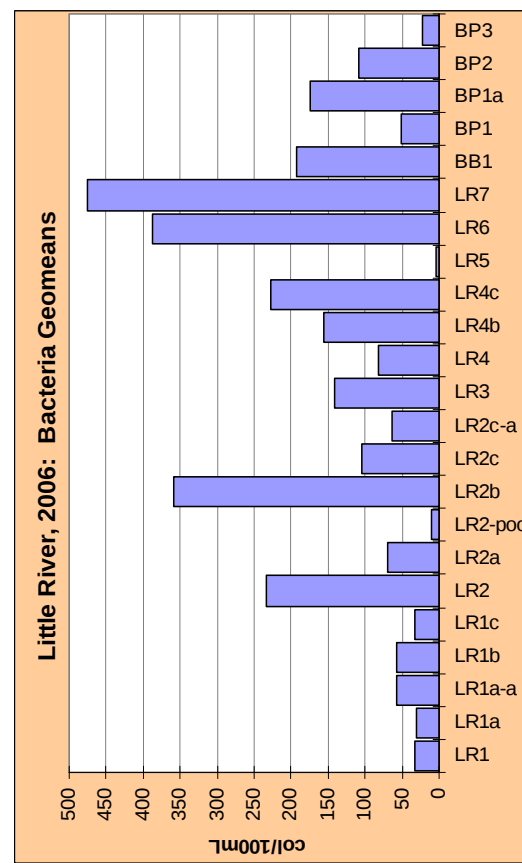
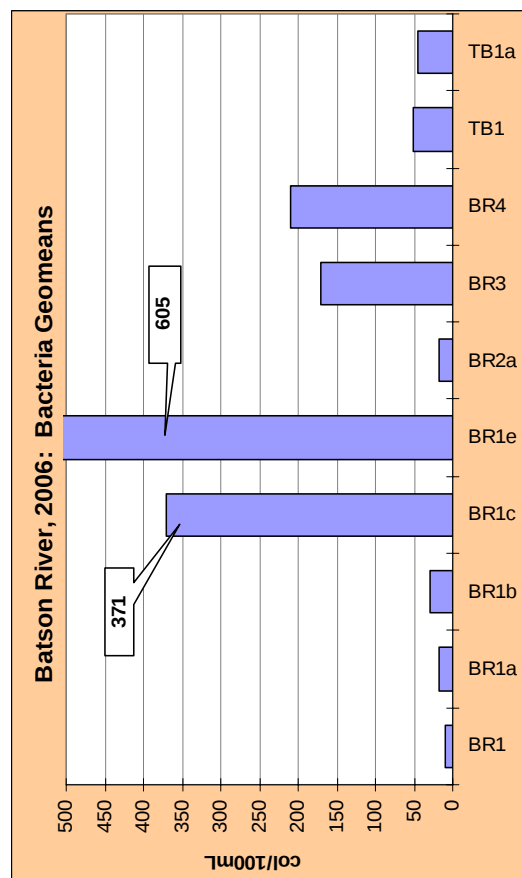
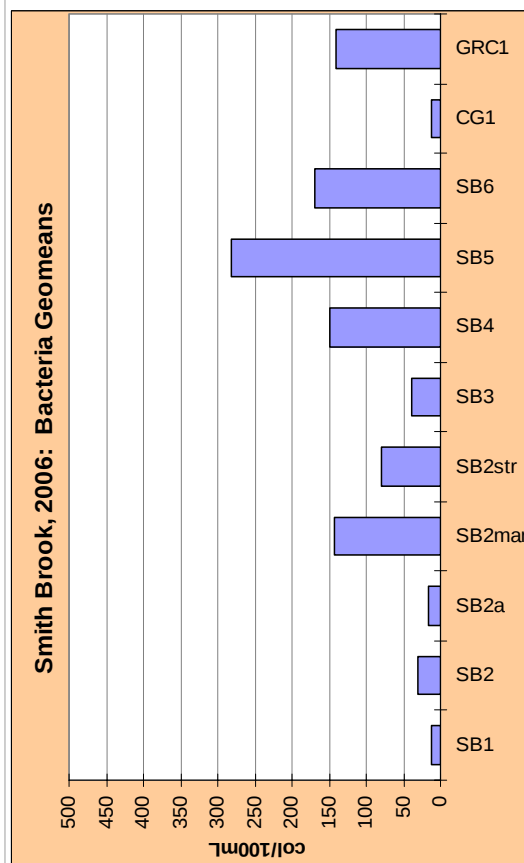
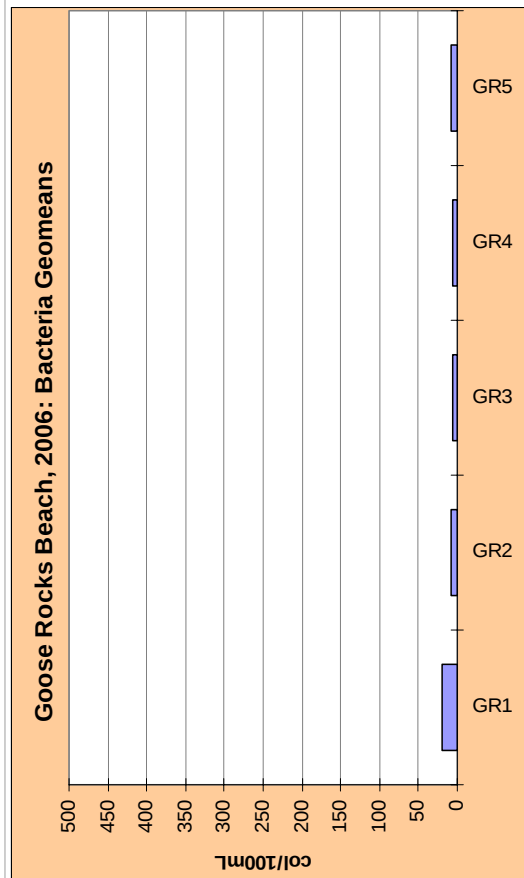


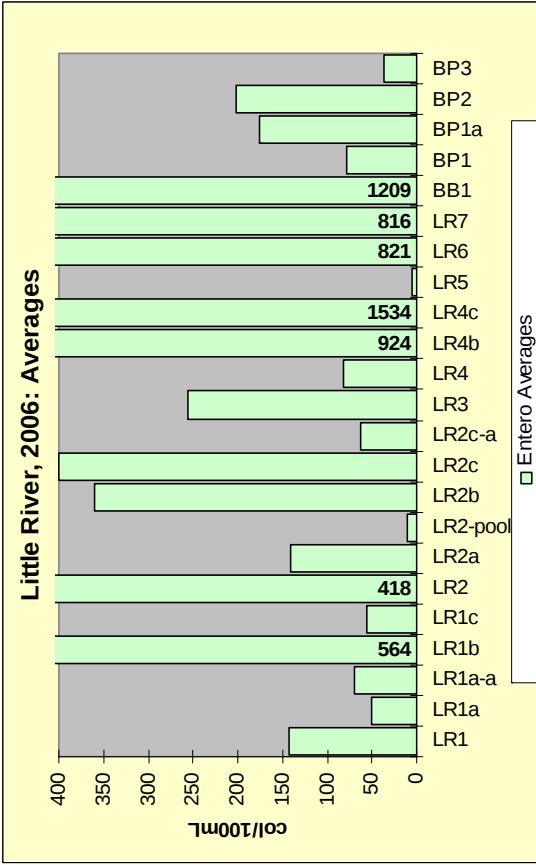
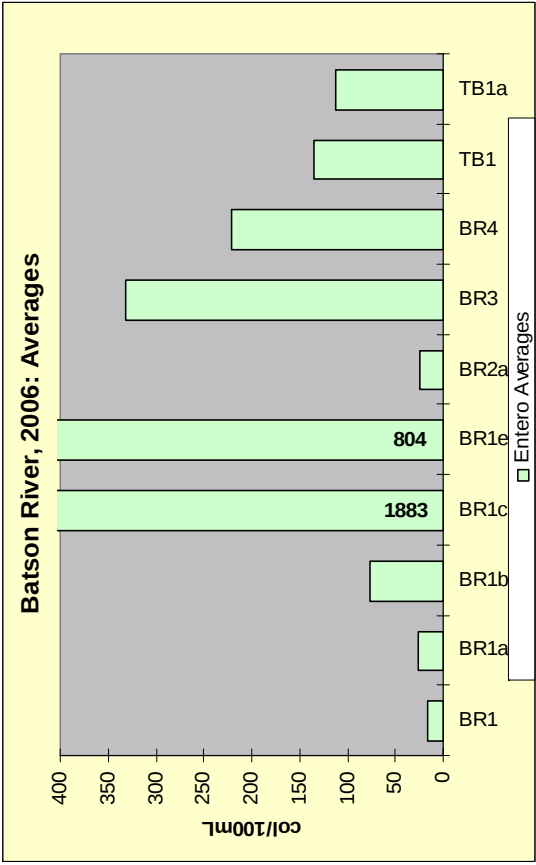
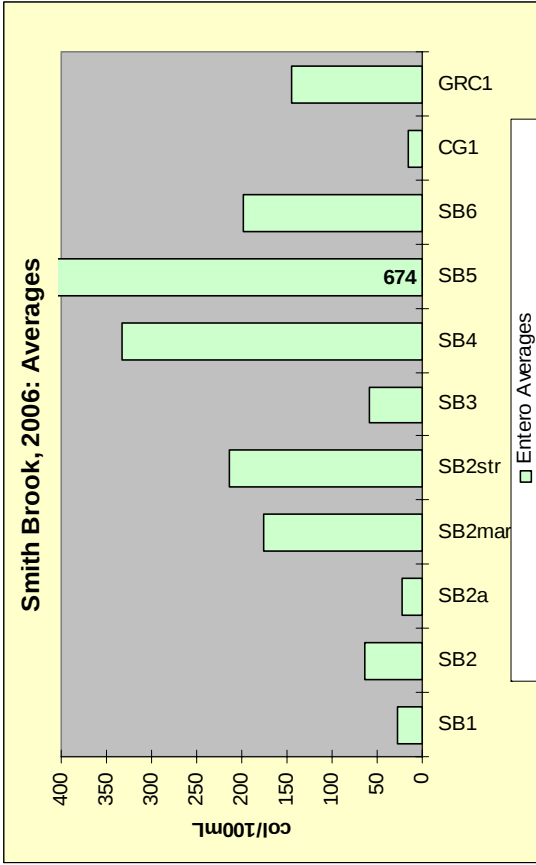
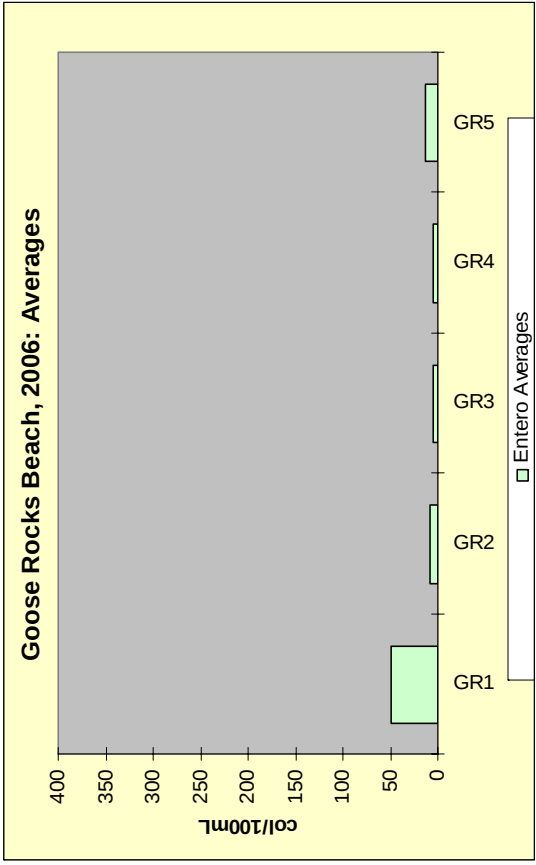
Goose Rocks Beach Watershed
2006 Bacteria Sampling Results: Geomeans



Salwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.

