APPENDIX ONE: FECAL COLIFORM AND *E.COLI* SAMPLING RESULTS

San Lorenzo River Data

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
04-Jan-00	20	04-Jan-00	0.9	24-Nov-86	200	04-Jan-00	36
11-Jan-00	320	11-Jan-00	520	20-May-87	4900	11-Jan-00	50
20-Jan-00	780	20-Jan-00	640	08-Nov-88	1850	20-Jan-00	460
26-Jan-00	340	26-Jan-00	220	30-Nov-88	400	26-Jan-00	320
01-Feb-00	580	01-Feb-00	280	07-Dec-88	1010	01-Feb-00	260
09-Feb-00	420	09-Feb-00	2520	31-Jan-89	1660	02-Feb-00	260
16-Feb-00	660	16-Feb-00	820	18-Apr-89	720	09-Feb-00	60
24-Feb-00	120	24-Feb-00	60	23-Aug-89	26400	16-Feb-00	210
01-Mar-00	160	01-Mar-00	140	26-Jun-91	420	24-Feb-00	100
08-Mar-00	2000	08-Mar-00	1900	02-Jul-91	125	01-Mar-00	90
15-Mar-00	580	15-Mar-00	80	05-Feb-92	392	08-Mar-00	1650
22-Mar-00	80	22-Mar-00	200	05-May-93	604	15-Mar-00	90
29-Mar-00	100	29-Mar-00	160	21-Aug-95	76	22-Mar-00	50
05-Apr-00	280	05-Apr-00	160	23-Aug-95	156	29-Mar-00	10
12-Apr-00	130	12-Apr-00	250	05-Dec-95	240	05-Apr-00	20
13-Apr-00	324	19-Apr-00	180	18-Dec-95	3620	12-Apr-00	20
19-Apr-00	170	26-Apr-00	390	03-Jan-96	550	19-Apr-00	110
26-Apr-00	80	03-May-00	160	17-Jan-96	1600	25-Apr-00	60
03-May-00	120	11-May-00	160	30-Jan-96	500	26-Apr-00	88
11-May-00	150	17-May-00	250	15-Feb-96	420	03-May-00	60
17-May-00	450	24-May-00	1060	29-Feb-96	0.9	11-May-00	120
24-May-00	210	01-Jun-00	650	29-May-96	100	17-May-00	90
01-Jun-00	310	08-Jun-00	1250	11-Jun-96	240	24-May-00	180
08-Jun-00	3350	14-Jun-00	340	26-Jun-96	420	25-May-00	180
14-Jun-00	740	22-Jun-00	200	09-Jul-96	168	01-Jun-00	100
22-Jun-00	320	28-Jun-00	270	21-Aug-96	3030	08-Jun-00	210
28-Jun-00	830	06-Jul-00	50	23-Sep-96	370	14-Jun-00	100
06-Jul-00	120	13-Jul-00	220	07-Oct-96	120	20-Jun-00	4
13-Jul-00	60	27-Jul-00	160	23-Oct-96	300	22-Jun-00	20
19-Jul-00	120	02-Aug-00	370	29-Oct-96	13300	28-Jun-00	50
27-Jul-00	110	08-Aug-00	320	07-Nov-96	290	06-Jul-00	30
02-Aug-00	440	17-Aug-00	408	26-Nov-96	490	11-Jul-00	36
09-Aug-00	120	30-Aug-00	420	18-Dec-96	360	19-Jul-00	16
17-Aug-00	360	07-Sep-00	312	06-Jan-97	100	20-Jul-00	2
24-Aug-00	250	12-Sep-00	280	03-Feb-97	150	25-Jul-00	64
30-Aug-00	200	28-Sep-00	160			01-Aug-00	44
07-Sep-00	3336	12-Oct-00	200			09-Aug-00	76

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
12-Sep-00	2480	17-Oct-00	96			16-Aug-00	24
19-Sep-00	2928	24-Oct-00	3300			24-Aug-00	20
28-Sep-00	50	01-Nov-00	400			30-Aug-00	64
03-Oct-00	1252	08-Nov-00	570			07-Sep-00	32
12-Oct-00	60	14-Nov-00	2			11-Sep-00	40
17-Oct-00	52	20-Nov-00	180			17-Sep-00	92
24-Oct-00	52	29-Nov-00	1940			28-Sep-00	30
01-Nov-00	170	06-Dec-00	124			03-Oct-00	22
06-Nov-00	100	11-Dec-00	312			05-Oct-00	8
14-Nov-00	2	20-Dec-00	712			12-Oct-00	20
20-Nov-00	5	26-Dec-00	4			17-Oct-00	40
29-Nov-00	610	09-Jan-01	410			24-Oct-00	50
06-Dec-00	72	16-Jan-01	116			01-Nov-00	130
11-Dec-00	148	17-Jan-01	100			08-Nov-00	40
20-Dec-00	28	29-Jan-01	430			14-Nov-00	2
26-Dec-00	4	06-Feb-01	344			20-Nov-00	10
04-Jan-01	12	14-Feb-01	1145			28-Nov-00	310
09-Jan-01	220	21-Feb-01	2928			06-Dec-00	4
16-Jan-01	44	26-Feb-01	400			11-Dec-00	12
22-Jan-01	20	07-Mar-01	130			19-Dec-00	2
29-Jan-01	100	12-Mar-01	100			26-Dec-00	8
06-Feb-01	2976	19-Mar-01	290			04-Jan-01	12
14-Feb-01	262	26-Mar-01	390			09-Jan-01	472
21-Feb-01	336	02-Apr-01	60			16-Jan-01	36
26-Feb-01	210	09-Apr-01	230			22-Jan-01	12
07-Mar-01	110	16-Apr-01	30			29-Jan-01	20
12-Mar-01	50	24-Apr-01	90			05-Feb-01	12
19-Mar-01	100	30-Apr-01	120			15-Feb-01	146
27-Mar-01	590	07-May-01	200			21-Feb-01	340
02-Apr-01	400	14-May-01	320			26-Feb-01	110
09-Apr-01	550	21-May-01	310			07-Mar-01	210
16-Apr-01	5	29-May-01	20			12-Mar-01	100
24-Apr-01	210	06-Jun-01	780			19-Mar-01	110
30-Apr-01	20	11-Jun-01	320			26-Mar-01	380
07-May-01	190	18-Jun-01	260			29-Mar-01	50
14-May-01	80	25-Jun-01	810			02-Apr-01	80
21-May-01	2400	02-Jul-01	3970			09-Apr-01	100
29-May-01	16	09-Jul-01	500			16-Apr-01	20
06-Jun-01	100	16-Jul-01	1060			24-Apr-01	60
11-Jun-01	556	23-Jul-01	570			30-Apr-01	110
18-Jun-01	80	31-Jul-01	580			07-May-01	10
25-Jun-01	490	06-Aug-01	1890			14-May-01	60
02-Jul-01	400	14-Aug-01	570			21-May-01	130

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
09-Jul-01	5600	20-Aug-01	1400			23-May-01	20
16-Jul-01	8040	28-Aug-01	310			29-May-01	30
23-Jul-01	90	05-Sep-01	380			06-Jun-01	40
31-Jul-01	60	10-Sep-01	576			11-Jun-01	32
07-Aug-01	170	18-Sep-01	530			18-Jun-01	50
14-Aug-01	3910	24-Sep-01	290			20-Jun-01	8
20-Aug-01	1870	01-Oct-01	450			25-Jun-01	20
28-Aug-01	380	10-Oct-01	760			02-Jul-01	48
05-Sep-01	1670	15-Oct-01	620			09-Jul-01	20
07-Sep-01	280	22-Oct-01	850			16-Jul-01	112
10-Sep-01	16632	29-Oct-01	1010			23-Jul-01	70
18-Sep-01	1210	05-Nov-01	520			31-Jul-01	20
24-Sep-01	110	15-Nov-01	1760			07-Aug-01	120
01-Oct-01	680	19-Nov-01	1210			14-Aug-01	88
10-Oct-01	7420	26-Nov-01	970			20-Aug-01	90
15-Oct-01	1090	03-Dec-01	680			28-Aug-01	70
22-Oct-01	400	10-Dec-01	420			05-Sep-01	60
29-Oct-01	1200	17-Dec-01	4150			10-Sep-01	96
05-Nov-01	2780	26-Dec-01	310			17-Sep-01	30
15-Nov-01	1500	03-Jan-02	620			24-Sep-01	36
19-Nov-01	1180	07-Jan-02	130			27-Sep-01	8
26-Nov-01	1230	14-Jan-02	60			01-Oct-01	40
03-Dec-01	20	24-Jan-02	100			10-Oct-01	52
10-Dec-01	510	28-Jan-02	170			15-Oct-01	40
17-Dec-01	2520	04-Feb-02	10			22-Oct-01	28
26-Dec-01	220	11-Feb-02	50			29-Oct-01	110
03-Jan-02	860	19-Feb-02	400			5-Nov-01	64
07-Jan-02	160	25-Feb-02	20			15-Nov-01	730
24-Jan-02	130	05-Mar-02	80			19-Nov-01	120
28-Jan-02	10	11-Mar-02	90			26-Nov-01	480
04-Feb-02	5	18-Mar-02	90			29-Nov-01	5000
11-Feb-02	20	25-Mar-02	60			3-Dec-01	500
12-Feb-02	20	03-Apr-02	60			10-Dec-01	180
19-Feb-02	280	08-Apr-02	230			17-Dec-01	270
25-Feb-02	50	15-Apr-02	1140			19-Dec-01	70
26-Feb-02	160	29-Apr-02	120			26-Dec-01	76
05-Mar-02	100	07-May-02	30			3-Jan-02	150
11-Mar-02	110	13-May-02	140			7-Jan-02	150
18-Mar-02	130	20-May-02	590			9-Jan-02	50
25-Mar-02	220	28-May-02	80			14-Jan-02	50
03-Apr-02	110	03-Jun-02	60			22-Jan-02	40
08-Apr-02	640	18-Jun-02	170			28-Jan-02	30
15-Apr-02	1150	26-Jun-02	490			4-Feb-02	5

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
24-Apr-02	50	02-Jul-02	40			11-Feb-02	30
29-Apr-02	200	09-Jul-02	350			13-Feb-02	4
07-May-02	4170	16-Jul-02	50			19-Feb-02	160
13-May-02	100	23-Jul-02	180			25-Feb-02	5
20-May-02	400	30-Jul-02	120			5-Mar-02	20
21-May-02	940	06-Aug-02	240			11-Mar-02	110
28-May-02	140	13-Aug-02	660			18-Mar-02	210
03-Jun-02	90	20-Aug-02	120			19-Mar-02	10
11-Jun-02	10	27-Aug-02	210			25-Mar-02	50
18-Jun-02	80	04-Sep-02	470			3-Apr-02	20
26-Jun-02	20	10-Sep-02	1350			8-Apr-02	50
02-Jul-02	230	19-Sep-02	140			15-Apr-02	60
09-Jul-02	60	23-Sep-02	169			18-Apr-02	32
23-Jul-02	10	02-Oct-02	490			24-Apr-02	8
30-Jul-02	630	07-Oct-02	124			29-Apr-02	150
06-Aug-02	60	15-Oct-02	110			7-May-02	10
13-Aug-02	60	23-Oct-02	1860			13-May-02	40
20-Aug-02	5	30-Oct-02	570			20-May-02	108
27-Aug-02	130	04-Nov-02	150			28-May-02	40
04-Sep-02	170	12-Nov-02	250			3-Jun-02	32
10-Sep-02	100	18-Nov-02	200			10-Jun-02	34
19-Sep-02	80	25-Nov-02	510			18-Jun-02	80
25-Sep-02	248	03-Dec-02	920			26-Jun-02	60
01-Oct-02	190	10-Dec-02	470			2-Jul-02	36
07-Oct-02	1116	17-Dec-02	470			9-Jul-02	56
15-Oct-02	90	23-Dec-02	240			16-Jul-02	40
23-Oct-02	610	30-Dec-02	160			23-Jul-02	40
30-Oct-02	950	07-Jan-03	130			30-Jul-02	5
04-Nov-02	350	13-Jan-03	100			31-Jul-02	10
12-Nov-02	370	21-Jan-03	76			6-Aug-02	32
18-Nov-02	230	26-Jan-03	150			13-Aug-02	24
25-Nov-02	270	28-Jan-03	190			20-Aug-02	28
03-Dec-02	1200	04-Feb-03	70			27-Aug-02	10
10-Dec-02	480	10-Feb-03	20			29-Aug-02	50
17-Dec-02	630	18-Feb-03	90			4-Sep-02	60
18-Dec-02	260	27-Feb-03	640			10-Sep-02	28
23-Dec-02	30	05-Mar-03	280			19-Sep-02	20
30-Dec-02	380	13-Mar-03	20			25-Sep-02	16
07-Jan-03	190	17-Mar-03	320			25-Sep-02	16
13-Jan-03	300	25-Mar-03	20			1-Oct-02	20
21-Jan-03	1200	01-Apr-03	330			7-Oct-02	44
26-Jan-03	50	08-Apr-03	270			8-Oct-02	20
28-Jan-03	180	15-Apr-03	510			16-Oct-02	30

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
04-Feb-03	220	23-Apr-03	130			23-Oct-02	64
10-Feb-03	20	28-Apr-03	800			30-Oct-02	70
18-Feb-03	140	05-May-03	90			4-Nov-02	50
27-Feb-03	720	13-May-03	40			12-Nov-02	280
05-Mar-03	310	20-May-03	50			14-Nov-02	150
13-Mar-03	30	27-May-03	220			18-Nov-02	150
17-Mar-03	1190	03-Jun-03	500			25-Nov-02	16
25-Mar-03	50	11-Jun-03	340			3-Dec-02	80
01-Apr-03	550	18-Jun-03	370			10-Dec-02	120
08-Apr-03	80	23-Jun-03	264			17-Dec-02	160
15-Apr-03	480	01-Jul-03	30			23-Dec-02	90
23-Apr-03	100	07-Jul-03	50			30-Dec-02	90
28-Apr-03	530	14-Jul-03	340			7-Jan-03	250
05-May-03	170	21-Jul-03	140			13-Jan-03	136
13-May-03	170	29-Jul-03	244			15-Jan-03	330
20-May-03	40	04-Aug-03	80			21-Jan-03	96
27-May-03	700	11-Aug-03	300			28-Jan-03	44
03-Jun-03	280	19-Aug-03	1868			4-Feb-03	130
11-Jun-03	240	26-Aug-03	540			10-Feb-03	20
18-Jun-03	310	02-Sep-03	830			11-Feb-03	10
23-Jun-03	272	08-Sep-03	470			18-Feb-03	76
01-Jul-03	180	15-Sep-03	1530			27-Feb-03	160
07-Jul-03	140	23-Sep-03	1020			5-Mar-03	260
14-Jul-03	180	29-Sep-03	135			13-Mar-03	60
21-Jul-03	126	06-Oct-03	470			17-Mar-03	70
29-Jul-03	400	14-Oct-03	160			19-Mar-03	200
04-Aug-03	56	20-Oct-03	750			25-Mar-03	80
11-Aug-03	988	27-Oct-03	640			1-Apr-03	96
19-Aug-03	1324	04-Nov-03	500			7-Apr-03	40
26-Aug-03	1220	12-Nov-03	430			8-Apr-03	40
02-Sep-03	800	17-Nov-03	410			15-Apr-03	230
08-Sep-03	400	24-Nov-03	1200			23-Apr-03	130
15-Sep-03	1010	01-Dec-03	3280			28-Apr-03	560
23-Sep-03	710	09-Dec-03	320			5-May-03	80
29-Sep-03	416	15-Dec-03	200			13-May-03	48
06-Oct-03	580	22-Dec-03	260			20-May-03	20
14-Oct-03	10	31-Dec-03	140			27-May-03	52
20-Oct-03	840	05-Jan-04	170			29-May-03	96
21-Oct-03	240	12-Jan-04	220			3-Jun-03	170
27-Oct-03	3100	20-Jan-04	60			11-Jun-03	370
28-Oct-03	900	02-Feb-04	350			18-Jun-03	170
04-Nov-03	640	17-Feb-04	1330			23-Jun-03	32
05-Nov-03	260	23-Feb-04	60			30-Jun-03	16

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
12-Nov-03	290	01-Mar-04	420			1-Jul-03	20
17-Nov-03	380	08-Mar-04	10			7-Jul-03	5
24-Nov-03	490	15-Mar-04	260			14-Jul-03	60
01-Dec-03	5760	22-Mar-04	50			15-Jul-03	120
08-Dec-03	820	29-Mar-04	180			21-Jul-03	52
09-Dec-03	330	06-Apr-04	80			29-Jul-03	32
15-Dec-03	260	12-Apr-04	160			4-Aug-03	60
22-Dec-03	410	19-Apr-04	230			11-Aug-03	52
31-Dec-03	420	26-Apr-04	190			19-Aug-03	52
05-Jan-04	100	03-May-04	100			26-Aug-03	150
12-Jan-04	160	10-May-04	190			2-Sep-03	170
20-Jan-04	20	17-May-04	190			8-Sep-03	160
21-Jan-04	50	26-May-04	580			15-Sep-03	200
02-Feb-04	70	01-Jun-04	260			23-Sep-03	160
09-Feb-04	120	09-Jun-04	430			23-Sep-03	220
17-Feb-04	1180	15-Jun-04	85			29-Sep-03	60
23-Feb-04	50	21-Jun-04	100			6-Oct-03	100
01-Mar-04	440	29-Jun-04	310			10-Oct-03	96
08-Mar-04	10	07-Jul-04	1330			14-Oct-03	70
15-Mar-04	170	12-Jul-04	690			20-Oct-03	110
22-Mar-04	80	19-Jul-04	650			27-Oct-03	30
23-Mar-04	300	29-Jul-04	304			4-Nov-03	180
29-Mar-04	80	04-Aug-04	100			12-Nov-03	40
06-Apr-04	50	09-Aug-04	216			17-Nov-03	120
12-Apr-04	140	16-Aug-04	3580			24-Nov-03	10
19-Apr-04	200	23-Aug-04	920			1-Dec-03	1430
26-Apr-04	70	30-Aug-04	130			8-Dec-03	230
03-May-04	80	08-Sep-04	130			9-Dec-03	90
10-May-04	30	13-Sep-04	130			15-Dec-03	610
17-May-04	290	20-Sep-04	470			22-Dec-03	220
26-May-04	240	27-Sep-04	200			30-Dec-03	250
01-Jun-04	200	04-Oct-04	360			5-Jan-04	150
09-Jun-04	270	13-Oct-04	50			7-Jan-04	40
15-Jun-04	190	18-Oct-04	2000			12-Jan-04	110
16-Jun-04	620	27-Oct-04	780			20-Jan-04	80
21-Jun-04	340	01-Nov-04	310			26-Jan-04	50
24-Jun-04	240	08-Nov-04	1280			02-Feb-04	160
29-Jun-04	180	15-Nov-04	470			09-Feb-04	50
07-Jul-04	600	22-Nov-04	70			11-Feb-04	100
12-Jul-04	120	01-Dec-04	70			17-Feb-04	500
19-Jul-04	290	06-Dec-04	90			23-Feb-04	50
20-Jul-04	210	13-Dec-04	300			01-Mar-04	100
29-Jul-04	260	21-Dec-04	200			02-Mar-04	80

