

A topographic map of a region, likely a coastal area, showing elevation contours and a network of blue rivers. A purple line outlines a specific boundary, possibly a watershed or administrative area, which follows the coastline and extends inland. The map uses a color gradient from green (low elevation) to yellow and red (high elevation).

**APPENDIX H**  
**Third Party Data**

Table H-1. Data Collected Under SWAMP in 2002 for the Carlsbad Watershed. Shaded values either exceed water quality objectives or are potentially toxic.

Analyte Group	Analyte	Units	WQO	Source	Loma Alta Creek - 904CBLAC3				Buena Vista Creek - 904CBBVR4				Buena Creek - 904CBBUR1				Agua Hedionda Creek - 904CBAQH6				San Marcos Creek - 904CBSAM3			
					March	April	June	September	March	April	June	September	March	April	June	September	March	April	June	September	March	April	June	September
Physical	Conductivity	uS/cm			3.97	4.35	4.63	4.71	2.18	2.29	2.30	2.35	1.63	1.93	1.96	1.83	2.71	2.83	2.75	3.01	1.91	2.28	1.97	2.72
Physical	Oxygen Saturation	Percent			98.1	168.7	153.2	154.3	98.3	203.2	152.4	84.3	94.6	91.1	92.5	107.7	95.8	113.6	94.9	98.9	98	92.7	96.3	94.6
Physical	Temperature	Degrees C			15.87	19.78	21.79	23.16	16.11	23.05	21.9	22.16	17.46	15.41	19.19	18.78	14.44	20.65	15.48	18.78	18.05	16.5	20.02	18.74
Physical	Turbidity	NTU	20	Basin Plan	0.87	0.8	1	2.1	3.7	2.8	2.0	0.85	NA	1.6	3.5	0.54	0.57	0.95	0.24	1.4	3.7	1.7	4.9	8.72
Physical	Velocity	FPS			0.518	NA	NA	NA	2.01	NA	NA	0	2	0.48	NA	NA	0.917	1.66	NA	1.34	1.44	0.495	NA	0.5
Physical	pH	pH units	6.5-8.5	Basin Plan	7.89	8.00	7.51	9.97	7.98	8.58	8.17	8.71	7.41	8.08	8.15	6.59	7.82	8.15	7.76	7.52	8.2	8.1	8.07	7.43
Inorganics	Alkalinity as CaCO3	mg/L			310	298	329	298	269	240	238	267	255	288	311	275	234	237	229	229	219	241	282	241
Inorganics	Ammonia as N	mg/L			0.07E	0.38	0.07E	0.11	0.07E	0.41	0.07E	0.098	0.07E	0.38	0.07E	0.069	0.07E	0.13	0.07E	0.071	0.07E	0.27	0.07E	0.081
Inorganics	Nitrate + Nitrite as N	mg/L	10	Basin Plan	0.086	0.176	0.146	0.109	0.775	0.313	0.128	0.274	15.2	16.8	19.4	10.1	1.35	1.36	1.18	0.481	0.176	0.227	0.944	0.658
Inorganics	Nitrogen, Total Kjeldahl	mg/L			0.37E	0.5	0.37E	0.47	0.37E	0.37E	0.37E	0.43	0.37E	1.44	0.37E	0.45	0.37E	0.52	0.37E	0.34	0.37E	0.37E	0.37E	0.6
Inorganics	OrthoPhosphate as P	mg/L			0.032	0.05	0.034	0.019	0.105	0.055	0.045	0.099	0.174	0.127	0.159	0.127	0.047	0.052	0.024	0.026	0.175	0.096	0.092	0.194
Inorganics	Phosphorus, Total as P	mg/L	2	USEPA Multi-Sector General Permit	0.04E	0.04E	0.04E	<0.03	0.1	0.07	0.06	0.1	0.18	0.12	0.16	0.14	0.05	0.05	0.04E	0.036	0.15	0.12	0.12	0.38
Inorganics	Sulfate	mg/L	250	Basin Plan	191	250	240	204	191	259	242	256	280	413	394	404	327	432	449	522	221	293	362	373
Metals	Aluminum	µg/L	1000	Basin Plan	1.4	5.87	1.28	<0.1	1.3	4.4	1.39	<0.1	7.49	0.676	1.86	0.805	1.21	0.998	3.65	<0.1	1.4	2.14	1.34	14.9
Metals	Arsenic	µg/L	340/50	40 CFR 131 (a)/Basin Plan	4.94	5.63	6.33	4.85	7	7.24	2.62	7.4	4.54	4.32	1.63	3.95	4.17	4.61	1.88	3.89	12.4	2.98	13.1	3.48
Metals	Cadmium	µg/L	4.3	40 CFR 131 (a)	0.012	<0.01	0.274	0.018	0.055	0.046	0.011	0.072	0.014	<0.01	0.028	0.021	0.055	0.045	0.031	0.078	0.026	0.059	0.271	0.083