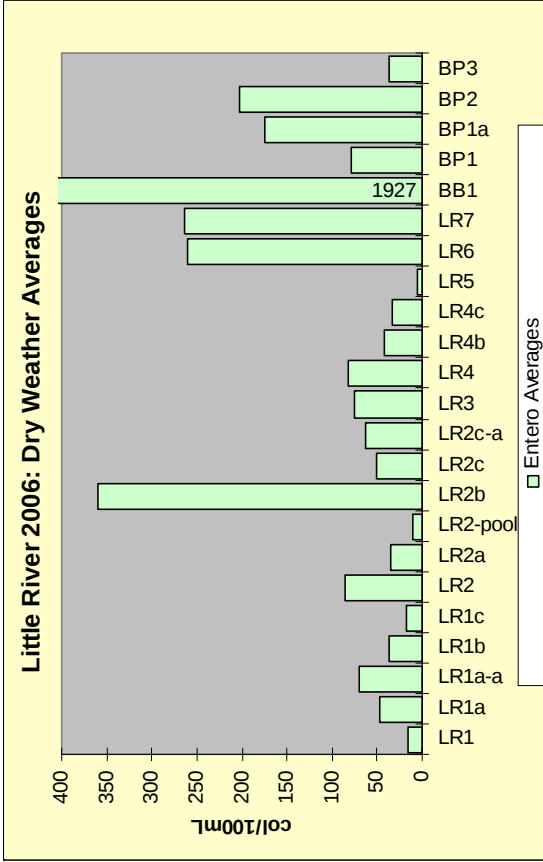
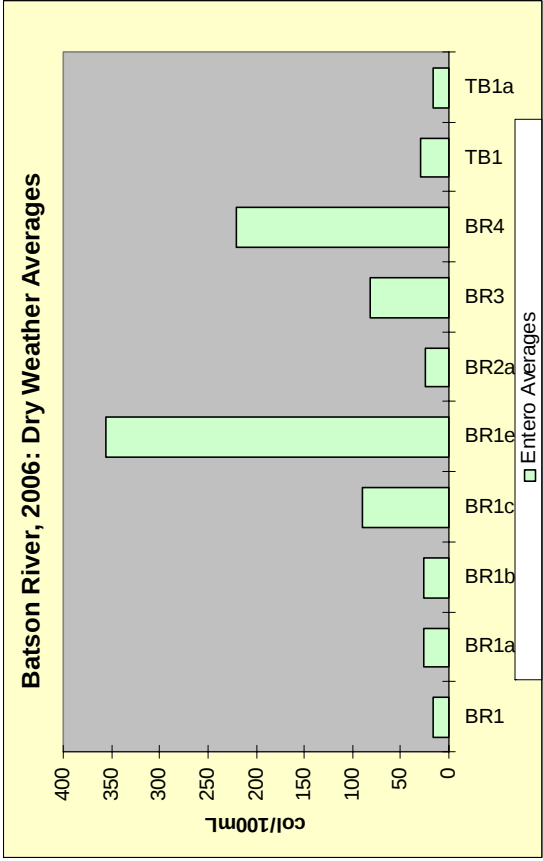
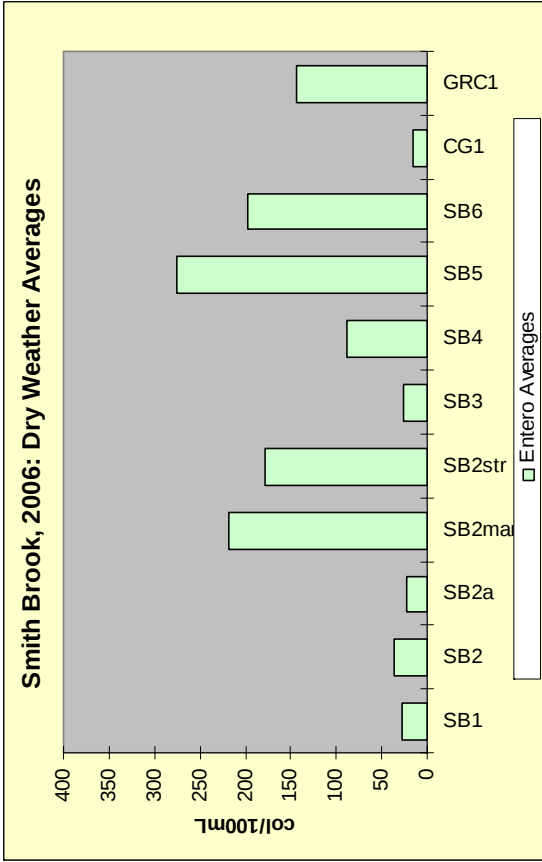
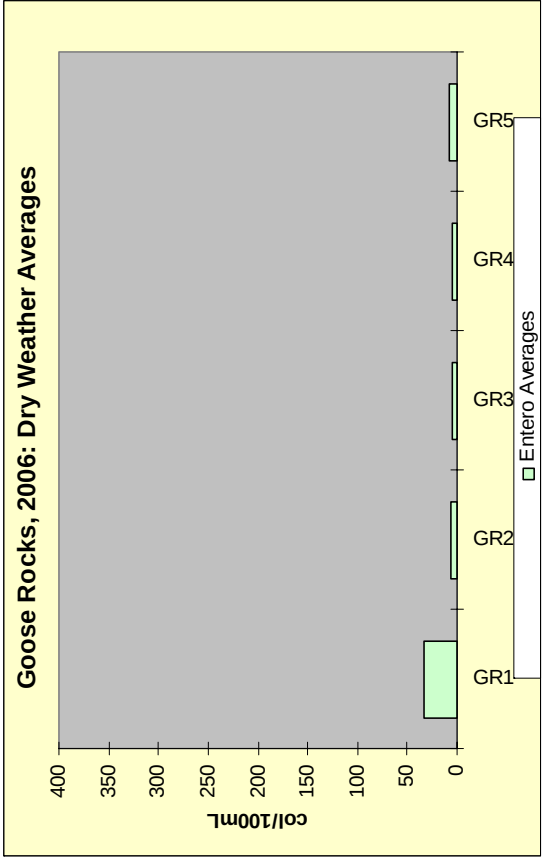
Goose Rocks Beach Watershed
2006 Bacteria Sampling Averages: Summary



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample.

Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample.

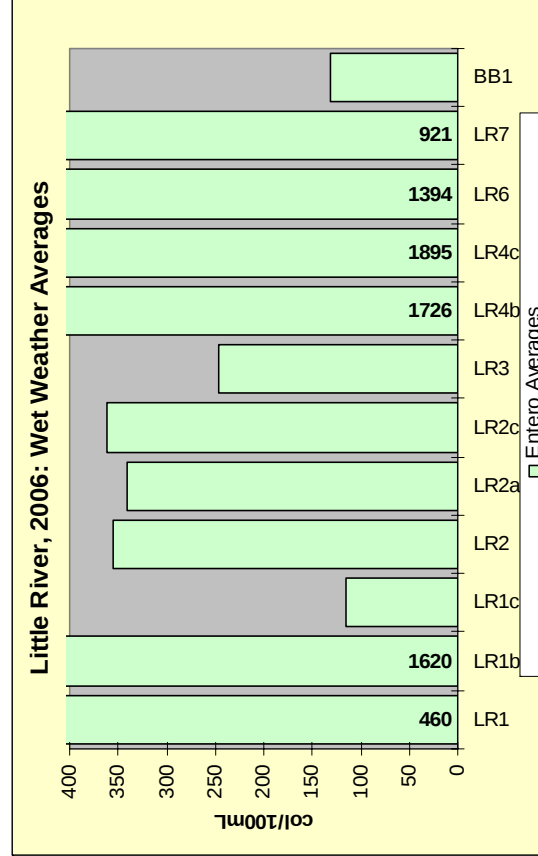
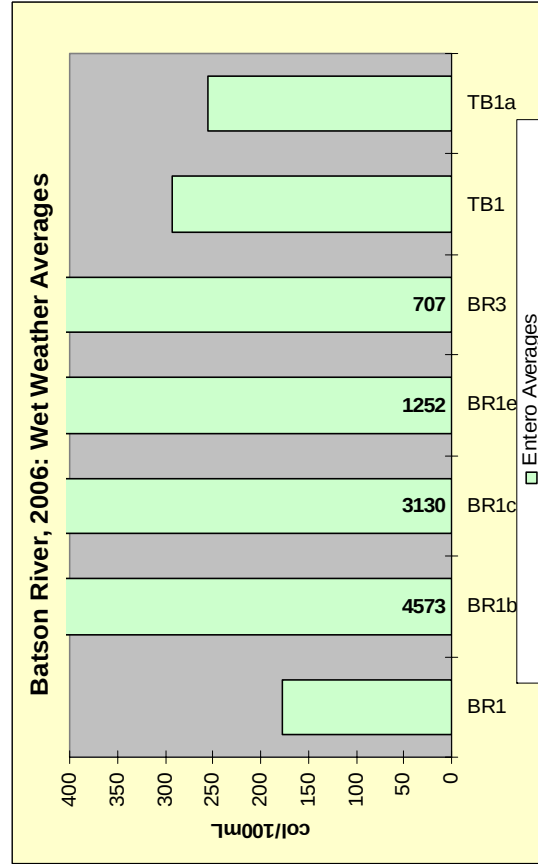
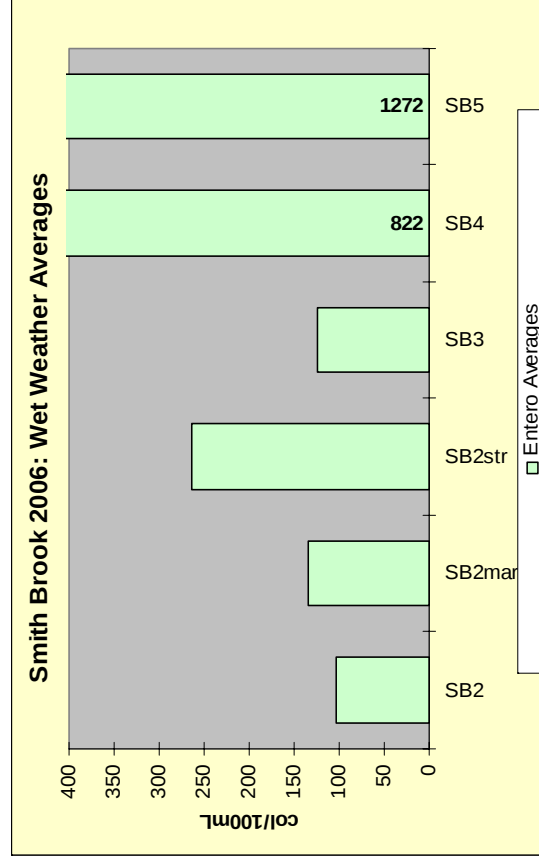
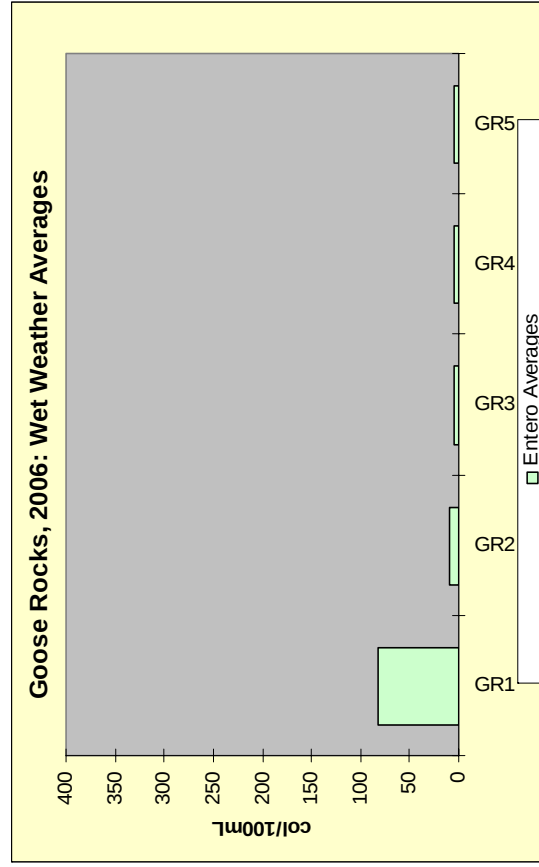
Goose Rocks Beach Watershed
2006 Bacteria Sampling Averages: Dry Weather



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample.

Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample.