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
02-Aug-04	160	28-Dec-04	1000			08-Mar-04	20
04-Aug-04	170	05-Jan-05	230			15-Mar-04	20
09-Aug-04	232	10-Jan-05	1430			22-Mar-04	190
16-Aug-04	30	19-Jan-05	40			29-Mar-04	60
18-Aug-04	180	24-Jan-05	90			06-Apr-04	10
23-Aug-04	1050	31-Jan-05	150			12-Apr-04	40
30-Aug-04	40	07-Feb-05	4000			19-Apr-04	130
08-Sep-04	190	14-Feb-05	90			26-Apr-04	30
13-Sep-04	30	21-Feb-05	630			03-May-04	70
20-Sep-04	160	28-Feb-05	2240			10-May-04	20
21-Sep-04	176	7-Mar-05	150			10-May-04	30
27-Sep-04	50	15-Mar-05	130			17-May-04	110
04-Oct-04	84	21-Mar-05	500			26-May-04	40
13-Oct-04	80	28-Mar-05	2020			01-Jun-04	80
18-Oct-04	2000	4-Apr-05	720			09-Jun-04	50
27-Oct-04	736	11-Apr-05	260			14-Jun-04	48
01-Nov-04	270	18-Apr-05	262			15-Jun-04	50
08-Nov-04	1630	25-Apr-05	150			21-Jun-04	24
15-Nov-04	370	2-May-05	150			29-Jun-04	40
22-Nov-04	30	9-May-05	470			07-Jul-04	40
01-Dec-04	30	16-May-05	231			12-Jul-04	24
06-Dec-04	20	23-May-05	130			14-Jul-04	30
13-Dec-04	200	1-Jun-05	320			19-Jul-04	72
21-Dec-04	40	6-Jun-05	370			20-Jul-04	44
28-Dec-04	880	13-Jun-05	80			29-Jul-04	16
05-Jan-05	170	23-Jun-05	270			04-Aug-04	72
10-Jan-05	200	29-Jun-05	1250			04-Aug-04	80
19-Jan-05	120	5-Jul-05	160			09-Aug-04	40
24-Jan-05	290	11-Jul-05	50			11-Aug-04	40
31-Jan-05	150	18-Jul-05	340			16-Aug-04	36
07-Feb-05	90	25-Jul-05	70			23-Aug-04	36
14-Feb-05	100	1-Aug-05	60			30-Aug-04	40
21-Feb-05	2190	8-Aug-05	3430			02-Sep-04	30
28-Feb-05	1610	15-Aug-05	250			08-Sep-04	124
7-Mar-05	230	22-Aug-05	280			13-Sep-04	20
15-Mar-05	60	30-Aug-05	4900			20-Sep-04	76
21-Mar-05	490	6-Sep-05	552			27-Sep-04	44
28-Mar-05	2180	15-Sep-05	440			04-Oct-04	40
4-Apr-05	390	19-Sep-05	590			06-Oct-04	60
11-Apr-05	110	26-Sep-05	180			13-Oct-04	36
18-Apr-05	160	3-Oct-05	180			18-Oct-04	2000
25-Apr-05	60	12-Oct-05	100			27-Oct-04	1520
2-May-05	40	18-Oct-05	290			01-Nov-04	100

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
9-May-05	420	25-Oct-05	260			03-Nov-04	75
16-May-05	128	1-Nov-05	150			08-Nov-04	32
23-May-05	230	9-Nov-05	550			15-Nov-04	72
1-Jun-05	340	16-Nov-05	240			22-Nov-04	32
6-Jun-05	570	22-Nov-05	28			01-Dec-04	32
13-Jun-05	80	30-Nov-05	850			06-Dec-04	20
23-Jun-05	390	5-Dec-05	380			08-Dec-04	150
29-Jun-05	420	14-Dec-05	190			13-Dec-04	68
5-Jul-05	80	19-Dec-05	1800			21-Dec-04	48
11-Jul-05	70	27-Dec-05	280			28-Dec-04	290
18-Jul-05	130	3-Jan-06	280			05-Jan-05	88
25-Jul-05	5	10-Jan-06	330			10-Jan-05	64
1-Aug-05	30	17-Jan-06	180			19-Jan-05	36
8-Aug-05	350	23-Jan-06	40			20-Jan-05	55
15-Aug-05	100					24-Jan-05	60
22-Aug-05	5					31-Jan-05	76
30-Aug-05	990					03-Feb-05	40
6-Sep-05	992					07-Feb-05	80
15-Sep-05	70					14-Feb-05	36
26-Sep-05	300					21-Feb-05	800
3-Oct-05	220					28-Feb-05	2140
12-Oct-05	40					7-Mar-05	84
18-Oct-05	70					9-Mar-05	112
19-Oct-05	250					15-Mar-05	72
25-Oct-05	170					21-Mar-05	260
1-Nov-05	340					28-Mar-05	2070
9-Nov-05	1180					4-Apr-05	470
16-Nov-05	70					11-Apr-05	76
22-Nov-05	60					18-Apr-05	100
30-Nov-05	1430					25-Apr-05	84
5-Dec-05	220					2-May-05	68
14-Dec-05	190					4-May-05	120
19-Dec-05	1770					9-May-05	550
27-Dec-05	440					16-May-05	128
3-Jan-06	20					23-May-05	60
10-Jan-06	80					1-Jun-05	148
17-Jan-06	40					6-Jun-05	64
23-Jan-06	20					13-Jun-05	128
						15-Jun-05	35
						23-Jun-05	60
						29-Jun-05	95
						5-Jul-05	36
						11-Jul-05	72

San Lorenzo River Mouth @ Trestle	Fecal Coliform (#/100 mL)	San Lorenzo River @ Broadway/ Laurel St Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Soquel Av Bridge	Fecal Coliform (#/100 mL)	San Lorenzo River @ Sycamore Grove	Fecal Coliform (#/100 mL)
						14-Jul-05	40
						18-Jul-05	156
						25-Jul-05	44
						1-Aug-05	44
						8-Aug-05	24
						15-Aug-05	32
						17-Aug-05	44
						22-Aug-05	48
						30-Aug-05	20
						6-Sep-05	48
						15-Sep-05	24
						19-Sep-05	8
						20-Sep-05	36
						27-Sep-05	40
						3-Oct-05	4
						11-Oct-05	48
						12-Oct-05	36
						18-Oct-05	15
						25-Oct-05	96
						1-Nov-05	16
						9-Nov-05	65
						15-Nov-05	50
						22-Nov-05	16
						30-Nov-05	315
						5-Dec-05	116
						9-Dec-05	40
						14-Dec-05	35
						19-Dec-05	1280
						27-Dec-05	220
						3-Jan-06	100
						10-Jan-06	76
						17-Jan-06	80
						23-Jan-06	28
						25-Jan-06	92

Branciforte Creek Water Quality Data

Branciforte Ck above SLR	Fecal Coliform (#/100 mL)	Branciforte Ck @ Carbonera Ck	Fecal Coliform (#/100 mL)	Branciforte Ck @ Isbel Dr	Fecal Coliform (#/100 mL)	Branciforte Ck @ Delaveaga	Fecal Coliform (#/100 mL)
11-Apr-95	216	20-Sep-95	88	09-Feb-00	230	30-Jun-03	268
23-Aug-95	528	19-Mar-96	190	23-Mar-00	250	09-Jul-03	120
05-Dec-95	1490	06-Feb-97	120	20-Apr-00	190	16-Jul-03	448
18-Dec-95	2140	20-Dec-00	90	25-May-00	340	22-Jul-03	88
03-Jan-96	1390	09-Jan-01	340	26-Jul-00	390	28-Jul-03	72
17-Jan-96	800	13-Aug-01	52	28-Aug-00		05-Aug-03	68
30-Jan-96	100	24-Jan-02	9	15-Nov-00	176	12-Aug-03	84
15-Feb-96	860			04-Dec-00	28	20-Aug-03	56
29-Feb-96	1400			09-Jan-01	540	25-Aug-03	172
29-May-96	680			07-Feb-01	112	04-Sep-03	168
11-Jun-96	620			28-Mar-01	230	15-Sep-03	170
26-Jun-96	890			23-Apr-01	4275	26-May-04	410
09-Jul-96	288			23-May-01	650	02-Jun-04	104
21-Aug-96	7170			20-Jun-01	96	09-Jun-04	90
23-Sep-96	870			30-Jul-01	170	15-Jun-04	120
07-Oct-96	280			13-Aug-01	92	21-Jun-04	188
23-Oct-96	720			28-Nov-01	90	29-Jun-04	100
29-Oct-96	11520			19-Dec-01	90	08-Jul-04	110
07-Nov-96	270			13-Jan-02	60	12-Jul-04	108
26-Nov-96	580			13-Feb-02	44	19-Jul-04	60
18-Dec-96	420			19-Mar-02	20	28-Jul-04	92
06-Jan-97	220			04-Jun-02	100	04-Aug-04	150
03-Feb-97	180			30-Jul-02	188	16-Aug-04	252
06-Feb-97	130			22-Aug-02	96	23-Aug-04	76
19-Feb-97	120			14-Nov-02	80	30-Aug-04	122
20-Dec-00	50			18-Dec-02	210	08-Sep-04	136
09-Jan-01	490			16-Jan-03	90	13-Sep-04	16
11-Dec-01				11-Feb-03	220	20-Sep-04	128
24-Jan-02	9			19-Mar-03	390	27-Sep-04	80
26-Feb-02	9			03-Jun-03	172	01-Jun-05	150
26-Sep-05	190			16-Jul-03	140	06-Jun-05	188
				28-Aug-03	232	13-Jun-05	84
				23-Sep-03	440	23-Jun-05	80
				13-Nov-03	190	29-Jun-05	150
				17-Dec-03	230	05-Jul-05	96
				06-Jan-04	80	11-Jul-05	40
				05-Feb-04	130		
				02-Mar-04	230		
				11-May-04	370		
				14-Jul-04	170		

Branciforte Ck above SLR	Fecal Coliform (#/100 mL)	Branciforte Ck @ Carbonera Ck	Fecal Coliform (#/100 mL)	Branciforte Ck @ Isbel Dr	Fecal Coliform (#/100 mL)	Branciforte Ck @ Delaveaga	Fecal Coliform (#/100 mL)
				02-Sep-04	125		
				07-Oct-04	805		
				03-Nov-04	120		
				25-Jan-05	335		
				09-Feb-05	68		
				10-Mar-05	80		
				13-Apr-05	140		
				04-May-05	220		
				15-Jun-05	380		

Carbonera Creek Data (Santa Cruz County Environmental Health Services Data)

Carbonera Creek @ Branciforte Creek	Fecal Coliform (#/100 mL)
19-Oct-00	44
20-Dec-00	40
09-Jan-01	360
13-Aug-01	1900
24-Jan-02	30
26-Feb-02	9
26-Sep-05	90
6-Oct-05	90

Carbonera Creek Data (City of Scotts Valley Data)

Stn #	Sampling Location	Sampling Date	*E.coli*
1	Camp Evers Cr. @ Cold Stream Way	16-Jan-05	36
1	Camp Evers Cr. @ Cold Stream Way	13-Jan-05	9
1	Camp Evers Cr. @ Cold Stream Way	20-Jan-05	610
1	Camp Evers Cr. @ Cold Stream Way	27-Jan-05	75
1	Camp Evers Cr. @ Cold Stream Way	10-Feb-05	4500
1	Camp Evers Cr. @ Cold Stream Way	17-Feb-05	160
2	Camp Evers Cr. @ Whispering Pines	16-Jan-05	2400
2	Camp Evers Cr. @ Whispering Pines	13-Jan-05	820
2	Camp Evers Cr. @ Whispering Pines	20-Jan-05	330
2	Camp Evers Cr. @ Whispering Pines	27-Jan-05	250
2	Camp Evers Cr. @ Whispering Pines	10-Feb-05	2000
2	Camp Evers Cr. @ Whispering Pines	17-Feb-05	290
3	Camp Evers Cr. @ Carbonera Cr.	16-Jan-05	66
3	Camp Evers Cr. @ Carbonera Cr.	13-Jan-05	770
3	Camp Evers Cr. @ Carbonera Cr.	20-Jan-05	120
3	Camp Evers Cr. @ Carbonera Cr.	27-Jan-05	520
3	Camp Evers Cr. @ Carbonera Cr.	10-Feb-05	104
3	Camp Evers Cr. @ Carbonera Cr.	17-Feb-05	140
4	Carbonera Cr. @ Disc Dr.	16-Jan-05	75
4	Carbonera Cr. @ Disc Dr.	13-Jan-05	57
4	Carbonera Cr. @ Disc Dr.	20-Jan-05	370
4	Carbonera Cr. @ Disc Dr.	27-Jan-05	390
4	Carbonera Cr. @ Disc Dr.	10-Feb-05	82
4	Carbonera Cr. @ Disc Dr.	17-Feb-05	370
5	Carbonera Cr. AB Camp Evers Cr.	16-Jan-05	59
5	Carbonera Cr. AB Camp Evers Cr.	13-Jan-05	33
5	Carbonera Cr. AB Camp Evers Cr.	20-Jan-05	200
5	Carbonera Cr. AB Camp Evers Cr.	27-Jan-05	870

5	Carbonera Cr. AB Camp Evers Cr.	10-Feb-05	150
5	Carbonera Cr. AB Camp Evers Cr.	17-Feb-05	180
6	Carbonera Cr. @ Hwy. 17	16-Jan-05	91
6	Carbonera Cr. @ Hwy. 17	13-Jan-05	120
6	Carbonera Cr. @ Hwy. 17	20-Jan-05	190
6	Carbonera Cr. @ Hwy. 17	27-Jan-05	460
6	Carbonera Cr. @ Hwy. 17	10-Feb-05	93
6	Carbonera Cr. @ Hwy. 17	17-Feb-05	270

APPENDIX TWO. DATA ANALYSIS

Staff analyzed water quality data using a program developed by Tetra Tech, the United States Environmental Protection Agencies' contractor. The program is titled "Fecal Coliform Investigation and Analysis Spreadsheet (FECIA)." FECIA is a fully automated spreadsheet designed to assist in characterization and quantification of fecal coliform instream water quality objective[1] exceedances. Data are compared against water quality objectives or criteria to determine magnitude and frequency of exceedances. The FECIA program generated the data analysis figures and tables within this section.

All figures in Appendix Two show the REC-1 geometric mean water quality objective or criteria, concentration ranges, range of concentrations within the 25th -75th percentile range, mean concentration, and median concentration.

All tables in Appendix Two provide summary statistics of the figures. The table displays statistical data on a monthly basis. The table shows the mean, the median, the minimum, the maximum, the 25th percent deviation, the 75th percent deviation, the number of exceedances of the water contact recreation water quality objective or criteria versus the sample count (XS:Count), and the percent sample exceedance (XS%) of the water quality objective or criteria. Note that when the table analyzed geometric means, the column entitled "mean" is actually the "mean of the geometric mean." The mean value for the maximum water quality objective or criterion is the actual mean value of the samples collected.

San Lorenzo River Estuary at Trestle

Geometric Mean Water Quality Objective (200 MPN/100 mL)

Figure 1 shows monthly fecal coliform concentrations for the San Lorenzo River Estuary at the Trestle from 1/4/2000 to 2/28/2005. Fecal coliform mean values are below the water quality objective from January through May (February average equals 200 MPN). From June through December, the mean concentrations exceed the water quality objective.

[1] Or *E.coli* water quality criteria

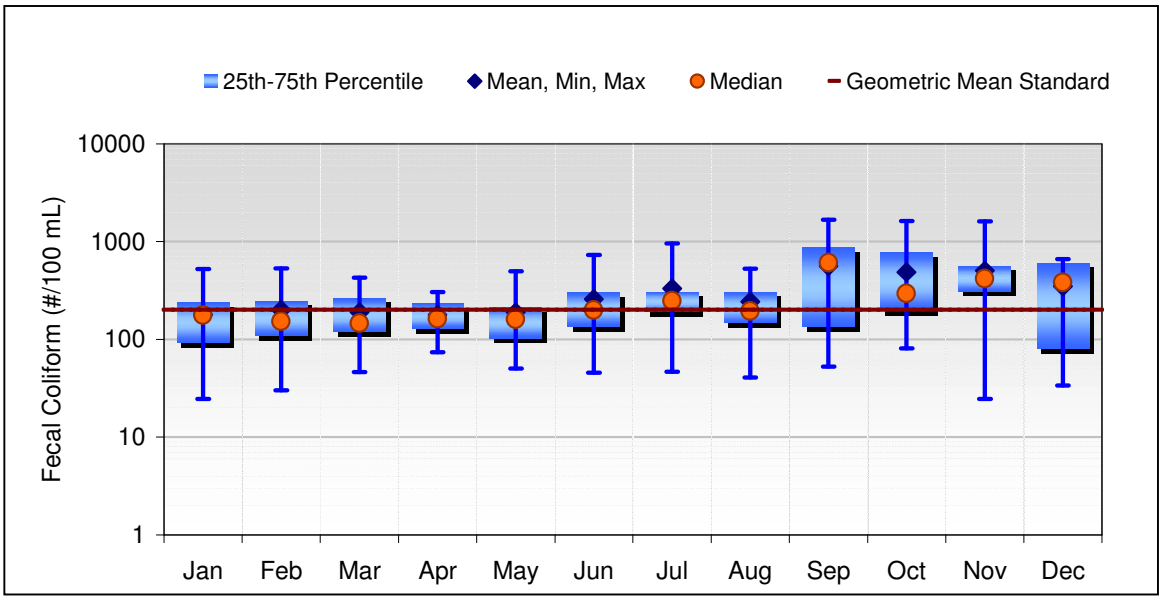

Figure 1. San Lorenzo River Estuary Fecal Coliform at Trestle (#/100 mL) and Water Contact Recreation Geometric Mean Water Quality Objective (January 4, 2000 – February 28, 2005)

Table 1 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded 52% of the time. The least violations occur in April and the greatest numbers of violations occur in November. The number of exceedances is slightly less from February though May. There is no seasonal water quality trend.