Metals	Chromium	µg/L	16	40 CFR 131 (a)	1.72	0.396	1.19	0.423	1.37	0.354	0.127	0.206	2.15	0.192	0.133	0.211	1.4	0.335	0.145	0.3	1.88	0.437	1.25	0.514
Metals	Copper	µg/L	13	40 CFR 131 (a)	1.68	2.58	3.36	2.27	2.12	2.46	1.71	2.26	3.7	4.51	2.21	6.16	2.48	2.89	2.21	2.44	3.52	3.33	3.41	2.99
Metals	Lead	µg/L	65	40 CFR 131 (a)	<0.01	<0.01	2.41	0.007	<0.01	<0.01	0.015	0.036	<0.01	<0.01	<0.002	0.036	<0.01	<0.002	0.004	<0.01	0.0204	2.41	0.058	
Metals	Manganese	µg/L	50	Basin Plan	123	64.1	84.6	208	98.6	64.3	2.85	23.3	35.2	20.1	117	36.8	76.8	38.1	126	51	513	79.1	140	82.7
Metals	Nickel	µg/L	470	40 CFR 131 (a)	0.67	1.99	4.43	3.14	0.516	1.45	0.427	1.55	0.724	1.27	0.544	0.916	0.561	1.53	0.664	2.75	1.56	1.33	3.65	2.87
Metals	Selenium	µg/L	50	Basin Plan	10	12	12.7	12.3	5.53	6.08	2.54	5.25	3.59	3.67	2.05	3.22	5.82	6.52	2.14	7.74	39.7	5.56	13.6	8.31
Metals	Silver	µg/L	3.4	40 CFR 131 (a)	<0.01	<0.01	<0.008	<0.008	<0.01	<0.01	<0.008	<0.008	<0.01	<0.01	<0.008	0.014	<0.01	<0.01	0.0209	<0.008	0.01	<0.01	0.233	<0.008
Metals	Zinc	µg/L	120	40 CFR 131 (a)	1.86	<0.1	1.32	1.58	3.98	1.34	1.48	6.62	2.15	1.18	1.72	2.22	2.04	0.496	1.73	2.7	6.3	14.7	3.78	6.75
OC Pesticide	Aldrin	µg/L	3	40 CFR 131 (a)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, cis	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, trans	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, alpha	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, gamma	µg/L	2.4/0.1	40 CFR 131/Basin Plan	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	0.007	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDD(o,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001
OC Pesticide	DDD(p,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDE(o,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDE(p,p)	µg/L			<0.001	0.005	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	0.006	0.001E	0.002	0.004	<0.001	0.003	<0.001	<0.001	<0.001	0.006	0.002	0.003
OC Pesticide	DDMU(p,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDT(o,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDT(p,p)	µg/L	1.1	40 CFR 131	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003E	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003E	<0.002	<0.002
OC Pesticide	Dacthal	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	0.001E	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001
OC Pesticide	Dieldrin	µg/L	0.24	40 CFR 131	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endosulfan I	µg/L	0.22	40 CFR 131	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endosulfan II	µg/L	0.22	40 CFR 131	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0028	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endosulfan sulfate	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endrin	µg/L	0.086/2	40 CFR 131/Basin Plan	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001
OC Pesticide	Endrin Aldehyde	µg/L			<0.002	0.003E	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.008	<0.002	<0.002





Table H-1. Data Collected Under SWAMP in 2002 for the Carlsbad Watershed. Shaded values either exceed water quality objectives or are potentially toxic.

