

Appendix F -

Table F1. Total coliforms vs TSS.

Location	Date	N	Slope	Intercept	R ² /likli r/t	P-value	% Censored	Min Salinity	Max Salinity
top 5m ¹	all	624	570	-3,390	0.217	0.000	27.1	26.828	33.400
top 5m ¹	2004	372	649	-5,527	0.286	0.000	31.7	26.828	33.400
top 5m ¹	2005	252	497	-97	0.167	0.008	20.2	27.626	33.248
Santa Clara River ²	2004	15	12	-40	0.552	0.001	60.0	32.569	33.227
Santa Clara River ²	24-Mar-05	14	77	-259	0.604	0.003	7.1	31.654	33.248
Santa Clara River ²	25-Mar-05	14	110	-321	0.571	0.005	7.1	32.175	33.194
Santa Clara River ²	26-Mar-05	14	95	-407	0.736	0.000	14.3	31.416	33.143
Santa Clara River ¹	2005	42	59	117	0.706	0.000	9.5	31.416	33.248
Ballona Creek ³	27-Feb-04	7	2,975	-14,907	0.605	0.039	0.0	29.684	33.045
Ballona Creek ²	28-Feb-04	21	106	-318	0.690	0.000	14.3	28.265	33.033
Ballona Creek ²	1-Mar-04	21	0.7	5	0.100	0.521	42.9	30.903	33.089
Ballona Creek ¹	2004	49	462	-1,934	0.371	0.007	24.5	28.265	33.089
Ballona Creek ³	23-Mar-05	9	5,437	-18,911	0.756	0.002	0.0	27.636	32.841
Ballona Creek ³	24-Mar-05	21	370	174	0.302	0.010	0.0	31.665	32.952
Ballona Creek ²	26-Mar-05	21	-11	53	-0.214	0.155	42.9	32.430	33.037
Ballona Creek ¹	2005	51	821	-1,317	0.380	0.005	17.6	27.636	33.037
LA/San Gabriel Rivers ²	27-Feb-04	32	1,918	-6,480	0.546	0.000	21.9	27.041	33.113
LA/San Gabriel Rivers ²	28-Feb-04	36	572	-1,650	0.387	0.001	27.8	26.963	33.189
LA/San Gabriel Rivers ²	1-Mar-04	38	240	-710	0.411	0.000	34.2	26.828	33.137
LA/San Gabriel Rivers ¹	2004	106	2,910	-13,830	0.739	0.000	28.3	26.828	33.189
LA/San Gabriel Rivers ²	23-Mar-05	22	997	-4,990	0.372	0.003	63.6	30.928	33.239
LA/San Gabriel Rivers ²	25-Mar-05	37	571	-2,156	0.425	0.000	32.4	31.816	33.124
LA/San Gabriel Rivers ¹	2005	59	769	-3,725	0.431	0.001	44.1	30.928	33.239
Santa Ana River	27-Feb-04				only three data points			31.835	32.283