Table 1. San Lorenzo River Estuary Fecal Coliform at Trestle Data Summary (#/100 mL) and Exceedance of Water Contract Recreation Geometric Mean Water Quality Objective

Summary Statistics (Data: 1/4/2000 to 2/28/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	179	178	25	522	92	239	9:21	43%
Feb	200	154	30	532	109	249	9:22	41%
Mar	190	147	46	430	119	264	8:23	35%
Apr	178	164	74	304	128	233	7:24	29%
May	189	162	50	498	103	212	7:21	33%
Jun	259	200	46	728	136	304	11:23	48%
Jul	330	248	47	955	192	307	16:22	73%
Aug	243	195	41	529	147	307	10:22	45%
Sep	562	608	52	1669	134	870	13:22	59%
Oct	489	295	81	1620	196	775	18:24	75%
Nov	503	417	25	1609	310	562	17:22	77%
Dec	348	383	34	662	80	606	15:24	63%
All Data	**307**	**212**	**25**	**1669**	**132**	**376**	**140:270**	**52%**

Maximum Water Quality Objective (400 MPN/100 mL)

Figure 2 below shows monthly fecal coliform concentrations for San Lorenzo River Estuary at the Trestle from 1/4/2000 to 2/28/2005. Mean concentrations exceed the water quality objective in February and May through December.

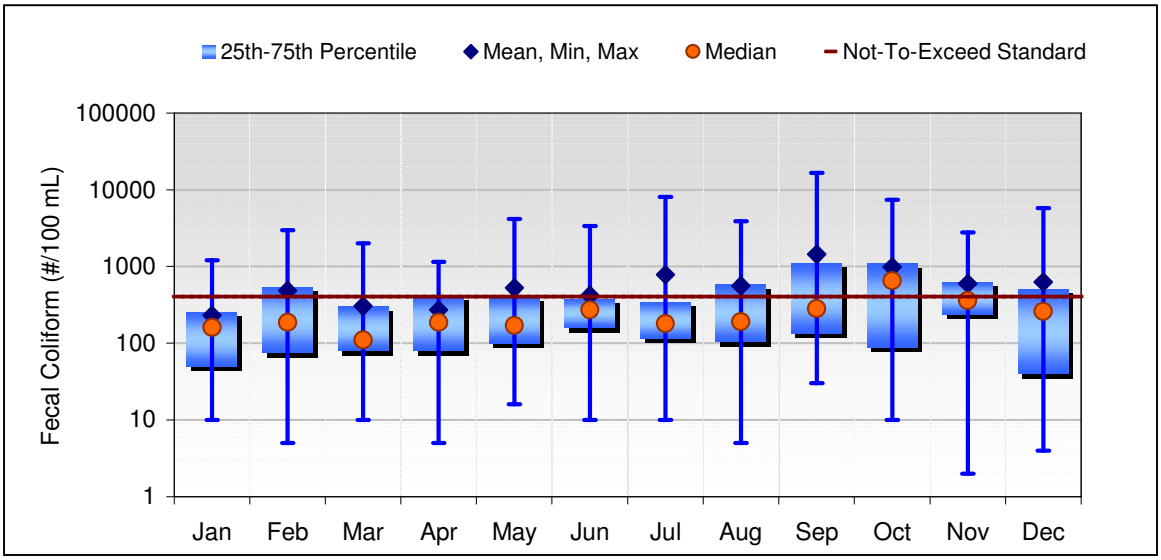

Figure 2. San Lorenzo River Estuary Fecal Coliform at Trestle (#/100 mL) and Water Contact Maximum Water Quality Objective (January 4, 2000 through February 28, 2005)

Table 2 below provides summary statistics of the above figure. Overall, the quality objective was exceeded 30% of the time with no seasonal trend.

Table 2. San Lorenzo River Estuary Fecal Coliform at Trestle Data Summary (#/100 mL) and Exceedance of Water Contract Recreation Maximum Water Quality Objective

Summary Statistics (Data: 1/4/2000 to 2/28/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	229	160	10	1200	50	255	3:27	11%
Feb	485	185	5	2976	75	540	8:26	31%
Mar	304	110	10	2000	80	305	5:23	22%
Apr	272	185	5	1150	80	420	6:24	25%
May	528	170	16	4170	100	400	5:21	24%
Jun	422	271	10	3350	160	378	6:24	25%
Jul	784	180	10	8040	115	345	4:23	17%
Aug	559	190	5	3910	105	577	7:24	29%
Sep	1445	280	30	16632	135	1110	10:23	43%
Oct	989	645	10	7420	89	1097	14:24	58%
Nov	598	360	2	2780	238	633	8:22	36%
Dec	627	260	4	5760	40	510	10:25	40%
All Data	**597**	**210**	**2**	**16632**	**90**	**550**	**86:286**	**30%**

San Lorenzo River Estuary at Broadway/Laurel Street Bridge

Geometric Mean Water Quality Objective (200 MPN/100 mL)

Figure 3 below shows monthly fecal coliform concentrations for San Lorenzo River Estuary at the Broadway/Laurel Street from 1/4/2000 to 2/28/2005. Mean concentrations exceed the water quality objective in February and June through December.

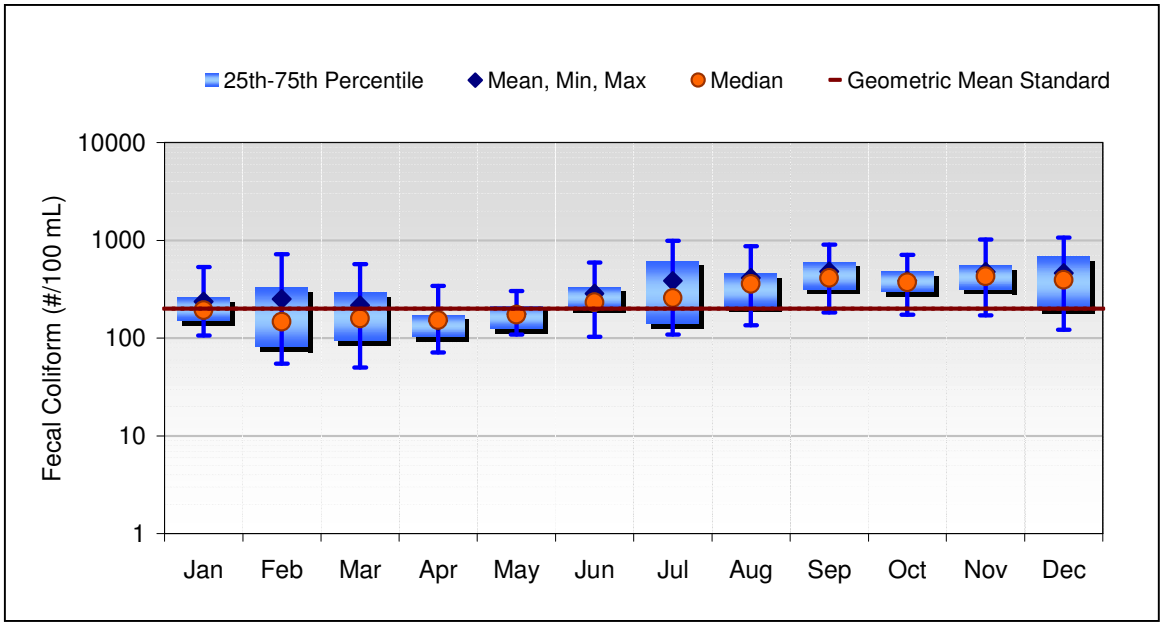

Figure 3. San Lorenzo River Estuary Fecal Coliform at Broadway/Laurel Bridge (#/100 mL) and Water Contact Recreation Geometric Mean Water Quality Objective (January 4, 2000 through February 28, 2005)

Table 3 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded 61% of the time with no apparent seasonal trend.

Table 3. San Lorenzo River Estuary Fecal Coliform at Broadway/Laurel Street Bridge Data Summary (#/100 mL) and Exceedance of Water Contract Recreation Geometric Mean Water Quality Objective

Summary Statistics (Data: 1/4/2000 to 2/28/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	238	194	106	534	152	262	8:17	47%
Feb	251	147	55	724	81	330	9:20	45%
Mar	216	159	50	570	94	296	8:19	42%
Apr	151	153	72	343	103	173	3:21	14%
May	176	174	108	305	126	214	6:17	35%
Jun	286	233	104	593	204	332	14:19	74%
Jul	385	258	109	994	140	616	11:19	58%
Aug	414	358	136	870	210	465	13:17	76%
Sep	480	413	183	903	316	607	16:17	94%
Oct	388	373	174	711	299	482	16:18	89%
Nov	478	428	171	1016	315	557	16:19	84%
Dec	463	395	121	1068	200	688	17:23	74%
All Data	**327**	**254**	**50**	**1068**	**154**	**439**	**137:226**	**61%**

Maximum Water Quality Objective (400 MPN/100 mL)

Figure 4 below shows monthly fecal coliform concentrations for San Lorenzo River Estuary at the Broadway/Laurel Street Bridge from 1/4/2000 to 2/28/2005. Mean concentrations exceed the water quality objective in February and July through December.

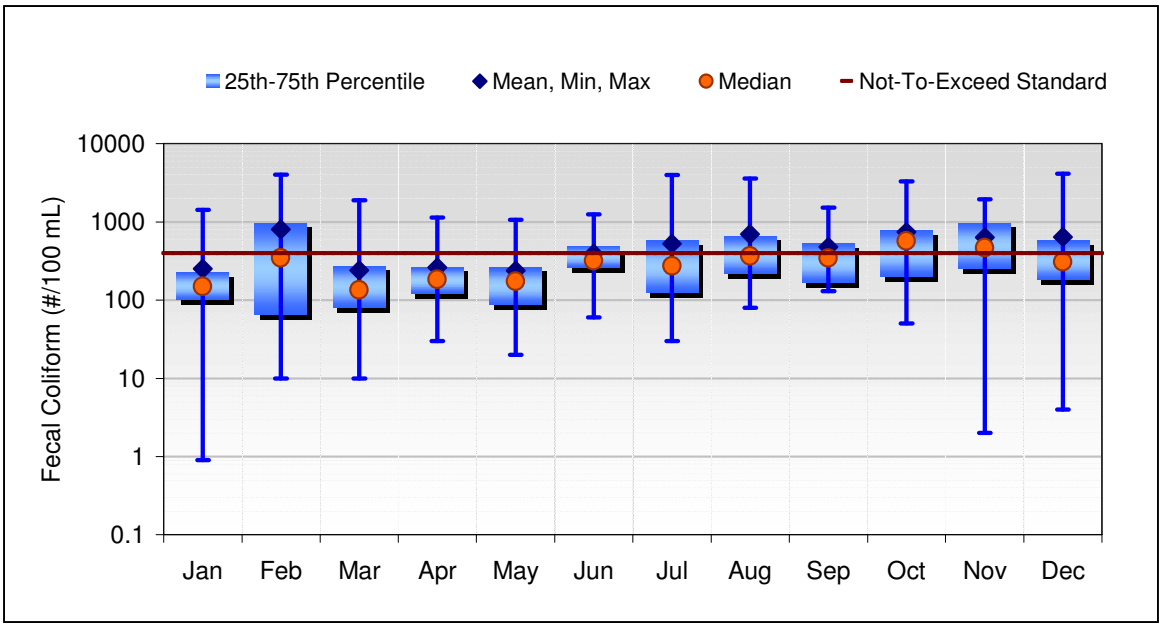

Figure 4. San Lorenzo River Estuary Fecal Coliform at Broadway/Laurel Street Bridge (#/100 mL) and Water Contact Maximum Water quality Objective (January 4, 2000 through February 29, 2005)

Table 4 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded 35% of the time. The number of exceedances is lower in March through May. There is no seasonal trend.

Table 4. San Lorenzo River Estuary Fecal Coliform at Broadway/Laurel Street Bridge Data Summary (#/100 mL) and Exceedance of Water Contract Recreation Maximum Water Quality Objective

Summary Statistics (Data: 1/4/2000 to 2/28/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	252	150	1	1430	100	228	6:26	23%
Feb	804	350	10	4000	65	983	9:23	39%
Mar	240	135	10	1900	80	275	2:22	9%
Apr	262	185	30	1140	120	265	3:22	14%
May	239	175	20	1060	88	265	3:20	15%
Jun	393	320	60	1250	260	490	7:21	33%
Jul	529	274	30	3970	125	578	8:22	36%
Aug	698	370	80	3580	216	660	10:21	48%
Sep	479	346	130	1530	167	542	9:20	45%
Oct	745	570	50	3300	200	780	14:21	67%
Nov	635	470	2	1940	250	970	13:21	62%
Dec	645	310	4	4150	180	575	9:23	39%
All Data	**492**	**267**	**1**	**4150**	**130**	**538**	**93:262**	**35%**

San Lorenzo River Fecal Coliform at Soquel Avenue Bridge

Geometric Mean Objective (200 MPN/100 mL)

There are insufficient water quality data at the Soquel Avenue Bridge station to calculate the geometric mean (No months have the minimum of five samples needed to calculate the geometric mean). The most recent data available is from 11/24/86 to 02/19/97.

Maximum Objective (400 MPN/100 mL)

Figure 5 shows monthly fecal coliform concentrations for San Lorenzo River Estuary at the Soquel Avenue Bridge from 11/24/1986 to 02/19/1997. The mean concentrations exceed the water quality objective in January, April-May, August, and October through December.

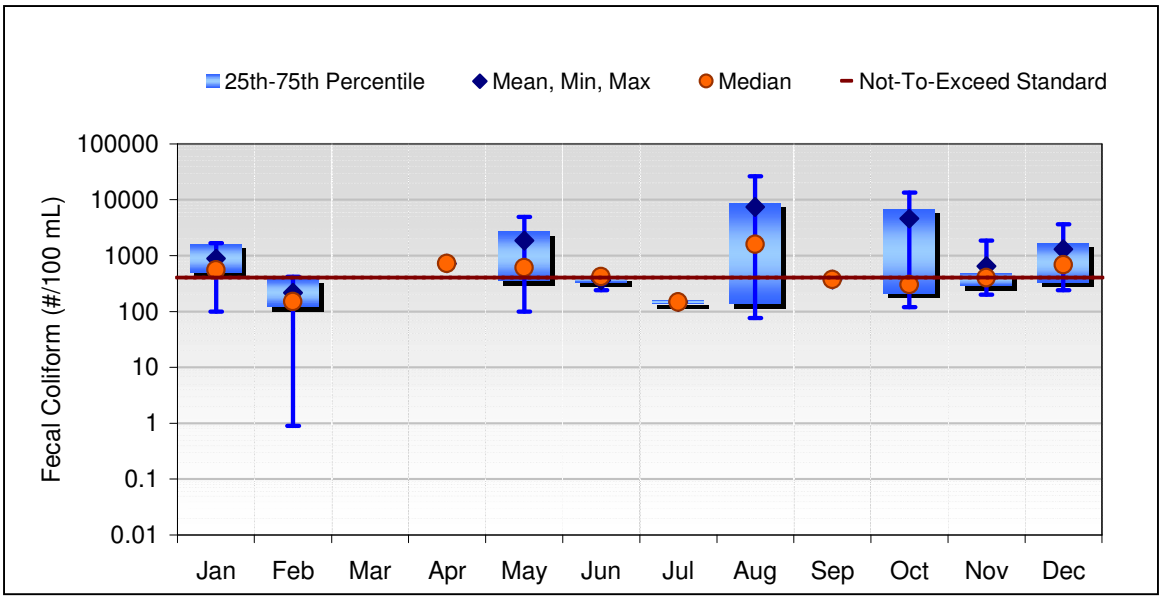

Figure 5. San Lorenzo River Estuary Fecal Coliform at Soquel Avenue Bridge Data Summary (#/100 mL) and Exceedance of Water Contract Recreation Maximum Water Quality Objective (11/24/1986 to 2/19/1997)

Table 5 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded 47% of the time. There is no seasonal trend.

Table 5. San Lorenzo River Estuary Fecal Coliform at Soquel Avenue Bridge Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective

Summary Statistics (Data: 11/24/1986 to 2/19/1997)								
Month	**Mean**	**Median**	**Min**	**Max**	**25th**	**75th**	**XS:Count**	**XS%**
Jan	882	550	100	1660	500	1600	4:5	80%
Feb	217	150	1	420	120	392	1:5	20%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	720	720	720	720	720	720	1:1	100%
May	1868	604	100	4900	352	2752	2:3	67%
Jun	360	420	240	420	330	420	2:3	67%
Jul	147	147	125	168	136	157	0:2	0%
Aug	7416	1593	76	26400	136	8873	2:4	50%
Sep	370	370	370	370	370	370	0:1	0%
Oct	4573	300	120	13300	210	6800	1:3	33%
Nov	646	400	200	1850	290	490	2:5	40%
Dec	1308	685	240	3620	330	1663	2:4	50%
All Data	**1817**	**396**	**1**	**26400**	**165**	**793**	**17:36**	**47%**

San Lorenzo River at Sycamore Grove

Geometric Mean Objective (200 MPN/100 mL)

Figure 6 below shows monthly fecal coliform concentrations for San Lorenzo River Estuary at the Sycamore Grove station from 1/4/2000 to 2/22/2005. The mean concentrations do not exceed the water quality objective.

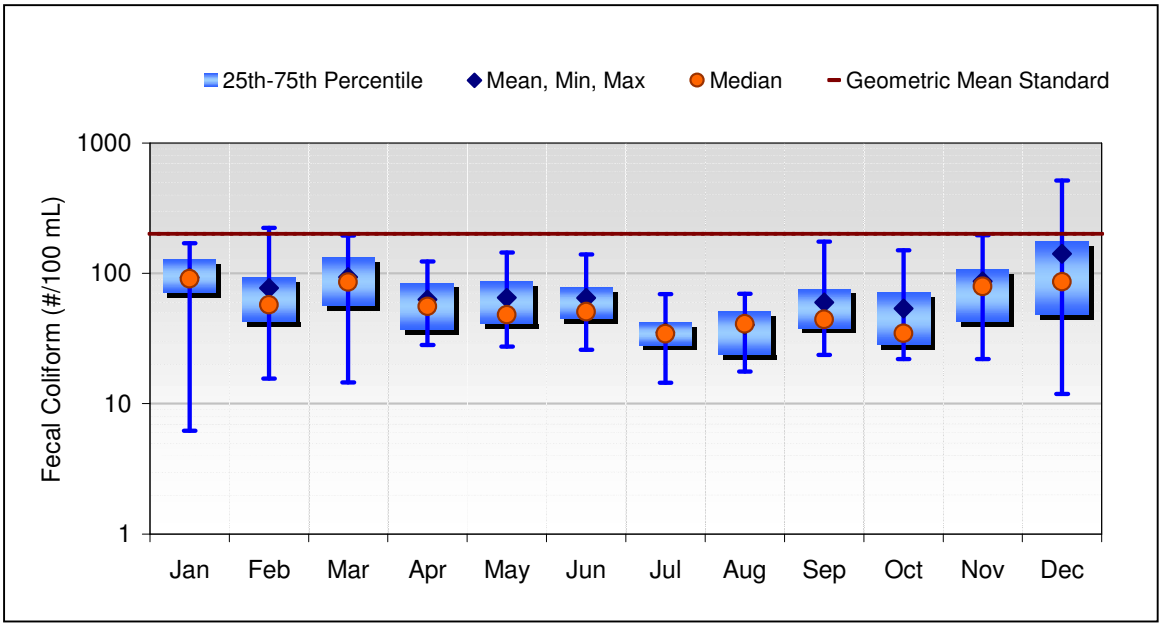

Figure 6. San Lorenzo River Fecal Coliform at Sycamore Grove (#/100 mL) and Water Contact Recreation Geometric Mean Water Quality Objective (January 4, 2000 – February 21, 2005)

Table 6 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded only 2% of the time.