Analyte Group	Analyte	Units	WQO	Source	San Marcos Creek - 904CBSAM6				Encinitas Creek - 904CBENC2				Cottonwood Creek - 904CBCWC2				Escondido Creek - 904CBESC5				Escondido Creek - 904CBESC8			
					March	April	June	September	March	April	June	September	March	April	June	September	March	April	June	September	March	April	June	September
Physical	Conductivity	uS/cm			6.51	6.05	5.15	28.58	3.45	4.49	4.50	3.84	4.65	4.93	4.63	4.57	1.91	1.96	1.86	1.82	2.16	2.36	2.28	2.01
Physical	Oxygen Saturation	Percent			53.9	134.3	56.1	40.8	70.9	89.5	72.4	82.8	98.6	124.1	84.5	95.8	100	101.5	143.3	126.5	80.1	67.8	84.1	102.5
Physical	Temperature	Degrees C			17.19	25.06	19.08	23.4	13.23	15.83	15.8	18	18.75	20.51	19.54	21.17	12.1	16.31	21.8	19.15	15.38	15.21	18.01	18.88
Physical	Turbidity	NTU	20	Basin Plan	5.3	3.5	6.97	22	4.4	7	6.45	4.7	2	1.6	1.2	5.6	0.81	0.4	0.74	2.4	NA	6.6	6.4	9.42
Physical	Velocity	FPS			NA	NA	NA	NA	0.255	NA	NA	NA	0.707	1.08	NA	0.456	1.74	0.768	0.562	0.342	0.876	0.788	0.59	1.47
Physical	pH	pH units	6.5-8.5	Basin Plan	7.72	7.89	7.65	7.56	7.61	7.49	7.58	8.92	7.76	7.6	7.52	9.06	8.54	8.18	8.77	7.00	NA	7.68	7.97	11.62
Inorganics	Alkalinity as CaCO3	mg/L			220	234	241	205	262	268	275	259	158	154	155	154	289	295	257	286	276	285	252	248
Inorganics	Ammonia as N	mg/L			0.13	0.24	0.07E	0.11	0.07E	0.32	0.07E	0.077	0.07E	0.38	0.07E	0.2	0.07E	0.07E	0.07E	0.061	0.07E	0.07E	0.07E	0.075
Inorganics	Nitrate + Nitrite as N	mg/L	10	Basin Plan	0.274	0.245	0.333	0.239	0.298	0.513	0.442	0.413	31.4	38	40.8	40.3	6.38	6.91	6.16	7.65	2.5	2.85	1.0	1.5
Inorganics	Nitrogen, Total Kjeldahl	mg/L			0.68	0.58	0.79	0.69	0.37E	0.72	0.37E	0.64	0.37E	0.8	0.37E	0.69	0.37E	0.37E	0.57	0.38	0.37E	0.56	0.5	0.38
Inorganics	OrthoPhosphate as P	mg/L			0.186	0.19	0.221	0.207	0.116	0.161	0.215	0.32	0.126	0.139	0.136	0.148	0.12	0.074	0.025	0.0864	0.126	0.128	0.096	0.088
Inorganics	Phosphorus, Total as P	mg/L	2	USEPA Multi-Sector General Permit	0.27	0.23	0.28	0.26	0.18	0.23	0.31	0.38	0.16	0.14	0.19	0.18	0.12	0.08	0.04E	0.138	0.15	0.16	0.13	0.12
Inorganics	Sulfate	mg/L	250	Basin Plan	577	654	832	1700	683	926	938	869	418	591	542	516	326	426	390	372	332	507	454	438
Metals	Aluminum	µg/L	1000	Basin Plan	3.54	3.05	24.3	<0.1	1.1	1.57	6.2	0.427	3.02	2.82	3.62	1.57	1.04	0.852	6.81	<0.1	5.94	3.9	1	32.9
Metals	Arsenic	µg/L	340/50	40 CFR 131 (a)/Basin Plan	2.77	5.91	2.29	14	4.33	4.28	6.08	3.84	5.13	5.46	6.92	4.28	2.08	1.64	5.66	1.7	2.19	1.87	1.98	2.02
Metals	Cadmium	µg/L	4.3	40 CFR 131 (a)	0.116	<0.01	0.163	0.057	0.011	<0.01	0.048	0.03	0.093	0.053	0.083	0.039	0.016	0.059	0.046	0.046	0.048	0.017	0.065	0.065
Metals	Chromium	µg/L	16	40 CFR 131 (a)	1.95	0.443	1.89	1.58	3.99	0.465	0.37	0.503	2.41	0.684	0.334	0.736	4.58	1.38	0.396	0.93	3.8	0.431	0.118	1.19
Metals	Copper	µg/L	13	40 CFR 131 (a)	4.03	3.14	4.25	8.92	3.3	3.7	4.31	3.6	3.49	4.16	4.76	4.04	3.02	3.33	4.18	2.72	2.94	3.17	2.06	2.45