Santa Ana River ²	28-Feb-04	20	56	-102	0.574	0.000	5.0	32.235	33.060
Santa Ana River ²	1-Mar-04	21	54	-153	0.324	0.010	66.7	32.197	33.102
Santa Ana River ¹	2004	44	9	66	0.060	0.690	34.1	31.835	33.102
Santa Ana River	23-Mar-05				no total coliform data			28.513	32.816
Santa Ana River ²	24-Mar-05	16	9	298	0.025	0.928	12.5	29.427	33.186
Santa Ana River ²	25-Mar-05	24	63	-132	0.264	0.070	25.0	31.063	33.154
Santa Ana River ¹	2005	40	66	-49	0.314	0.041	20.0	28.513	33.186
Newport Harbor ³	28-Feb-04	11	15	331	0.001	0.921	0.0	28.259	32.754
Newport Harbor ²	1-Mar-04	12	137	-319	0.379	0.081	41.7	27.980	33.131
Newport Harbor ²	2004	23	62	-136	0.474	0.002	21.7	27.980	33.131
Newport Harbor	23-Mar-05				no total coliform data			27.626	32.662
Newport Harbor ³	24-Mar-05	9	-7,871	29,445	0.098	0.413	0.0	29.498	33.027
Newport Harbor ³	25-Mar-05	9	-682	2,411	0.454	0.047	0.0	32.353	32.833
Newport Harbor ³	2005	18	-3,173	12,148	0.031	0.487	0.0	27.626	33.027
San Diego River ²	24-Feb-04	15	146	-440	0.419	0.029	26.7	32.164	33.141
San Diego River ²	28-Feb-04	15	108	-234	0.314	0.006	80.0	no data	
San Diego River ²	29-Feb-04	15	53	-143	0.638	0.001	33.3	no data	
San Diego River ^{1,4}	2004	45	109	-387	0.714	0.000	46.7	32.164	33.141
Tijuana River ²	24-Feb-04	14	3,766	-10,148	0.582	0.004	7.1	31.795	33.400
Tijuana River ²	25-Feb-04	14	10	-67	0.330	0.108	21.4	32.994	33.193
Tijuana River ²	28-Feb-04	31	50	-130	0.428	0.001	19.4	32.750	33.185
Tijuana River ²	29-Feb-04	31	0.01	10	0.028	0.822	51.6	32.360	33.166
Tijuana River ¹	2004	90	434	-4,246	0.146	0.160	28.9	31.795	33.400
Tijuana River ²	13-Feb-05	14	6,718	-16,238	0.615	0.002	14.3	30.040	33.180
Tijuana River ²	14-Feb-05	14	8,678	-21,541	0.429	0.037	7.1	31.510	33.145
Tijuana River ²	15-Feb-05	14	3,232	-8,472	0.516	0.012	7.1	30.803	33.112
Tijuana River ¹	2005	42	4,731	10	0.609	0.000	9.5	28.513	33.180