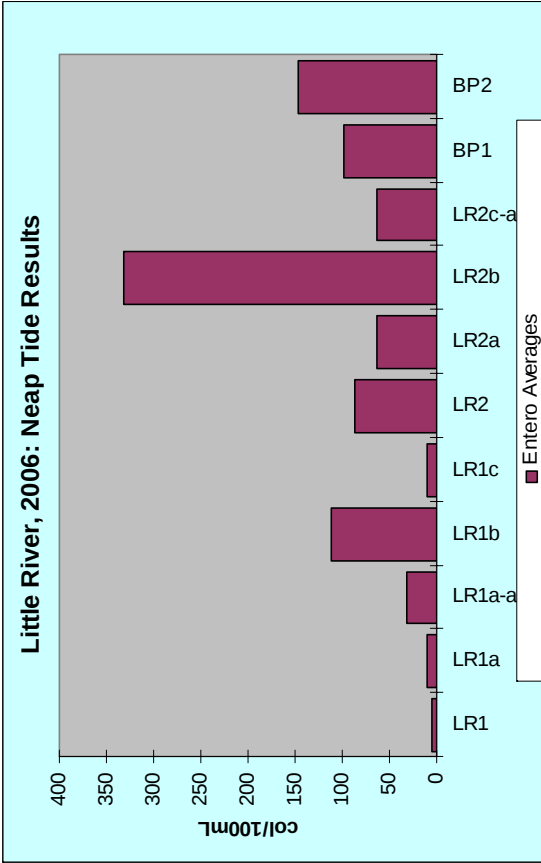
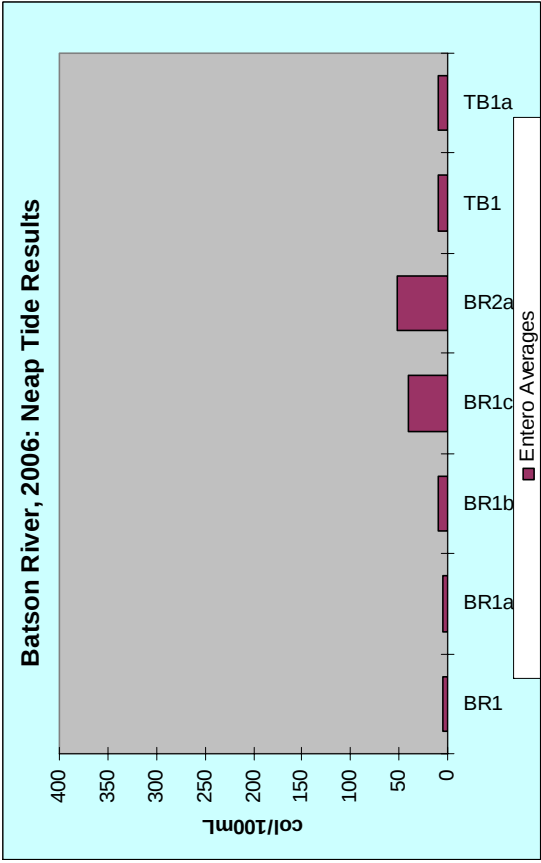
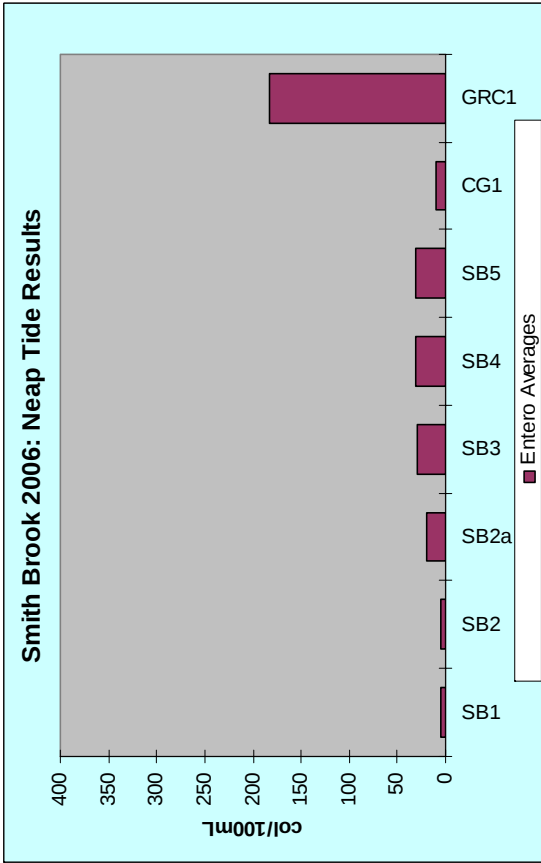
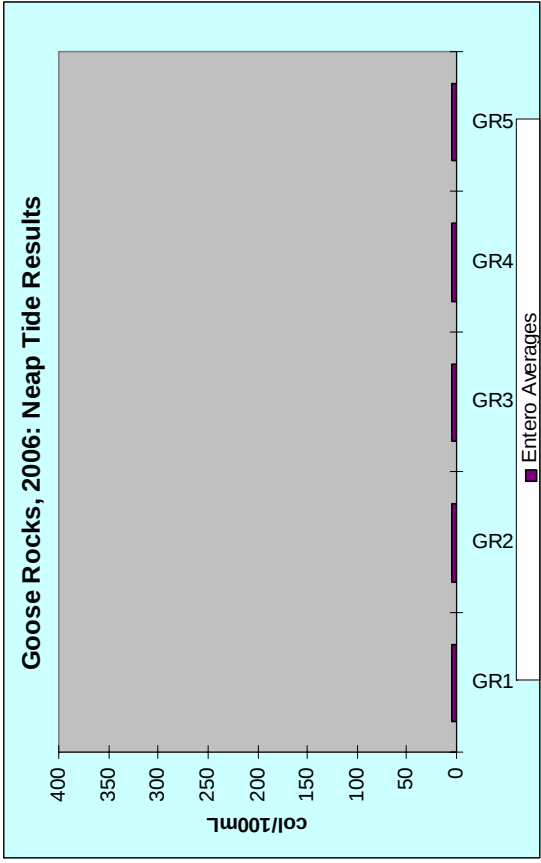
Goose Rocks Beach Watershed
2006 Bacteria Sampling Averages: Wet Weather



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample.

Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample.

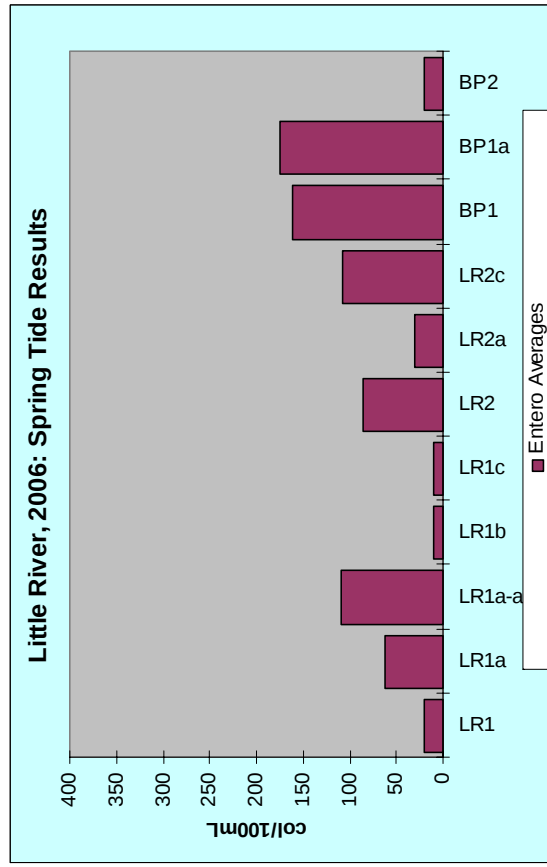
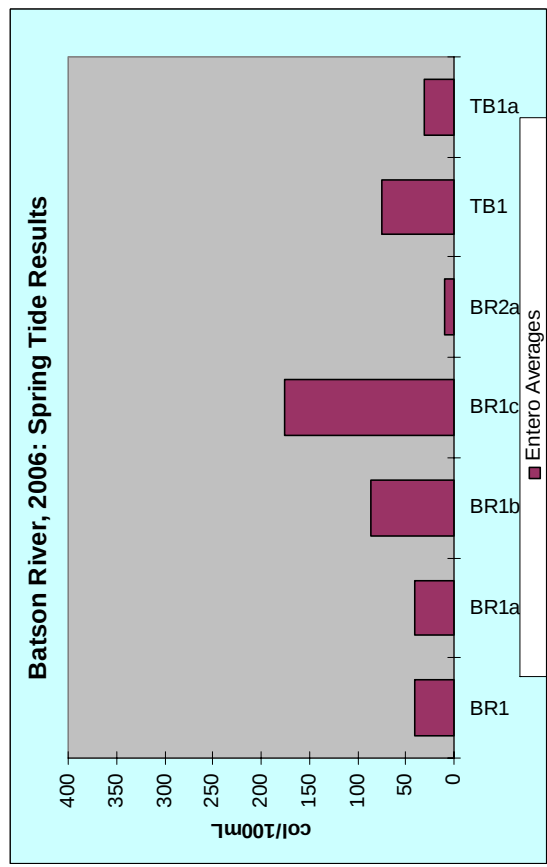
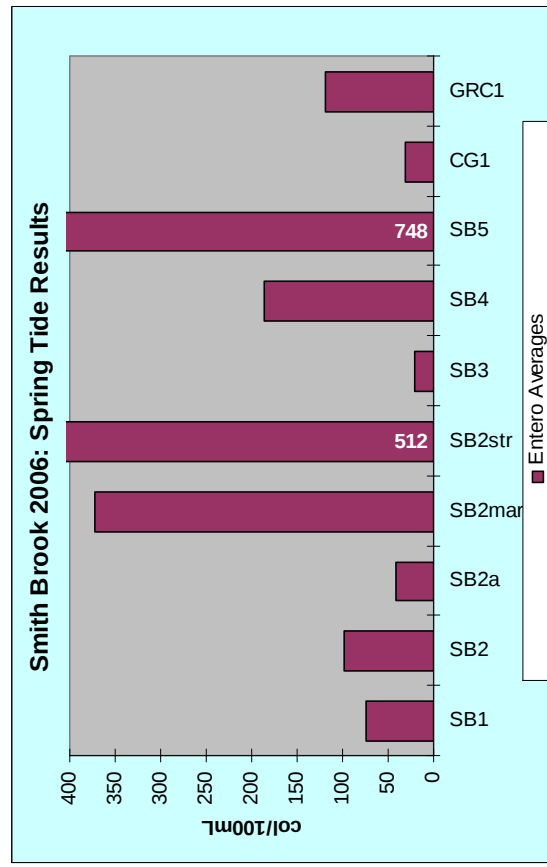
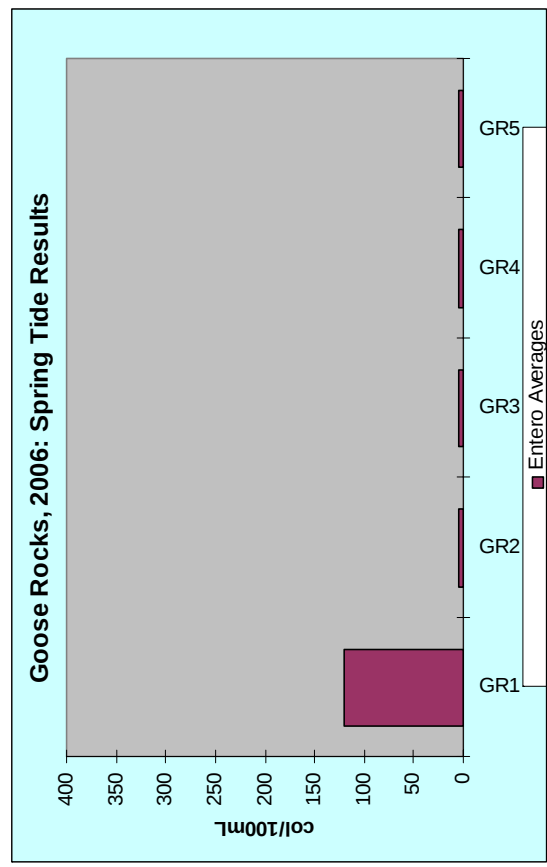
Goose Rocks Beach Watershed
2006 Bacteria and Optical Brightener Results: Neap Tide - August 3, 2006



* Only sites with a tidal influence are displayed.

Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample.