Metals	Lead	µg/L	65	40 CFR 131 (a)	0.497	<0.01	0.279	0.011	<0.01	<0.01	0.072	0.054	0.018	0.045	0.044	0.059	0.013	<0.01	0.052	0.036	<0.01	<0.01	<0.002	0.027
Metals	Manganese	µg/L	50	Basin Plan	46.7	496	30.2	594	246	278	86.7	205	125	21.5	68.7	11.4	13	2.65	95	14.9	131	153	116	88
Metals	Nickel	µg/L	470	40 CFR 131 (a)	1.37	2.55	2.12	1.97	2.2	3.45	2.17	4.05	2.23	3.02	2.17	2.25	0.698	0.686	2.48	1.84	0.638	1.19	0.594	2.13
Metals	Selenium	µg/L	50	Basin Plan	4.89	15.8	3.7	57.2	10.5	10.2	8.09	8.89	17.7	19.5	6.62	15.2	5.65	4.36	7.66	5.08	5.46	5.09	1.72	5.55
Metals	Silver	µg/L	3.4	40 CFR 131 (a)	<0.01	<0.01	0.049	0.0218	<0.01	0.0176	<0.008	<0.008	<0.01	<0.01	<0.008	0.016	<0.01	<0.01	<0.008	<0.008	<0.01	<0.01	<0.008	<0.008
Metals	Zinc	µg/L	120	40 CFR 131 (a)	27.9	3.69	15.9	7.16	12.3	11.6	4.22	16.6	13.5	7.48	3.42	8.83	9.74	4.67	3.75	4.38	3.14	2.29	1.39	2.75
OC Pesticide	Aldrin	µg/L	3	40 CFR 131 (a)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, cis	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, trans	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, alpha	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Chlordane, gamma	µg/L	2.4/0.1	40 CFR 131/Basin Plan	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.006
OC Pesticide	DDD(o,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDD(p,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001
OC Pesticide	DDE(o,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDE(p,p)	µg/L			<0.001	0.002	<0.001	<0.001	<0.001	0.01	<0.001	<0.001	<0.001	<0.001	0.002	<0.001E	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDMU(p,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDT(o,p)	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	DDT(p,p)	µg/L	1.1	40 CFR 131	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.003E	<0.002	0.003E	<0.002	<0.002	<0.002	0.003E	<0.002	<0.002	<0.002	0.003E	<0.002
OC Pesticide	Dacthal	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001
OC Pesticide	Dieldrin	µg/L	0.24	40 CFR 131	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endosulfan I	µg/L	0.22	40 CFR 131	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endosulfan II	µg/L	0.22	40 CFR 131	<0.001	<0.001	<0.001	0.006	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	<0.001	0.004
OC Pesticide	Endosulfan sulfate	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endrin	µg/L	0.086/2	40 CFR 131/Basin Plan	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
OC Pesticide	Endrin Aldehyde	µg/L			<0.002	0.003E	<0.002	<0.002	<0.002	0.007	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
OC Pesticide	Endrin Ketone																							





Table H-2. Data Collected Under SWAMP in 2002 for the Los Peñasquitos Watershed. Shaded values either exceed water quality objectives or are potentially toxic.