Table 6. San Lorenzo River Estuary Fecal Coliform at Sycamore Grove Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Geometric Mean Objective

Summary Statistics (Data: 1/4/2000 to 2/21/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	93	91	6	170	71	128	0:24	0%
Feb	77	58	16	224	43	93	1:29	3%
Mar	94	86	15	195	57	132	0:27	0%
Apr	63	56	28	123	37	84	0:26	0%
May	65	48	27	145	41	87	0:23	0%
Jun	65	51	26	139	45	78	0:26	0%
Jul	35	35	15	69	28	42	0:27	0%
Aug	40	41	18	70	24	51	0:26	0%
Sep	60	44	24	175	38	76	0:26	0%
Oct	54	35	22	150	28	71	0:25	0%
Nov	87	79	22	197	42	107	0:24	0%
Dec	142	86	12	516	48	176	6:27	22%
All Data	**73**	**51**	**6**	**516**	**35**	**92**	**7:310**	**2%**

Maximum Water Quality Objective (400 MPN/100 mL)

Figure 7 shows monthly fecal coliform concentrations for San Lorenzo River at Sycamore Grove station from 1/4/2000 to 2/21/2005. Mean concentrations do not exceed the water quality objective.

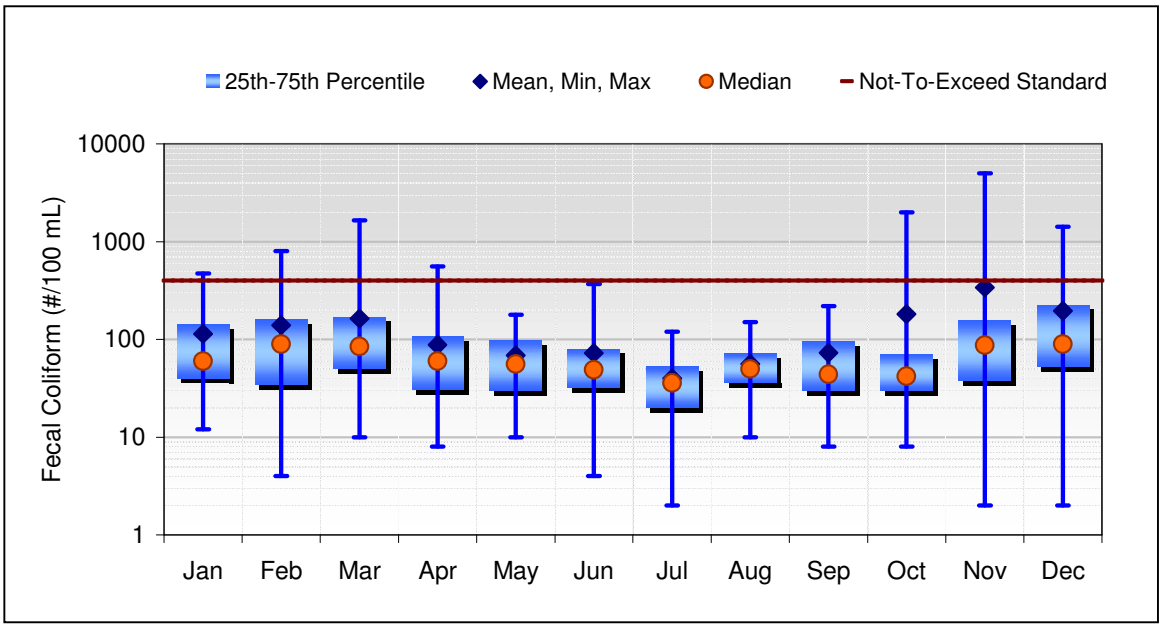

Figure 7. San Lorenzo River Fecal Coliform at Sycamore Grove (#/100 mL) and Water Contact Maximum Water Quality Objective (January 4, 2000 – February 21, 2005)

Table 7 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded only 4% of the time.

Table 7. San Lorenzo River Fecal Coliform at Sycamore Grove Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective

Summary Statistics (Data: 1/4/2000 to 2/21/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	115	60	12	472	40	143	2:31	6%
Feb	140	90	4	800	35	160	2:28	7%
Mar	165	85	10	1650	50	170	1:26	4%
Apr	88	60	8	560	31	108	1:26	4%
May	69	56	10	180	30	99	0:24	0%
Jun	73	49	4	370	32	80	0:26	0%
Jul	40	36	2	120	20	53	0:28	0%
Aug	56	50	10	150	36	72	0:25	0%
Sep	73	44	8	220	30	96	0:25	0%
Oct	182	42	8	2000	30	70	2:26	8%
Nov	341	88	2	5000	38	158	3:24	13%
Dec	196	90	2	1430	53	228	3:26	12%
All Data	**127**	**60**	**2**	**5000**	**31**	**110**	**14:315**	**4%**

Branciforte Creek at San Lorenzo River

Geometric Mean Water Quality Objective (200 MPN/100 mL)

There are insufficient water quality data at the Branciforte Creek station upstream of the San Lorenzo River to calculate geometric means. The most recent data available is from 04/11/95 to 2/26/2002. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water Quality Objective (400 MPN/100 mL)

Figure 8 below shows monthly fecal coliform concentrations for Branciforte Creek at the San Lorenzo River confluence from 04/11/1995 to 2/26/2002. (This is the most recent data available.) Mean concentrations exceed the water quality objective almost every month. There was no data available for March. April, May, July, and September only had one sample.

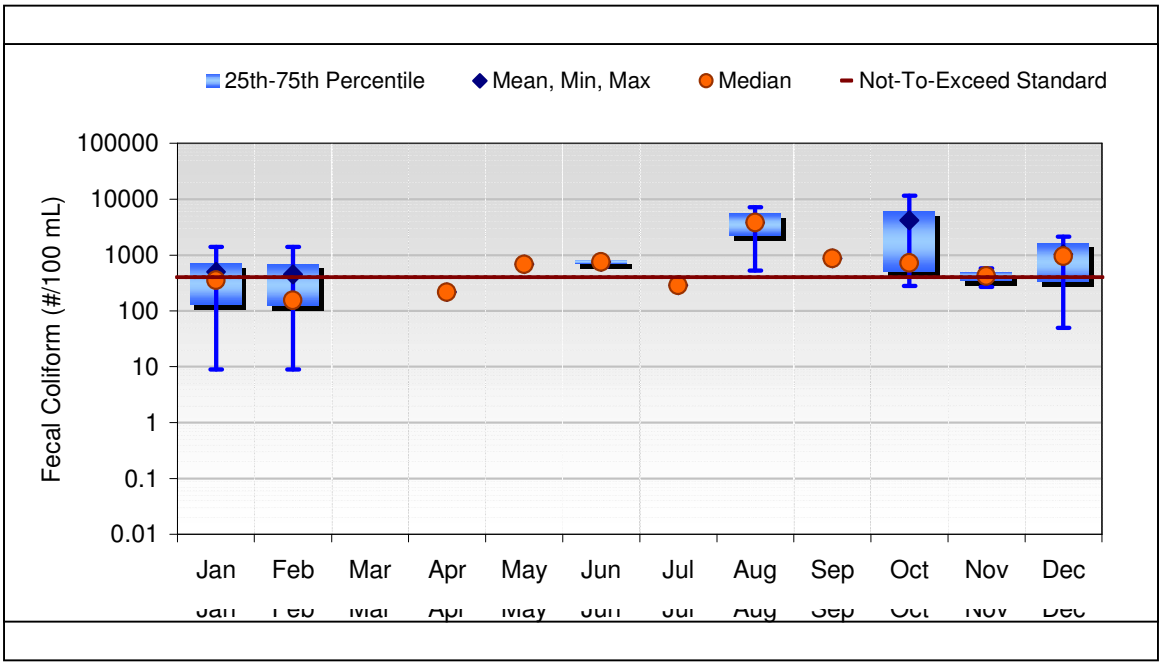

Figure 8. Branciforte Creek at San Lorenzo River Fecal Coliform (#/100 mL) and Water Contact Recreation Maximum Water Quality Objective (April 11, 1995 – February 26, 2002)

Table 8 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded 59% of the time. There is no seasonal trend.

Table 8. Branciforte Creek Fecal Coliform at San Lorenzo River Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective

Summary Statistics (Data: 4/11/1995 to 2/26/2002)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	502	355	9	1390	130	723	3:6	50%
Feb	450	155	9	1400	123	690	2:6	33%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	216	216	216	216	216	216	0:1	0%
May	680	680	680	680	680	680	1:1	100%
Jun	755	755	620	890	688	823	2:2	100%
Jul	288	288	288	288	288	288	0:1	0%
Aug	3849	3849	528	7170	2189	5510	2:2	100%
Sep	870	870	870	870	870	870	1:1	100%
Oct	4173	720	280	11520	500	6120	2:3	67%
Nov	425	425	270	580	348	503	1:2	50%
Dec	1025	955	50	2140	328	1653	3:4	75%
All Data	1188	528	9	11520	216	870	17:29	59%

Branciforte Creek at Carbonera

Geometric Mean Water Quality Objective (200 MPN/100 mL)

There are insufficient water quality data at the Branciforte Creek station upstream of the confluence with Carbonera Creek. The most recent data available is from 9/20/1995 to 1/24/2002. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water Quality Objective (400 MPN/100 mL)

Figure 9 below shows monthly fecal coliform concentrations for Branciforte Creek at the Carbonera Creek confluence from 9/20/1995 to 1/24/2002. (This is the most recent data available.) The means did not exceed the water quality objective. However, as show in the figure below, there are insufficient data to determine impairment conditions, because there are only seven samples for this timeframe.

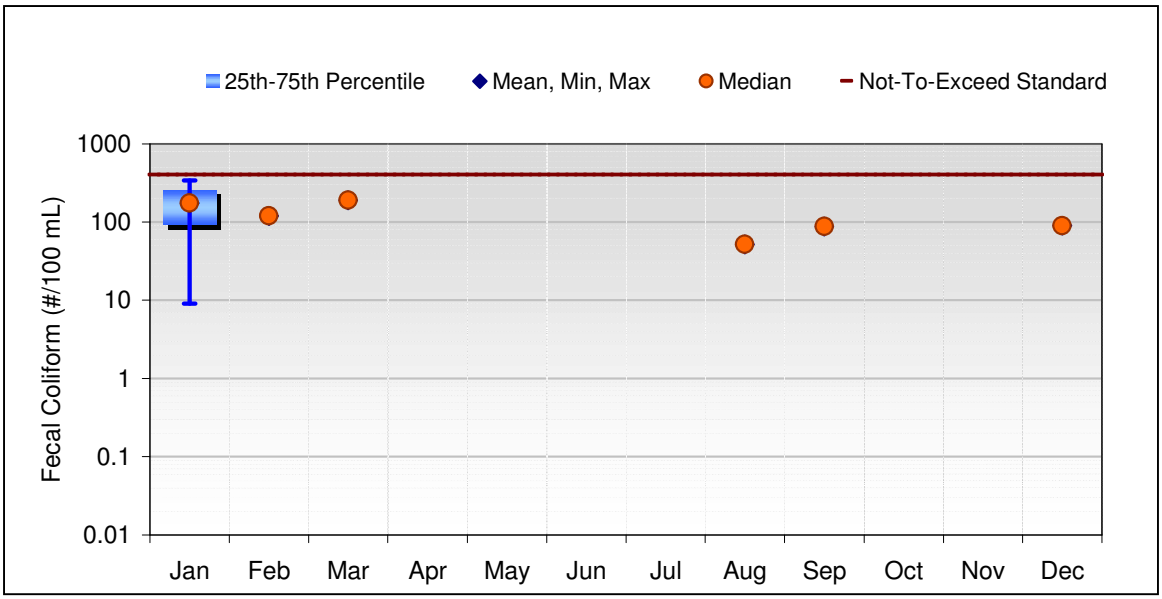

Figure 9. Branciforte Creek Fecal Coliform at San Lorenzo River Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective (September 20, 1995 – January 24, 2002)

Table 9 provides summary statistics of the above figure. This station never exceeded water quality objectives.

Table 9. Branciforte Creek Fecal Coliform at Carbonera Creek Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective

Summary Statistics (Data: 9/20/1995 to 1/24/2002)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	175	175	9	340	92	257	0:2	0%
Feb	120	120	120	120	120	120	0:1	0%
Mar	190	190	190	190	190	190	0:1	0%
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	52	52	52	52	52	52	0:1	0%
Sep	88	88	88	88	88	88	0:1	0%
Oct	0	0	0	0	0	0	0:0	n/a
Nov	0	0	0	0	0	0	0:0	n/a
Dec	90	90	90	90	90	90	0:1	0%
All Data	**127**	**90**	**9**	**340**	**70**	**155**	**0:7**	**0%**

Branciforte Creek at Isbel Drive

Geometric Mean Water Quality Objective (200 MPN/100 mL)

There are insufficient water quality data at the Isbel Drive station. The most recent data available is from 2/9/2000 to 6/15/2005. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water Quality Objective (400 MPN/100 mL)

Figure 10 below shows monthly fecal coliform concentrations for Branciforte Creek at Isbel Drive from 2/9/2000 to 6/15/2005. The mean concentration exceeded the objective only in April.

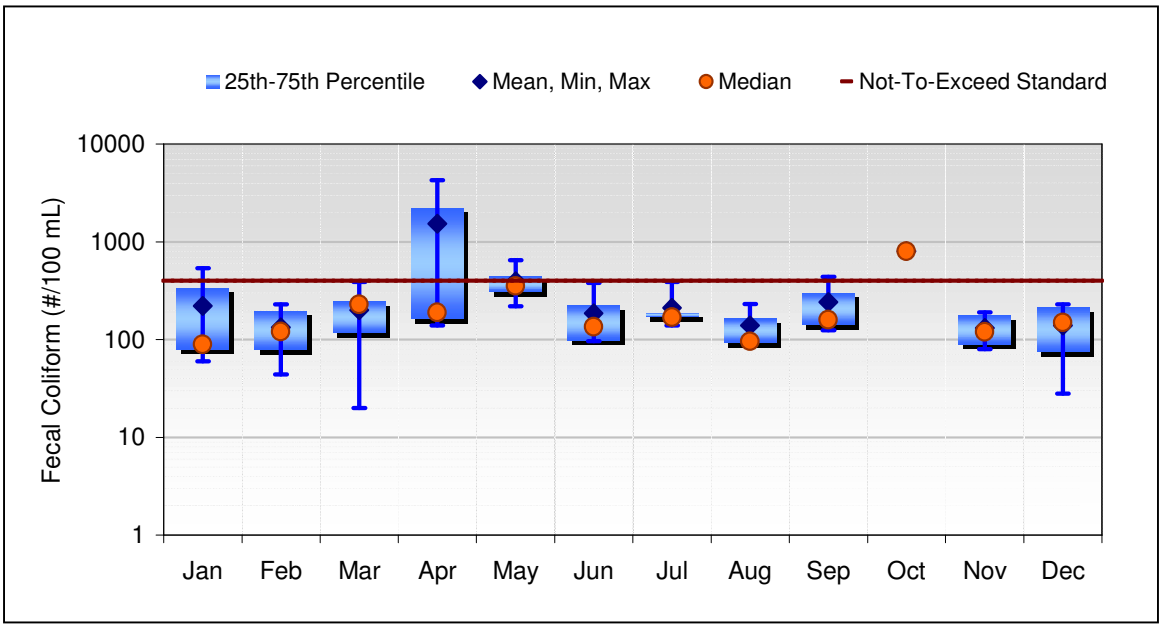

Figure 10. Branciforte Creek at Isbel Drive Fecal Coliform (#/100 mL) and Water Contact Recreation Maximum Water Quality Objective (February 9, 2000 – June 15, 2005)

Table 10 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded 10% of the time. There is no seasonal trend.

Table 10. Branciforte Creek Fecal Coliform at Isbel Drive Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective

Summary Statistics (Data: 2/9/2000 to 6/15/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	221	90	60	540	80	335	1:5	20%
Feb	134	121	44	230	79	198	0:6	0%
Mar	200	230	20	390	118	245	0:6	0%
Apr	1535	190	140	4275	165	2233	1:3	33%
May	395	355	220	650	310	440	1:4	25%
Jun	187	136	96	380	99	224	0:4	0%
Jul	212	170	140	390	170	188	0:5	0%
Aug	140	96	92	232	94	164	0:3	0%
Sep	242	160	125	440	143	300	1:3	33%
Oct	805	805	805	805	805	805	1:1	100%
Nov	131	120	80	190	90	176	0:5	0%
Dec	140	150	28	230	75	215	0:4	0%
All Data	**291**	**172**	**20**	**4275**	**96**	**232**	**5:49**	**10%**

Carbonera Creek at Branciforte Creek

Geometric Mean Water Quality Objective (200 MPN/100 mL)

There are insufficient water quality data at the Carbonera Creek station from 10/19/2000 to 02/26/2002. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water Quality Objective (400 MPN/100 mL)

Figure 11 below shows monthly fecal coliform concentrations for Carbonera Creek at the Branciforte Creek confluence from 10/19/2000 to 02/26/2002. The means do not exceed the water quality objective. However, as show in the figure below, there are insufficient data to determine impairment conditions, because many months either had no sample or only one sample taken.