Goose Rocks Beach Watershed
2006 Bacteria and Optical Brightener Results: Spring Tide - August 10, 2006

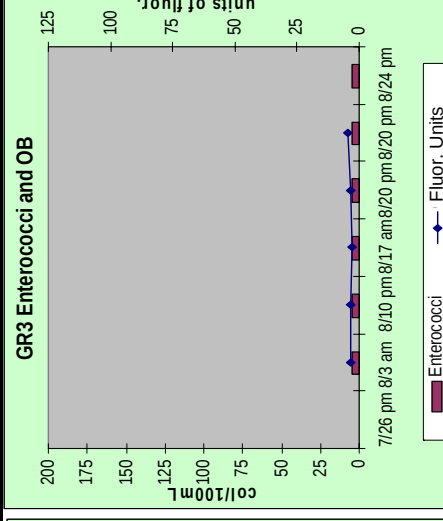
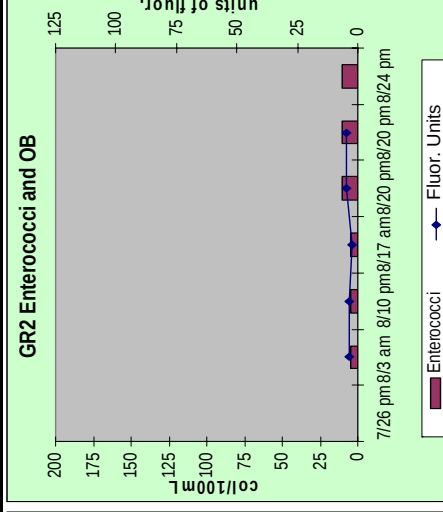
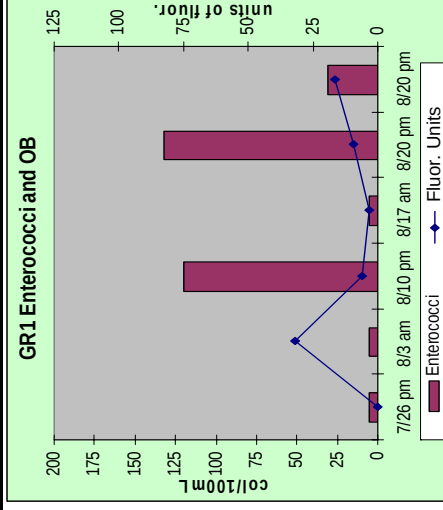


* Only sites with a tidal influence are displayed.

Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample.

Goose Rocks Beach 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	GR1 col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	GR2 col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	GR3 col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	5	-	7/26/06 15:52	2:43	21.0	29.0	-	-	-	-	-	-	-	-	-	-	-	-
8/3 am	8/3/06 6:13	5	32.1	8/3/06 11:48	5:35	22.5	27.0	5	3.6	8/3/06 11:25	5:12	18.8	31.0	5	3.2	8/3/06 11:07	4:54	19.2	31.0
8/10 pm	8/10/06 12:38	120	5.9	8/10/06 14:16	1:38	17.5	34.0	5	3.7	8/10/06 15:12	2:34	18.2	36.0	5	3.5	8/10/06 14:58	2:20	18.5	35.0
8/17 am	8/17/06 6:38	5	3.3	8/17/06 9:00	2:22	14.5	32.0	5	2.3	8/17/06 9:30	2:52	16.9	35.0	5	3	8/17/06 9:45	3:07	16.7	35.0
8/20 pm	8/20/06 10:42	132	9.1	8/20/06 12:30	1:48	16.0	32.0	10	4.8	8/20/06 12:40	1:58	14.0	34.0	5	3.2	8/20/06 12:50	2:08	14.0	34.0
8/20 pm	8/20/06 10:42	31	16.6	8/20/06 13:35	2:53	17.0	30.0	10	4.6	8/20/06 13:45	3:03	14.5	34.0	5	4.7	8/20/06 13:55	3:13	14.5	34.0
8/24 pm	8/24/06 12:41	-	-	-	-	-	-	10	-	8/24/06 18:10	5:29	17.0	32.0	5	-	8/24/06 18:10	5:29	17.0	32.0
GEOMEAN		20																	
Average		50																	
Max		132																	
Min		5																	
# of samples		6																	



Salwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1980).

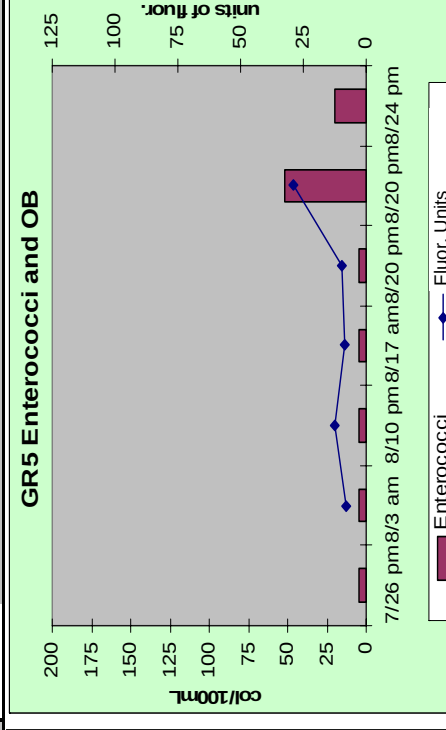
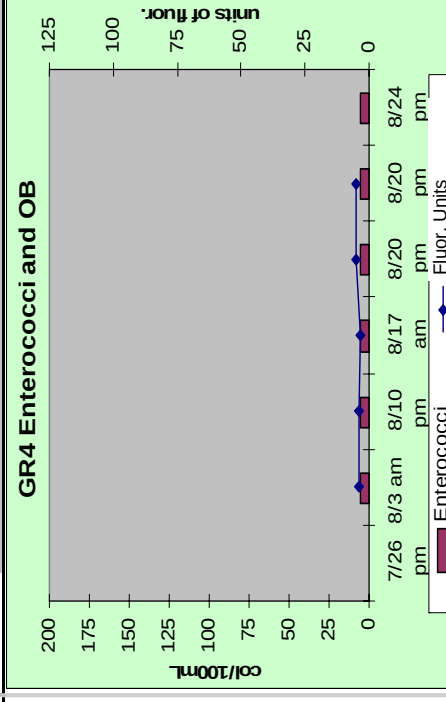
Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.

**Enterococci values of <10 are shown as 5 in order to calculate geomeans and averages.

 : Rain Event

Goose Rocks Beach 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	GR4 col/100mL (410-610nm)	OB	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	GR5 col/100mL (410-610nm)	OB	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	5	-	7/26/06 15:12	-	18.0	29.0
8/3 am	8/3/06 6:13	5	4	8/3/06 10:47	4:34	16.9	32.0	5	7.8	8/3/06 10:21	4:08	16.9	31.0
8/10 pm	8/10/06 12:38	5	3.8	8/10/06 15:37	2:59	17.7	36.0	5	12.4	8/10/06 16:32	3:54	27.2	20.1
8/17 am	8/17/06 6:38	5	3.1	8/17/06 10:15	3:37	16.9	34.0	5	8.3	8/17/06 8:05	1:27	17.8	29.5
8/20 pm	8/20/06 10:42	5	5	8/20/06 13:00	2:18	15.5	34.0	5	9.7	8/20/06 13:15	2:33	14.5	32.0
8/20 pm	8/20/06 10:42	5	4.9	8/20/06 14:10	3:28	14.5	34.0	52	28.7	8/20/06 14:20	3:38	15.5	32.0
8/24 pm	8/24/06 12:41	5	5	8/24/06 17:40	4:59	17.0	32.0	20	-	8/24/06 17:25	4:44	17.6	29.2
GEOMEAN		5						9					
Average		5			3:39	16.4	33.7	14				18.2	29.0
Max		5			4:59	17.7	36.0	52				27.2	32.0
Min		5			2:18	14.5	32.0	5				14.5	20.1
# of samples		6						6					



Saltwater Sites : Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

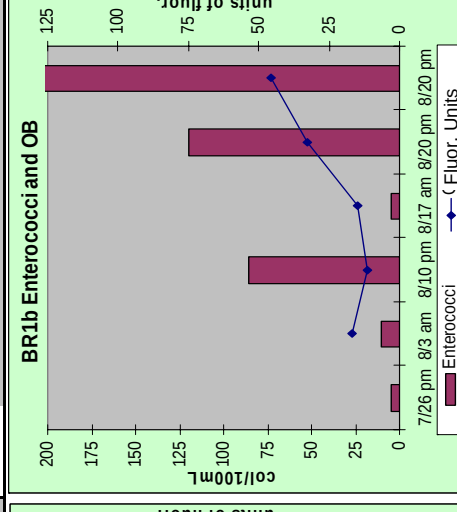
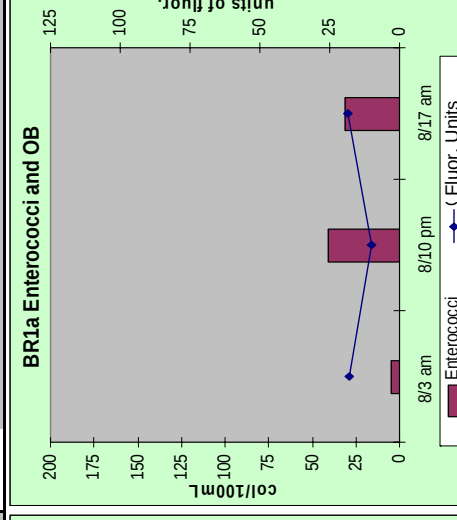
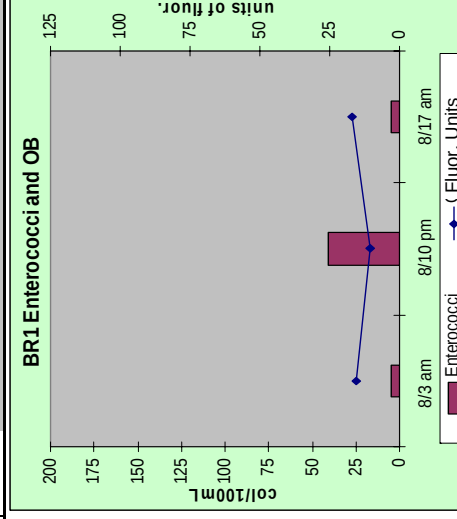
Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.

**Enterococci values of <10 are shown as 5 in order to calculate geometric means and averages.

☐ : Rain Event

Batson River Watershed 2006 Bacteria and Fluorometry Results

SAMPLE	PEAK HIGH	BR1	OB	Sample	Time Past	Salinity	BR1a	OB	Sample	Time Past	Salinity	BR1b	OB	Sample	Time Past	Salinity
DATE / CYCLE	TIDE TIME	col/100mL (410-610nm)	col/100mL (410-610nm)	Collection Time	Peak High	Temp	col/100mL (410-610nm)	col/100mL (410-610nm)	Collection Time	Peak High	Temp	col/100mL (410-610nm)	col/100mL (410-610nm)	Collection Time	Peak High	Temp
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/3 am	8/3/06 6:13	5	15.5	8/3/06 10:04	3:51	20.0	30.0	5	8/3/06 10:11	3:58	20.0	31.0	10	8/3/06 9:51	3:38	25.0
8/10 pm	8/10/06 12:38	41	10.6	8/10/06 16:00	3:22	19.6	28.9	41	8/10/06 16:05	3:27	19.3	29.2	86	8/10/06 15:47	3:09	19.6
8/17 am	8/17/06 6:38	5	16.8	8/17/06 10:20	3:42	18.2	27.5	31	8/17/06 10:25	3:47	18.3	27.5	5	8/17/06 8:57	2:19	16.9
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	-	-	-	-	-	120	8/20/06 13:45	3:03	17.3
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	-	-	-	-	-	233	8/20/06 15:05	4:23	17.6
	GEOMEAN	10						19						29		
	Average	17			3:38	19.3	28.8	26		3:44	19.2	29.2		77	2:53	19.2
	Max	41			3:51	20.0	30.0	41		3:58	20.0	31.0		233	4:23	25.0
	Min	5			3:22	18.2	27.5	5		3:27	18.3	27.5		5	0:51	16.9
	# of samples	3						3						6		



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

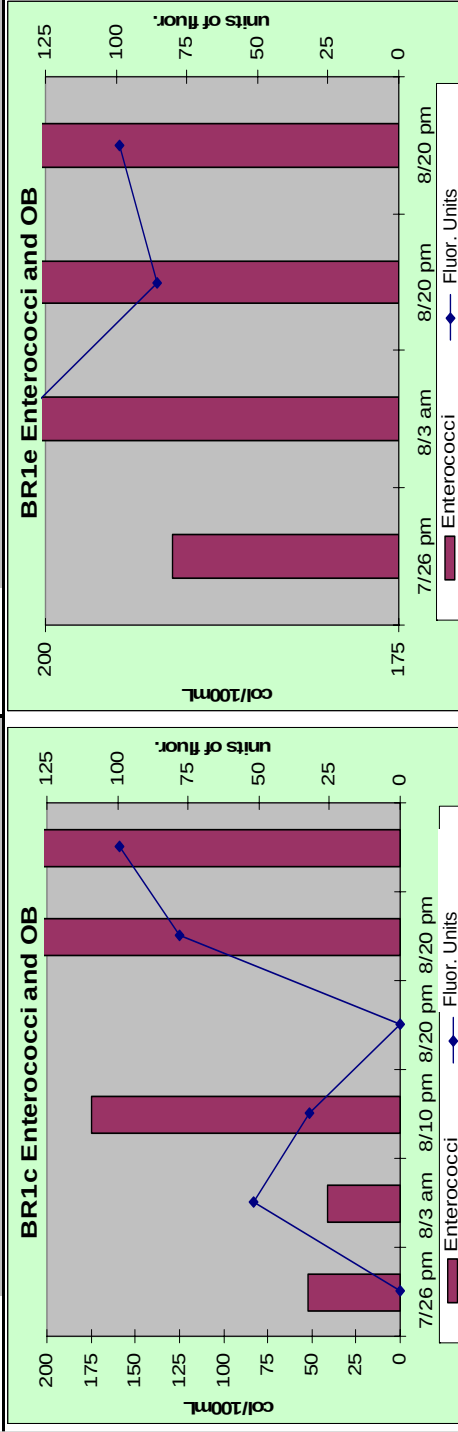
Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.