Analyte Group	Analyte	Units	WQO	Source	Los Peñasquitos Creek - 906LPLC6				Soledad Canyon Creek - 906LPSOL2				Poway Creek - 906LPLPOW2				Rose Canyon Creek - 906LPLRSC4				Tecolote Creek - 906LPLTEC3			
					March	April	June	September	March	April	June	September	March	April	June	September	March	April	June	September	March	April	June	September
Physical	Conductivity	uS/cm			3.336	0.585	3.506	3.387	2.977	0.475	3.312	3.254	2.593	2.766	2.948	2.863	2.774	1.456	3.021	3.363	3.077	5.965	4.977	Dry, no sample
Physical	Oxygen Saturation	Percent			100	110.5	117.9	161.8	100	108.7	115.1	195.6	97.1	64.6	54.8	92	100	101.5	147.6	122.2	100	87	64.1	
Physical	Temperature	Degrees C			21.4	18.63	24.4	29.36	18.25	18.34	22.54	22.42	12.82	14.63	19.34	18.82	15.44	15.93	20.17	27.95	15.19	16.23	17.61	
Physical	Turbidity	NTU	20	Basin Plan	1.3	35	8.9	2.43	5.9	45	3.16	2.25	0.5	2	5.3	7.2	0.71	110	0.75	23	2.1	5.3	15	
Physical	Velocity	FPS			1.22	0.614	0.339	0	1.26	1.66	2.68	<88	0.758	<88	<88	1.89	1.12	<88	2.14	0.47	<88	1.33	<88	
Physical	pH	pH units	6.5-8.5	Basin Plan	8.67	8.12	8.06	7.46	8.22	7.69	7.9	7.89	8.04	7.64	7.7	7.5	8.66	7.54	8.33	7.5	7.85	7.32	7.26	
Inorganics	Alkalinity as CaCO3	mg/L			143	51.2	293	144	199	48.6	211	206	308	310	314	316	195	125	202	192	244	324	342	
Inorganics	Ammonia as N	mg/L			0.07E	0.11	0.07E	0.062	0.07E	0.22	0.07E	0.062	0.11	0.07E	0.07E	0.062	0.07E	0.26	0.07E	0.071	0.07E	0.16	0.07E	
Inorganics	Nitrate + Nitrite as N	mg/L	10	Basin Plan	0.075	0.994	0.09	0.059	0.145	0.946	0.088	0.056	0.866	1.35	0.84	2.35	0.08	1.99	0.081	0.064	0.044	0.11	0.122	
Inorganics	Nitrogen, Total Kjeldahl	mg/L			0.37E	0.66	0.37E	0.5	0.37E	1.24	0.37E	<0.25	0.5	0.56	0.58	0.57	0.37E	2.72	0.37E	0.42	0.37E	0.37E	0.37E	
Inorganics	OrthoPhosphate as P	mg/L			0.015	0.04	0.095	0.005	0.024	0.088	0.018	0.009	0.071	0.07	0.049	0.067	0.014	0.148	0.011	0.0381	0.023	0.034	0.014	
Inorganics	Phosphorus, Total as P	mg/L	2	USEPA Multi-Sector General Permit	0.04E	0.17	0.12	0.055	0.04E	0.24	0.04E	<0.03	0.07	0.07	0.06	0.117	0.04E	0.75	0.04E	0.071	0.04E	0.06	0.05	
Inorganics	Sulfate	mg/L	250	Basin Plan	746	149	490	1000	641	118	950	918	210	272	260	275	554	377	807	928	798	1500	1390	
Metals	Aluminum	µg/L	1000	Basin Plan	1.34	10.7	12.1	1.91	1.28	11.8	12.3	2.81	1.87	4.39	2.69	1.35	1.31	17.7	12.3	28	0.934	1.9	53	
Metals	Arsenic	µg/L	340/50	40 CFR 131 (a)/Basin Plan	3.55	2.45	8.29	3.1	3.31	2.58	8.28	2.91	3.02	2.76	5.61	3.37	2.64	3.61	8.28	3.63	3.86	5.46	5.63	
Metals	Cadmium	µg/L	4.3	40 CFR 131 (a)	<0.01	0.015	0.109	0.015	0.012	0.021	0.041	0.019	0.010	<0.01	0.073	0.031	0.032	0.041	0.037	0.041	0.017	<0.01	0.042	
Metals	Chromium	µg/L	16	40 CFR 131 (a)	1.56	0.782	0.748	0.254	1.84	0.822	0.877	0.267	4.25	0.215	0.436	0.347	1.76	0.829	0.877	0.407	1.79	0.393	0.478	
Metals	Copper	µg/L	13	40 CFR 131 (a)	4.7	4.57	7.03	4.66	3.69	4.74	3.22	3.94	1.73	1.53	3.62	2.63	5.86	7.69	3.22	4.94	3.95	4.94	4.34	