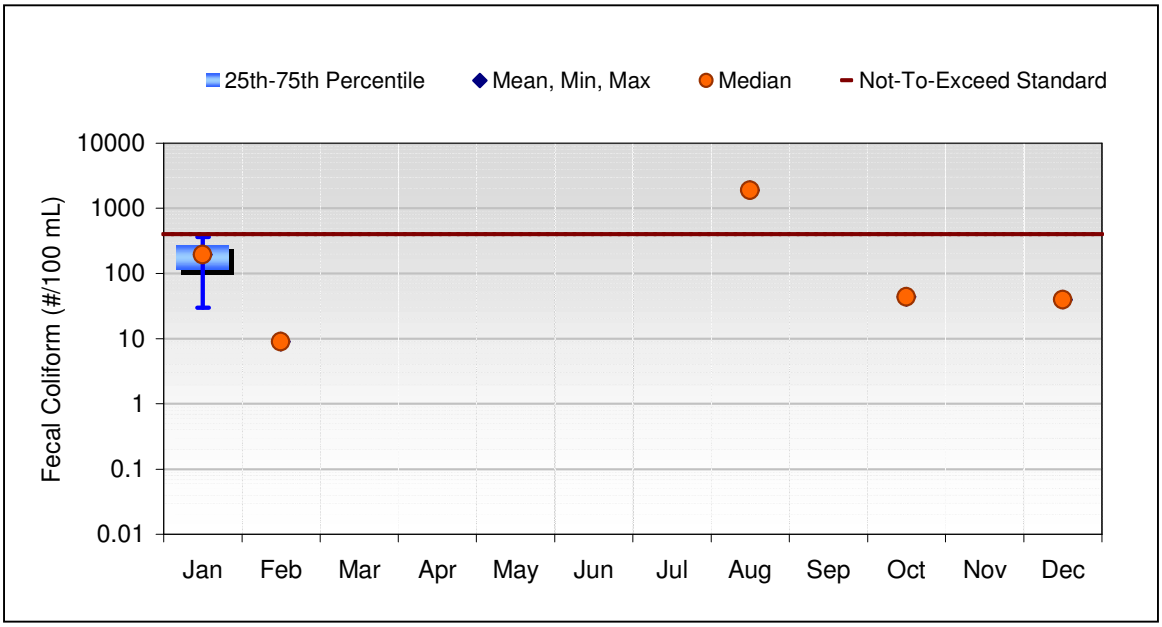

Figure 11. Carbonera Creek at Branciforte Creek Fecal Coliform (#/100 mL) and Water Contact Recreation Maximum Water Quality Objective (October 19, 2000 – February 26, 2002)

Table 11 below provides summary statistics of the above figure. Overall, the water quality objective was exceeded 17% of the time. There are insufficient data to determine impairment conditions, because many months had either no sample or only one sample taken.

Table 11. Carbonera Creek Fecal Coliform at Branciforte Creek Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective

Summary Statistics (Data: 10/19/2000 to 2/26/2002)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	195	195	30	360	113	278	0:2	0%
Feb	9	9	9	9	9	9	0:1	0%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	1900	1900	1900	1900	1900	1900	1:1	100%
Sep	0	0	0	0	0	0	0:0	n/a
Oct	44	44	44	44	44	44	0:1	0%
Nov	0	0	0	0	0	0	0:0	n/a
Dec	40	40	40	40	40	40	0:1	0%
All Data	**397**	**42**	**9**	**1900**	**33**	**281**	**1:6**	**17%**

Carbonera Creek at Highway 17

Geometric Mean *E.coli* Water Quality Criteria (126 MPN/100 mL)

There are insufficient water quality data at the Carbonera Creek station from 1/6/2005 to 2/17/2005. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water *E.coli* Quality Criteria (235 MPN/100 mL)

Figure 12 below shows monthly *E.coli* concentrations for Carbonera Creek at Highway 17 from 1/6/2005 to 2/17/2005. The mean concentrations do not exceed the water quality criteria. However, as shown in the figure below, there are insufficient data to fully determine impairment conditions because many months had no samples. The month of January in 2005 had four samples and the month of February in 2005 had two samples.

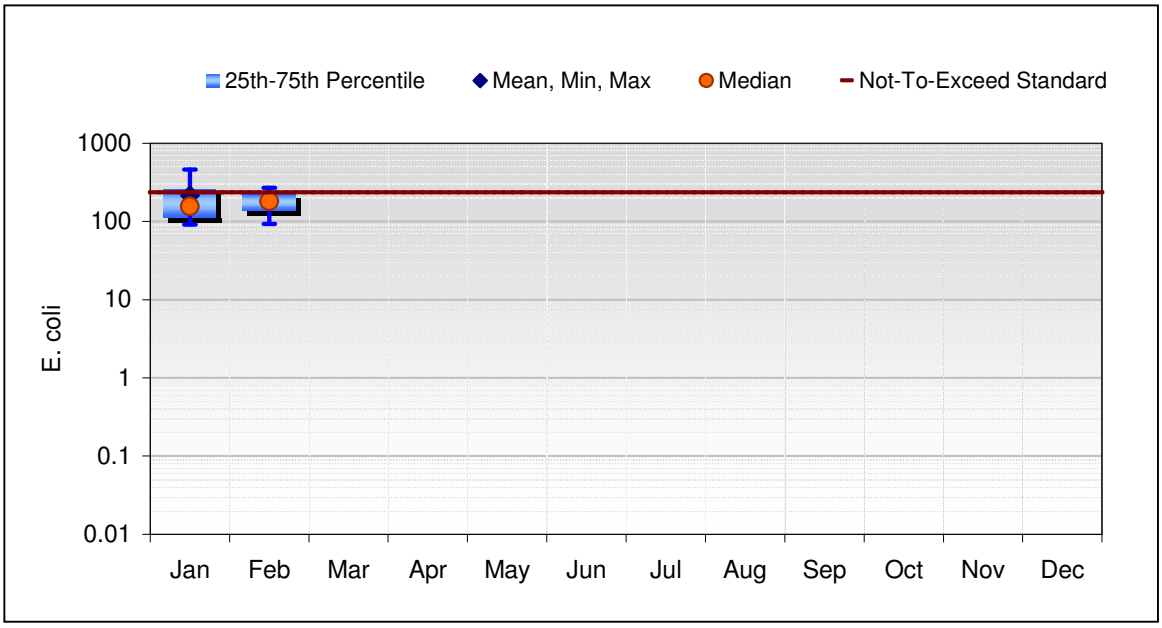

Figure 12. Carbonera Creek at Highway 17 (#/100 mL) and Water Contact Recreation Maximum Water Quality Criteria (January 06, 2005- February 17, 2005)

Table 12 below provides summary statistics of the above figure. Based on two months of sampling, the water quality criterion was exceeded 33% of the time. There are insufficient data to determine impairment conditions for all months, but the impairment occurred in January and February.

Table 12. Carbonera Creek *E.coli* at Highway 17 Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Criteria

Summary Statistics (Data: 1/6/2005 to 2/17/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	215	155	91	460	113	258	1:4	25%
Feb	182	182	93	270	137	226	1:2	50%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	0	0	0	0	0	0	0:0	n/a
Sep	0	0	0	0	0	0	0:0	n/a
Oct	0	0	0	0	0	0	0:0	n/a
Nov	0	0	0	0	0	0	0:0	n/a
Dec	0	0	0	0	0	0	0:0	n/a
All Data	**204**	**155**	**91**	**460**	**100**	**250**	**2:6**	**33%**

Carbonera Creek above Camp Evers Creek

Geometric Mean *E.coli* Water Quality Criteria (126 MPN/100 mL)

There are insufficient water quality data at this station from 1/6/2005 to 2/17/2005. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water *E.coli* Quality Criteria (235 MPN/100 mL)

Figure 13 below shows monthly *E.coli* concentrations for Carbonera Creek above Camp Evers Creek from 1/6/2005 to 2/17/2005. The mean concentrations do not exceed the water quality criteria. However, as shown in the figure below, there are insufficient data to determine impairment conditions, because many months had no samples. The month of January in 2005 had four samples and the month of February in 2005 had two samples.

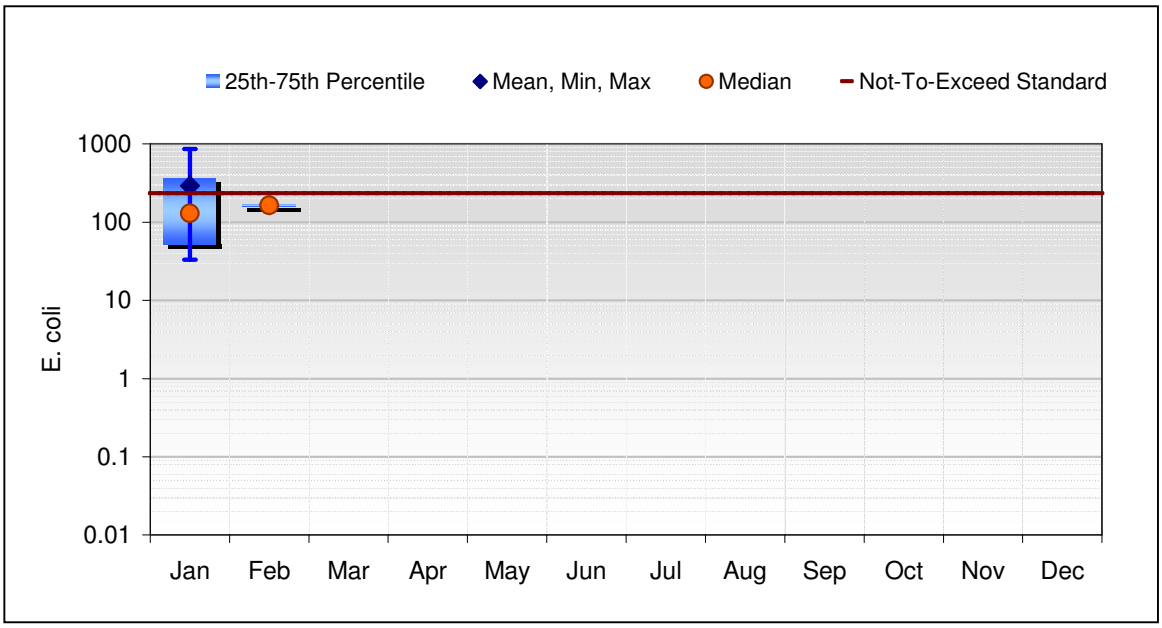

Figure 13. Carbonera Creek above Camp Evers Creek (#/100 mL) and Water Contact Recreation Maximum Water Quality Criteria (January 06, 2005- February 17, 2005)

Table 13 below provides summary statistics of the above figure. Based on two months of sampling, the water quality criterion was exceeded 17% of the time. There are insufficient data to determine impairment conditions for all months, but the impairment occurred in January.

Table 13. Carbonera Creek E.coli above Camp Evers Creek Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Criteria

Summary Statistics (Data: 1/6/2005 to 2/17/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	291	130	33	870	53	368	1:4	25%
Feb	165	165	150	180	158	173	0:2	0%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	0	0	0	0	0	0	0:0	n/a
Sep	0	0	0	0	0	0	0:0	n/a
Oct	0	0	0	0	0	0	0:0	n/a
Nov	0	0	0	0	0	0	0:0	n/a
Dec	0	0	0	0	0	0	0:0	n/a
All Data	**249**	**165**	**33**	**870**	**82**	**195**	**1:6**	**17%**

Carbonera Creek at Disc Drive

Geometric Mean *E.coli* Water Quality Criteria (126 MPN/100 mL)

There are insufficient water quality data at this station from 1/6/2005 to 2/17/2005. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water *E.coli* Quality Criteria (235 MPN/100 mL)

Figure 14 below shows monthly *E.coli* concentrations for Carbonera Creek above Camp Evers Creek from 1/6/2005 to 2/17/2005. The mean concentrations do not exceed the water quality criteria. However, as shown in the figure below, there are insufficient data to determine impairment conditions, because many months had no samples. The month of January in 2005 had four samples and the month of February in 2005 had two samples.

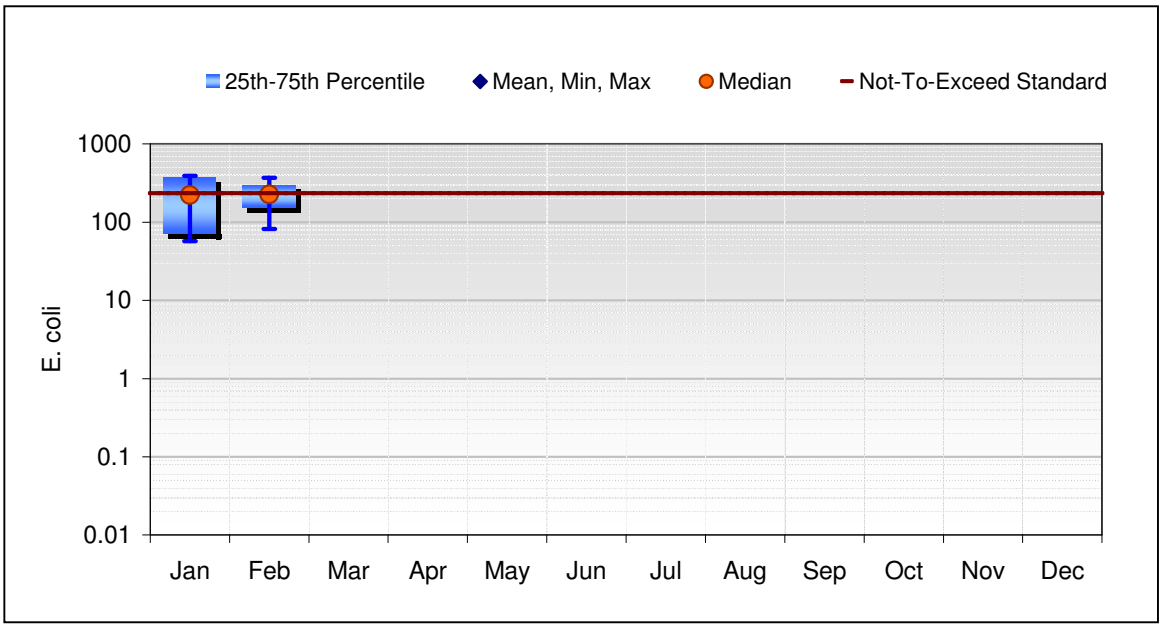

Figure 14. Carbonera Creek at Disc Drive (#/100 mL) and Water Contact Recreation Maximum Water Quality Criteria (January 06, 2005- February 17, 2005)

Table 14 below provides summary statistics of the above figure. Based on two months of sampling, the water quality criterion was exceeded 50% of the time. There are insufficient data to determine impairment conditions for all months, but the impairment occurred in January and February.

Table 14. Carbonera Creek E.coli at Disc Drive Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Criteria

Summary Statistics (Data: 1/6/2005 to 2/17/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	223	223	57	390	71	375	2:4	50%
Feb	226	226	82	370	154	298	1:2	50%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	0	0	0	0	0	0	0:0	n/a
Sep	0	0	0	0	0	0	0:0	n/a
Oct	0	0	0	0	0	0	0:0	n/a
Nov	0	0	0	0	0	0	0:0	n/a
Dec	0	0	0	0	0	0	0:0	n/a
All Data	**224**	**226**	**57**	**390**	**77**	**370**	**3:6**	**50%**

Camp Evers Creek at Carbonera Creek

Geometric Mean *E.coli* Water Quality Criteria (126 MPN/100 mL)

There are insufficient water quality data at this station from 1/6/2005 to 2/17/2005. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water *E.coli* Quality Criteria (235 MPN/100 mL)

Figure 15 below shows monthly *E.coli* concentrations for Carbonera Creek above Camp Evers Creek from 1/6/2005 to 2/17/2005. The mean concentrations do not exceed the water quality criteria. However, as shown in the figure below, there are insufficient data to determine impairment conditions, because many months had no samples. The month of January in 2005 had four samples and the month of February in 2005 had two samples.

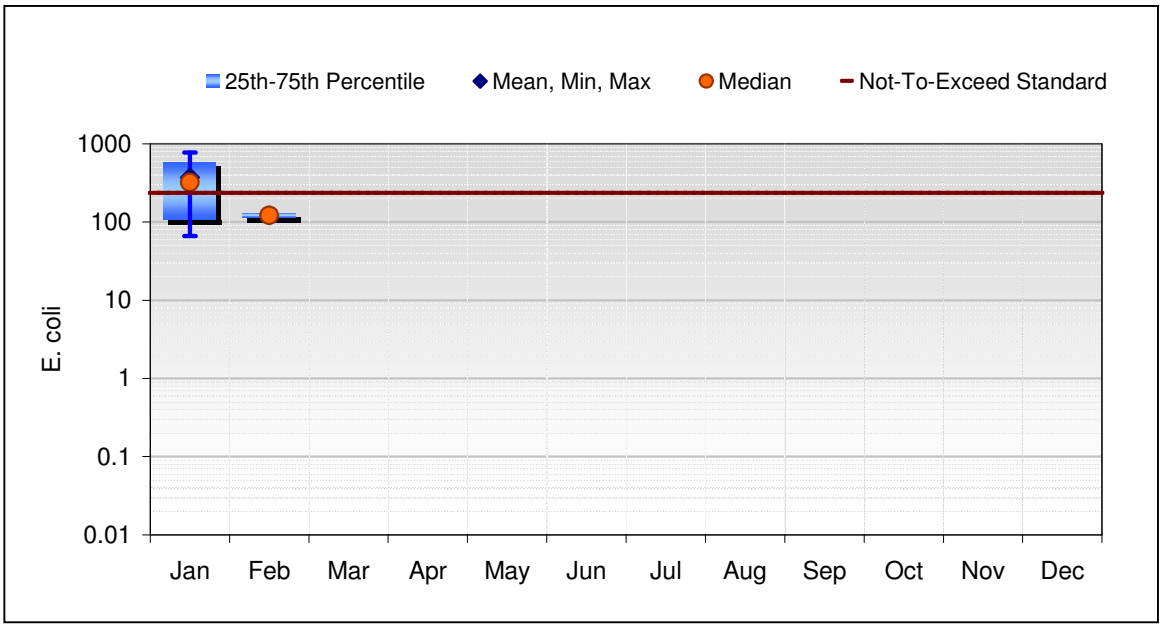

Figure 15. Camp Evers Creek at Carbonera Creek (#/100 mL) and Water Contact Recreation Maximum Water Quality Criteria (January 06, 2005- February 17, 2005)

Table 15 below provides summary statistics of the above figure. Based on two months of sampling, the water quality criterion was exceeded 33% of the time. There are insufficient data to determine impairment conditions for all months, but the impairment occurred in January.

Table 15. Camp Evers Creek at Carbonera Creek Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Objective

Summary Statistics (Data: 1/6/2005 to 2/17/2005)								
Month	Mean	Median	Min	Max	25th	75th	XS:Count	XS%
Jan	369	320	66	770	107	583	2:4	50%
Feb	122	122	104	140	113	131	0:2	0%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	0	0	0	0	0	0	0:0	n/a
Sep	0	0	0	0	0	0	0:0	n/a
Oct	0	0	0	0	0	0	0:0	n/a
Nov	0	0	0	0	0	0	0:0	n/a
Dec	0	0	0	0	0	0	0:0	n/a
All Data	**287**	**130**	**66**	**770**	**108**	**425**	**2:6**	**33%**

Camp Evers Creek at Whispering Pines

Geometric Mean *E.coli* Water Quality Criteria (126 MPN/100 mL)

There are insufficient water quality data at this station from 1/6/2005 to 2/17/2005. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water *E.coli* Quality Criteria (235 MPN/100 mL)

Figure 16 below shows monthly *E.coli* concentrations for Carbonera Creek above Camp Evers Creek from 1/6/2005 to 2/17/2005. The mean concentrations do not exceed the water quality criteria. However, as shown in the figure below, there are insufficient data to determine impairment conditions, because many months had no samples. The month of January in 2005 had four samples and the month of February in 2005 had two samples.