¹Correlation calculated using censored MLE, reports slope, intercept, log likelihood r, and p-value.

²Correlation calculated using censored Theil-Sen, reports slope, intercept, Kendalls t, and p-value.

³Correlation calculated using linear regression, reports slope, intercept, and R².

⁴Salinity measurements only available on 24 Feb 2004

Table F2. Fecal coliforms vs TSS.

Location	Date	N	Slope	Intercept	R ² /likli r/t	P-value	% Censored	Min Salinity	Max Salinity
top 5m ¹	all	514	37	-674	0.221	0.000	56.8	26.828	33.400
top 5m ¹	2004	306	24	-461	0.233	0.000	62.4	26.828	33.400
top 5m ¹	2005	208	50	-664	0.255	0.000	48.6	27.626	33.248
Santa Clara River	2004	15		all data <10 MPN/100ml				32.569	33.227
Santa Clara River ²	24-Mar-05	14	0.71	5	0.418	0.034	28.6	31.654	33.248
Santa Clara River ²	25-Mar-05	14	5	-16	0.637	0.001	21.4	32.175	33.194
Santa Clara River ²	26-Mar-05	14	2	-7	0.615	0.001	50.0	31.416	33.143
Santa Clara River ¹	2005	42	2	-9	0.606	0.000	33.3	31.416	33.248
Ballona Creek ²	27-Feb-04	7	194	-993	0.714	0.035	14.3	29.684	33.045
Ballona Creek ²	28-Feb-04	21	5	-12	0.524	0.000	52.4	28.265	33.033
Ballona Creek ²	1-Mar-04	21	0.000	9.99	0	1	71.4	30.903	33.089
Ballona Creek ¹	2004	49	36	-300	0.338	0.015	55.1	28.265	33.089
Ballona Creek ³	23-Mar-05	9	161	-538	0.823	0.001	0.0	27.636	32.841
Ballona Creek ²	24-Mar-05	21	4.550	6.259	0.305	0.038	47.6	31.665	32.952
Ballona Creek ³	26-Mar-05	21		all data <10 MPN/100ml				32.430	33.037
Ballona Creek ¹	2005	51	51	-273	0.455	0.001	60.8	27.636	33.037
LA/San Gabriel Rivers ³	27-Feb-04	10	19	40	0.074	0.446	0.0	27.041	33.113
LA/San Gabriel Rivers ²	28-Feb-04	14	12	-29	0.385	0.054	21.4	26.963	33.189
LA/San Gabriel Rivers ²	1-Mar-04	16	9	-26	0.233	0.067	75.0	26.828	33.137
LA/San Gabriel Rivers ¹	2004	40	51	-212	0.401	0.008	37.5	26.828	33.189
LA/San Gabriel Rivers	23-Mar-05			no fecal coliform data				30.928	33.239
LA/San Gabriel Rivers ²	25-Mar-05	15	79	-314	0.467	0.005	60.0	31.816	33.124
LA/San Gabriel Rivers ²	2005	15	79	-314	0.467	0.005	60.0	30.928	33.239
Santa Ana River	27-Feb-04			only two data points				31.835	32.283
Santa Ana River ²	28-Feb-04	20	3	-8	0.205	0.100	70.0	32.235	33.060