**Enterococci values of <10 are shown as 5 in order to calculate geometric means and averages.

 : Rain Event

Batson River Watershed 2006 Bacteria and Fluorimetry Results

SAMPLE	PEAK HIGH	BR1c	OB	Sample	Time Past	Water	Salinity	BR1e	OB	Sample	Time Pas	Water	Salinity
DATE / CYCLE	TIDE TIME	col/100mL	(410-610nm)	Collection Time	Peak High	Temp	(‰)	col/100mL	410-610nm	Collection Time	Peak High	Temp	(‰)
7/26 pm	7/26/06 13:09	52	-	7/26/06 14:26	1:17	25.0	13.0	191		7/26/06 14:39	1:30	23.0	0.0
8/3 am	8/3/06 6:13	41	52.1	8/3/06 8:50	2:37	22.0	25.0	521	133.8	8/3/06 10:45	4:32	21.0	0.0
8/10 pm	8/10/06 12:38	175	32.1	8/10/06 15:00	2:22	22.0	27.5	-	-	8/10/06 13:55	1:17	-	-
8/17 am	8/17/06 6:38	-	-	-	-	-	-	-	-	-	-	-	-
8/20 pm	8/20/06 10:42	3130	77.9	8/20/06 13:00	2:18	18.7	11.0	780	85.4	8/20/06 12:27	1:45	18.4	0.0
8/20 pm	8/20/06 10:42	6015	99.3	8/20/06 14:40	3:58	18.8	11.0	1723	98.6	8/21/06 14:45	4:03	-	-
GEOMEAN								605					
Average		1883			2:30	21.3	17.5	804	2:37				
Max		6015			3:58	25.0	27.5	1723	4:32				
Min		41			1:17	18.7	11.0	191	1:17				
# of samples		5			4								

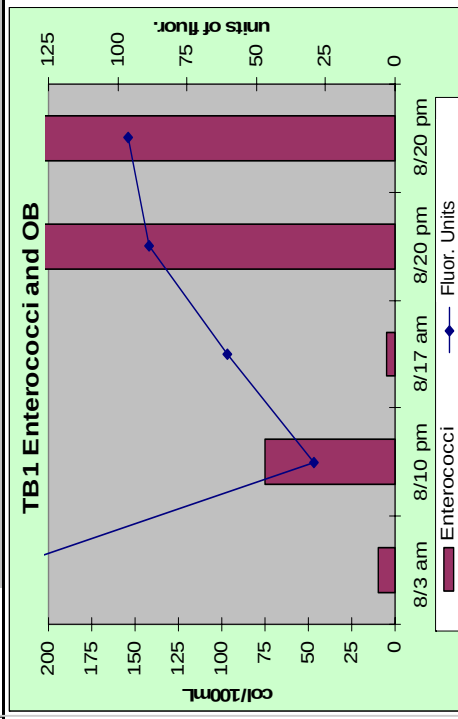
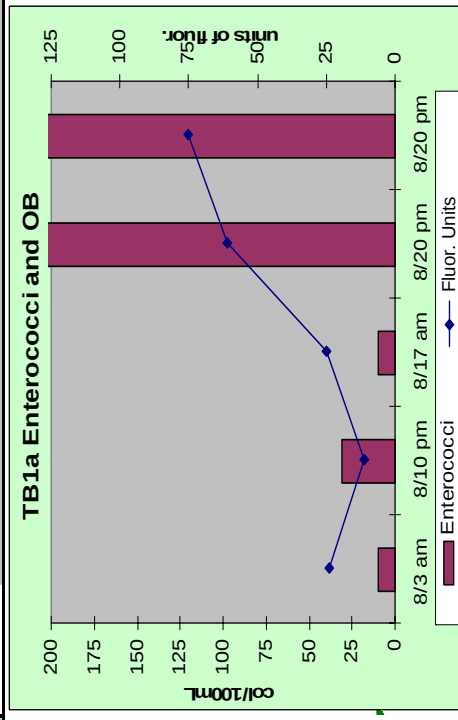


Batson River Watershed 2006 Bacteria and Fluorometry Results

SAMPLE	PEAK HIGH	BR2a	OB	Sample	Time Pas	Water	Salinity	BR3	OB	Sample	Time Pas	Water	Salinity	BR4	OB	Sample	Time Pas	Water	Salinity					
DATE / CYCLE	TIDE TIME	col/100mL	410-610nm	Collection Time	Peak High	Temp	(‰)	col/100mL	410-610nm	Collection Time	Peak High	Temp	(‰)	col/100mL	410-610nm	Collection Time	Peak High	Temp	(‰)					
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-					
8/3 am	8/3/06 6:13	52	31.1	8/3/06 8:34	2:21	21.5	13.0	110	115.2	8/3/06 11:00	4:47	25.0	0.0	259	80.6	8/3/06 9:58	3:45	21.5	0.0					
8/10 pm	8/10/06 12:38	10	24.4	8/10/06 14:55	2:17	18.6	28.9	25.5	94.1	8/10/06 14:05	1:27	22.0	0.0	275	57.7	8/10/06 14:20	1:42	18.9	0.0					
8/17 am	8/17/06 6:38	10	28.5	8/17/06 8:21	1:43	18.1	28.7	110	95.6	8/17/06 8:04	1:26	19.0	0.0	128	56.5	8/17/06 8:11	1:33	17.1	0.0					
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	504	96.8	8/20/06 12:45	2:03	19.2	0.0	-	-	-	-	-	-					
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	909	99.4	8/20/06 14:25	3:43	19.1	0.0	-	-	-	-	-	-					
GEOMEAN		17																		209				
Average		24																		221				
Max		52																		275				
Min		10																		128				
# of samples		3																		3				

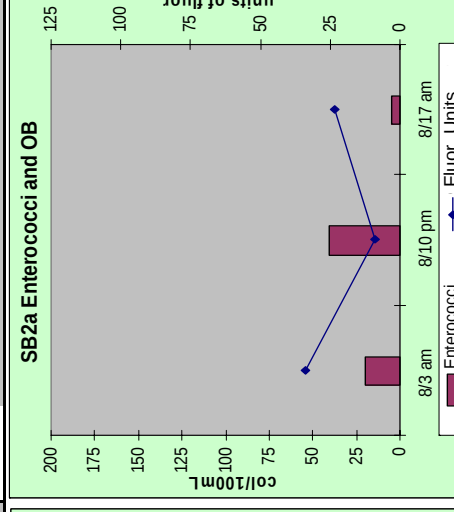
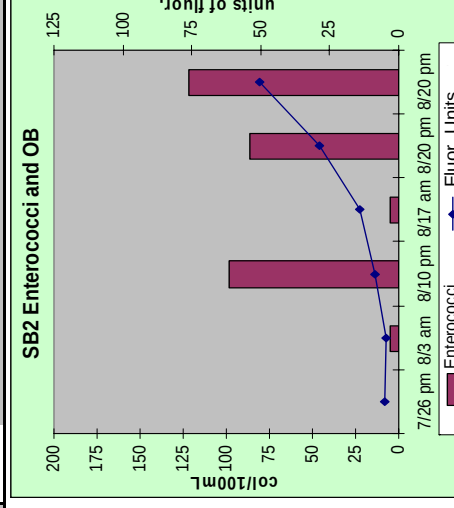
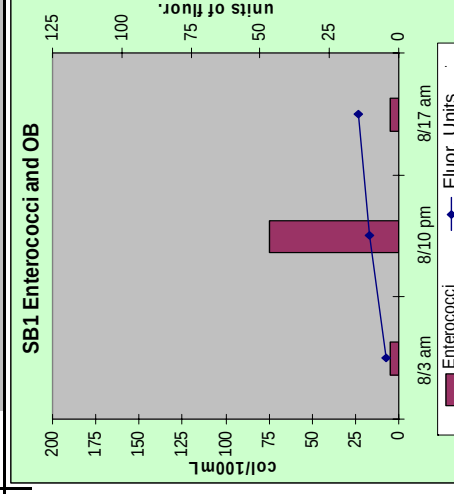
Batson River Watershed **2006 Bacteria and Fluorometry Results**

SAMPLE	PEAK HIGH	TB1	OB	Sample	Time Pas	Water	Salinity
DATE / CYCLE	TIDE TIME	col/100mL	410-610nm	Collection Time	Peak High	Temp	(‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-
8/3 am	8/3/06 6:13	10	143.5	8/3/06 11:12	4:59	27.0	10.0
8/10 pm	8/10/06 12:38	75	29.3	8/10/06 14:25	1:47	21.6	27.4
8/17 am	8/17/06 6:38	5	60.5	8/17/06 8:41	2:03	19.3	26.2
8/20 pm	8/20/06 10:42	259	88.9	8/20/06 13:30	2:48	20.4	20.0
8/20 pm	8/20/06 10:42	327	96.4	8/20/06 14:45	4:03	20.0	-
GEOMEAN							
Average							
Max							
Min							
# of samples							
5							
5							
46							
112							
295							
10							
5							
3:31							
4:33							
2:34							
23.0							



Smith Brook Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	SB1 col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	SB2 col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	SB2a col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	5	7/26/06 15:31	2:22	20.0	28.0	-	-	-	-	-	-
8/3 am	8/3/06 6:13	5	4.7	8/3/06 8:47	2:34	17.7	28.8	5	4.5	8/3/06 8:12	1:59	17.7	27.4	20	33.9	8/3/06 9:50	3:37	22.7	26.3
8/10 pm	8/10/06 12:38	75	10.6	8/10/06 15:53	3:15	20.1	27.2	98	8.4	8/10/06 15:20	2:42	19.5	27.3	41	9.2	8/10/06 15:08	2:30	19.7	27.1
8/17 am	8/17/06 6:38	5	14.7	8/17/06 10:05	3:27	18.6	27.3	5	14.2	8/17/06 9:28	2:50	17.6	27.4	5	23.3	8/17/06 9:20	2:42	18.0	27.0
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	86	28.9	8/20/06 13:05	2:23	17.4	27.0	-	-	-	-	-	-
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	122	50.5	8/20/06 14:25	3:43	18.5	25.3	-	-	-	-	-	-
GEOMEAN		12						30						16					
Average		28			3:05	18.8	27.8	63			2:39	18.5	27.1	22			2:56	20.1	26.8
Max		75			3:27	20.1	28.8	122			3:43	20.0	28.0	41			3:37	22.7	27.1
Min		5			2:34	17.7	27.2	5			1:59	17.4	25.3	5			2:30	18.0	26.3
# of samples		3						5						3					



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

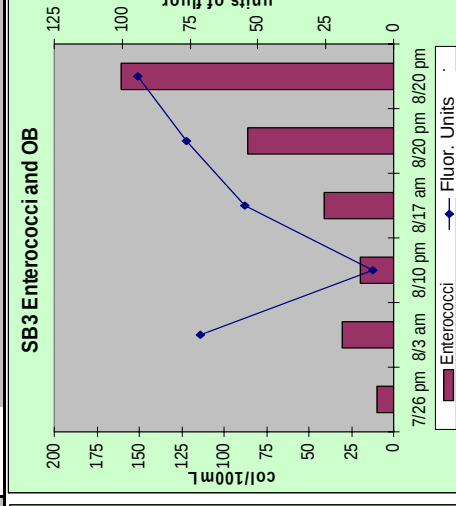
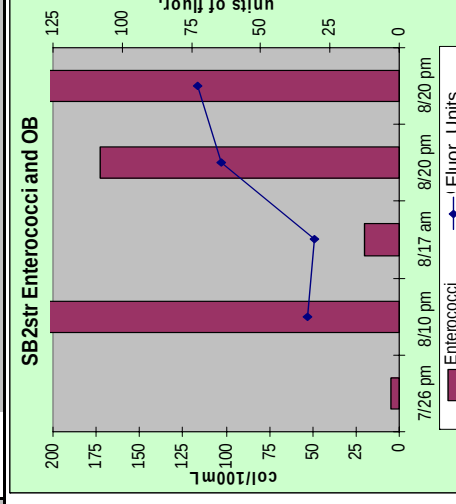
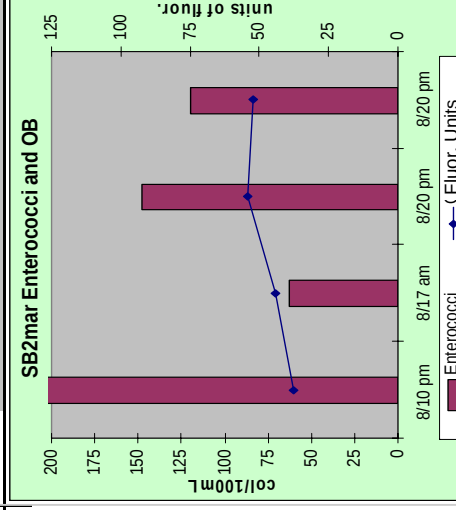
Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.