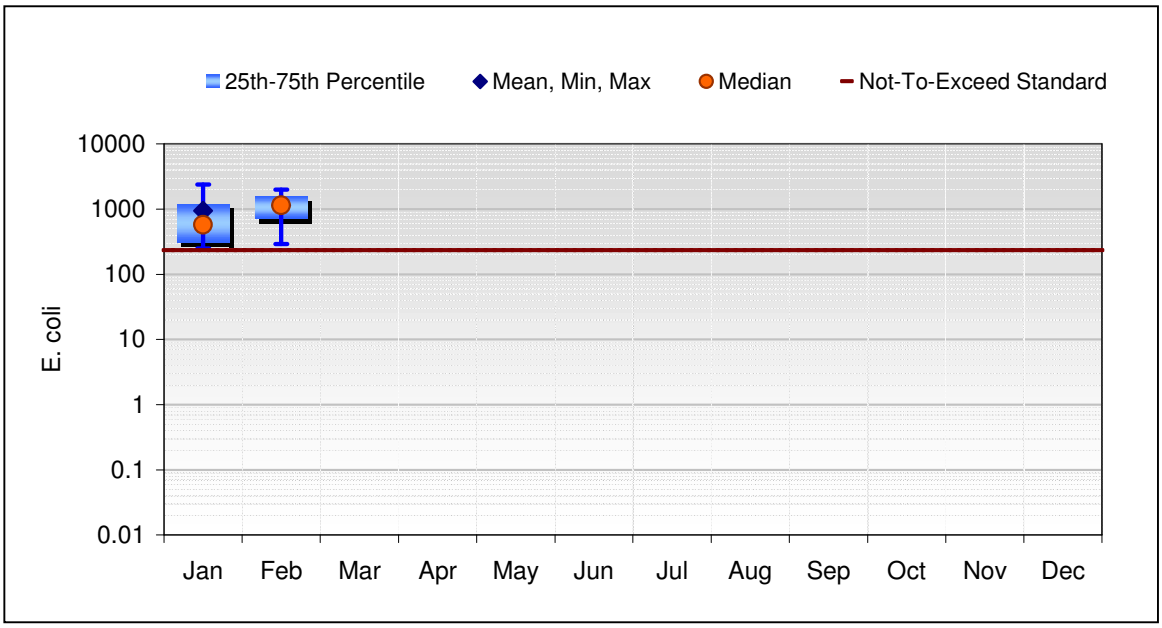

Figure 16. Camp Evers Creek at Whispering Pines (#/100 mL) and Water Contact Recreation Maximum Water Quality Criteria (January 06, 2005- February 17, 2005

Table 16 below provides summary statistics of the above figure. Based on two months of sampling, the water quality criterion was exceeded 100% of the time. There are insufficient data to determine impairment conditions for all months, but the impairment occurred in January and February.

Table 16. Camp Evers Creek at Whispering Pines Data Summary (#/100 mL) and Exceedance of Water Contact Recreation Maximum Criteria

Summary Statistics (Data: 1/6/2005 to 2/17/2005)								
Month	**Mean**	**Median**	**Min**	**Max**	**25th**	**75th**	**XS:Count**	**XS%**
Jan	950	575	250	2400	310	1215	4:4	100%
Feb	1145	1145	290	2000	718	1573	2:2	100%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	0	0	0	0	0	0	0:0	n/a
Sep	0	0	0	0	0	0	0:0	n/a
Oct	0	0	0	0	0	0	0:0	n/a
Nov	0	0	0	0	0	0	0:0	n/a
Dec	0	0	0	0	0	0	0:0	n/a
All Data	**1015**	**575**	**250**	**2400**	**300**	**1705**	**6:6**	**100%**

Camp Evers Creek at Cold Stream Way

Geometric Mean *E.coli* Water Quality Criteria (126 MPN/100 mL)

There are insufficient water quality data at this station from 1/6/2005 to 2/17/2005. No months have the minimum of five samples needed to calculate geometric means.

Maximum Water *E.coli* Quality Criteria (235 MPN/100 mL)

Figure 17 below shows monthly *E.coli* concentrations for Carbonera Creek above Camp Evers Creek from 1/6/2005 to 2/17/2005. The mean concentrations do not exceed the water quality criteria. However, as shown in the figure below, there are insufficient data to determine impairment conditions, because many months either had no samples. The month of January in 2005 had four samples and the month of February in 2005 had two samples.

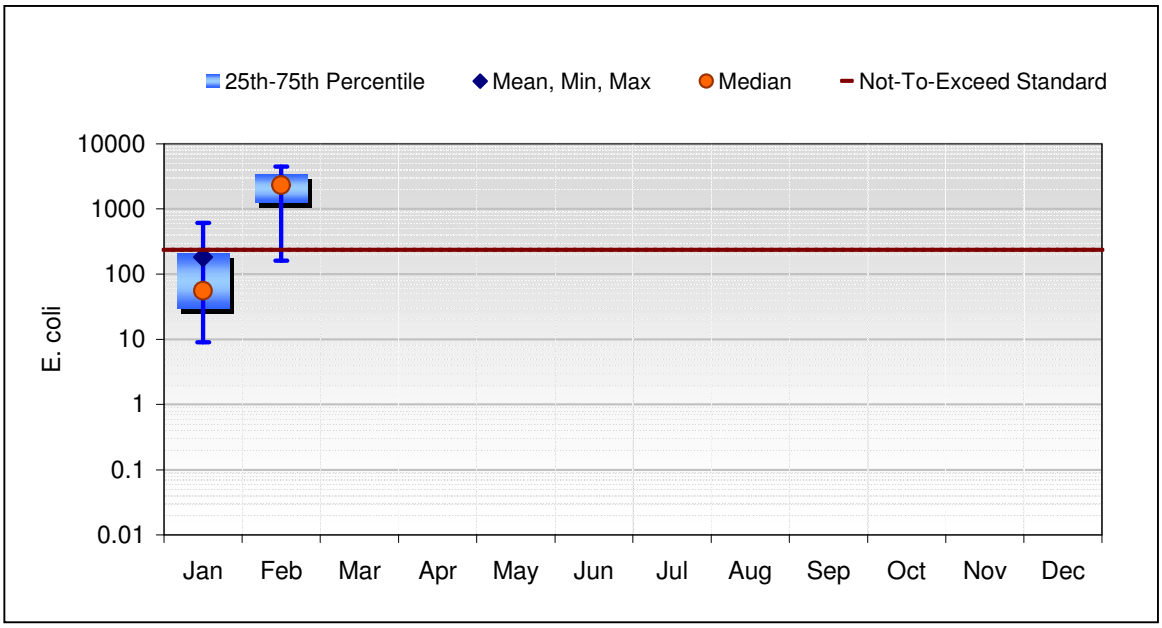

Figure 17. Camp Evers Creek at Cold Stream Way (#/100 mL) and Water Contact Recreation Maximum Water Quality Criteria (January 06, 2005- February 17, 2005)

Table 17 below provides summary statistics of the above figure. Based on two months of sampling, the water quality criterion was exceeded 33% of the time. There are insufficient data to determine impairment conditions for all months, but the impairment occurred in January and February.

Table 17. Camp Evers Creek at Cold Stream Way (#/100 mL) and Water Contact Recreation Maximum Water Quality Criteria (January 06, 2005- February 17, 2005)

Summary Statistics (Data: 1/6/2005 to 2/17/2005)								
Month	**Mean**	**Median**	**Min**	**Max**	**25th**	**75th**	**XS:Count**	**XS%**
Jan	183	56	9	610	29	209	1:4	25%
Feb	2330	2330	160	4500	1245	3415	1:2	50%
Mar	0	0	0	0	0	0	0:0	n/a
Apr	0	0	0	0	0	0	0:0	n/a
May	0	0	0	0	0	0	0:0	n/a
Jun	0	0	0	0	0	0	0:0	n/a
Jul	0	0	0	0	0	0	0:0	n/a
Aug	0	0	0	0	0	0	0:0	n/a
Sep	0	0	0	0	0	0	0:0	n/a
Oct	0	0	0	0	0	0	0:0	n/a
Nov	0	0	0	0	0	0	0:0	n/a
Dec	0	0	0	0	0	0	0:0	n/a
All Data	**898**	**118**	**9**	**4500**	**46**	**498**	**2:6**	**33%**

APPENDIX THREE. MICROBIAL SOURCE TRACKING DATA

This appendix presents microbial source tracking data. The table headings are defined as follows:

Isolate number: A unique number that Dr. Samadpour gave to each isolate from the water samples the County of Santa Cruz submitted.

Provider number: This number identifies what water sample was analyzed on a given date. In other words, if the County of Santa Cruz took four water samples on a given date, this column tells the reader which water sample was analyzed.

Stantum: The sampling station number (A map of the sampling stations is provided in Figure 8.)

Note: The specific fecal coliform source.

Source: The category of the fecal coliform source

FeColi: Fecal coliform concentration per 100 mL of water

Log FC: The logged fecal coliform concentration per 100 mL of water

Rain 1: Rainfall within the previous 24-hour time period

Rain 3: Rainfall within the previous 72-hour time period

Rain 7: Rainfall within the previous 168-hour time period

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
65360	12802-003-1	003	avian	Bird	1/28/2002	70	1.845098	0	0.85	1.11
65361	12802-003-1	003	avian	Bird	1/28/2002	70	1.845098	0	0.85	1.11
65363	12802-003-2	003	avian	Bird	1/28/2002	60	1.7781513	0	0.85	1.11
65366	12802-003-3	003	avian	Bird	1/28/2002	110	2.0413927	0	0.85	1.11
65362	12802-003-2	003	dog	Dog	1/28/2002	60	1.7781513	0	0.85	1.11
65358	12802-003-1	003	human	Human	1/28/2002	70	1.845098	0	0.85	1.11
65364	12802-003-2	003	rodent	Rodent	1/28/2002	60	1.7781513	0	0.85	1.11
65365	12802-003-3	003	unknown	Unknown	1/28/2002	110	2.0413927	0	0.85	1.11
65359	12802-003-1	003	raccoon	Wildlife	1/28/2002	70	1.845098	0	0.85	1.11
65367	12802-003-3	003	deer	Wildlife	1/28/2002	110	2.0413927	0	0.85	1.11
65745	21202-003-4	003	human	Human	2/12/2002	40	1.60206	0	0	1.69
65746	21202-003-4	003	rodent	Rodent	2/12/2002	40	1.60206	0	0	1.69
65743	21202-003-1	003	unknown	Unknown	2/12/2002	20	1.30103	0	0	1.69
65744	21202-003-4	003	unknown	Unknown	2/12/2002	40	1.60206	0	0	1.69
66216	003-1	003	avian	Bird	3/25/2002	820	2.9138139	0	0.1	1.83
66219	003-2	003	septage/ ss/ human	Human	3/25/2002	700	2.845098	0	0.1	1.83
66220	003-3	003	human	Human	3/25/2002	770	2.8864907	0	0.1	1.83
66221	003-3	003	human	Human	3/25/2002	770	2.8864907	0	0.1	1.83
66222	003-3	003	human	Human	3/25/2002	770	2.8864907	0	0.1	1.83
66223	003-3	003	raw sewage	Human	3/25/2002	770	2.8864907	0	0.1	1.83
66224	003-4	003	human	Human	3/25/2002	610	2.7853298	0	0.1	1.83
66225	003-4	003	rodent	Rodent	3/25/2002	610	2.7853298	0	0.1	1.83
66214	003-1	003	unknown	Unknown	3/25/2002	820	2.9138139	0	0.1	1.83
66215	003-1	003	unknown	Unknown	3/25/2002	820	2.9138139	0	0.1	1.83
66217	003-2	003	unknown	Unknown	3/25/2002	700	2.845098	0	0.1	1.83

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
66218	003-2	003	unknown	Unknown	3/25/2002	700	2.845098	0	0.1	1.83
66226	003-4	003	beaver/ otter	Wildlife	3/25/2002	610	2.7853298	0	0.1	1.83
67331	003-1	003	Gull	Bird	5/21/2002	940	2.9731279	0	0.95	0.95
67335	003-3	003	avian	Bird	5/21/2002	710	2.8512583	0	0.95	0.95
67330	003-1	003	septage/ ss/ human	Human	5/21/2002	940	2.9731279	0	0.95	0.95
67332	003-1	003	raw sewage	Human	5/21/2002	940	2.9731279	0	0.95	0.95
67333	003-2	003	human	Human	5/21/2002	750	2.8750613	0	0.95	0.95
67334	003-2	003	human	Human	5/21/2002	750	2.8750613	0	0.95	0.95
67336	003-3	003	raw sewage	Human	5/21/2002	710	2.8512583	0	0.95	0.95
67337	003-3	003	unknown	Unknown	5/21/2002	710	2.8512583	0	0.95	0.95
71843	003-1	003	avian	Bird	12/10/2002	480	2.6812412	0.1	0.38	0.38
71845	003-1	003	avian	Bird	12/10/2002	480	2.6812412	0.1	0.38	0.38
71846	003-1	003	avian	Bird	12/10/2002	480	2.6812412	0.1	0.38	0.38
71847	003-1	003	Gull	Bird	12/10/2002	480	2.6812412	0.1	0.38	0.38
71849	003-1	003	avian	Bird	12/10/2002	480	2.6812412	0.1	0.38	0.38
71850	003-1	003	avian	Bird	12/10/2002	480	2.6812412	0.1	0.38	0.38
71852	003-2	003	Gull	Bird	12/10/2002	580	2.763428	0.1	0.38	0.38
71853	003-2	003	avian	Bird	12/10/2002	580	2.763428	0.1	0.38	0.38
71857	003-2	003	avian	Bird	12/10/2002	580	2.763428	0.1	0.38	0.38
71858	003-2	003	avian	Bird	12/10/2002	580	2.763428	0.1	0.38	0.38
71859	003-2	003	gull	Bird	12/10/2002	580	2.763428	0.1	0.38	0.38
71863	003-3	003	avian	Bird	12/10/2002	900	2.9542425	0.1	0.38	0.38
71865	003-3	003	avian	Bird	12/10/2002	900	2.9542425	0.1	0.38	0.38
71870	003-3	003	avian	Bird	12/10/2002	900	2.9542425	0.1	0.38	0.38
71872	003-3	003	Gull	Bird	12/10/2002	900	2.9542425	0.1	0.38	0.38
71851	003-1	003	horse	Horse	12/10/2002	480	2.6812412	0.1	0.38	0.38
71848	003-1	003	raw sewage	Human	12/10/2002	480	2.6812412	0.1	0.38	0.38
71854	003-2	003	human	Human	12/10/2002	580	2.763428	0.1	0.38	0.38
71855	003-2	003	human	Human	12/10/2002	580	2.763428	0.1	0.38	0.38
71856	003-2	003	human	Human	12/10/2002	580	2.763428	0.1	0.38	0.38
71864	003-3	003	human	Human	12/10/2002	900	2.9542425	0.1	0.38	0.38
71866	003-3	003	human	Human	12/10/2002	900	2.9542425	0.1	0.38	0.38
71867	003-3	003	human	Human	12/10/2002	900	2.9542425	0.1	0.38	0.38
71871	003-3	003	human	Human	12/10/2002	900	2.9542425	0.1	0.38	0.38
71842	003-1	003	unknown	Unknown	12/10/2002	480	2.6812412	0.1	0.38	0.38
71860	003-2	003	unknown	Unknown	12/10/2002	580	2.763428	0.1	0.38	0.38

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
71861	003-2	003	unknown	Unknown	12/10/2002	580	2.763428	0.1	0.38	0.38
71869	003-3	003	unknown	Unknown	12/10/2002	900	2.9542425	0.1	0.38	0.38
71844	003-1	003	otter	Wildlife	12/10/2002	480	2.6812412	0.1	0.38	0.38
71862	003-2	003	otter	Wildlife	12/10/2002	580	2.763428	0.1	0.38	0.38
72062	003-1	003	avian	Bird	12/18/2002	140	2.146128	0	0.58	14.28
72064	003-2	003	avian	Bird	12/18/2002	130	2.1139434	0	0.58	14.28
72066	003-2	003	Gull	Bird	12/18/2002	130	2.1139434	0	0.58	14.28
72068	003-2	003	Gull	Bird	12/18/2002	130	2.1139434	0	0.58	14.28
72070	003-3	003	avian	Bird	12/18/2002	270	2.4313638	0	0.58	14.28
72073	003-3	003	avian	Bird	12/18/2002	270	2.4313638	0	0.58	14.28
72069	003-3	003	dog	Dog	12/18/2002	270	2.4313638	0	0.58	14.28
72063	003-1	003	human	Human	12/18/2002	140	2.146128	0	0.58	14.28
72065	003-2	003	septage	Human	12/18/2002	130	2.1139434	0	0.58	14.28
72067	003-2	003	human	Human	12/18/2002	130	2.1139434	0	0.58	14.28
72071	003-3	003	human	Human	12/18/2002	270	2.4313638	0	0.58	14.28
72072	003-3	003	human	Human	12/18/2002	270	2.4313638	0	0.58	14.28
72058	003-1	003	unknown	Unknown	12/18/2002	140	2.146128	0	0.58	14.28
72059	003-1	003	unknown	Unknown	12/18/2002	140	2.146128	0	0.58	14.28
72060	003-1	003	unknown	Unknown	12/18/2002	140	2.146128	0	0.58	14.28
72061	003-1	003	unknown	Unknown	12/18/2002	140	2.146128	0	0.58	14.28
72402	003-1	003	avian	Bird	1/13/2003	360	2.5563025	0	0	1.8
72403	003-1	003	avian	Bird	1/13/2003	360	2.5563025	0	0	1.8
72406	003-2	003	avian	Bird	1/13/2003	300	2.4771213	0	0	1.8
72407	003-3	003	avian	Bird	1/13/2003	520	2.7160033	0	0	1.8
72408	003-3	003	avian	Bird	1/13/2003	520	2.7160033	0	0	1.8
72405	003-2	003	dog	Dog	1/13/2003	300	2.4771213	0	0	1.8
72409	003-3	003	dog	Dog	1/13/2003	520	2.7160033	0	0	1.8
72400	003-1	003	human	Human	1/13/2003	360	2.5563025	0	0	1.8
72401	003-1	003	human	Human	1/13/2003	360	2.5563025	0	0	1.8
72404	003-2	003	human	Human	1/13/2003	300	2.4771213	0	0	1.8
72738	003-1	003	avian	Bird	2/18/2003	140	2.146128	0	0	1.47
72739	003-1	003	Gull	Bird	2/18/2003	140	2.146128	0	0	1.47
72745	003-2	003	avian	Bird	2/18/2003	130	2.1139434	0	0	1.47
72747	003-3	003	gull	Bird	2/18/2003	270	2.4313638	0	0	1.47
72749	003-3	003	gull	Bird	2/18/2003	270	2.4313638	0	0	1.47
72750	003-3	003	Gull	Bird	2/18/2003	270	2.4313638	0	0	1.47
72796	003-1	003	Gull	Bird	2/18/2003	140	2.146128	0	0	1.47
72797	003-1	003	avian	Bird	2/18/2003	140	2.146128	0	0	1.47
72800	003-2	003	avian	Bird	2/18/2003	130	2.1139434	0	0	1.47
72801	003-2	003	avian	Bird	2/18/2003	130	2.1139434	0	0	1.47