Metals	Lead	µg/L	65	40 CFR 131 (a)	<0.01	0.187	0.049	0.024	<0.01	0.151	0.152	0.006	<0.01	<0.01	0.015	0.042	<0.01	0.294	0.152	0.046	<0.01	<0.01	0.059	
Metals	Manganese	µg/L	50	Basin Plan	15.4	43.8	37.7	26.9	103	71.3	186	94.6	136	120	170	170	4.98	221	186	17.1	157	279	74	
Metals	Nickel	µg/L	470	40 CFR 131 (a)	0.343	2.59	1.84	3.31	0.154	2.52	2.64	2.65	0.858	1.05	1.73	4.1	2.36	5.45	2.64	5.35	0.953	2.01	2.44	
Metals	Selenium	µg/L	50	Basin Plan	7.94	1.3	5.27	8.61	7.71	0.868	7.3	7.61	6.33	6.06	5.12	7.05	6.23	4.92	7.3	7.19	10.4	17.7	6.34	
Metals	Silver	µg/L	3.4	40 CFR 131 (a)	<0.01	<0.01	0.0109	<0.008	<0.01	<0.01	0.0151	<0.008	<0.01	0.0178	<0.008	<0.008	<0.01	<0.01	0.0151	0.0112	<0.01	0.0103	<0.008	
Metals	Zinc	µg/L	120	40 CFR 131 (a)	4.53	15.7	6.41	4.75	5.67	23	4.97	4.26	4.93	3.58	3.33	8.01	8.62	38	4.97	5.39	6.34	5.86	2.48	
OC Pesticide	Aldrin	µg/L	3	40 CFR 131 (a)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Chlordane, cis	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Chlordane, trans	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Chlordane, alpha	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Chlordane, gamma	µg/L	2.4/0.1	40 CFR 131/Basin Plan	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	0.005	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	DDD(o,p')	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	DDD(p,p')	µg/L			<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	DDE(o,p')	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	DDE(p,p')	µg/L			<0.001	0.038	<0.001	<0.001	<0.001	0.031	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	0.035	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	
OC Pesticide	DDMU(p,p')	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	DDT(o,p')	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	DDT(p,p')	µg/L	1.1	40 CFR 131	<0.002	<0.002	<0.002	<0.002	0.003E	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
OC Pesticide	Dacthal	µg/L			<0.001	0.001E	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Dieldrin	µg/L	0.24	40 CFR 131	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Endosulfan I	µg/L	0.22	40 CFR 131	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Endosulfan II	µg/L	0.22	40 CFR 131	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	0.001E	<0.001	
OC Pesticide	Endosulfan sulfate	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Endrin	µg/L	0.086/2	40 CFR 131/Basin Plan	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
OC Pesticide	Endrin Aldehyde	µg/L			<0.002	0.003E	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
OC Pesticide	Endrin Ketone	µg/L			<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	
OC Pesticide	HCH, alpha	µg/L			<0.001	<0.001	<0.001	<0.001	<0.001	0.001E	&lt													