**Enterococci values of <10 are shown as 5 in order to calculate geomeans and averages.

: Rain Event

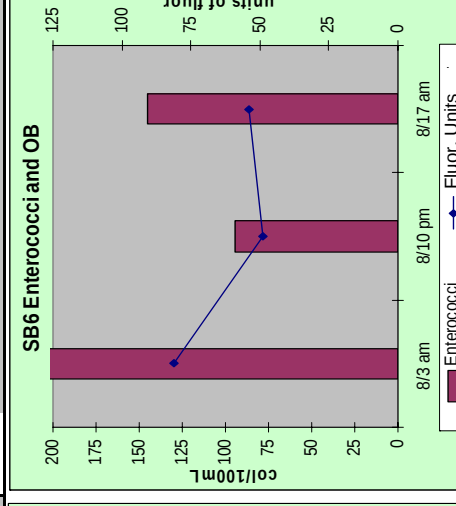
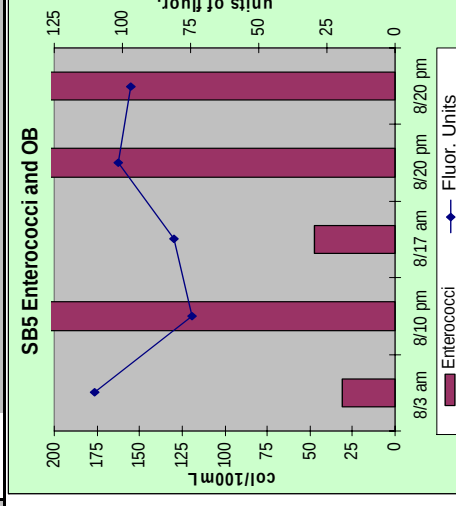
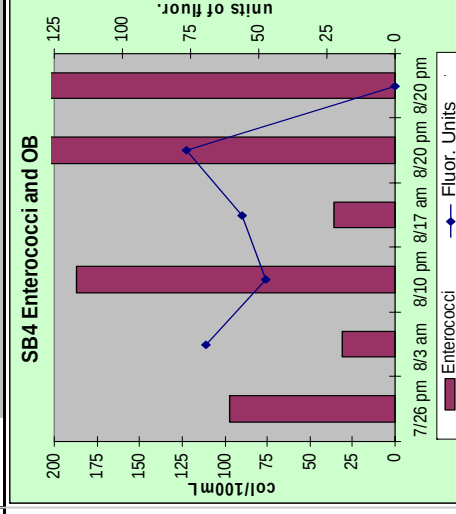
Smith Brook Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	SB2mar col/100mL	OB 410-610nm	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	SB2str col/100mL	OB 410-610nm	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	SB3 col/100mL	OB 410-610nm	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	5	-	7/26/06 15:31	2:22	26.5	30.0	10	-	7/26/06 15:00	1:51	23.0	20.0
8/3 am	8/3/06 6:13	-	-	-	-	-	-	-	-	-	-	-	-	30	71.2	8/3/06 9:30	3:17	25.4	23.1
8/10 pm	8/10/06 12:38	373	37.5	8/10/06 15:30	2:52	24.5	26.8	512	33.1	8/10/06 15:28	2:50	24.3	26.8	20	7.8	8/10/06 14:00	1:22	18.6	27.2
8/17 am	8/17/06 6:38	63	44	8/17/06 9:40	3:02	20.8	-	20	30.4	8/17/06 9:32	2:54	20.7	27.4	41	55	8/17/06 8:25	1:47	19.7	25.2
8/20 pm	8/20/06 10:42	148	54.3	8/20/06 13:15	2:33	20.5	28.6	173	64.5	8/20/06 13:10	2:28	19.6	18.2	86	76.1	8/20/06 12:50	2:08	19.9	19.7
8/20 pm	8/20/06 10:42	120	52.4	8/20/06 14:35	3:53	20.6	27.8	355	72.6	8/20/06 14:30	3:48	19.7	21.2	161	94.3	8/20/06 14:05	3:23	20.0	23.3
GEOMEAN		143																	
Average		176																	
Max		373																	
Min		63																	
# of samples		4																	
								79						39					
					3:05	21.6	27.7	213			2:52	22.2	24.7	58			2:18	21.1	23.1
					3:53	24.5	28.6	512			3:48	26.5	30.0	161			3:23	25.4	27.2
					2:33	20.5	26.8	5			2:22	19.6	18.2	10			1:22	18.6	19.7
								5						6					



Smith Brook Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	SB4 col/100mL	OB 410-610nm	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)	SB5 col/100mL	OB 410-610nm	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)	SB6 col/100mL	OB 410-610nm	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	97		7/26/06 14:53	1:44	27.0	6.0	-	-	-	-	-	-	-	-	-	-	-	-
8/3 am	8/3/06 6:13	31	69.4	8/3/06 11:45	5:32	27.8	18.4	31	110.2	8/3/06 11:25	5:12	27.2	2.7	355	81.1	8/3/06 9:45	3:32	21.0	1.0
8/10 pm	8/10/06 12:38	187	47.3	8/10/06 17:10	4:32	23.6	19.1	748	74.4	8/10/06 17:00	4:22	23.5	12.3	94	48.9	8/10/06 14:10	1:32	19.0	0.0
8/17 am	8/17/06 6:38	36	56	8/17/06 8:25	1:47	19.3	25.2	47	81	8/17/06 8:15	1:37	20.2	10.0	145	53.9	8/17/06 8:05	1:27	16.8	0.0
8/20 pm	8/20/06 10:42	1187	76.7	8/20/06 12:40	1:58	19.5	19.7	1333	101.5	8/20/06 13:35	2:53	20.6	1.9	-	-	-	-	-	-
8/20 pm	8/20/06 10:42	457	-	8/20/06 13:55	3:13	19.6	11.8	1210	96.9	8/20/06 12:25	1:43	20.7	2.5	-	-	-	-	-	-
GEOMEAN		149						281						169					
Average		333			3:07	22.8	16.7	674			3:09	22.4	5.9	198			2:10	18.9	0.3
Max		1187			5:32	27.8	25.2	1333			5:12	27.2	12.3	355			3:32	21.0	1.0
Min		31			1:44	19.3	6.0	31			1:37	20.2	1.9	94			1:27	16.8	0.0
# of samples		6						5						3					



Salwater Sites: Enterococci samples should not exceed a criterion of **104 colonies per 100 ml** for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

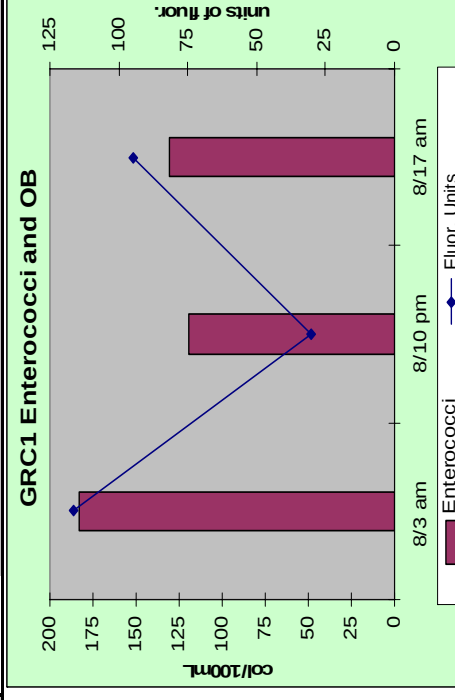
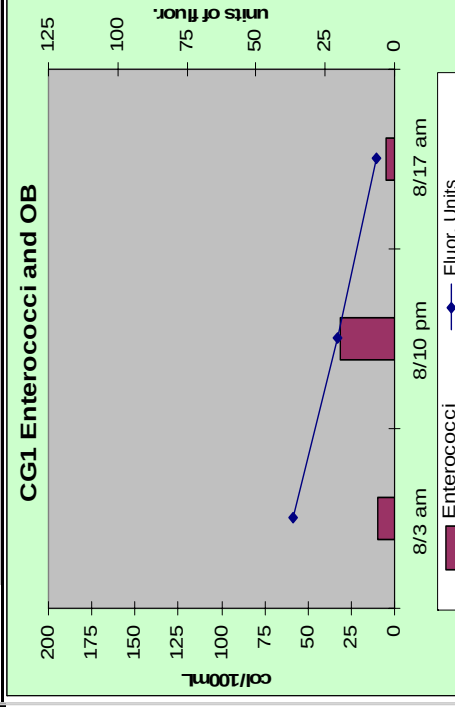
(Freshwater Sites: Enterococci samples should not exceed a criterion of **61 colonies per 100 ml** for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.)

**Enterococci values of <10 are shown as 5 in order to calculate geometric means and averages.

: Rain Event

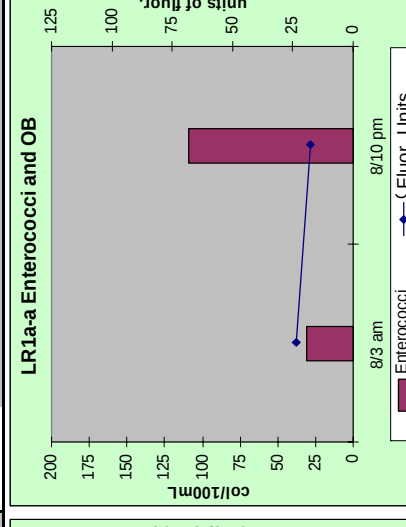
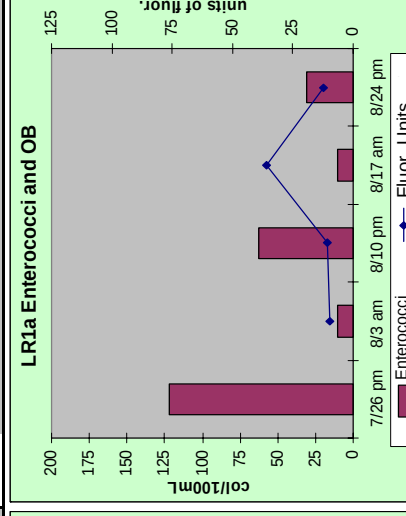
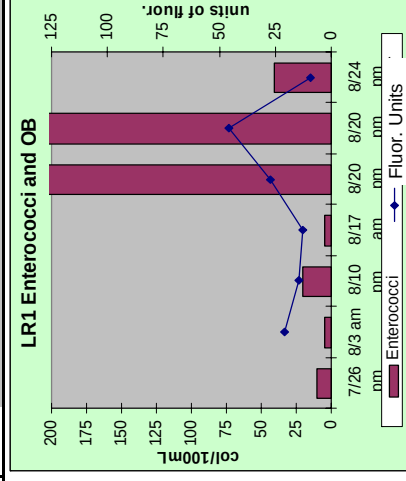
Smith Brook Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	CG1 col/100mL	OB 410-610nm	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	GRC1 col/100mL	OB 410-610nm	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	-	-	-	-	-
8/3 am	8/3/06 6:13	10	36.6	8/3/06 11:20	5:07	24.0	26.0	183	116.2	8/3/06 10:50	4:37	22.7	17.8
8/10 pm	8/10/06 12:38	31	20.4	8/10/06 17:10	4:32	-	-	119	30.2	8/10/06 14:35	1:57	21.0	26.2
8/17 am	8/17/06 6:38	5	6.7	8/17/06 8:00	1:22	16.7	27.9	131	94.8	8/17/06 9:00	2:22	20.4	22.7
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	-	-	-	-	-	-
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	-	-	-	-	-	-
GEOMEAN		12											
Average		15											
Max		31											
Min		5											
# of samples		3											
						3:40	20.4	27.0			2:58	21.4	22.2
						5:07	24.0	27.9			4:37	22.7	26.2
						1:22	16.7	26.0			1:57	20.4	17.8
								3					