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
72802	003-2	003	avian	Bird	2/18/2003	130	2.1139434	0	0	1.47
72803	003-2	003	avian	Bird	2/18/2003	130	2.1139434	0	0	1.47
72804	003-2	003	avian	Bird	2/18/2003	130	2.1139434	0	0	1.47
72805	003-3	003	avian	Bird	2/18/2003	270	2.4313638	0	0	1.47
72807	003-3	003	bovine	Cow	2/18/2003	270	2.4313638	0	0	1.47
72746	003-2	003	horse	Horse	2/18/2003	130	2.1139434	0	0	1.47
72740	003-1	003	septage	Human	2/18/2003	140	2.146128	0	0	1.47
72741	003-1	003	septage	Human	2/18/2003	140	2.146128	0	0	1.47
72744	003-2	003	human	Human	2/18/2003	130	2.1139434	0	0	1.47
72748	003-3	003	septage/ human	Human	2/18/2003	270	2.4313638	0	0	1.47
72798	003-1	003	human	Human	2/18/2003	140	2.146128	0	0	1.47
72799	003-1	003	human	Human	2/18/2003	140	2.146128	0	0	1.47
72803	003-2	003	human	Human	2/18/2003	130	2.1139434	0	0	1.47
72806	003-3	003	human	Human	2/18/2003	270	2.4313638	0	0	1.47
72808	003-3	003	human	Human	2/18/2003	270	2.4313638	0	0	1.47
72742	003-1	003	unknown	Unknown	2/18/2003	140	2.146128	0	0	1.47
72743	003-2	003	deer	Wildlife	2/18/2003	130	2.1139434	0	0	1.47
73154	003-1	003	gull	Bird	3/18/2003	1190	3.075547	0	0.39	2.08
73157	003-1	003	gull	Bird	3/18/2003	1190	3.075547	0	0.39	2.08
73159	003-2	003	gull	Bird	3/18/2003	1310	3.1172713	0	0.39	2.08
73161	003-2	003	Gull	Bird	3/18/2003	1310	3.1172713	0	0.39	2.08
73162	003-2	003	avian	Bird	3/18/2003	1310	3.1172713	0	0.39	2.08
73163	003-2	003	avian	Bird	3/18/2003	1310	3.1172713	0	0.39	2.08
73165	003-2	003	avian	Bird	3/18/2003	1310	3.1172713	0	0.39	2.08
73172	003-3	003	avian	Bird	3/18/2003	1130	3.0530784	0	0.39	2.08
73173	003-3	003	avian	Bird	3/18/2003	1130	3.0530784	0	0.39	2.08
73175	003-3	003	avian	Bird	3/18/2003	1130	3.0530784	0	0.39	2.08
73176	003-3	003	avian	Bird	3/18/2003	1130	3.0530784	0	0.39	2.08
73150	003-1	003	dog	Dog	3/18/2003	1190	3.075547	0	0.39	2.08
73164	003-2	003	dog	Dog	3/18/2003	1310	3.1172713	0	0.39	2.08
73168	003-2	003	canine	Dog	3/18/2003	1310	3.1172713	0	0.39	2.08
73174	003-3	003	canine	Dog	3/18/2003	1130	3.0530784	0	0.39	2.08
73151	003-1	003	septage	Human	3/18/2003	1190	3.075547	0	0.39	2.08
73152	003-1	003	septage	Human	3/18/2003	1190	3.075547	0	0.39	2.08
73166	003-2	003	septage	Human	3/18/2003	1310	3.1172713	0	0.39	2.08
73167	003-2	003	septage	Human	3/18/2003	1310	3.1172713	0	0.39	2.08
73169	003-3	003	human	Human	3/18/2003	1130	3.0530784	0	0.39	2.08
73178	003-3	003	human	Human	3/18/2003	1130	3.0530784	0	0.39	2.08
73155	003-1	003	rodent	Rodent	3/18/2003	1190	3.075547	0	0.39	2.08
73156	003-1	003	rodent	Rodent	3/18/2003	1190	3.075547	0	0.39	2.08
73160	003-2	003	rodent	Rodent	3/18/2003	1310	3.1172713	0	0.39	2.08
73153	003-1	003	unknown	Unknown	3/18/2003	1190	3.075547	0	0.39	2.08

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
73158	003-2	003	unknown	Unknown	3/18/2003	1310	3.1172713	0	0.39	2.08
73170	003-3	003	unknown	Unknown	3/18/2003	1130	3.0530784	0	0.39	2.08
73171	003-3	003	unknown	Unknown	3/18/2003	1130	3.0530784	0	0.39	2.08
73177	003-3	003	unknown	Unknown	3/18/2003	1130	3.0530784	0	0.39	2.08
85261	003 rep	003	avian	Bird	10/18/2003	700	2.845098		0	0
85262	003 rep	003	avian	Bird	10/18/2003	700	2.845098		0	0
85259	003	003	human	Human	10/18/2003	900	2.9542425		0	0
85257	003	003	rodent	Rodent	10/18/2003	900	2.9542425		0	0
85258	003	003	Unknown	Unknown	10/18/2003	900	2.9542425		0	0
85260	003 rep	003	Unknown	Unknown	10/18/2003	700	2.845098		0	0
84945	003-1	003	avian	Bird	10/21/2003	640	2.80618		0	0
84946	003-2	003	avian	Bird	10/21/2003	480	2.6812412		0	0
84947	003-2	003	gull	Bird	10/21/2003	480	2.6812412		0	0
84948	003-2	003	avian	Bird	10/21/2003	480	2.6812412		0	0
84943	003-1	003	raccoon	Wildlife	10/21/2003	640	2.80618		0	0
84944	003-1	003	raccoon	Wildlife	10/21/2003	640	2.80618		0	0
85578	003-1	003	avian	Bird	11/5/2003	260	2.4149733	0.39	0.39	1.2
85579	003-1	003	gull	Bird	11/5/2003	260	2.4149733	0.39	0.39	1.2
85583	003-2	003	avian	Bird	11/5/2003	100	2	0.39	0.39	1.2
85582	003-2	003	bov	Cow	11/5/2003	100	2	0.39	0.39	1.2
85577	003-1	003	canine	Dog	11/5/2003	260	2.4149733	0.39	0.39	1.2
85580	003-2	003	Unknown	Unknown	11/5/2003	100	2	0.39	0.39	1.2
85581	003-2	003	Unknown	Unknown	11/5/2003	100	2	0.39	0.39	1.2
86553	12-08-03-3B	003	gull	Bird	12/8/2003	740	2.8692317		1.31	1.64
86550	12-08-03-3A	003	rodent	Rodent	12/8/2003	820	2.9138139		1.31	1.64
86551	12-08-03-3A	003	rodent	Rodent	12/8/2003	820	2.9138139		1.31	1.64
86554	12-08-03-3B	003	rodent	Rodent	12/8/2003	740	2.8692317		1.31	1.64
86552	12-08-03-3B	003	Unknown	Unknown	12/8/2003	740	2.8692317		1.31	1.64
86549	12-08-03-3A	003	raccoon	Wildlife	12/8/2003	820	2.9138139		1.31	1.64
87450	003-2	003	gull	Bird	1/21/2004	20	1.30103		0	0
87452	003-3	003	avian	Bird	1/21/2004	30	1.4771213		0	0
87448	003-1	003	human	Human	1/21/2004	50	1.69897		0	0
87451	003-3	003	human	Human	1/21/2004	30	1.4771213		0	0

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
87447	003-1	003	rodent	Rodent	1/21/2004	50	1.69897		0	0
87449	003-2	003	rodent	Rodent	1/21/2004	20	1.30103		0	0
87446	003-1	003	raccoon	Wildlife	1/21/2004	50	1.69897		0	0
90658	003-1	003	avian	Bird	3/23/2004	300	2.4771213		0	0
90659	003-2	003	gull	Bird	3/23/2004	240	2.3802112		0	0
90660	003-2	003	avian	Bird	3/23/2004	240	2.3802112		0	0
90662	003-3	003	avian	Bird	3/23/2004	160	2.20412		0	0
90663	003-3	003	gull	Bird	3/23/2004	160	2.20412		0	0
90656	003-1	003	bovine	Cow	3/23/2004	300	2.4771213		0	0
90661	003-2	003	rodent	Rodent	3/23/2004	240	2.3802112		0	0
90664	003-3	003	rodent	Rodent	3/23/2004	160	2.20412		0	0
90657	003-1	003	Unknown	Unknown	3/23/2004	300	2.4771213		0	0
93173	003-1	003	gull	Bird	5/18/2004	290	2.462398		0	0
93176	003-2	003	avian	Bird	5/18/2004	290	2.462398		0	0
93178	003-2	003	avian	Bird	5/18/2004	290	2.462398		0	0
93181	003-3	003	avian	Bird	5/18/2004	290	2.462398		0	0
93182	003-3	003	avian	Bird	5/18/2004	290	2.462398		0	0
93177	003-2	003	human	Human	5/18/2004	290	2.462398		0	0
93180	003-3	003	human	Human	5/18/2004	290	2.462398		0	0
93174	003-1	003	Unknown	Unknown	5/18/2004	290	2.462398		0	0
93179	003-3	003	Unknown	Unknown	5/18/2004	290	2.462398		0	0
93175	003-1	003	raccoon	Wildlife	5/18/2004	290	2.462398		0	0
95419	6-15-04-003-1	003	avian	Bird	6/15/2004	1380	3.1398791	0	0	0
95422	6-15-04-003-2	003	avian	Bird	6/15/2004	1280	3.10721	0	0	0
95424	6-15-04-003-3	003	avian	Bird	6/15/2004	1320	3.1205739	0	0	0
95425	6-15-04-003-3	003	gull	Bird	6/15/2004	1320	3.1205739	0	0	0
95426	6-15-04-003-3	003	avian	Bird	6/15/2004	1320	3.1205739	0	0	0
95507	6-16-04-003-1	003	gull	Bird	6/15/2004	620	2.7923917	0	0	0
95508	6-16-04-003-1	003	gull	Bird	6/15/2004	620	2.7923917	0	0	0
95510	6-16-04-003-2	003	avian	Bird	6/15/2004	660	2.8195439	0	0	0
95511	6-16-04-003-2	003	avian	Bird	6/15/2004	660	2.8195439	0	0	0
95513	6-16-04-003-3	003	avian	Bird	6/15/2004	640	2.80618	0	0	0
95417	6-15-04-003-1	003	dog	Dog	6/15/2004	1380	3.1398791	0	0	0

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
95423	6-15-04-003-2	003	dog	Dog	6/15/2004	1280	3.10721	0	0	0
95506	6-16-04-003-1	003	horse	Horse	6/15/2004	620	2.7923917	0	0	0
95509	6-16-04-003-2	003	human	Human	6/15/2004	660	2.8195439	0	0	0
95418	6-15-04-003-1	003	rodent	Rodent	6/15/2004	1380	3.1398791	0	0	0
95512	6-16-04-003-3	003	rodent	Rodent	6/15/2004	640	2.80618	0	0	0
95514	6-16-04-003-3	003	Rodent	Rodent	6/15/2004	640	2.80618	0	0	0
95420	6-15-04-003-2	003	Unknown	Unknown	6/15/2004	1280	3.10721	0	0	0
95421	6-15-04-003-2	003	Unknown	Unknown	6/15/2004	1280	3.10721	0	0	0
95779	6-24-04-003-1	003	avian	Bird	6/24/2004	240	2.3802112	0	0	0
95782	6-24-04-003-1	003	gull	Bird	6/24/2004	240	2.3802112	0	0	0
95784	6-24-04-003-2	003	avian	Bird	6/24/2004	210	2.3222193	0	0	0
95787	6-24-04-003-3	003	gull	Bird	6/24/2004	220	2.3424227	0	0	0
95788	6-24-04-003-3	003	bovine	Cow	6/24/2004	220	2.3424227	0	0	0
95780	6-24-04-003-1	003	dog	Dog	6/24/2004	240	2.3802112	0	0	0
95781	6-24-04-003-1	003	dog	Dog	6/24/2004	240	2.3802112	0	0	0
95785	6-24-04-003-2	003	dog	Dog	6/24/2004	210	2.3222193	0	0	0
95783	6-24-04-003-2	003	rodent	Rodent	6/24/2004	210	2.3222193	0	0	0
95786	6-24-04-003-3	003	Unknown	Unknown	6/24/2004	220	2.3424227	0	0	0
97558	07-19-2004-003-1	003	avian	Bird	7/19/2004	350	2.544068	0	0	0
97559	07-19-2004-003-2	003	avian	Bird	7/19/2004	270	2.4313638	0	0	0
97564	07-19-2004-003-3	003	avian	Bird	7/19/2004	400	2.60206	0	0	0

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
97563	07-19-2004-003-3	003	canine	Dog	7/19/2004	400	2.60206	0	0	0
97556	07-19-2004-003-1	003	human	Human	7/19/2004	350	2.544068	0	0	0
97557	07-19-2004-003-1	003	human	Human	7/19/2004	350	2.544068	0	0	0
97565	07-19-2004-003-3	003	human	Human	7/19/2004	400	2.60206	0	0	0
97560	07-19-2004-003-2	003	Unknown	Unknown	7/19/2004	270	2.4313638	0	0	0
97561	07-19-2004-003-2	003	Unknown	Unknown	7/19/2004	270	2.4313638	0	0	0
97562	07-19-2004-003-2	003	unknown	Unknown	7/19/2004	270	2.4313638	0	0	0
97650	07-20-2004-003-2	003	avian	Bird	7/20/2004	290	2.462398	0	0	0
97651	07-20-2004-003-2	003	avian	Bird	7/20/2004	290	2.462398	0	0	0
97654	07-20-2004-003-3	003	avian	Bird	7/20/2004	240	2.3802112	0	0	0
97646	07-20-2004-003-1	003	canine	Dog	7/20/2004	210	2.3222193	0	0	0
97647	07-20-2004-003-1	003	sewage	Human	7/20/2004	210	2.3222193	0	0	0
97649	07-20-2004-003-2	003	human	Human	7/20/2004	290	2.462398	0	0	0
97653	07-20-2004-003-3	003	rodent	Rodent	7/20/2004	240	2.3802112	0	0	0
97652	07-20-2004-003-3	003	Unknown	Unknown	7/20/2004	240	2.3802112	0	0	0
97648	07-20-2004-003-1	003	Raccoon	Wildlife	7/20/2004	210	2.3222193	0	0	0

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
98751	8-02-04-003-1	003	avian	Bird	8/2/2004	160	2.20412	0	0	0
98753	8-02-04-003-1	003	avian	Bird	8/2/2004	160	2.20412	0	0	0
98754	8-02-04-003-2	003	gull	Bird	8/2/2004	190	2.2787536	0	0	0
98755	8-02-04-003-2	003	avian	Bird	8/2/2004	190	2.2787536	0	0	0
98756	8-02-04-003-2	003	avian	Bird	8/2/2004	190	2.2787536	0	0	0
98757	8-02-04-003-3	003	avian	Bird	8/2/2004	200	2.30103	0	0	0
98758	8-02-04-003-3	003	avian	Bird	8/2/2004	200	2.30103	0	0	0
98759	8-02-04-003-3	003	avian	Bird	8/2/2004	200	2.30103	0	0	0
98752	8-02-04-003-1	003	Raccoon	Wildlife	8/2/2004	160	2.20412	0	0	0
99407	8-04-04-003-1	003	avian	Bird	8/4/2004	170	2.2304489	0	0	0
99408	8-04-04-003-1	003	avian	Bird	8/4/2004	170	2.2304489	0	0	0
99409	8-04-04-003-1	003	gull	Bird	8/4/2004	170	2.2304489	0	0	0
99410	8-04-04-003-2	003	avian	Bird	8/4/2004	110	2.0413927	0	0	0
99411	8-04-04-003-2	003	gull	Bird	8/4/2004	110	2.0413927	0	0	0
99412	8-04-04-003-2	003	avian	Bird	8/4/2004	110	2.0413927	0	0	0
99414	8-04-04-003-3	003	avian	Bird	8/4/2004	60	1.7781513	0	0	0
99415	8-04-04-003-3	003	Unknown	Unknown	8/4/2004	60	1.7781513	0	0	0
99413	8-04-04-003-3	003	Raccoon	Wildlife	8/4/2004	60	1.7781513	0	0	0
99793	8-18-04-003-1	003	gull	Bird	8/18/2004	180	2.2552725	0	0	0
99794	8-18-04-003-1	003	gull	Bird	8/18/2004	180	2.2552725	0	0	0
99795	8-18-04-003-2	003	avian	Bird	8/18/2004	180	2.2552725	0	0	0
99797	8-18-04-003-2	003	gull	Bird	8/18/2004	180	2.2552725	0	0	0
99798	8-18-04-003-3	003	gull	Bird	8/18/2004	200	2.30103	0	0	0