Santa Ana River ²	1-Mar-04	21	2	-2	0.076	NaN	95.2	32.197	33.102
Santa Ana River ¹	2004	44	0.704	-14	0.099	0.510	77.3	31.835	33.102
Santa Ana River	23-Mar-05			no fecal coliform data				28.513	32.816
Santa Ana River ²	24-Mar-05	16	2	2	0.200	0.276	37.5	29.427	33.186
Santa Ana River ²	25-Mar-05	24	17	-49	0.152	0.065	83.3	31.063	33.154
Santa Ana River ¹	2005	40	6	-30	0.423	0.005	65.0	28.513	33.186
Newport Harbor ²	28-Feb-04	11	0.003	10	0.327	0.128	36.4	28.259	32.754
Newport Harbor ²	1-Mar-04	12	-3	15	-0.015	1	91.7	27.980	33.131
Newport Harbor ²	2004	23	0.005	10	0.261	0.031	65.2	27.980	33.131
Newport Harbor	23-Mar-05			no fecal coliform data				27.626	32.662
Newport Harbor ²	24-Mar-05	9	-0.122	10	-0.167	0.491	66.7	29.498	33.027
Newport Harbor ²	25-Mar-05	9	-33	103	-0.417	0.014	77.8	32.353	32.833
Newport Harbor ²	2005	18	-8	30	-0.183	0.154	72.2	27.626	33.027
San Diego River ²	24-Feb-04	15	45	-121	0.105	0.241	86.7	32.164	33.141
San Diego River	28-Feb-04	15		all data <100 MPN/100ml				no data	
San Diego River ²	29-Feb-04	15	13	-41	0.133	NaN	93.3	no data	
San Diego River ^{1,4}	2004	45	41	-371	0.298	0.041	93.3	32.164	33.141
Tijuana River ²	24-Feb-04	14	184	-377	0.593	0.004	14.3	31.795	33.400
Tijuana River ²	25-Feb-04	14	12	-138	0.330	0.063	57.1	32.994	33.193
Tijuana River ²	28-Feb-04	31	5	-11	0.462	0.000	38.7	32.750	33.185
Tijuana River ²	29-Feb-04	31	2	-0.684	0.159	0.116	67.7	32.360	33.166
Tijuana River ¹	2004	90	36	-555	0.268	0.010	47.8	31.795	33.400
Tijuana River ²	13-Feb-05	14	377	-1,183	0.571	0.005	21.4	30.040	33.180
Tijuana River ²	14-Feb-05	14	269	-651	0.440	0.032	7.1	31.510	33.145
Tijuana River ²	15-Feb-05	14	120	-316	0.659	0.001	28.6	30.803	33.112
Tijuana River ¹	2005	42	271	-650	0.579	0.000	19.0	28.513	33.180

¹Correlation calculated using censored MLE, reports slope, intercept, log likelihood r, and p-value.²Correlation calculated using censored Theil-Sen, reports slope, intercept, Kendalls t, and p-value.³Correlation calculated using linear regression, reports slope, intercept, and R².⁴Salinity measurements only available on 24 Feb 2004

Table F3. *Enterococcus* vs TSS.