Little River Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	LR1 col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	LR1a col/100mL (410-610nm)	OB (410-610nm)	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	10		7/26/06 16:10	3:01	26.0	29.0						
8/3 am	8/3/06 6:13	5	20.9	8/3/06 10:21	4:08	-	-	122	9.6	7/26/06 16:05	2:56	26.0	9.0
8/10 pm	8/10/06 12:38	20	14.2	8/10/06 16:23	3:45	21.2	35.0	10	10.8	8/3/06 10:39	4:26	25.2	26.8
8/17 am	8/17/06 6:38	5	12.8	-	-	17.5	-	63	36.2	8/10/06 15:01	2:23	-	-
8/20 pm	8/20/06 10:42	455	27.3	8/20/06 12:35	1:53	-	-	-	-	-	-	-	-
8/20 pm	8/20/06 10:42	464	45.7	8/20/06 14:15	3:33	-	-	-	-	-	-	-	-
8/24 pm	8/24/06 12:41	41	9.3	8/24/06 16:35	3:54	17.8	29.0	31	12.5	8/10/06 9:28	2:50	18.9	-
GEOMEAN		33											
Average		143		3:22	20.6	31.0		58					
Max		464		4:08	26.0	35.0		70			3:24	-	-
Min		5		1:53	17.5	29.0		109			4:26	25	27
# of samples		7						31			2:23	25	27
								2					



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

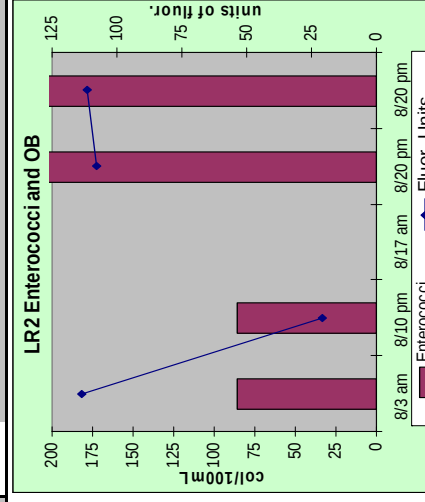
Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.

**Enterococci values of <10 are shown as 5 in order to calculate geometric means and averages.

: Rain Event

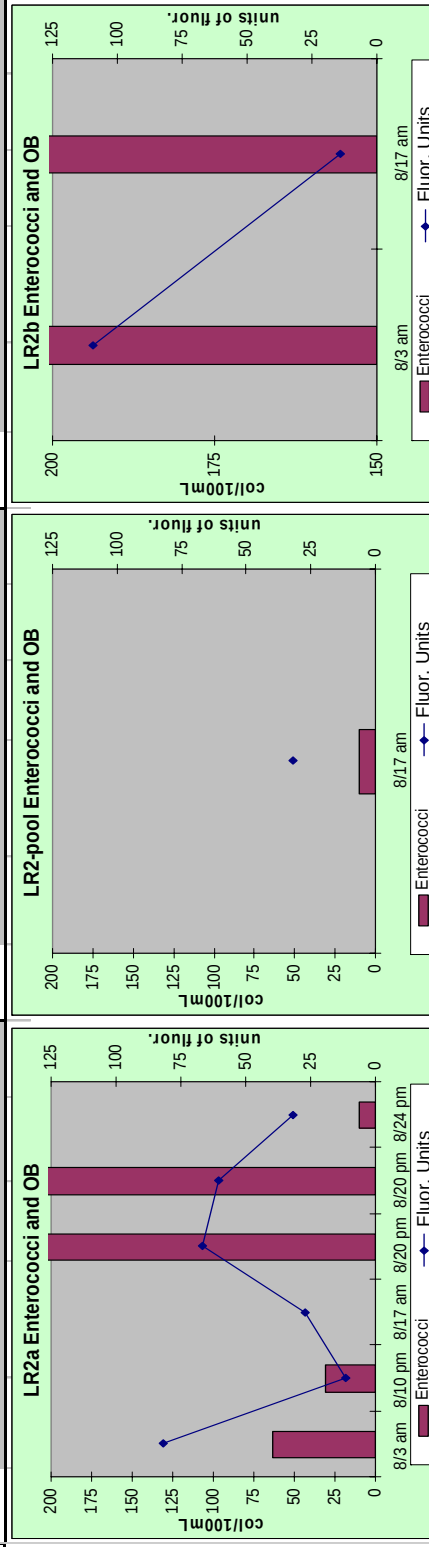
Little River Watershed

GEOMEAN
Average
Max
Min
of samples



Little River Watershed

SAMPLE	PEAK HIGH	LR2a	OB	Sample	Time Past	Water	Salinity	LR2-pool	OB	Sample	Time Past	Water	Salinity	LR2b	OB	Sample	Time Past	Water	Salinity			
DATE / CYCLE	TIDE TIME	col/100mL (410-610nm)	col/100mL (410-610nm)	Collection Time	Peak High	Temp	(‰)	col/100mL (410-610nm)	Collection Time	Peak High	Temp	(‰)	col/100mL (410-610nm)	Collection Time	Peak High	Temp	(‰)	col/100mL (410-610nm)	Collection Time	Peak High	Temp	(‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
8/3 am	8/3/06 6:13	63	81.8	8/3/06 11:03	4:50	19.8	22.2	-	-	-	-	-	-	331	109.5	8/3/06 10:05	3:52	19.4	20.1			
8/10 pm	8/10/06 12:38	31	11.2	8/10/06 14:37	1:59	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
8/17 am	8/17/06 6:38	-	27	8/17/06 8:45	2:07	18.1	-	10	32	8/17/06 10:58	4:20	-	-	388	14.3	8/17/06 10:12	3:34	17.9	0.0			
8/20 pm	8/20/06 10:42	341	66.6	8/20/06 13:30	2:48	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
8/20 pm	8/20/06 10:42	259	60.4	8/20/06 14:50	4:08	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
8/24 pm	8/24/06 12:41	10	31.6	8/24/06 15:45	3:04	18.9	23.3	-	-	-	-	-	-	-	-	-	-	-	-			
GEOMEAN	Average	70			3:09	18.9	23	10			4:20	-	-	358			3:43	18.7	10.1			
	Max	141			4:50	19.8	23	10			4:20	0	0	360			3:52	19.4	20.1			
	Min	10			1:59	18.1	22	10			4:20	0	0	331			3:34	17.9	0.0			
# of samples	5							1						2								



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

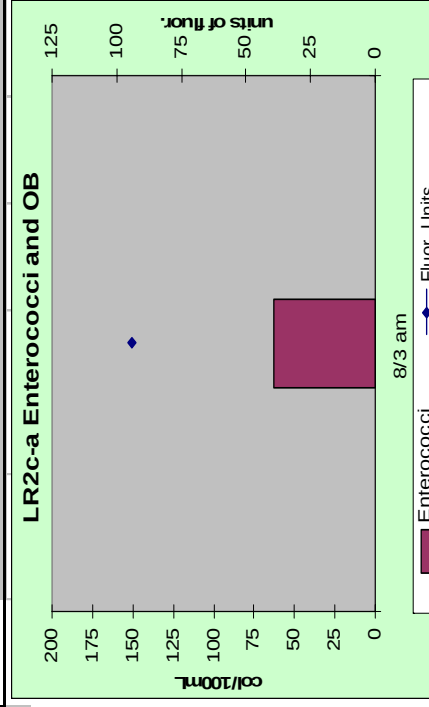
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****Enterococci values of <10 are shown as 5 in order to calculate geomeans and averages.**

: Rain Event

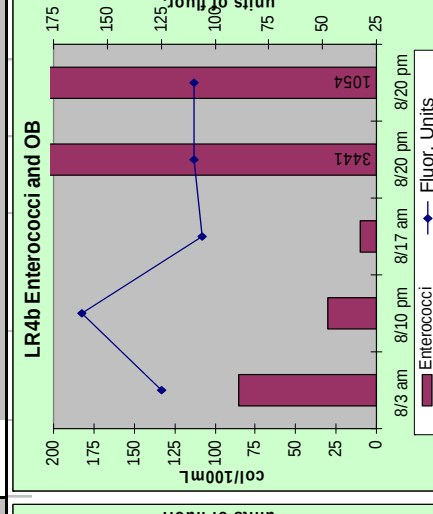
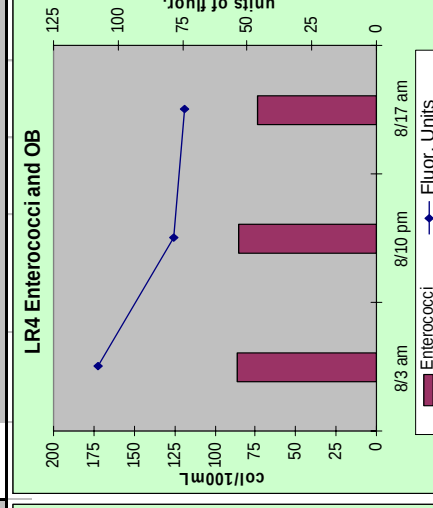
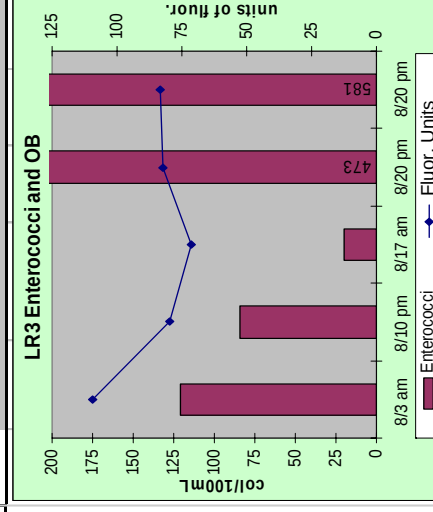
Little River Watershed

GEOMEAN	104
Average	399
Max	767
Min	5
# of samples	5



Little River Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	LR3 col/100mL (410-610nm)	OB	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)	LR4 col/100mL (410-610nm)	OB	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)	LR4b col/100mL (410-610nm)	OB	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/3 am	8/3/06 6:13	121	109.5	8/3/06 9:57	3:44	21.6	0.0	86	107.9	8/3/06 8:18	2:05	24.5	1.0	85	124.6	8/3/06 9:06	2:53	24.6	1.0
8/10 pm	8/10/06 12:38	84	79.6	8/10/06 16:45	4:07	22.7	0.0	85	78.7	8/10/06 15:02	2:24	23.8	0.0	30	162.1	8/10/06 15:47	3:09	24.1	0.0
8/17 am	8/17/06 6:38	20	71.3	8/17/06 8:31	1:53	18.9	0.0	74	74.1	8/17/06 8:42	2:04	18.5	0.0	10	106.2	8/17/06 9:42	3:04	18.8	0.0
8/20 pm	8/20/06 10:42	473	82.2	8/20/06 12:28	1:46	19.7	-	-	-	-	-	-	-	3441	109.7	8/20/06 12:50	2:08	18.7	-
8/20 pm	8/20/06 10:42	581	83.1	8/20/06 13:30	2:48	19.8	-	-	-	-	-	-	-	1054	109.9	8/20/06 13:53	3:11	18.9	-
8/24 pm	8/24/06 12:41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEOMEAN		141																	
Average		256	81																
Max		581	82																
Min		20	74																
# of samples		5	3																



Saltwater Sites: Enterococci samples should not exceed a criterion of 104 colonies per 100 ml for a single sample or a geometric mean of 35 colonies per 100 ml based on 5 or more samples collected within a 30-day period (EPA 1986).

