	NR	NR	390	5	ND	6	ND	6
Cd, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Cu, tr	mg/L	NR	NR	0.02	ND	ND	ND	ND	ND
Pb, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Zn, tr	mg/L	NR	NR	0.06	ND	ND	ND	0.01	ND
P-Ortho	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
P-Total	mg/L	NR	NR	0.65	ND	ND	ND	ND	ND
NO2-N	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
NO3-N	mg/L	NR	NR	0.9	0.1	ND	6	0.20	0.40
TKN	mg/L	NR	NR	1.3	0.3	ND	0.5	0.30	1.50
pH	units	NR	NR	8.3	8.2	8.4	8.3	8.2	8.3
EC	µmho/cm	NR	NR	530	210	200	260	520	210
O&G	mg/L	NR	NR	580	120	125	150	1	ND
As, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Ba, tr	mg/L	NR	NR	0.2	ND	ND	ND	ND	ND
B, tr	mg/L	NR	NR	ND	ND	ND	ND	0.1	ND
Cr, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Fe, tr	mg/L	NR	NR	18	0.11	0.13	0.14	0.09	0.36
Mn, tr	mg/L	NR	NR	0.4	0.02	ND	0.01	ND	0.01
Hg, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Se, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Ag, tr	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
Total Hardness as CaCO ₃	mg/L	NR	NR	266	69	74	91	140	76
Ca	mg/L	NR	NR	68	21	21	27	43	23
Mg	mg/L	NR	NR	23	4	5	6	8	4
Na	mg/L	NR	NR	38	11	10	14	52	13
K	mg/L	NR	NR	6	2	1	2	3	2
Total Alkalinity as CaCO ₃	mg/L	NR	NR	185	90	83	110	130	90
OH	mg/L	NR	NR	ND	ND	ND	ND	ND	ND
CO ₃	mg/L	NR	NR	3	ND	ND	12	ND	ND
HCO ₃	mg/L	NR	NR	220	110	98	110	160	110
SO ₄	mg/L	NR	NR	89	12	12	14	110.00	12.00
Cl	mg/L	NR	NR	15	3	3	6	8.00	3.00
F	mg/L	NR	NR	0.9	0.4	0.3	0.4	1.30	0.40
NH ₄ -N	mg/L	NR	NR	0.1	ND	ND	0.1	0.10	ND
N-Total	mg/L	NR	NR	2.2	0.4	0.4	0.5	0.50	1.90
Acenaphthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND

Site 10 - DW Grab

Acenaphthylene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Anthracene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Chrysene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Fluoranthene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Fluorene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Napthalene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Phenanthrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND
Pyrene	µg/L	NR	NR	ND	ND	ND	ND	ND	ND

Site 10 - WW Grab

Program I.D. No.		WW94-0110	WW94-0210	WW95-0110	WW95-0210	WW95-0310	WW96-0110	WW96-0210	WW96-0310	WW96-0410	WW96-0510
Sample I.D. No.		940217-1619	940321-1620	L2743-003	L4665-002	L6006-002	L12979-003	L14419-017	L14981-017	L15397-017	L15705-017
Sample Date		2/17/94	3/19/94	11/10/94	1/23/95	3/10/95	12/12/95	1/31/96	2/19/96	3/4/96	3/13/96
Constituent	Units	Results	Results	Results	Results	Results	Results	Results	Results	Results	Results
BOD	mg/L	ND	5	ND	ND	8	ND	ND	16	ND	ND
COD	mg/L	ND	80	ND	ND	20	ND	ND	110	ND	12
TDS	mg/L	250	155	245	150	105	164	240	160	160	140
TSS	mg/L	ND	1930	195	5	15	42	270	3100	7	21
Cd, tr	mg/L	ND	0.03	ND	NR	ND	ND	ND	0.01	ND	ND
Cu, tr	mg/L	ND	0.1	0.02	ND	ND	ND	0.02	0.1	ND	ND
Pb, tr	mg/L	ND	0.04	ND	ND	ND	ND	ND	0.05	ND	ND
Zn, tr	mg/L	ND	0.25	0.05	ND	ND	ND	0.07	0.36	ND	ND
P-Ortho	mg/L	ND	ND	0.05	ND	ND	ND	ND	ND	ND	ND
P-Total	mg/L	ND	2.6	0.25	ND	0.05	0.06	0.18	3.7	ND	ND
NO2-N	mg/L	ND	ND	ND	ND	ND	ND	0.2	ND	ND	ND
NO3-N	mg/L	0.9	0.3	0.4	0.4	0.2	0.3	0.4	0.7	0.5	0.2
TKN	mg/L	0.3	1.5	0.3	0.6	ND	0.4	0.2	4.3	0.2	0.4
pH	units	8.3	8.1	7.7	8.2	8.1	8.1	7.9	7.8	8.2	8.1
EC	µmho/cm	380	250	330	220	200	265	330	160	220	220
O&G	mg/L	ND	3	ND	4	ND	ND	1	ND	ND	ND
As, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	0.01	ND	ND
Ba, tr	mg/L	ND	0.5	0.1	ND	ND	ND	0.2	0.5	ND	ND
B, tr	mg/L	ND	0.1	ND	ND	ND	ND	ND	ND	ND	ND
Cr, tr	mg/L	ND	0.08	ND	ND	ND	ND	0.03	0.07	ND	ND
Fe, tr	mg/L	0.07	87	14	0.69	0.62	1.4	19	91	0.17	1.3
Mn, tr	mg/L	0.01	1.9	0.3	0.02	0.03	0.04	0.38	2.4	ND	0.03
Hg, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Se, tr	mg/L	ND	ND	ND	NR	ND	ND	ND	ND	ND	ND
Ag, tr	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Total Hardness as CaCO ₃	mg/L	133	353	157	77	74	81	140	320	81	77
Ca	mg/L	38	76	41	24	21	24	35	69	25	23
Mg	mg/L	9	39	13	4	5	5	13	37	5	5
Na	mg/L	25	17	24	14	10	19	29	13	14	13
K	mg/L	2	5	4	2	8	3	7	21	2	2
Total Alkalinity as CaCO ₃	mg/L	130	88	105	75	88	100	100	73	88	85
OH	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
CO ₃	mg/L	3	ND	ND	ND	ND	ND	ND	ND	ND	ND
HCO ₃	mg/L	153	107	128	92	107	112	130	89	110	100
SO ₄	mg/L	45.0	23.0	58.0	15.0	7.0	24.0	49.0	7.6	14.0	12.0
Cl	mg/L	9	5	6	5	5	3	6	3	4	4

Site 10 - WW Grab

F	mg/L	0.7	0.4	0.7	0.4	0.3	0.6	0.7	0.3	0.4	0.4
NH ₄ -N	mg/L	ND	0.1	ND	ND	ND	0.2	0.2	ND	0.2	0.1
N-Total	mg/L	1.2	1.8	0.7	1	0.2	0.7	0.8	5	0.7	0.6
Acenaphthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acenaphthylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(b)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(k)fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(a)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo(ghi)perylene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Chloronaphthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chrysene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo(a,h)anthracene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluoranthene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno(1,2,3-cd)pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Napthalene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Pyrene	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