Location	Date	N	Slope	Intercept	R ² /likli r/t	P-value	% Censored	Min Salinity	Max Salinity
top 5m ¹	all	624	133	-2381	0.291	0.000	61.1	26.828	33.400
top 5m ¹	2004	372	183	-3580	0.290	0.000	65.9	26.828	33.400
top 5m ¹	2005	252	48	-650	0.296	0.000	54.0	27.626	33.248
Santa Clara River ²	2004	15	0.277	7	0.162	0.062	86.7	32.569	33.227
Santa Clara River ²	24-Mar-05	14	1.2	-0.4	0.516	0.010	28.6	31.654	33.248
Santa Clara River ²	25-Mar-05	14	3	-9	0.396	0.041	42.9	32.175	33.194
Santa Clara River ²	26-Mar-05	14	3	-13	0.593	0.001	50.0	31.416	33.143
Santa Clara River ¹	2005	42	2	-8	0.632	0.000	40.5	31.416	33.248
Ballona Creek ²	27-Feb-04	7	117	-683	0.762	0.023	28.6	29.684	33.045
Ballona Creek ²	28-Feb-04	21	8	-19	0.257	0.074	52.4	28.265	33.033
Ballona Creek ²	1-Mar-04	21	0.006	10	0.100	0.410	71.4	30.903	33.089
Ballona Creek ¹	2004	49	18	-139	0.328	0.018	57.1	28.265	33.089
Ballona Creek ³	23-Mar-05	9	367	-1,332	0.820	0.001	0.0	27.636	32.841
Ballona Creek ²	24-Mar-05	21	0.001	9.99	0.086	0.581	42.9	31.665	32.952
Ballona Creek ²	26-Mar-05	21	-0.004	9.99	-0.162	0.040	85.7	32.430	33.037
Ballona Creek ¹	2005	51	64.3	-354	0.322	0.018	52.9	27.636	33.037
LA/San Gabriel Rivers ²	27-Feb-04	32	485	-1,870	0.490	0.000	40.6	27.041	33.113
LA/San Gabriel Rivers ²	28-Feb-04	36	56	-200	0.381	0.000	61.1	26.963	33.189
LA/San Gabriel Rivers ²	1-Mar-04	38	46	-142	0.413	0.000	71.1	26.828	33.137
LA/San Gabriel Rivers ¹	2004	106	940	-6,070	0.805	0.000	58.5	26.828	33.189
LA/San Gabriel Rivers ²	23-Mar-05	22	53	-256	0.312	0.023	54.5	30.928	33.239
LA/San Gabriel Rivers ²	25-Mar-05	37	36	-135	0.200	0.025	70.3	31.816	33.124
LA/San Gabriel Rivers ¹	2005	59	149	-870	0.495	0.000	64.4	30.928	33.239
Santa Ana River	27-Feb-04			only two data points				31.835	32.283
Santa Ana River ²	28-Feb-04	20	7	-19	0.337	0.011	65.0	32.235	33.060
Santa Ana River ²	1-Mar-04	21	6	-13	0.167	0.084	81.0	32.197	33.102
Santa Ana River ¹	2004	44	0.985	-15	0.136	0.370	75.0	31.835	33.102
Santa Ana River	23-Mar-05			no <i>Enterococcus</i> data				28.513	32.816
Santa Ana River ²	24-Mar-05	16	4	-7	0.233	0.180	50.0	29.427	33.186
Santa Ana River ²	25-Mar-05	24	30	-97	0.091	0.050	91.7	31.063	33.154
Santa Ana River ¹	2005	40	8	-50	0.488	0.001	75.0	28.513	33.186
Newport Harbor ²	28-Feb-04	11	0.001	10.0	0.055	0.857	54.5	28.259	32.754
Newport Harbor ²	1-Mar-04	12	0.016	9.9	0.242	0.035	83.3	27.980	33.131
Newport Harbor ²	2004	23	0.008	9.9	0.233	0.043	69.6	27.980	33.131
Newport Harbor	23-Mar-05			no <i>Enterococcus</i> data				27.626	32.662
Newport Harbor ²	24-Mar-05	9	-879	2,761	-0.167	0.036	88.9	29.498	33.027
Newport Harbor	25-Mar-05	9		all data <10 MPN/100ml				32.353	32.833
Newport Harbor ²	2005	18	-247	727	-0.046	NaN	94.4	27.626	33.027
San Diego River ²	24-Feb-04	15	0.006	10	0.133	0.463	53.3	32.164	33.141
San Diego River ²	28-Feb-04	15	0.002	10	0.019	0.905	86.7	no data	
San Diego River ²	29-Feb-04	15	0.003	10	0.076	0.399	86.7	no data	
San Diego River ^{1,4}	2004	45	3.98	-47	0.110	0.460	75.6	32.164	33.141
Tijuana River ²	24-Feb-04	14	333	-700	0.780	0.000	7.1	31.795	33.400
Tijuana River ²	25-Feb-04	14	11	-148	0.308	0.014	78.6	32.994	33.193
Tijuana River ²	28-Feb-04	31	1	-2	0.125	0.201	71.0	32.750	33.185
Tijuana River ²	29-Feb-04	31	0.529	-0.597	0.009	0.935	80.6	32.360	33.166
Tijuana River ¹	2004	90	31	-1,290	0.099	0.35	65.6	31.795	33.400
Tijuana River ²	13-Feb-05	14	367	-1,262	0.736	0.000	21.4	30.040	33.180
Tijuana River ²	14-Feb-05	14	121	-328	0.440	0.032	14.3	31.510	33.145
Tijuana River ²	15-Feb-05	14	51	-120	0.582	0.004	14.3	30.803	33.112
Tijuana River ¹	2005	42	305	-1,139	0.872	0.000	16.7	28.513	33.180