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
99799	8-18-04-003-3	003	avian	Bird	8/18/2004	200	2.30103	0	0	0
99800	8-18-04-003-3	003	gull	Bird	8/18/2004	200	2.30103	0	0	0
99801	8-18-04-003-3	003	gull	Bird	8/18/2004	200	2.30103	0	0	0
99792	8-18-04-003-1	003	canine	Dog	8/18/2004	180	2.2552725	0	0	0
99796	8-18-04-003-2	003	canine	Dog	8/18/2004	180	2.2552725	0	0	0
102503	003-2	003	avian	Bird	9/21/2004	160	2.20412	0	0.02	0.02
102505	003-3	003	gull	Bird	9/21/2004	188	2.2741578	0	0.02	0.02
102506	003-3	003	gull	Bird	9/21/2004	188	2.2741578	0	0.02	0.02
102507	003-3	003	avian	Bird	9/21/2004	188	2.2741578	0	0.02	0.02
102117	003-1	003	human	Human	9/21/2004	176	2.2455127	0	0.02	0.02
102504	003-2	003	Unknown	Unknown	9/21/2004	160	2.20412	0	0.02	0.02
102118	003-1	003	Raccoon	Wildlife	9/21/2004	176	2.2455127	0	0.02	0.02
102119	003-1	003	raccoon	Wildlife	9/21/2004	176	2.2455127	0	0.02	0.02
65368	12802-022-1	022	avian	Bird	1/28/2002	120	2.0791812	0	0.85	1.11
65371	12802-022-2	022	Gull	Bird	1/28/2002	120	2.0791812	0	0.85	1.11
65372	12802-022-2	022	Gull	Bird	1/28/2002	120	2.0791812	0	0.85	1.11
65373	12802-022-2	022	avian	Bird	1/28/2002	120	2.0791812	0	0.85	1.11
65376	12802-022-3	022	avian	Bird	1/28/2002	100	2	0	0.85	1.11
65370	12802-022-1	022	human	Human	1/28/2002	120	2.0791812	0	0.85	1.11
65374	12802-022-3	022	septage/ ss/ human	Human	1/28/2002	100	2	0	0.85	1.11
65375	12802-022-3	022	septage/ ss/ human	Human	1/28/2002	100	2	0	0.85	1.11
65369	12802-022-1	022	unknown	Unknown	1/28/2002	120	2.0791812	0	0.85	1.11
65751	21202-022-2	022	duck	Bird	2/12/2002	24	1.3802112	0	0	1.69

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
65752	21202-022-3	022	avian	Bird	2/12/2002	12	1.0791812	0	0	1.69
65747	21202-022-1	022	feline	Cat	2/12/2002	16	1.20412	0	0	1.69
65749	21202-022-2	022	Bovine	Cow	2/12/2002	24	1.3802112	0	0	1.69
65750	21202-022-2	022	swine	Unknown	2/12/2002	24	1.3802112	0	0	1.69
65748	21202-022-1	022	beaver/ otter	Wildlife	2/12/2002	16	1.20412	0	0	1.69
66232	022-3	022	avian	Bird	3/25/2002	72	1.8573325	0	0.1	1.83
66230	022-3	022	dog	Dog	3/25/2002	72	1.8573325	0	0.1	1.83
66234	022-4	022	dog	Dog	3/25/2002	56	1.748188	0	0.1	1.83
66227	022-1	022	human	Human	3/25/2002	76	1.8808136	0	0.1	1.83
66228	022-1	022	raw sewage	Human	3/25/2002	76	1.8808136	0	0.1	1.83
66229	022-1	022	raw sewage	Human	3/25/2002	76	1.8808136	0	0.1	1.83
66233	022-4	022	rodent	Rodent	3/25/2002	56	1.748188	0	0.1	1.83
66235	022-4	022	rodent	Rodent	3/25/2002	56	1.748188	0	0.1	1.83
66546	022-2	022	rodent	Rodent	3/25/2002	52	1.7160033	0	0.1	1.83
66547	022-2	022	rodent	Rodent	3/25/2002	52	1.7160033	0	0.1	1.83
66231	022-3	022	otter	Wildlife	3/25/2002	72	1.8573325	0	0.1	1.83
67343	022-2	022	avian	Bird	5/21/2002	300	2.4771213	0	0.95	0.95
67345	022-3	022	avian	Bird	5/21/2002	190	2.2787536	0	0.95	0.95
67338	022-1	022	raw sewage	Human	5/21/2002	320	2.50515	0	0.95	0.95
67339	022-1	022	rodent	Rodent	5/21/2002	320	2.50515	0	0.95	0.95
67340	022-1	022	unknown	Unknown	5/21/2002	320	2.50515	0	0.95	0.95
67341	022-1	022	unknown	Unknown	5/21/2002	320	2.50515	0	0.95	0.95
67344	022-3	022	unknown	Unknown	5/21/2002	190	2.2787536	0	0.95	0.95
67342	022-2	022	otter	Wildlife	5/21/2002	300	2.4771213	0	0.95	0.95
71834	022-1	022	avian	Bird	12/10/2002	320	2.50515	0.1	0.38	0.38
71835	022-1	022	avian	Bird	12/10/2002	320	2.50515	0.1	0.38	0.38
71839	022-3	022	avian	Bird	12/10/2002	190	2.2787536	0.1	0.38	0.38
71840	022-3	022	Bovine	Cow	12/10/2002	190	2.2787536	0.1	0.38	0.38
71841	022-3	022	Bovine	Cow	12/10/2002	190	2.2787536	0.1	0.38	0.38
71836	022-1	022	human	Human	12/10/2002	320	2.50515	0.1	0.38	0.38
71837	022-3	022	otter	Wildlife	12/10/2002	190	2.2787536	0.1	0.38	0.38
72087	022-3	022	avian	Bird	12/18/2002	88	1.9444827	0	0.58	14.28
72088	022-3	022	bovine	Cow	12/18/2002	88	1.9444827	0	0.58	14.28
72078	022-1	022	human	Human	12/18/2002	76	1.8808136	0	0.58	14.28
72083	022-2	022	raw sewage	Human	12/18/2002	68	1.8325089	0	0.58	14.28

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
72084	022-2	022	human	Human	12/18/2002	68	1.8325089	0	0.58	14.28
72074	022-1	022	unknown	Unknown	12/18/2002	76	1.8808136	0	0.58	14.28
72075	022-1	022	unknown	Unknown	12/18/2002	76	1.8808136	0	0.58	14.28
72076	022-1	022	unknown	Unknown	12/18/2002	76	1.8808136	0	0.58	14.28
72077	022-1	022	unknown	Unknown	12/18/2002	76	1.8808136	0	0.58	14.28
72079	022-2	022	unknown	Unknown	12/18/2002	68	1.8325089	0	0.58	14.28
72080	022-2	022	unknown	Unknown	12/18/2002	68	1.8325089	0	0.58	14.28
72081	022-2	022	unknown	Unknown	12/18/2002	68	1.8325089	0	0.58	14.28
72082	022-2	022	unknown	Unknown	12/18/2002	68	1.8325089	0	0.58	14.28
72085	022-3	022	unknown	Unknown	12/18/2002	88	1.9444827	0	0.58	14.28
72086	022-3	022	unknown	Unknown	12/18/2002	88	1.9444827	0	0.58	14.28
72089	022-3	022	Unknown	Unknown	12/18/2002	88	1.9444827	0	0.58	14.28
72414	022-2	022	avian	Bird	1/13/2003	112	2.049218	0	0	1.8
72416	022-3	022	avian	Bird	1/13/2003	144	2.1583625	0	0	1.8
72417	022-3	022	avian	Bird	1/13/2003	144	2.1583625	0	0	1.8
72411	022-1	022	canine	Dog	1/13/2003	136	2.1335389	0	0	1.8
72415	022-2	022	horse	Horse	1/13/2003	112	2.049218	0	0	1.8
72410	022-1	022	human	Human	1/13/2003	136	2.1335389	0	0	1.8
72412	022-1	022	septage/ human	Human	1/13/2003	136	2.1335389	0	0	1.8
72413	022-2	022	human	Human	1/13/2003	112	2.049218	0	0	1.8
72418	022-3	022	unknown	Unknown	1/13/2003	144	2.1583625	0	0	1.8
72728	022-1	022	avian	Bird	2/18/2003	76	1.8808136	0	0	1.47
72730	022-2	022	avian	Bird	2/18/2003	68	1.8325089	0	0	1.47
72733	022-2	022	avian	Bird	2/18/2003	68	1.8325089	0	0	1.47
72737	022-3	022	avian	Bird	2/18/2003	88	1.9444827	0	0	1.47
72784	022-1	022	avian	Bird	2/18/2003	76	1.8808136	0	0	1.47
72785	022-1	022	avian	Bird	2/18/2003	76	1.8808136	0	0	1.47
72786	022-1	022	avian	Bird	2/18/2003	76	1.8808136	0	0	1.47
72787	022-1	022	avian	Bird	2/18/2003	76	1.8808136	0	0	1.47
72791	022-2	022	avian	Bird	2/18/2003	68	1.8325089	0	0	1.47
72792	022-3	022	avian	Bird	2/18/2003	88	1.9444827	0	0	1.47
72795	022-3	022	avian	Bird	2/18/2003	88	1.9444827	0	0	1.47
72727	022-1	022	Bovine	Cow	2/18/2003	76	1.8808136	0	0	1.47
72794	022-3	022	bovine	Cow	2/18/2003	88	1.9444827	0	0	1.47

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
72729	022-1	022	dog	Dog	2/18/2003	76	1.8808136	0	0	1.47
72731	022-2	022	human	Human	2/18/2003	68	1.8325089	0	0	1.47
72732	022-2	022	septage/ human	Human	2/18/2003	68	1.8325089	0	0	1.47
72734	022-3	022	raw sewage	Human	2/18/2003	88	1.9444827	0	0	1.47
72788	022-2	022	raw sewage	Human	2/18/2003	68	1.8325089	0	0	1.47
72789	022-2	022	raw sewage	Human	2/18/2003	68	1.8325089	0	0	1.47
72790	022-2	022	septage/ human	Human	2/18/2003	68	1.8325089	0	0	1.47
72793	022-3	022	human	Human	2/18/2003	88	1.9444827	0	0	1.47
72735	022-3	022	rodent	Rodent	2/18/2003	88	1.9444827	0	0	1.47
72736	022-3	022	rodent	Rodent	2/18/2003	88	1.9444827	0	0	1.47
73184	022-1	022	avian	Bird	3/18/2003	60	1.7781513	0	0.39	2.08
73189	022-2	022	avian	Bird	3/18/2003	70	1.845098	0	0.39	2.08
73192	022-2	022	avian	Bird	3/18/2003	70	1.845098	0	0.39	2.08
73193	022-2	022	avian	Bird	3/18/2003	70	1.845098	0	0.39	2.08
73180	022-1	022	dog	Dog	3/18/2003	60	1.7781513	0	0.39	2.08
73181	022-1	022	dog	Dog	3/18/2003	60	1.7781513	0	0.39	2.08
73185	022-1	022	dog	Dog	3/18/2003	60	1.7781513	0	0.39	2.08
73179	022-1	022	septage/ human	Human	3/18/2003	60	1.7781513	0	0.39	2.08
73188	022-2	022	human	Human	3/18/2003	70	1.845098	0	0.39	2.08
73199	022-3	022	human	Human	3/18/2003	50	1.69897	0	0.39	2.08
73186	022-1	022	rodent	Rodent	3/18/2003	60	1.7781513	0	0.39	2.08
73187	022-1	022	rodent	Rodent	3/18/2003	60	1.7781513	0	0.39	2.08
73195	022-3	022	rodent	Rodent	3/18/2003	50	1.69897	0	0.39	2.08
73183	022-1	022	unknown	Unknown	3/18/2003	60	1.7781513	0	0.39	2.08
73191	022-2	022	unknown	Unknown	3/18/2003	70	1.845098	0	0.39	2.08
73182	022-1	022	raccoon	Wildlife	3/18/2003	60	1.7781513	0	0.39	2.08
73190	022-2	022	otter	Wildlife	3/18/2003	70	1.845098	0	0.39	2.08
73194	022-2	022	otter	Wildlife	3/18/2003	70	1.845098	0	0.39	2.08
73196	022-3	022	otter	Wildlife	3/18/2003	50	1.69897	0	0.39	2.08
73197	022-3	022	otter	Wildlife	3/18/2003	50	1.69897	0	0.39	2.08
73198	022-3	022	raccoon	Wildlife	3/18/2003	50	1.69897	0	0.39	2.08
73200	022-3	022	deer	Wildlife	3/18/2003	50	1.69897	0	0.39	2.08
73201	022-3	022	otter	Wildlife	3/18/2003	50	1.69897	0	0.39	2.08
73202	022-3	022	otter	Wildlife	3/18/2003	50	1.69897	0	0.39	2.08
85264	022	022	avian	Bird	10/18/2003	72	1.8573325		0	0
85266	022 rep	022	avian	Bird	10/18/2003	92	1.9637878		0	0
85267	022 rep	022	avian	Bird	10/18/2003	92	1.9637878		0	0
85265	022 rep	022	canine	Dog	10/18/2003	92	1.9637878		0	0

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
85263	022	022	horse	Horse	10/18/2003	72	1.8573325		0	0
84949	022-1	022	avian	Bird	10/21/2003	10	1		0	0
84954	022-2	022	avian	Bird	10/21/2003	60	1.7781513		0	0
84950	022-1	022	canine	Dog	10/21/2003	10	1		0	0
84953	022-2	022	canine	Dog	10/21/2003	60	1.7781513		0	0
84951	022-2	022	rodent	Rodent	10/21/2003	60	1.7781513		0	0
84952	022-2	022	rodent	Rodent	10/21/2003	60	1.7781513		0	0
85585	022-1	022	avian	Bird	11/5/2003	60	1.7781513	0.39	0.39	1.2
85586	022-1	022	avian	Bird	11/5/2003	60	1.7781513	0.39	0.39	1.2
85588	022-2	022	avian	Bird	11/5/2003	60	1.7781513	0.39	0.39	1.2
85589	022-2	022	human	Human	11/5/2003	60	1.7781513	0.39	0.39	1.2
85584	022-1	022	rodent	Rodent	11/5/2003	60	1.7781513	0.39	0.39	1.2
85587	022-2	022	rodent	Rodent	11/5/2003	60	1.7781513	0.39	0.39	1.2
86555	12-08-03-22A	022	avian	Bird	12/8/2003	150	2.1760913		1.31	1.64
86556	12-08-03-22A	022	gull	Bird	12/8/2003	150	2.1760913		1.31	1.64
86558	12-08-03-22B	022	avian	Bird	12/8/2003	200	2.30103		1.31	1.64
86557	12-08-03-22A	022	sewage	Human	12/8/2003	150	2.1760913		1.31	1.64
86559	12-08-03-22B	022	sewage	Human	12/8/2003	200	2.30103		1.31	1.64
86560	12-08-03-22B	022	raccoon	Wildlife	12/8/2003	200	2.30103		1.31	1.64
97655	07-20-2004-022-1	022	avian	Bird	7/20/2004	44	1.6434527	0	0	0
97656	07-20-2004-022-1	022	avian	Bird	7/20/2004	44	1.6434527	0	0	0
97660	07-20-2004-022-2	022	avian	Bird	7/20/2004	64	1.80618	0	0	0
97661	07-20-2004-022-2	022	avian	Bird	7/20/2004	64	1.80618	0	0	0
97662	07-20-2004-022-3	022	avian	Bird	7/20/2004	64	1.80618	0	0	0
97664	07-20-2004-022-3	022	avian	Bird	7/20/2004	64	1.80618	0	0	0
97658	07-20-2004-022-2	022	Rodent	Rodent	7/20/2004	64	1.80618	0	0	0

Isolate.	Provider Sample	Stantum	Note	Source	Sample Date	Fe. Coli	Log FC	RAIN-1	RAIN-3	RAIN-7
97659	07-20-2004-022-2	022	rodent	Rodent	7/20/2004	64	1.80618	0	0	0
97657	07-20-2004-022-1	022	Unknown	Unknown	7/20/2004	44	1.6434527	0	0	0
97663	07-20-2004-022-3	022	Unknown	Unknown	7/20/2004	64	1.80618	0	0	0
99416	8-04-04-022-1	022	avian	Bird	8/4/2004	72	1.8573325	0	0	0
99417	8-04-04-022-1	022	avian	Bird	8/4/2004	72	1.8573325	0	0	0
99418	8-04-04-022-1	022	avian	Bird	8/4/2004	72	1.8573325	0	0	0
99421	8-04-04-022-2	022	avian	Bird	8/4/2004	68	1.8325089	0	0	0
99422	8-04-04-022-2	022	avian	Bird	8/4/2004	68	1.8325089	0	0	0
99423	8-04-04-022-3	022	avian	Bird	8/4/2004	80	1.90309	0	0	0
99424	8-04-04-022-3	022	avian	Bird	8/4/2004	80	1.90309	0	0	0
99419	8-04-04-022-2	022	Unknown	Unknown	8/4/2004	68	1.8325089	0	0	0
99420	8-04-04-022-2	022	Raccoon	Wildlife	8/4/2004	68	1.8325089	0	0	0
99425	8-04-04-022-3	022	Raccoon	Wildlife	8/4/2004	80	1.90309	0	0	0

APPENDIX FOUR. CONDUCTIVITY ANALYSIS TO DETERMINE ESTUARY BOUNDARY

Santa Cruz County Environmental Health Services has sampled the Estuary for conductivity. The stations sampled for conductivity are in the Table below and are used to determine the Estuary boundary. **Error! Reference source not found.** shows stations sampled for conductivity.

Table 1. Summary of Santa Cruz County Conductivity Data

Station #	Station	Number of Samples	Minimum	Average	Maximum	Start Date	End Date
SCC #1	San Lorenzo River Lagoon @ Trestle	170	4.12	13,136	52,600	10/29/01	02/28/05
SCC #2	San Lorenzo River Lagoon @ Broadway/Laurel Bridge	172	2.86	4,145	44,400	10/29/01	02/28/05
SCC #3	San Lorenzo River @ Soquel Avenue Bridge	29	163	697	4,400	11/24/86	02/19/97
SCC #4	San Lorenzo River @ Sycamore Grove	229	0.415	402	4,690	10/29/01	07/11/05
SCC #5	Branciforte Creek @ San Lorenzo River	4	404	1,036	3,240	12/20/00	02/26/02
SCC #6	Branciforte Creek @ Carbonera Creek	7	299	484	657	06/28/88	01/24/02
SCC #7	Branciforte Creek @ Isbel Drive	232	100	509	980	08/44/77	06/15/05
SCC #8	Carbonera Creek @ Branciforte Creek	4	435	472	500	10/24/03	10/08/04
SCC #9	San Lorenzo River @ Water Street Bridge	49	7.72	403	1,000	06/28/88	10/16/01

Staff concluded the Soquel Avenue Bridge is the approximate inland Estuary boundary. The next further inland station, "San Lorenzo River @ Water Street," exhibits nonsaline conditions. Table 2-1 above indicates: 1) decreased conductivity concentrations relative to the downstream Broadway/Laurel Street Bridge station and 2) increased conductivity relative to the Sycamore Grove station. Therefore, this station is subject to stagnate flows. Bacterial growth may be a factor contributing high concentrations at this station.

(One station, Branciforte Creek @ San Lorenzo River had high conductivity. This is attributed to one conductivity sample of 3,240 mg/L. This station only had four total samples. Staff considers this one high reading to be an anomaly.)

APPENDIX FIVE. USE ATTAINABILITY ANALYSIS