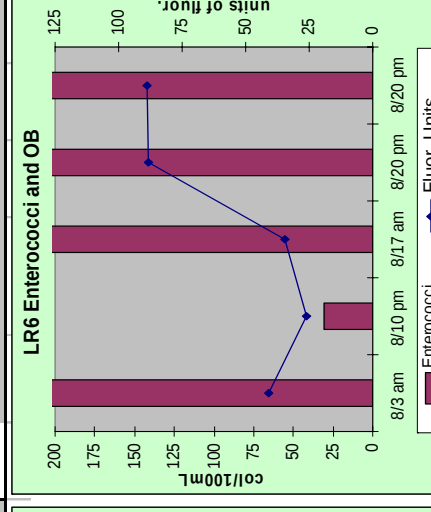
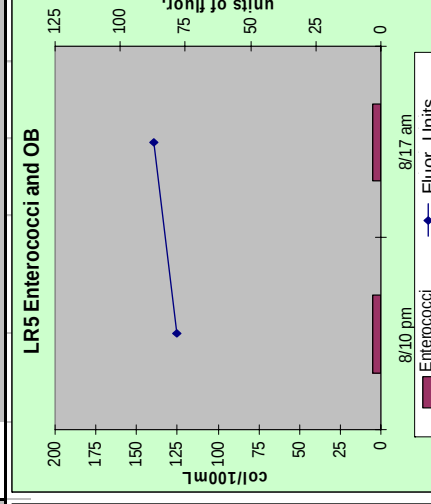
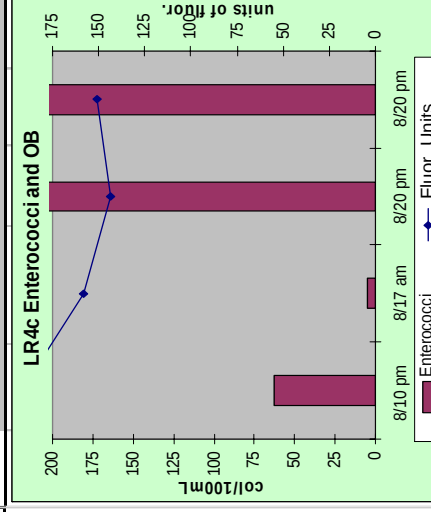
(Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.)

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: Rain Event

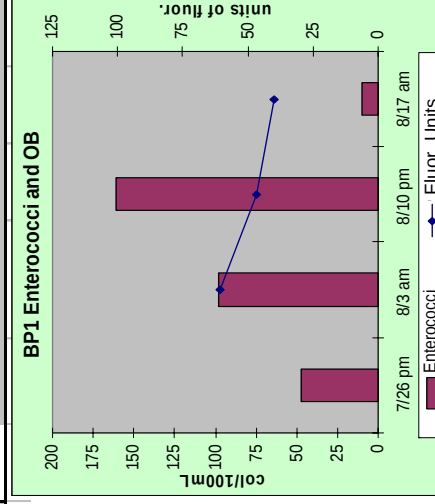
Little River Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	LR4c col/100mL (410-610nm)	OB	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	LR5 col/100mL (410-610nm)	OB	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)	LR6 col/100mL (410-610nm)	OB	Sample Collection Time	Time Past Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/3 am	8/3/06 6:13	-	-	-	-	-	-	-	-	-	-	-	-	450	40.8	8/3/06 8:32	2:19	20.1	1.0
8/10 pm	8/10/06 12:38	63	192.1	8/10/06 15:56	3:18	23.5	0.0	5	78.5	8/10/06 15:18	2:40	27.9	0.0	31	25.9	8/10/06 14:49	2:11	18.6	0.0
8/17 am	8/17/06 6:38	5	158.4	8/17/06 9:48	3:10	18.6	0.0	5	87.2	8/17/06 9:20	2:42	22.6	0.0	298	34.4	8/17/06 8:54	2:16	16.7	0.0
8/20 pm	8/20/06 10:42	3784	143.3	8/20/06 12:52	2:10	18.7	-	-	-	-	-	-	-	2489	88.2	8/20/06 13:17	2:35	16.9	-
8/20 pm	8/20/06 10:42	2282	151.2	8/20/06 13:59	3:17	18.7	-	-	-	-	-	-	-	836	88.9	8/20/06 14:27	3:45	17.0	-
8/24 pm	8/24/06 12:41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEOMEAN		228																	
Average		1534																	
Max		3784																	
Min		5																	
# of samples		4																	
					2:58	19.9	0.0	5			2:41	25.3	0.0	387			2:37	17.9	0.3
					3:18	23.5	0.0	5			2:42	27.9	0.0	821			3:45	20.1	1.0
					2:10	18.6	0.0	5			2:40	22.6	0.0	2489			2:11	16.7	0.0
								2						31					
														5					



Little River Watershed

GEOMEAN
Average
Max
Min
of samples

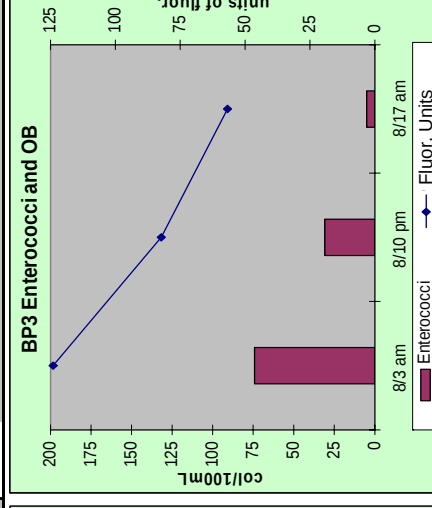
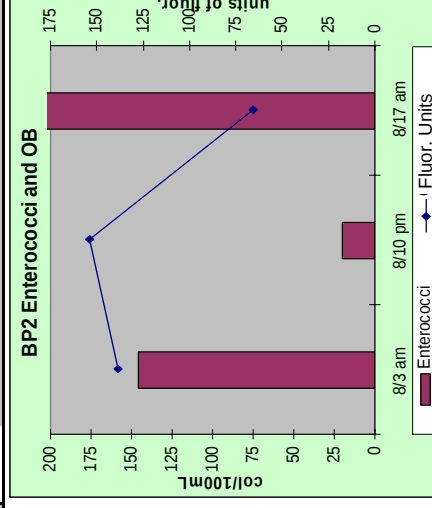
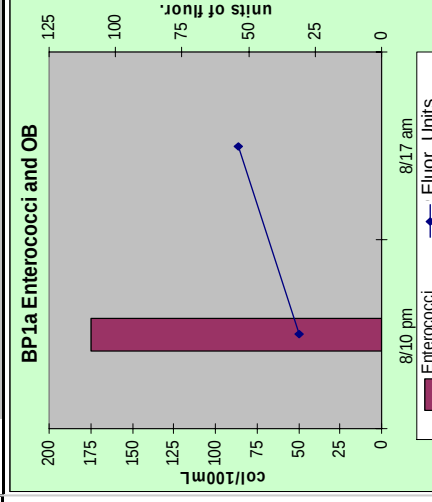


(Freshwater Sites: Enterococci samples should not exceed a criterion of 61 colonies per 100 ml for a single sample or a geometric mean of 31 colonies per 100 ml based on 5 or more samples collected within a 30-day period.)

: Rain Event

Little River Watershed 2006 Bacteria and Fluorometry Results

SAMPLE DATE / CYCLE	PEAK HIGH TIDE TIME	BP1a col/100mL (410-610nm)	OB	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)	BP2 col/100mL (410-610nm)	OB	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)	BP3 col/100mL (410-610nm)	OB	Sample Collection Time	Time Pas Peak High	Water Temp	Salinity (‰)
7/26 pm	7/26/06 13:09	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/3 am	8/3/06 6:13	-	-	-	-	-	-	146	138.3	8/3/06 9:35	3:22	-	-	74	123.7	8/3/06 9:50	3:37	-	-
8/10 pm	8/10/06 12:38	175	31.1	8/10/06 15:31	2:53	-	-	20	154	8/10/06 16:56	4:18	22.6	4.0	31	82.1	8/11/06 17:07	4:29	22.5	3.0
8/17 am	8/17/06 6:38	-	53.9	8/17/06 10:34	3:56	21.3	-	441	65.5	8/17/06 8:20	1:42	18.7	5.0	5	57	8/17/06 8:45	2:07	14.9	0.0
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/20 pm	8/20/06 10:42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/24 pm	8/24/06 12:41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GEOMEAN		175						109						23					
Average		175		3:24	21.3	-		202		3:07	20.7	4.5		37			11:24	18.7	1.5
Max		175		3:56	21.3	0.0		441		4:18	22.6	5.0		74			4:29	22.5	3.0
Min		175		2:53	21.3	0.0		20		1:42	18.7	4.0		5			2:07	14.9	0.0
# of samples		1						3						3					



Appendix D: DEP's Suggested Work Plan for Decreasing Bacteria Concentrations at GRB

John Glowa-MDEP

June 9, 2006

BIDDEFORD

In Biddeford, the DEP has already surveyed most of the Little River drainage from Route 9 south to Timber Point.

- 1) Have GIS map/aerial photo delineating the Little River watershed
- 2) Have tax maps and lists of property owners
- 3) Conduct sanitary survey of entire watershed within Biddeford (DEP has nearly completed survey work from Route 9 south.)
 - a) Identify potential surface water quality monitoring stations within the Little River watershed in Biddeford. Develop and implement ongoing monitoring program.
 - b) Conduct house to house survey. Identify failing systems and other sources of domestic wastewater (e.g. straight pipes). Document and correct septic system problems.
 - c) Identify all septic systems that have the potential to discharge to waters of the State (e.g. near a drainage ditch or stream). Create priority ranking for these systems. Develop and implement an inspection schedule with those of higher priority (e.g. marginal/older systems located close to water), being inspected more frequently. Update the list and priorities as new septic systems are installed.
 - d) Closely review all new septic system construction in areas of marginal soils or near surface water.
- 4) Document and correct any livestock/manure problems (This may require bacteria monitoring of runoff during rainy periods to document that there is a problem.)
- 5) Remove (if practical alternatives are available) the three overboard discharge systems having the potential to impact bacteria scores at Goose Rocks Beach. (#1561-McCarthy, #1655-Clifton, #1651-Timber Point Trust/Esther Ewing Trust)
- 6) Due to high water table and proximity to beach and wetlands, consider sanitary sewer/POTW for Granite Point Road area.

KENNEBUNKPORT

In Kennebunkport, the DEP has already surveyed the unsewered portion of the Beaver Pond Brook watershed, the unsewered portion of the Smith Brook watershed, the Batson River watershed south of Route 9, the Tyler Brook watershed, and a small portion of the Little River watershed south of Route 9. No sanitary survey work was done in the Batson River north of Route 9 due to the presence of the dam and headpond at Route 9 and the lack of any documented water quality problems upstream of this point.

- 1) Have GIS map/aerial photos delineating the Batson River, Little River, Tyler Brook, Smith Brook and Beaver Pond Brook watersheds.
- 2) Have tax maps and lists of property owners.
- 3) Identify potential surface water quality monitoring stations within the Batson River and Little River watersheds in Kennebunkport. Develop and implement an ongoing monitoring program.

- 4) Follow up on properties identified by DEP for further investigation.
- 5) Based on water quality monitoring, identify additional areas for house to house sanitary survey.
 - a) Identify failing systems and other sources of domestic wastewater (e.g. straight pipes). Document and correct septic system problems.
 - b) Identify all septic systems in the Batson and Little River watersheds that have the potential to discharge to waters of the State (e.g. near a drainage ditch or stream). Create priority ranking for these systems. Develop and implement an inspection schedule with those of higher priority (e.g. marginal/older systems located close to water), being inspected more frequently. Update the list and priorities as new septic systems are installed.
 - c) Closely review all new septic system construction in areas of marginal soils or near surface water.
- 6) Field verify that sewer homes in the Batson and Little River watersheds that may impact water quality are properly connected to the sewer. (Of primary concern are those near the beach with sandy/well drained soils.) Conduct periodic testing of sewer lines. Consider requiring all those in the Goose Rocks Beach area to connect to the sewer. Field check connections and sewer lines in the King's Lane area. Consider extending the sewer across the New Biddeford Road bridge to accommodate houses in the lower Beaver Pond Brook drainage area.
- 7) Require the Pendergasts and Hathaways to take appropriate measures to prevent any discharge of manure to waters of the State.