¹Correlation calculated using censored MLE, reports slope, intercept, log likelihood r, and p-value.²Correlation calculated using censored Theil-Sen, reports slope, intercept, Kendalls t, and p-value.³Correlation calculated using linear regression, reports slope, intercept, and R².⁴Salinity measurements only available on 24 Feb 2004

Table F4. Toxicity vs TSS.

Location	Date	N	Slope	Intercept	R²	P-value	Min Salinity	Max Salinity
top 5m	all	599	0.004	99.211	<0.0001	0.952	26.828	33.400
top 5m	2004	324	-0.018	97.085	<0.0001	0.876	26.828	33.400
top 5m	2005	275	-0.014	101.955	<0.0001	0.788	27.626	33.248
Santa Clara River	2004	15	-0.001	101.026	<0.0001	0.954	32.569	33.227
Santa Clara River	24-Mar-05	14	-0.039	100.719	0.022	0.613	31.654	33.248
Santa Clara River	25-Mar-05	14	0.003	100.168	0.007	0.772	32.175	33.194
Santa Clara River	26-Mar-05	14	0.017	100.824	0.148	0.175	31.416	33.143
Santa Clara River	2005	42	-0.020	100.687	0.011	0.505	31.416	33.248
Ballona Creek	27-Feb-04	7	-0.958	103.397	0.339	0.170	29.684	33.045
Ballona Creek	28-Feb-04	21	0.642	93.953	0.071	0.243	28.265	33.033
Ballona Creek	1-Mar-04	21	0.683	95.429	0.041	0.378	30.903	33.089
Ballona Creek	2004	49	0.518	95.069	0.031	0.224	28.265	33.089
Ballona Creek	23-Mar-05	9	-3.205	121.212	0.800	0.001	27.636	32.841
Ballona Creek	24-Mar-05	21	-0.245	100.748	0.037	0.402	31.665	32.952
Ballona Creek	26-Mar-05	21	-0.145	98.493	0.012	0.643	32.430	33.037
Ballona Creek	2005	51	-0.071	100.615	0.001	0.789	27.636	33.037
LA/San Gabriel Rivers	27-Feb-04	32	-0.006	96.906	<0.0001	0.950	27.041	33.113
LA/San Gabriel Rivers	28-Feb-04	36	-1.501	102.979	0.050	0.190	26.963	33.189
LA/San Gabriel Rivers	1-Mar-04	38	0.979	93.884	0.033	0.273	26.828	33.137
LA/San Gabriel Rivers	2004	106	-0.106	97.355	0.002	0.670	26.828	33.189
LA/San Gabriel Rivers	23-Mar-05	22	-1.555	107.683	0.120	0.114	30.928	33.239
LA/San Gabriel Rivers	25-Mar-05	37	-0.410	101.236	0.038	0.248	31.816	33.124
LA/San Gabriel Rivers	2005	59	-0.886	103.548	0.076	0.035	30.928	33.239
Santa Ana River	27-Feb-04	3	6.941	46.436	0.400	0.564	31.835	32.283
Santa Ana River	28-Feb-04	20	-0.796	104.931	0.266	0.020	32.235	33.060
Santa Ana River	1-Mar-04	21	0.092	99.579	0.068	0.254	32.197	33.102
Santa Ana River	2004	44	0.058	98.920	0.002	0.786	31.835	33.102
Santa Ana River	23-Mar-05	14	0.021	100.914	0.045	0.467	28.513	32.816
Santa Ana River	24-Mar-05	16	0.056	99.349	0.029	0.527	29.427	33.186
Santa Ana River	25-Mar-05	24	0.086	99.734	0.004	0.771	31.063	33.154
Santa Ana River	2005	54	0.060	99.870	0.077	0.042	28.513	33.186
Newport Harbor	28-Feb-04	12	0.734	94.179	0.253	0.096	28.259	32.754
Newport Harbor	1-Mar-04	12	0.685	95.123	0.013	0.726	27.980	33.131
Newport Harbor	2004	24	0.580	95.275	0.032	0.400	27.980	33.131
Newport Harbor	23-Mar-05	9	-0.146	101.036	0.007	0.835	27.626	32.662
Newport Harbor	24-Mar-05	9	-0.278	100.935	0.021	0.708	29.498	33.027
Newport Harbor	25-Mar-05	9	-0.326	101.087	0.028	0.669	32.353	32.833
Newport Harbor	2005	27	-0.045	100.292	0.002	0.838	27.626	33.027
San Diego River	24-Feb-04	15	-0.568	96.986	0.001	0.935	32.164	33.141
San Diego River	28-Feb-04	14	0.192	98.463	0.044	0.470	no data	
San Diego River	29-Feb-04	15	-1.053	107.211	0.170	0.127	no data	
San Diego River ¹	2004	44	-0.578	101.163	0.004	0.679	32.164	33.141
Tijuana River	24-Feb-04	14	-0.302	80.052	0.015	0.672	31.795	33.400
Tijuana River	28-Feb-04	14	0.453	95.491	0.080	0.326	32.750	33.185
Tijuana River	29-Feb-04	14	0.861	91.421	0.057	0.409	32.360	33.166
Tijuana River	2004	42	-0.876	94.916	0.072	0.086	31.795	33.400
Tijuana River	13-Feb-05	14	-0.041	112.404	0.004	0.833	30.040	33.180
Tijuana River	14-Feb-05	14	0.121	111.354	0.004	0.830	31.510	33.145
Tijuana River	15-Feb-05	14	0.267	110.579	0.065	0.379	30.803	33.112
Tijuana River	2005	42	0.008	111.880	<0.0001	0.952	28.513	33.180

¹Salinity measurements only available on 24 Feb 2004